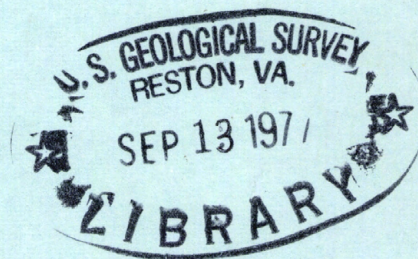


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Water Resources Data for Arizona Water Year 1976



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT AZ-76-1

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

CALENDAR FOR WATER YEAR 1976

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Water Resources Data for Arizona Water Year 1976



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**Prepared in cooperation with the State of Arizona
and with other agencies**

UNITED STATES DEPARTMENT OF THE INTERIOR

CECIL D. ANDRUS, Secretary

GEOLOGICAL SURVEY

V. E. McKelvey, Director

For information on the water program in Arizona write to
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Tucson, Arizona 85701

1977

PREFACE

This report was prepared by personnel of the Arizona district of the Water Resources Division of the U.S. Geological Survey, under the supervision of H. M. Babcock, District Chief, and W. H. Robinson, Regional Hydrologist, Western Region. It was done in cooperation with the State of Arizona and with other agencies.

This report is one of a series by State. General direction for the series is by J. S. Cragwall, Jr., Chief Hydrologist, and G. W. Whetstone, Assistant Chief Hydrologist for Scientific Publications and Data Management

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16. Abstracts Water resources data for the 1976 water year for Arizona consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and water levels of observation wells. This report contains discharge records for 237 gaging stations, 81 crest-stage partial-record stations, and discharge measurements at 48 miscellaneous sites; stage records at 3 gaging stations; stage and contents records for 10 lakes and reservoirs; 15 supplementary records, included with gaging-station records, consisting of monthead or monthly stage, contents, and evaporation of lakes and reservoirs, diversions, and return flows; water-quality records for 69 continuous-record stations, 5 partial-record stations, and 46 miscellaneous sites; and water levels for 89 observation wells. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating Federal and State agencies in Arizona.			
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GAGING STATIONS AND WATER-QUALITY STATIONS,
IN DOWNSTREAM ORDER, FOR WHICH
RECORDS ARE PUBLISHED

VII

[Letters after station name designate type of data: (b) biological; (c) chemical; (d) discharge; (e) elevation; (g) gage height; (m) microbiological (bacteria); (p) pesticide; (q) specific conductance (daily); (r) radiochemical; (s) suspended sediment; (t) water temperature (daily); (v) contents]

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WATER RESOURCES DATA FOR ARIZONA, WATER YEAR 1976

INTRODUCTION

Water resources data for the 1976 water year for Arizona consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and measurements of ground-water levels. Also included are discharge data for crest-stage partial-record stations and water-quality data for partial-record stations. Locations of the gaging stations are shown in figures 1, 5, and 6, and of water-quality stations in figures 2 and 5. Additional water data were collected at various sites, which are not part of the systematic data-collection program, and are published as miscellaneous measurements or miscellaneous water-quality analyses. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in Arizona.

Records of discharge or stage of streams and contents or stage of lakes and reservoirs were first published in a series of U.S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States." These water-supply papers were in an annual series through water year 1960 and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply papers entitled "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1970 in a series of water-supply papers entitled "Ground-Water Levels in the United States." Water-supply papers may be consulted in the libraries of the principal cities in the United States or may be purchased from the Branch of Distribution, U.S. Geological Survey, 604 South Pickett Street, Alexandria, Virginia 22304.

For water years 1961-74, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. For water years 1964-74, water-quality records were similarly released either in separate reports or in conjunction with streamflow records. Beginning with the 1975 water year, water data for streamflow, water quality, and ground water are published as an official Survey report on a State-boundary basis. These official Survey reports carry an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this report is identified as "U.S. Geological Survey Water-Data Report AZ-76-1." Water-data reports are for sale by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22161.

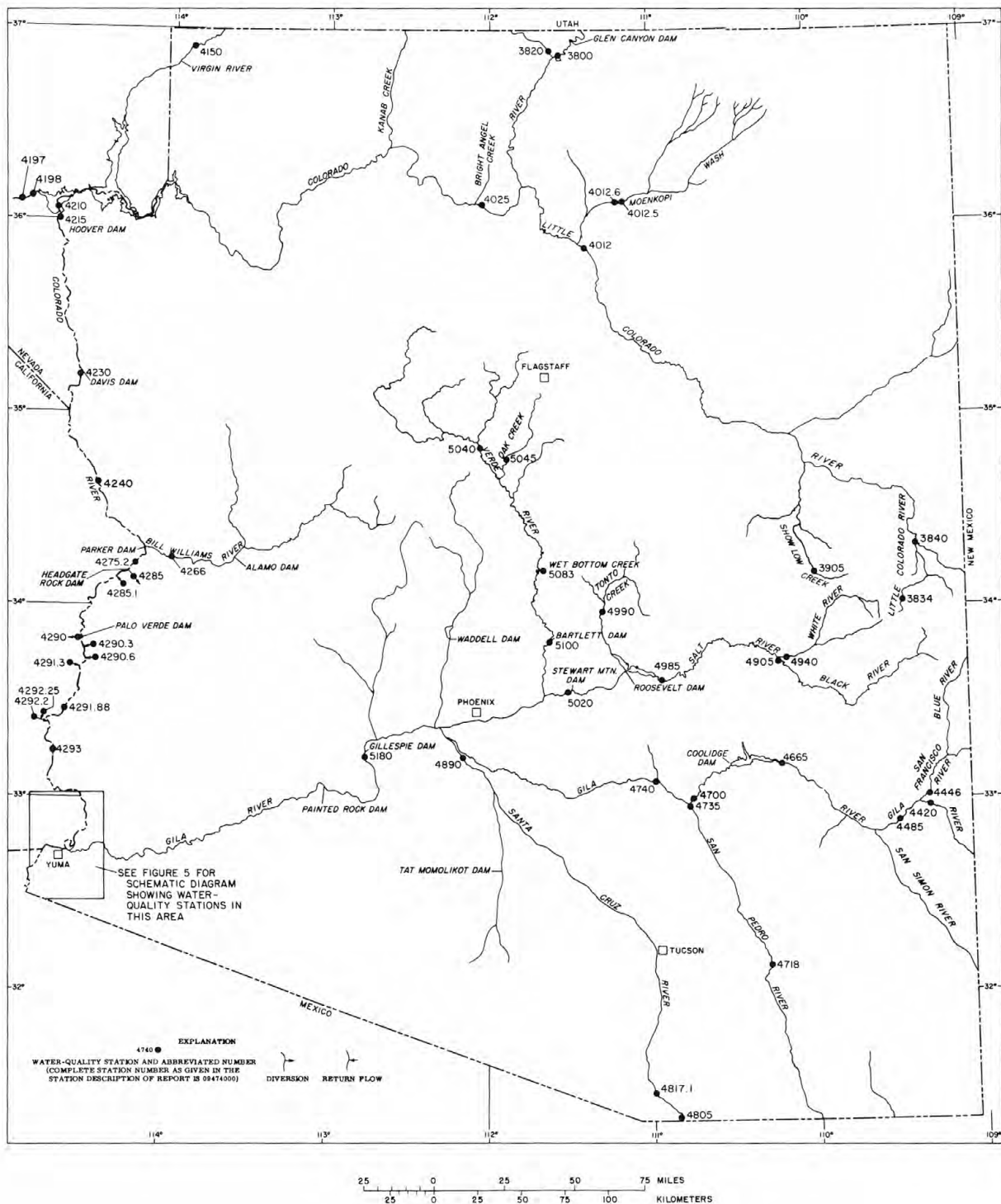


FIGURE 2.--MAP OF ARIZONA SHOWING LOCATION OF WATER-QUALITY STATIONS.

COOPERATION

The U.S. Geological Survey and organizations of the State of Arizona have had cooperative agreements for the systematic collection of surface-water records since 1912, for ground-water levels since 1939, and for water-quality records since 1969. Organizations that assisted in collecting data through cooperative agreement with the Survey are:

Arizona Department of Health Services, W. H. Shafer, assistant chief, Technical Services and Support.
Arizona Water Commission, W. E. Steiner, executive director.
Arizona Department of Transportation—Highways Division, W. N. Price, assistant director and State engineer.
Arizona Game and Fish Department, R. A. Jantzen, director.
Salt River Valley Water Users' Association, K. F. Abel, president, and Richard Juetten, manager, Water Resources Operations.
Flood Control District of Maricopa County, H. P. Donald, chief engineer and general manager.
Gila Valley Irrigation District, S. L. Pace, president.
San Carlos Irrigation and Drainage District, C. L. Skousen, president, and N. M. Soma, district manager.
Show Low Irrigation Company, Chester Adams, secretary-treasurer.
Pima County Board of Supervisors, E. S. Walker, chairman.
Maricopa County Municipal Water Conservation District No. 1, S. L. Libby, president, and J. A. Falbo, secretary-manager.
City of Flagstaff, R. L. Moody, mayor.
City of Nogales, M. T. Montano, city engineer.
City of Safford, O. O. Rawson, city manager, and F. E. Brutcher, utility manager.
City of Tucson, Lewis Murphy, mayor, and D. K. Massingill, city engineer.
Metropolitan Water District of Southern California, J. H. Lauten, general manager, and C. E. Hildebrand, principal engineer.
University of Arizona, Sol Resnick, director, Water Resources Research Center.

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DEFINITION OF TERMS

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

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

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

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

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

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria, which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as the organisms that produce colonies within 24 hours when incubated at $35^{\circ}\text{C} \pm 1.0^{\circ}\text{C}$ on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestines or feces of warmblooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms that produce blue colonies within 24 hours when incubated at $44.5^{\circ}\text{C} \pm 0.2^{\circ}\text{C}$ on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in the intestines of warmblooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which

produce red or pink colonies within 48 hours at $35^{\circ}\text{C} \pm 1.0^{\circ}\text{C}$ on M-enterococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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

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

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

Dry mass is the mass of residue present after drying in an oven at 60°C for zooplankton and 105°C for periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry mass values are expressed in the same units as ash mass.

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

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

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

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.9835 acre-feet, or 646,317 gallons, and represents a runoff of 0.0372 inch from 1 square mile.

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

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

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

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

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

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

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

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

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

Dissolved refers to the amount of a substance present in true chemical solution. In practice, however, the term includes all forms of the substance that will pass through a 0.45-micrometer membrane filter, and thus may include some very small (colloidal) suspended particles. Analyses are performed on filtered samples.

Diversity index is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = - \sum_{i=1}^s \frac{n_i}{n} \log_2 \frac{n_i}{n}$$

Where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Diversity index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

Drainage area of a stream at a specific location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage

area given herein include all closed basins, or noncontributing areas, within the area unless otherwise noted.

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

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of gage height or discharge are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate (CaCO_3).

Micrograms per gram ($\mu\text{g/g}$) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element sorbed per unit mass (gram) of sediment.

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

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

Miscellaneous site is a location other than continuous- or partial-record stations where random discharge measurements are made or samples are collected to give better areal coverage of unusual flow events or water-quality conditions in a river basin.

Organism is any living entity, such as an insect, phytoplankter, or zooplankter.

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

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

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

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

Particle-size classification, as 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 particles in transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis.

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

Periphyton is the assemblage of microorganisms attached to and growing upon solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton is a useful indicator of water quality.

Pesticides are chemical compounds used to control undesirable plants and animals. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants, respectively, are the two categories reported.

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

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

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

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

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

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

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

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

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

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

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

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

Suspended-sediment discharge (tons/day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight, or by volume, that passes a section in a given time. It is computed by multiplying discharge times mean concentration (mg/L) times 0.0027.

Suspended-sediment load is quantity of suspended sediment passing a section in a specified period.

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

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

Seston is the total suspended particulate matter in water. The concentration of particulate matter has a profound effect upon the optical properties of the water, and upon the concentration of dissolved materials in the water. Their concentrations are expressed as number of colonies per 100 mL of sample.

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

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

Specific conductance is a measure of the ability of a water to conduct an electrical current and is expressed in micromhos per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved

solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream, and it may even vary in the same source with changes in the composition of the water.

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

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

Substrate is the physical surface upon which an organism lives.

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

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

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

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

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

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

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

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

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

Total load (tons) is the total quantity of any individual constituent, as measured by dry mass or volume, that is dissolved in a specific amount of water (discharge) during a given time. It is computed by multiplying the total discharge, times the mg/L of the constituent, times the factor 0.0027, times the number of days.

WRD is used as an abbreviation for "Water Resources Data" in the summary REVISIONS paragraph to refer to previously published State annual basic-data reports.

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

SPECIAL NETWORKS AND PROGRAMS

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

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins that have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin. Included in this program in Arizona is station 09508300, Wet Bottom Creek near Childs.

National stream-quality accounting network (NASQAN) is designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated in the network design. Areal configuration of the network is based on river-basin accounting units designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of streamflow and water-quality conditions nationwide on a year-by-year basis and (2) to detect and assess long-term changes in streamflow and stream quality. Included in this network in Arizona are stations 09380000, Colorado River at Lees Ferry; 09401200, Little Colorado River at Cameron; 09421500, Colorado River below Hoover Dam, Ariz.-Nev.; 09426600, Bill Williams River near Planet; 09429490, Colorado River above Imperial Dam, Ariz.-Calif.; 09466500, Gila River at Calva; 09473500, San Pedro River at Winkelman; 09474000, Gila River at Kelvin; 09489000, Santa Cruz River near Laveen; 09502000, Salt River below Stewart Mountain Dam; 09510000, Verde River below Bartlett Dam; 09518000, Gila River above diversions, at Gillespie Dam; 09520700, Gila River near mouth, near Yuma; and 09522000, Colorado River at northerly international boundary above Morelos Dam, near Andrade, Calif.

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 where potential contamination could result from the application of the commonly used insecticides and herbicides. Included in this network in Arizona are stations 09380000, Colorado River at Lees Ferry; 09401200, Little Colorado River at Cameron; 09426600, Bill Williams River near Planet; 09429490, Colorado River above Imperial Dam, Ariz.-Calif.; 09518000, Gila River above diversions, at Gillespie Dam; and 09522000, Colorado River at northerly international boundary above Morelos Dam, near Andrade, Calif.

Radiochemical program is a network of regularly sampled water-quality stations where additional samples are collected monthly or 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. Included in this network in Arizona is station 09429490, Colorado River above Imperial Dam, Ariz.-Calif.

Tritium network is a network of tritium-sampling stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States. Included in this network in Arizona is station 09429490, Colorado River above Imperial Dam, Ariz.-Calif.

DOWNSTREAM ORDER AND STATION NUMBERS

Records are listed 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 station. Stations on tributaries to tributaries are listed in a similar manner. In the lists of gaging stations and water-quality stations in the front of this report the rank of tributaries is indicated by indentation, each indentation representing one rank.

As an added means of identification, each gaging station, partial-record station, and water-quality station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and continuous-record gaging stations; therefore, the station number for a partial-record station indicates downstream order position in a list made up of both types of stations. Water-quality stations located at or near gaging stations or partial-record stations have the same number as the gaging or partial-record station. Gaps are left in the numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station, such as 09402500, includes the part number "09" and a 6-digit station number. In this report the complete number 09402500 appears just to the left of the station name.

NUMBERING SYSTEM FOR MISCELLANEOUS
SURFACE-WATER-QUALITY SITES

Downstream order station numbers are not assigned to miscellaneous surface-water sites where only random water-quality samples or discharge measurements are taken.

The miscellaneous surface-water-quality site numbering system of the Geological Survey is based on the grid system of latitude and longitude. The system provides the geographic location of the miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2 digits is a sequential number for sites within a 1-second grid. For example, the station number for a miscellaneous surface-water-quality site with lat $34^{\circ}28'47''$, long $112^{\circ}41'04''$ would be 342847112410400. In the event that the latitude-longitude coordinates for two or more miscellaneous sites are the same, sequential numbers "01," "02," etc., are assigned.

NUMBERING SYSTEM FOR GROUND-WATER WELLS

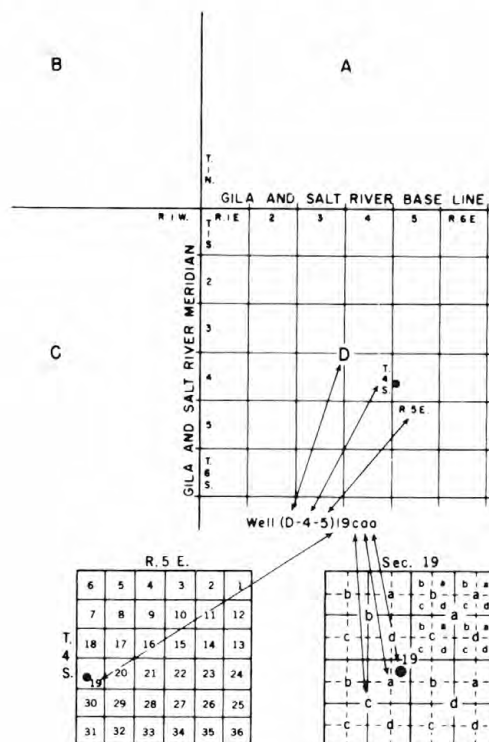
The well-numbering system of the Geological Survey is the same as that used for miscellaneous surface-water-quality sites described in the preceding section, except that initially, all wells are assigned a sequential number of 01. Additional wells within a 1-second grid are assigned sequential numbers of 02, 03, etc. In addition to the well number based on latitude and longitude, a local well number is given (see fig. 3).

EXPLANATION OF SURFACE-WATER RECORDS

Collection and Computation of Data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from a water-stage recorder that gives a continuous graph of the fluctuations, or a tape punched at selected time intervals, or from direct readings on a nonrecording gage. Measurements of discharge are made using the general methods adopted by the Geological Survey on the basis of experience in stream gaging since 1888. These methods are described in standard textbooks, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A-6. Surface areas of lakes or reservoirs are determined from instrument surveys using standard methods. The configuration of the reservoir bottom is determined by sounding at many points.

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves defined by discharge measurements. If extensions to the rating curves are necessary to define the extremes of discharge, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, then the monthly and the yearly mean discharge are computed from the daily values. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station



The well numbers used by the Geological Survey in Arizona are in accordance with the Bureau of Land Management's system of land subdivision. The land survey in Arizona is based on the Gila and Salt River meridian and base line, which divide the State into four quadrants. These quadrants are designated counterclockwise by the capital letters A, B, C, and D. All land north and east of the point of origin is in A quadrant, that north and west in B quadrant, that south and west in C quadrant, and that south and east in D quadrant. The first digit of a well number indicates the township, the second the range, and the third the section in which the well is situated. The lowercase letters a, b, c, and d after the section number indicate the well location within the section. The first letter denotes a particular 160-acre tract, the second the 40-acre tract, and the third the 10-acre tract. These letters also are assigned in a counterclockwise direction, beginning in the northeast quarter. If the location is known within the 10-acre tract, three lowercase letters are shown in the well number. In the example shown, well number (D-4-5)19caa designates the well as being in the NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 19, T. 4 S., R. 5 E. Where more than one well is within a 10-acre tract, consecutive numbers beginning with 1 are added as suffixes.

FIGURE 3.--WELL-NUMBERING SYSTEM IN ARIZONA.

is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

At some stream-gaging stations the stage-discharge relation is affected by backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in determining discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

At some stream-gaging stations the stage-discharge relation is affected by ice in the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of the gage-height record and occasional winter discharge measurements, consideration being given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge for other stations in the same or nearby basins.

For lake or reservoir stations, capacity tables giving the contents for any stage are prepared from stage-area relation curves defined by surveys. The daily contents is computed from the stage and capacity table, then the daily, monthly, or yearly change in contents is computed from the contents. Discharge over spillways is computed from a stage-discharge relation curve defined by discharge measurements.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some gaging stations there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, adjoining good record, discharge measurements, weather records, and comparison with records for other stations in the same or nearby basins. Likewise daily contents may be estimated on the basis of operator's log, adjoining good record, inflow-outflow studies, and other information.

Publication of Data

The data in this report generally comprise a description of the station and tabulations of basic data. For a gaging station on a stream or canal, a table showing the daily discharge and monthly and yearly discharge is given. For a gaging station on a lake or reservoir a monthly summary table of stage and contents or a table showing the daily contents is given. A table of daily mean gage heights is included for some streamflow stations and for some reservoir stations. Records are published for the water year, which begins on October 1 and ends on September 30. A calendar for the current water year is shown on the inside of the front cover to facilitate finding the day of the week for any date.

The description of the gaging station gives the location, drainage area, period of record, type and history of gages, average discharge, extremes of discharge or contents, general remarks, and notations of revisions of previously published records. The location of the gaging station and the drainage area are obtained from the most accurate maps available. River mileage, given under "LOCATION" for some stations, is that determined and used by the Corps of Engineers or other agencies. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD." The type of gage currently in use, the datum of the present gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." In references to datum of gage, the phrase "mean sea level" denotes "Sea Level Datum of 1929" as used by the Topographic Division of the Geological Survey, unless otherwise qualified. The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. In addition, the median of yearly mean discharges is given for stream-gaging stations having 10 or more complete years of record if the median differs from the average by more than 10 percent. The maximum discharge (or contents) and the maximum gage height, the minimum discharge if there is little or no regulation (or the minimum contents), and the minimum gage height if it is significant are given under "EXTREMES." The minimum daily discharge is given if there is extensive regulation (also the minimum discharge and gage height if they are abnormally low). In the first paragraph headed "Current year" the data given are for the complete current water year unless otherwise specified. In the second paragraph under "EXTREMES" headed "Period of record" the data given are for the period of record given in the "PERIOD OF RECORD" paragraph. Reliable information concerning major floods that occurred outside the period of record is given in the third or last paragraph under "EXTREMES." Unless otherwise qualified, the maximum discharge (or contents) corresponds to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read

at the time of the crest. If the maximum gage height did not occur at the same time as the maximum discharge or contents, it is given separately. Information pertaining to the accuracy of the discharge records, to conditions that affect the natural flow at the gaging station, and availability of water-quality records is given under "REMARKS." For reservoir stations, information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir is given under "REMARKS."

Previously published discharge records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISIONS (WATER YEARS)" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1933 stands for the water year October 1, 1932, to September 30, 1933. If no daily, monthly, or annual figures of discharge were revised, that fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

Skeleton capacity tables are published for all reservoirs for which records of contents are published on a daily basis.

The daily table for stream-gaging stations gives the discharge corresponding to the daily mean gage height unless there are large or rapid changes in the discharge during a day. For days having large or rapid changes, discharge for the day is computed by averaging the mean discharge for several parts of a day. For digital recorders, the daily mean discharge is always the average of the discharges at each punched reading. For stations equipped with nonrecording gages, the daily discharge corresponds to once-daily readings of the gage or to the mean of twice-daily readings; but for periods of rapidly changing stage the discharge is determined from a gage-height graph based on gage readings.

The daily tables for reservoir stations give the contents corresponding to the water-surface elevation at a given time, usually at 2400 each day. For some reservoirs the elevation at a given time is given in the daily table.

The monthly summary is given below the daily table. For stream-gaging stations the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also may be expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN.") or in acre-feet (line headed "AC-FT"). Figures of cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion, if the drainage area includes large noncontributing areas, or if the average rainfall on the drainage basin is usually less than 20 inches.

For reservoir stations the monthly summary gives the elevation (or gage height) at the end of the month and the change in contents during the month. If elevation or gage height is given in the daily table, the monthly summary gives the contents at the end of the month, rather than the elevation or gage height. For some reservoirs a tabulation of monthly evaporation from the water surface also is included.

In the yearly summary below the monthly summary, the figures following "MAX" are the maximum daily discharges for the calendar and water years; likewise, those following "MIN" are the minimum daily discharges.

For reservoir stations the yearly summary gives the change in contents for the calendar year and for the water year. For some reservoirs the yearly evaporation also is included.

Peak discharges and their times of occurrence and corresponding gage heights for many stations are listed below the yearly summary. All independent peaks above the selected base are given. The base discharge, which is given in parentheses, is selected so that an average of about three peaks a year can be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a. m. is 0030 and 1:30 p. m. is 1330.

In a general footnote introduced by the word "NOTE," certain periods are indicated for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-discharge relation, or of any other unusual condition at the gage are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual

conditions have been explained in preceding paragraphs. Footnotes to reservoir tables may be used to explain the use of new capacity tables or for other special conditions.

Surface-water data collected at partial-record stations and at miscellaneous sites are given in two tables following the information for continuous-record stations. The first is a table of annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at miscellaneous sites.

Accuracy of Data

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

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good" within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

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

Discharge at many stations, as indicated by the monthly mean, may differ greatly from natural runoff, due to the effects of diversion, consumptive use, regulation, evaporation, or other factors. However, because all the effects cannot be measured or evaluated, satisfactory adjustments generally cannot be made. For some stations, available figures of diversions or change in contents of reservoirs are included as supplemental data. Even at those stations where adjustments can be made, large errors in computed runoff may occur, if adjustments or unadjusted losses are large compared to the observed discharge.

Other Data Available

More detailed information than that published for most of the gaging stations, such as observations of water temperatures, discharge measurements, gage-height records, and rating tables, is on file in the district office. Also, most gaging-station records are available in computer-usable form and many statistical analyses have been made.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and Analysis of Data

Surface-water samples for analyses usually are collected at or near gaging stations. The discharge records at these stations are then used to compute chemical constituents and sediment loads. Methods for collecting and analyzing water samples are described comprehensively in the U.S. Geological Survey Techniques of Water-Resources Investigations listed on a following page.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

Chemical-Quality Data

Chemical-quality analyses determine concentrations of individual dissolved and (or) suspended constituents and certain properties or characteristics, such as hardness, sodium-adsorption ratio, specific conductance, and pH. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare instance where an apparent inconsistency exists between the reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

Biological Data

Biological information includes qualitative and quantitative analyses of plankton and periphyton organisms. Microbiological information includes quantitative identification of certain bacteriological indicator organisms.

Water Temperatures

Water temperatures are measured at most of the water-quality stations when a sample is collected. In addition, water temperatures are taken at the time of discharge measurements for surface-water stations. For stations where daily water temperatures are taken manually, the readings are made at about the same time each day. At a few stations continuously recording thermographs are in use.

Large streams have a small daily temperature change; 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.

Sediment

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

During periods of rapidly changing flow or rapidly changing concentration, samples may be collected more frequently (twice daily or, in some instances, hourly). Sediment discharges for days of rapidly changing flow or concentration are computed by the subdivided-day method (time-discharge weighted average).

For periods when no samples are collected, daily loads of suspended sediment are estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

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

In addition to the quantities of suspended sediment, periodic measurements are made of the particle-size distribution of the suspended sediment and bed material.

Publication of Data

Water-quality records in this report are published in downstream order and interleaved so that each record immediately follows the surface-water records for the same station. Water-quality records for a sampling station that is not located at or near a gaging station are given in the same downstream order, between an upstream and a downstream station.

The water-quality data given in this report generally comprise a description of the station and tabulations of basic data. The description gives the location, drainage area, period of record for each parameter, extremes of pertinent data, and general remarks, in a format similar to that used for gaging stations.

Water-quality information is presented for chemical, biological, microbiological, pesticide, and radiochemical analyses; water temperature; and fluvial sediment. Water-temperature data represent once-daily or less frequent observations except for stations where a thermograph furnishes a continuous record from which daily maximums and minimums are obtained. Temperatures reported in degrees Celsius may be converted to degrees Fahrenheit by using table 1. Sediment information is given for suspended-sediment concentration and discharge and for particle-size distribution of suspended sediment and bed material. Tables are computer-generated, based on laboratory analyses and load calculations made by computer. For days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment for that day was computed by the subdivided-day method. Water-quality data collected at partial-record stations and at miscellaneous sites are given in two tables near the end of this report, following the table of discharge measurements at miscellaneous sites.

EXPLANATION OF GROUND-WATER LEVEL RECORDS

Collection and Publication of Data

Only ground-water level data from a basic national network of observation wells are published herein. These water-level measurements are intended to provide a sampling and historical record of water-level changes in the Nation's most important aquifers.

Each well is identified by means of (1) a 15-digit number that is based on the grid system of latitude and longitude and (2) a local number (see fig. 3) that is provided for continuity with older reports and for other use as dictated by local needs.

Measurements are made in many types of wells, under varying conditions, but the methods of measurement are standardized to the

Table 1.--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

$$^{\circ}\text{C} = 5/9 (^{\circ}\text{F} - 32) \text{ or } ^{\circ}\text{F} = 9/5 (^{\circ}\text{C}) + 32.$$

extent possible. The equipment and measuring techniques used at each observation well insure that measurements at each well are of consistent accuracy and reliability.

Water-level measurements in this report are given in feet below land-surface datum (lsd); land-surface datum is a datum plane that is approximately at land surface at each well. If known, the altitude of the land-surface datum above mean sea level is given.

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error of determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water, the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given only to a tenth of a foot or a larger unit.

HYDROLOGIC CONDITIONS

As is common in Arizona, streamflow varied greatly in the 1976 water year—from month to month throughout the year and from place to place in the State. The variations are related to differences in precipitation, temperature, topography, and geology. The yearly mean discharge at six key gaging stations ranged from 65 to 135 percent of the median of yearly mean discharges. The median of the yearly mean discharges is defined as the middle value of discharge when arranged in order of size. For the index stations, the median is computed from the yearly mean discharges for the 1941-70 period of record.

Deficient streamflows occurred at several index stations in October, November, and August. Monthly mean discharge of Salt River near Roosevelt was the lowest for October since 1962 and the lowest for November since 1957.

Excessive streamflows occurred at four index stations in February. Monthly mean discharge of Verde River below Tangle Creek, above Horseshoe Dam was the highest for February since 1941.

Several storms during the year, with precipitation of 2 to 4 inches, caused local flooding. Two of these storms in February were heaviest in central Arizona; rainfall combined with snowmelt resulted in the highest peak discharges in about 10 years on Big Sandy River, Tonto Creek, and Verde River tributaries. Peak discharge on Verde River was the highest for February since 1937. Rainfall associated with a Pacific tropical storm in late September produced extremely high runoff on desert arroyos, particularly in southwestern Arizona.

The yearly mean discharge for the 1976 water year and the relation to the median of yearly mean discharges for the period 1941-70 for six index gaging stations are given below.

<u>Station</u>	<u>Discharge (acre-feet)</u>	<u>Percent of median</u>
Little Colorado River near Cameron....	107,600	65
Virgin River at Littlefield.....	91,200	71
Gila River at head of Safford Valley, near Solomon.....	162,500	92
San Pedro River at Charleston.....	25,530	85
Salt River near Roosevelt.....	336,000	92
Verde River below Tangle Creek, above Horseshoe Dam.....	392,000	135

The discharge of the Colorado River near Grand Canyon was 8,735,000 acre-feet (10,800 hm³); the flow of the Colorado River at this point is

affected by storage in upstream reservoirs, and this gaging station is no longer used as an index station.

The discharge of the Santa Cruz River at Tucson was 10,340 acre-feet (12.7 hm^3) for the 1976 water year, which is 95 percent of the median flow for the period of record, 1906-76. The Santa Cruz River is an intermittent stream subject to large variances in flow, from place to place along the river and from time to time; for example, the flow for 1965 was only 9 percent of median and for 1972 only 52 percent of median, whereas for 1966 and 1968 the flow was 372 and 351 percent of median, respectively.

Storage increased in some major reservoirs during the 1976 water year, and decreased in some reservoirs. Change in contents during the year and percent of average contents on September 30 for the period of record for several reservoirs are shown below.

<u>Reservoir</u>	<u>Change in contents, 1975-76 (acre-feet)</u>	<u>Percent of average contents on September 30</u>
Lake Powell.....	-562,000	--
Lakes Mead-Mohave.....	+204,000	111
San Carlos Reservoir.....	-121,500	2
Salt-Verde system.....	-61,000	141
Lake Pleasant.....	+14,180	106

Diversions of streamflow for irrigation of Arizona lands during the 1976 water year totaled 2,928,000 acre-feet ($3,610 \text{ hm}^3$), somewhat less than in 1975. About 1,818,000 acre-feet ($2,240 \text{ hm}^3$) was diverted from the Colorado River for use by the Colorado River Indian Reservation, the Gila Project, and the Yuma Project. About 667,600 acre-feet (823 hm^3) of the water diverted from the Colorado River was returned to the river or discharged across the Arizona-Sonora international boundary. About 1,110,000 acre-feet ($1,370 \text{ hm}^3$) of streamflow was diverted from the Gila River basin, for use in Safford Valley, on the San Carlos Project, and on the Salt River Project.

Figure 4 shows the discharge for the 1976 water year compared with the median runoff for the period 1941-70 at three representative gaging stations for which long-term records are available.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

Thirty-one manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing specialized work in water-resources investigations.

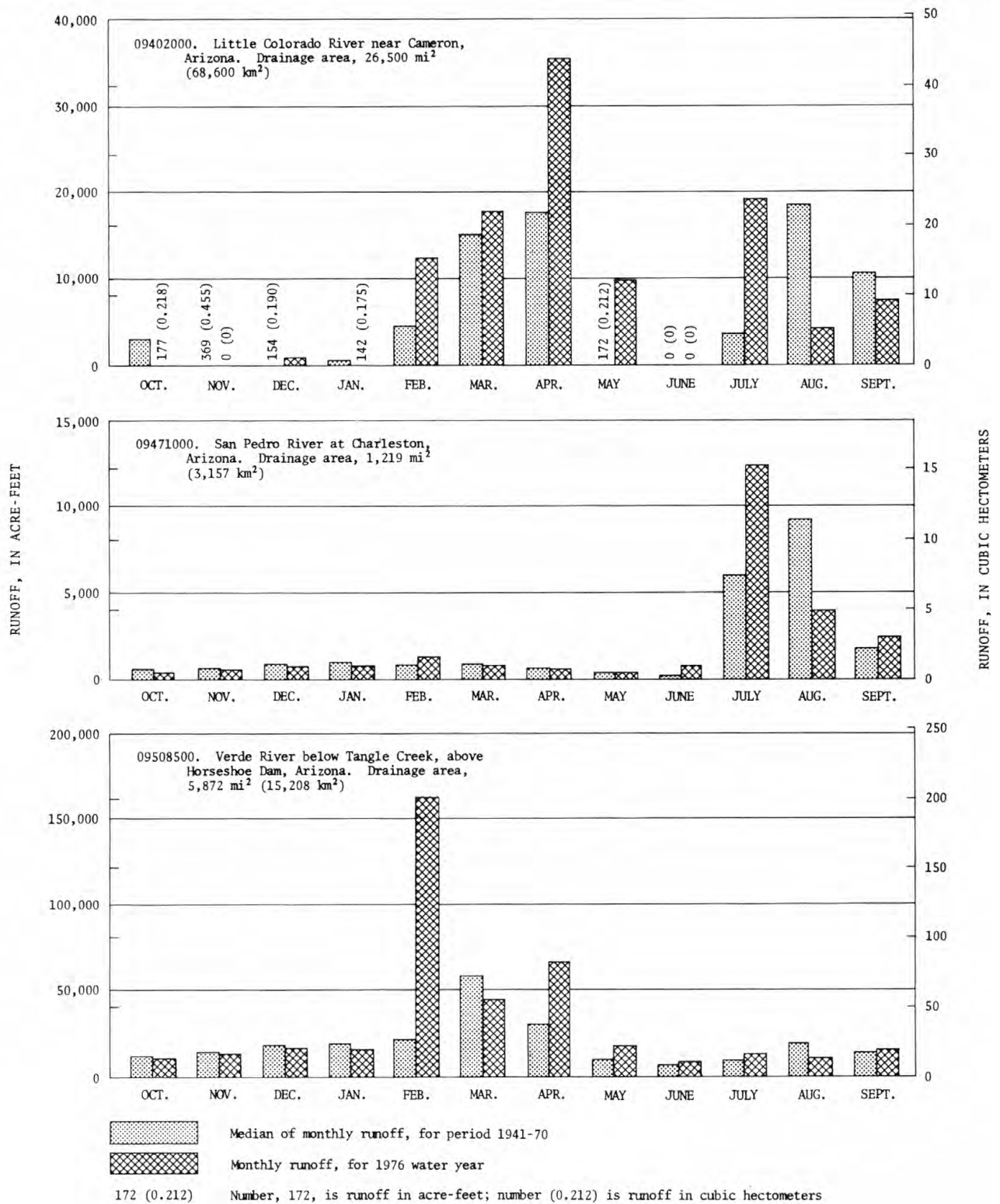


FIGURE 4.--RUNOFF DURING 1976 WATER YEAR COMPARED WITH MEDIAN RUNOFF FOR PERIOD 1941-70 FOR THREE REPRESENTATIVE GAGING STATIONS.

The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 604 South Pickett Street, Alexandria, VA 22304 (authorized agent of the Superintendent of Documents, Government Printing Office).

NOTE: When ordering any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

- 1-D1. *Water temperature-influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS—TWRI Book 1, Chapter D1. 1975. 65 p. \$1.60.
- 2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS—TWRI Book 2, Chapter D1. 1974. 116 p. \$1.90.
- 2-E1 *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS—TWRI Book 2, Chapter E1. 1971. 126 p. \$1.75
- 3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS—TWRI Book 3, Chapter A1. 1967. 30 p. \$0.25.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS—TWRI Book 3, Chapter A2. 1967. 12 p. \$0.20.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS—TWRI Book 3, Chapter A3. 1968. 60 p. \$0.40.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS—TWRI Book 3, Chapter A4. 1967. 44 p. \$1.00.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS—TWRI Book 3, Chapter A5. 1967. 29 p. \$0.30.
- 3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS—TWRI Book 3, Chapter A6. 1968. 13 p. \$0.20
- 3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS—TWRI Book 3, Chapter A7. 1968. 28 p. \$0.45.

- 3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS—TWRI Book 3, Chapter A8. 1969. 65 p. \$1.25.
- 3-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS—TWRI Book 3, Chapter A11. 1969. 22 p. \$0.40.
- 3-A12. *Fluorometric procedures for dye tracing*, by J. F. Wilson, Jr.: USGS—TWRI Book 3, Chapter A12. 1968. 31 p. \$0.35. Not currently available.
- 3-B1. *Aquifer-test design, observation, and data analysis*, by R. W. Stallman: USGS—TWRI Book 3, Chapter B1. 1971. 26 p. \$0.70.
- 3-B2. *Introduction to ground-water hydraulics—a programed text for self-instruction*, by D. S. Bennett: USGS—TWRI Book 3, Chapter B2. 1976. 172 p.
- 3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS—TWRI Book 3, Chapter C1. 1970. 55 p. \$0.65.
- 3-C2. *Field methods for measurement of fluvial sediment*, by H. P. Guy and V. W. Norman: USGS—TWRI Book 3, Chapter C2. 1970. 59 p. \$0.70.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS—TWRI Book 3, Chapter C3. 1972. 66 p. \$1.15.
- 4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS—TWRI Book 4, Chapter A1. 1968. 39 p. \$0.30.
- 4-A2. *Frequency curves*, by H. C. Riggs: USGS—TWRI Book 4, Chapter A2. 1968. 15 p. \$0.20.
- 4-B1. *Low-flow investigations*, by H. C. Riggs: USGS—TWRI Book 4, Chapter B1. 1972. 18 p. \$0.65.
- 4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS—TWRI Book 4, Chapter B2. 1973. 20 p. \$0.75.
- 4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS—TWRI Book 4, Chapter B3. 1973. 15 p. \$0.75.
- 4-D1. *Computation of rate and volume of stream depletion by wells*, by C. T. Jenkins: USGS—TWRI Book 4, Chapter D1. 1970. 17 p. \$0.65.
- 5-A1. *Methods for collection and analysis of water samples for dissolved minerals and gases*, by Eugene Brown, M. W. Skougstad, and M. J. Fishman: USGS—TWRI Book 5, Chapter A1. 1970. 160 p. \$2.40.

- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 p. \$0.80.
- 5-A3. *Methods of analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 p. \$0.90.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by K. B. Slack, R. C. Averett, P. E. Greeson, and R. G. Lipscomb: USGS--TWRI Book 5, Chapter A4. 1973. 165 p. \$1.95.
- 5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 p. \$0.65.
- 7-C1. *Finite-difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS - TWRI Book 7, Chapter C1. 1976. 116 p.
- 8-A1. *Methods of measuring water levels in deep wells*, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 p. \$0.70.
- 8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 p. \$0.40.

09379200. CHINLE CREEK NEAR MEXICAN WATER, ARIZ.

LOCATION.--Lat 36°56'38", long 109°42'36", in sec.19, T.41 N., R.25 E. (unsurveyed), Apache County, in Navajo Indian Reservation, in midstream 150 ft (46 m) upstream from bridge on U.S. Highway 160, 3 mi (5 km) upstream from Walker Creek, 4 mi (6 km) southwest of Mexican Water, 5 mi (8 km) downstream from confluence of Chinle Wash and Laguna Creek, and 6 mi (10 km) upstream from Arizona-Utah State line.

DRAINAGE AREA.--3,660 mi² (9,480 km²), approximately, of which 360 mi² (932 km²) is noncontributing.

PERIOD OF RECORD.--October 1964 to current year. Prior to October 1970 published as Chinle Wash near Mexican Water.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,720 ft (1,439 m) above mean sea level.

AVERAGE DISCHARGE.--12 years, 17.9 ft³/s (0.507 m³/s), 12,970 acre-ft/yr (16.0 hm³/yr); median of yearly mean discharges, 14 ft³/s (0.40 m³/s), 10,100 acre-ft/yr (12 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 1,620 ft³/s (45.9 m³/s) about Sept. 25 (gage height, 5.1 ft or 1.55 m), from rating curve extended above 600 ft³/s (17 m³/s) on basis of slope-area measurements at gage heights 5.4, 6.1 and 7.55 ft (1.65, 1.86 and 2.301 m); no flow for several days.

Period of record: Maximum discharge, 9,880 ft³/s (280 m³/s) Sept. 7, 1970 (gage height, 7.55 ft or 2.301 m), from rating curve extended above 600 ft³/s (17 m³/s) on basis of slope-area measurements at gage heights 5.4 and 7.55 ft (1.65 and 2.301 m); no flow at times in each year. The flood of Sept. 7, 1970, is the highest since at least 1950 (information from a local resident).

REMARKS.--Records poor. Some diversions upstream for irrigation, stock tanks, and domestic use. Many Farms Reservoir, about 25 mi (40 km) upstream, was built in 1939 with an original capacity of 25,000 acre-ft (30.8 hm³). The reservoir provides off-channel storage for irrigation of about 1,600 acres (6.48 km²).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	5.5	3.0	2.0	8.8	11	1.1	.90	.60	0	3.0	.50
2	3.3	7.3	3.0	2.0	6.0	14	1.0	1.0	.40	0	2.0	.50
3	4.0	12	3.0	2.0	9.7	11	1.0	1.0	.20	0	3.0	.50
4	3.3	7.7	3.0	2.0	16	8.0	1.1	1.0	.20	0	1.0	.50
5	3.7	6.2	3.0	2.0	28	8.4	1.1	1.0	.20	0	1.0	.50
6	3.7	5.5	3.0	2.0	44	6.2	1.1	1.0	.10	.10	1.0	.50
7	7.5	5.5	3.0	2.0	45	7.0	1.1	1.1	.10	.10	.50	.50
8	3.0	5.5	3.0	2.0	30	8.4	1.1	22	.10	0	.50	1.0
9	3.0	5.2	2.5	2.0	27	8.0	1.0	234	0	0	.50	1.0
10	3.0	4.8	2.5	2.0	85	7.7	3.5	122	0	0	.50	63
11	3.0	4.0	2.5	2.0	40	7.0	2.7	80	0	0	.50	10
12	3.5	2.7	2.5	2.0	25	6.5	1.6	2.5	0	0	.50	2.0
13	3.0	3.0	2.5	2.0	15	6.0	1.0	1.5	0	0	.50	1.0
14	2.7	3.0	2.5	2.0	20	5.5	1.4	1.0	0	0	.50	1.0
15	2.7	3.0	2.5	2.0	10	5.0	1.5	1.0	0	0	.40	1.0
16	4.0	3.0	2.5	2.0	10	4.0	1.4	1.0	0	0	.40	1.0
17	3.3	3.0	2.5	2.0	9.0	3.0	1.6	1.0	0	11	.30	1.0
18	4.0	3.0	2.5	4.0	8.0	2.5	1.6	1.0	0	27	.30	1.0
19	4.0	3.0	2.5	9.6	8.0	2.0	1.5	1.0	0	16	.30	1.0
20	4.0	3.0	2.0	10	7.0	1.4	1.2	1.2	0	7.7	.40	1.0
21	4.3	3.0	2.0	9.9	5.9	1.2	1.4	1.5	0	6.6	.40	1.0
22	4.5	3.5	2.0	12	3.7	1.2	2.1	2.4	0	3.7	.60	6.0
23	4.3	3.7	2.0	10	5.9	1.2	1.8	13	0	2.6	.50	1.0
24	4.0	2.7	2.0	8.4	7.3	1.1	1.6	11	0	1.8	.50	1.2
25	4.0	3.7	2.0	8.4	8.0	1.0	1.8	4.8	0	1.4	.50	350
26	4.0	4.0	2.0	14	5.2	1.0	1.5	2.7	0	62	.50	400
27	4.5	4.0	2.0	13	4.3	1.0	1.5	1.9	0	313	.50	100
28	4.3	4.0	2.0	8.3	4.5	1.0	1.6	1.5	0	50	.50	50
29	5.2	3.5	2.0	8.3	6.2	1.0	1.4	1.2	.20	25	.50	25
30	4.5	3.5	2.0	10	---	1.0	1.0	1.0	.10	15	.50	20
31	4.8	---	2.0	9.6	---	1.0	---	.80	---	5.0	.50	---
TOTAL	114.8	131.5	75.5	169.5	502.5	144.3	44.3	518.00	2.20	548.00	22.60	1042.70
MEAN	3.74	4.38	2.44	5.47	17.3	4.65	1.48	16.7	.073	17.7	.73	34.8
MAX	5.2	12	3.0	14	85	14	3.5	234	.60	313	3.0	400
MIN	2.7	2.7	2.0	2.0	3.7	1.0	1.0	.80	0	0	.30	.50
AC-FT	230	261	150	336	997	286	88	1030	4.4	1090	45	2070

CAL YR 1975	TOTAL	11451.90	MEAN	31.4	MAX	2000	MIN	0	AC-FT	22710
WTR YR 1976	TOTAL	3316.90	MEAN	9.06	MAX	400	MIN	0	AC-FT	6580

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
5-9	0430	4.31	778	7-27	1000	4.55	975
5-10	2300	4.03	576	9-25*	(unknown)	5.1	1,620

* About.

NOTE.--No gage-height record Nov. 30 to Jan. 18, June 3 to July 6.

COLORADO RIVER MAIN STEM

09379900. LAKE POWELL AT GLEN CANYON DAM, ARIZ.

LOCATION.--Lat 36°56'12", long 111°29'00", in sec.24, T.41 N., R.8 E., Coconino County, at Glen Canyon Dam on Colorado River, 900 ft (270 m) upstream from bridge on U.S. Highway 89, 1.4 mi (2.3 km) downstream from Wahweap Creek, 2 mi (3 km) northwest of Page, and 12 mi (19 km) downstream from Utah-Arizona State line.

DRAINAGE AREA (REVISED).--111,700 mi² (289,300 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming, which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--March 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Prior to Sept. 1, 1964, nonrecording gage at same site and datum.

EXTREMES (at 2400).--Current year: Maximum contents, 20,795,000 acre-ft (25,640 hm³) July 5 (elevation, 3,672.27 ft or 1,119.308 m); minimum, 19,640,000 acre-ft (24,200 hm³) Sept 30 (elevation, 3,664.00 ft or 1,116.787 m).
Period of record: Maximum contents, 21,177,000 acre-ft (26,100 hm³) July 25, 1975 (elevation, 3,674.93 ft or 1,120.119 m); minimum since power pool level was reached (Aug. 16, 1964), 4,166,000 acre-ft (5,140 hm³) Mar. 18, 1965 (elevation, 3,490.76 ft or 1,063.984 m).

REMARKS.--Reservoir is formed by concrete-arch gravity dam; storage began Mar. 13, 1963; dam completed September 1963. Total capacity, 27,000,000 acre-ft (33,300 hm³), consisting of the following: dead storage, 1,998,000 acre-ft (2,460 hm³) below elevation 3,370 ft (1,027 m)—sill of outlet gates; usable contents, 25,002,000 acre-ft (30,800 hm³) between elevations 3,370 ft (1,027 m) and 3,700 ft (1,128 m)—top of conservation pool. Reservoir is used for power development, to provide storage replacement for upstream irrigation development, and to meet downstream requirements under the Colorado River Compact of 1922. Figures given herein represent usable contents; prior to Oct. 1, 1968, figures of total contents were published (prior to sealing of diversion tunnel July 7, 1965, all storage was usable).

COOPERATION.--Records furnished by Bureau of Reclamation.

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

3,660	19,099,000	3,670	20,474,000
3,665	19,779,000	3,675	21,187,000

CONTENTS, IN THOUSANDS OF ACRE-Feet, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20188	20007	20079	20183	20029	19837	19731	19661	20181	20772	20530	20092
2	20171	20015	20087	20172	20023	19837	19728	19658	20202	20775	20521	20075
3	20153	20028	20090	20172	20010	19816	19732	19654	20220	20782	20516	20055
4	20154	20043	20083	20168	19989	19806	19735	19653	20250	20789	20507	20044
5	20129	20053	20079	20157	19978	19801	19723	19653	20284	20795	20507	20036
6	20107	20060	20092	20158	19971	19795	19725	19665	20332	20786	20497	20022
7	20092	20073	20107	20146	19976	19801	19729	19684	20357	20779	20497	20010
8	20071	20087	20118	20133	19985	19801	19725	19684	20385	20766	20495	19989
9	20058	20094	20132	20129	19982	19795	19739	19701	20406	20759	20475	19972
10	20036	20097	20137	20135	19974	19783	19743	19724	20434	20747	20464	19949
11	20029	20068	20144	20151	19974	19778	19742	19739	20459	20729	20452	19927
12	20029	20053	20146	20158	19972	19773	19740	19739	20500	20721	20443	19925
13	20020	20036	20149	20154	19978	19771	19735	19753	20541	20718	20433	19914
14	20012	20029	20154	20144	19976	19776	19731	19760	20572	20710	20431	19891
15	19998	20037	20153	20135	19985	19773	19736	19773	20596	20710	20421	19871
16	19992	20048	20151	20132	19974	19767	19720	19794	20613	20693	20410	19849
17	19983	20048	20143	20125	19978	19767	19727	19804	20637	20687	20398	19829
18	19987	20041	20130	20115	19976	19761	19739	19820	20653	20674	20376	19816
19	19993	20030	20111	20101	19976	19758	19738	19837	20671	20667	20358	19812
20	19990	20033	20103	20093	19950	19761	19735	19860	20687	20649	20340	19795
21	19985	20028	20093	20078	19940	19772	19735	19898	20703	20630	20318	19772
22	19985	20035	20093	20066	19936	19768	19735	19917	20698	20617	20304	19746
23	19978	20044	20096	20055	19931	19761	19727	19956	20714	20591	20276	19728
24	19975	20047	20107	20050	19910	19749	19717	19982	20728	20584	20259	19710
25	19968	20046	20126	20054	19896	19739	19705	20012	20737	20589	20236	19691
26	19967	20039	20142	20047	19882	19742	19691	20037	20758	20564	20217	19686
27	19971	20055	20158	20046	19864	19750	19679	20060	20775	20554	20190	19688
28	19978	20066	20165	20035	19851	19747	19679	20080	20778	20538	20175	19672
29	19980	20064	20172	20029	19837	19747	19675	20097	20779	20524	20158	19654
30	19986	20075	20192	20022	---	19743	19664	20129	20779	20505	20143	19640
31	19994	---	20176	20022	---	19736	---	20160	---	20528	20115	---
MAX	20188	20097	20192	20183	20029	19837	19743	20160	20779	20795	20530	20092
MIN	19967	20007	20079	20022	19837	19736	19664	19653	20181	20505	20115	19640
(†)	3666.57	3667.15	3667.88	3666.77	3665.43	3664.70	3664.17	3667.76	3672.16	3670.39	3667.44	3664.00
(‡)	-208,000	+81,000	+101,000	-154,000	-185,000	-101,000	-72,000	+496,000	+619,000	-251,000	-413,000	-475,000

CAL YR 1975 ‡ +2,608,000
WTR YR 1976 ‡ -562,000

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

NOTE.--All figures of contents expressed in thousands.

09580000. COLORADO RIVER AT LEES FERRY, ARIZ.

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, on left bank at head of Marble Gorge at Lees Ferry, just upstream from Paria River, 16 mi (26 km) downstream from Glen Canyon Dam, 28 mi (45 km) downstream from Utah-Arizona State line, and 61.5 mi (99.0 km) upstream from Little Colorado River.

DRAINAGE AREA (REVISED).--111,800 mi² (289,600 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--January 1895 to current year. Calendar year estimates and monthly discharge only for some periods, published in WSP 1313.

GAGE.--Water-stage recorder. Datum of gage is 3,106.16 ft (946.758 m) above mean sea level. Prior to Jan. 19, 1923, nonrecording gages or reference points within 400 ft (120 m) of present gage, at different datums.

AVERAGE DISCHARGE.--51 years (1911-62), 17,850 ft³/s (505.5 m³/s), 12,923,000 acre-ft/yr (15,900 hm³/yr); 12 years (1964-76), 12,230 ft³/s (346.4 m³/s), 8,861,000 acre-ft/yr (10,930 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 27,100 ft³/s (767 m³/s) May 19 (gage height, 11.60 ft or 3.536 m); minimum daily, 1,450 ft³/s (41.1 m³/s) Dec. 25.

Period of record: Maximum discharge, 220,000 ft³/s (6,230 m³/s) June 18, 1921 (gage height, 26.5 ft or 8.08 m, from floodmarks), from rating curve extended above 120,000 ft³/s (3,400 m³/s) on basis of discharge computed for station near Grand Canyon; minimum daily, 700 ft³/s (19.8 m³/s) Jan. 23, 24, 1963.

Maximum discharge since at least 1868, about 300,000 ft³/s (8,500 m³/s) July 7, 1884 (gage height, 31.5 ft or 9.60 m, present site and datum, from floodmark at mouth of Paria River), from rating curve extended above 120,000 ft³/s (3,400 m³/s) on basis of discharge computed for flood of June 18, 1921, for station near Grand Canyon.

REMARKS.--Records excellent. Flow completely regulated by Lake Powell 16 mi (26 km) upstream since Mar. 13, 1963. Many diversions above station for irrigation, municipal, and industrial use. Records of chemical analyses, water temperatures, and suspended-sediment loads for the current water year are published on following pages.

REVISIONS (WATER YEARS).--WSP 859: 1921-23. WSP 1313: 1914-21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14600	2210	7830	4120	4670	13300	12700	15600	18300	13900	7300	15700
2	14700	1560	5720	11800	12900	11500	9810	14700	20000	12900	8770	14400
3	16000	2680	7460	8860	13500	13800	6860	15800	18500	8110	9680	13800
4	11200	2470	9380	8380	17800	17300	6550	14100	14200	7980	9420	10300
5	12800	2510	13100	8510	20200	15400	10000	15400	10600	9060	8450	8010
6	17100	3190	5130	10400	19200	11500	10000	15600	8190	14900	8500	7640
7	15200	2670	1800	13400	10100	6500	7830	16200	16200	15500	9170	13400
8	15700	2990	4640	15700	5610	12500	7050	18500	17800	14800	7920	13900
9	11600	4030	5250	13800	12200	13400	6790	12000	17300	16200	12000	12100
10	14800	10600	7220	4340	15200	12200	6240	12700	17100	13000	12100	16900
11	10100	14500	8350	3790	15000	12200	6360	18400	12600	14900	10800	12600
12	4200	16500	10800	9050	11700	14900	9970	17500	9450	14100	9690	9120
13	9050	15400	8640	10400	9880	10400	11000	17500	6870	11600	9740	12300
14	12800	10600	6290	14700	8480	7090	13200	17400	12000	11800	6710	15500
15	13900	4140	12400	14800	4590	10600	14400	19000	12100	10500	6660	16700
16	10500	2750	11200	10800	8590	10500	13800	15800	12100	12000	10300	17700
17	11300	8470	16200	10600	12200	9540	8470	17300	12300	10500	12900	15600
18	6010	11200	16800	13100	11700	9390	6710	19500	12000	8740	12000	13000
19	3090	14500	16400	17800	12100	12000	10100	21500	8420	14700	15000	9590
20	8940	10600	15100	14400	18900	6680	12700	20100	7560	13500	15600	14000
21	8020	9830	13900	15500	12100	2910	11500	20400	13600	15100	14500	17100
22	8780	6810	11300	16100	13800	11000	11500	17000	14700	13800	11800	16700
23	10300	4060	8530	15200	10700	12300	14500	15100	9400	16300	15400	16300
24	11500	6160	3740	13000	16400	12800	14700	19400	6910	10400	16300	15900
25	9630	10400	1450	5890	16500	12200	15200	19700	11200	8340	15700	15200
26	8300	12100	2570	12900	17400	11500	17100	19000	8150	12900	17300	12200
27	6050	4340	4510	11400	15300	8250	14900	18700	7820	12400	15800	15300
28	7420	7440	2660	10100	13600	4050	13600	19500	15500	14500	12100	18300
29	7600	5900	6650	9700	13800	10100	14900	16900	16800	13700	10200	17600
30	4910	3660	6020	12700	---	12700	14400	14200	13600	11900	15600	17500
31	4990	---	11200	7590	---	12300	---	12900	---	8090	15600	---
TOTAL	321090	214270	262240	348830	374120	340810	332840	527400	381270	386120	363010	424360
MEAN	10360	7142	8459	11250	12900	10990	11090	17010	12710	12460	11710	14150
MAX	17100	16500	16800	17800	20200	17300	17100	21500	20000	16300	17300	18300
MIN	3090	1560	1450	3790	4590	2910	6240	12000	6870	7980	6660	7640
AC-FT	636500	425000	520200	691900	742100	676000	660200	1046000	756200	765900	720000	841700
CAL YR 1975 TOTAL	4517530			MEAN 12380	MAX 23200	MIN 1450	AC-FT 8961000					
WTR YR 1976 TOTAL	4276360			MEAN 11680	MAX 21500	MIN 1450	AC-FT 8482000					

COLORADO RIVER MAIN STEM

09380000. COLORADO RIVER AT LEES FERRY, ARIZ.

(National stream-quality accounting network and pesticide station)

LOCATION.--Lat 36°51'53", long 111°35'15", in NE&SE¼ 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 mi (1.3 km) upstream from Paria River, 16 mi (26 km) downstream from Glen Canyon Dam, 28 mi (45 km) downstream from Utah-Arizona State line, and 61.5 mi (99.0 km) upstream from Little Colorado River.

DRAINAGE AREA (REVISED).--111,800 mi² (289,600 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming which is noncontributing (previously considered part of the Missouri River basin).

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 current year.

Water temperatures: July 1949 to current year.

Sediment records: October 1928 to December 1933, November 1942 to September 1944, October 1947 to current year.

EXTREMES.--Current year:

Specific conductance: Maximum daily, 980 micromhos Feb. 20, 22; minimum daily, 720 micromhos Oct. 26.

Water temperatures: Maximum, 11.0°C on several days during October, November, and July; minimum, 7.5°C Mar. 12, 29, Apr. 5.

Period of record:

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 on Jan. 29, 30, 1970.

REMARKS.--Because of the permanent change in stream characteristics owing to the regulation of flow by Glen Canyon Dam since Mar. 13, 1963, and the subsequent initial filling of Lake Powell, extreme values for the period of record include only those obtained after July 31, 1965, at which time a normal flow release pattern was begun.

WATER QUALITY DATA: WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	FECAL COLIFORM (COL PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)	HARDNESS (CA, MG/L)	NON-CARBONATE HARDNESS (MG/L)
OCT										
29...	1530	8600	790	8.0	10.0	1	<1	<1	260	130
NOV										
24...	1100	2730	765	8.0	10.0	1	<1	1	260	130
DEC										
05...	0800	--	--	8.0	9.5	--	--	--	--	--
JAN										
02...	0900	2730	790	8.2	8.0	5	<1	<1	250	120
30...	1400	18700	795	7.8	8.0	1	<1	<1	260	130
FEB										
27...	1400	18700	950	7.9	8.0	1	2	<1	280	140
MAR										
30...	1300	23200	950	7.8	8.0	2	<1	2	300	160
APR										
09...	1600	7900	935	7.8	8.5	--	--	--	--	--
30...	1500	22300	900	7.9	8.5	1	<1	2	290	150
MAY										
24...	1400	21100	875	7.9	9.0	0	2	1	290	160
JUN										
24...	1230	15900	825	7.7	10.0	1	<1	<1	280	150
JUL										
26...	1340	--	--	7.9	9.5	--	--	--	--	--
28...	1030	8940	840	7.9	9.0	0	8	3	280	150
AUG										
19...	1100	10900	900	7.8	10.0	1	<1	<1	280	160
SEP										
01...	--	--	820	--	10.0	--	--	--	--	--
03...	--	13800	820	--	10.0	--	--	--	--	--
20...	1430	22200	800	8.0	12.0	1	<1	2	270	140

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

09380000. COLORADO RIVER AT LEES FERRY, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	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										
29...	67	22	71	1.9	3.7	136	12	190	48	.3
NOV										
24...	66	23	71	1.9	3.7	158	0	210	44	.3
DEC										
05...	--	--	--	--	--	--	--	--	--	--
JAN										
02...	63	22	69	1.9	3.8	159	0	200	45	.3
30...	66	22	70	1.9	3.7	155	0	200	47	.3
FEB										
27...	69	25	75	2.0	3.4	164	0	220	55	.3
MAR										
30...	74	27	89	2.3	3.8	170	0	240	58	.3
APR										
09...	--	--	--	--	--	--	--	--	--	--
30...	72	26	79	2.0	3.9	169	0	230	56	.3
MAY										
24...	73	27	74	1.9	3.5	161	0	230	55	.4
JUN										
28...	69	25	72	1.9	3.5	158	0	240	52	.3
JUL										
26...	--	--	--	--	--	--	--	--	--	--
28...	74	24	74	1.9	3.6	160	0	220	53	.3
AUG										
19...	74	24	72	1.9	3.6	152	0	230	54	.3
SEP										
01...	--	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--	--
20...	67	24	74	2.0	4.1	149	0	220	48	.3

DATE	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT									
29...	6.3	540	489	.73	--	.40	.00	100	--
NOV									
24...	6.8	537	505	.73	--	.48	.00	90	--
DEC									
05...	--	--	--	--	--	--	--	--	--
JAN									
02...	7.0	512	490	.70	--	.39	.00	90	0
30...	6.4	534	494	.73	--	.47	.00	50	--
FEB									
27...	7.3	572	538	.78	--	.57	.00	90	--
MAR									
30...	7.4	600	586	.82	--	.68	.00	110	--
APR									
09...	--	--	--	--	--	--	--	--	--
30...	6.9	596	560	.81	.58	.58	.01	90	10
MAY									
24...	8.1	624	550	.85	--	--	--	90	--
JUN									
28...	7.4	584	550	.79	--	.51	.00	90	20
JUL									
26...	--	--	--	--	--	--	--	--	--
28...	6.9	566	537	.77	--	.52	.00	100	--
AUG									
19...	7.5	554	543	.75	--	.60	--	80	20
SEP									
01...	--	--	--	--	--	--	--	--	--
03...	--	--	--	--	--	--	--	--	--
20...	7.8	530	521	.72	--	.49	.00	90	--

COLORADO RIVER MAIN STEM

09380000. COLORADO RIVER AT LEES FERRY, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL- NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N03) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)
OCT										
29...	1530	--	--	.40	.40	.38	.78	3.5	.01	.00
NOV										
24...	1100	--	--	.48	.48	.28	.76	3.4	.00	.00
JAN										
02...	0900	--	--	.39	.39	.35	.74	3.3	.00	.00
30...	1400	--	.00	.47	.47	.46	.93	4.1	.00	.00
FEH										
27...	1400	--	--	.57	.57	.30	.87	3.9	.00	.00
MAR										
30...	1300	--	--	.68	.68	.42	1.1	4.9	.02	.00
APR										
30...	1500	.58	.00	.59	.58	.16	.75	3.3	.00	.01
MAY										
24...	1400	--	--	.44	--	.19	.63	2.8	.04	--
JUN										
28...	1230	--	--	.50	.51	.20	.70	3.1	.01	.00
JUL										
28...	1030	--	--	.51	.52	.41	.92	4.1	.01	.00
AUG										
19...	1100	--	--	.75	.60	.24	.99	4.4	.02	--
SEP										
20...	1430	--	--	.52	.49	--	--	--	.00	.00

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)
JAN								
02...	0900	2	2	90	<10	3	0	0
APR								
30...	1500	2	2	90	<10	1	0	0
JUN								
28...	1230	--	3	90	<10	0	20	0
AUG								
19...	1100	2	4	80	<10	1	0	0

DATE	TOTAL COBALT (CO) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)
JAN									
02...	<50	1	10	6	120	0	<100	4	30
APR									
30...	<50	0	10	2	60	10	<100	2	0
JUN									
28...	<50	0	5	3	210	20	<100	0	20
AUG									
19...	<50	0	10	3	20	20	<100	5	10

DATE	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
JAN								
02...	0	.0	.0	3	3	70	30	3.8
APR								
30...	0	.3	.0	4	4	50	0	4.4
JUN								
28...	0	.3	.3	2	2	130	30	2.1
AUG								
19...	0	.0	.0	3	1	50	10	3.4

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

09380000. COLORADO RIVER AT LEES FERRY, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDT (UG/L)
APR 30...	1300	ND	ND	ND	ND	ND	ND	ND	ND	ND
SEP 29...	1330	ND	ND	ND	ND	ND	ND	ND	ND	ND

DATE	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- AZINON (UG/L)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- ELDRIN (UG/L)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ETHION (UG/L)	ETHION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR (UG/L)
APR 30...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SEP 29...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

DATE	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL METHO- XY- CHLOR (UG/L)	METHOXY- CHLOR IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL METHYL PARA- THION (UG/L)
APR 30...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SEP 29...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

DATE	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL METHYL TRI- THION (UG/L)	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL PARA- THION (UG/L)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TOX- APHENE (UG/L)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG)
APR 30...	ND	ND	ND	ND	ND	ND	ND	ND	ND
SEP 29...	ND	ND	ND	ND	ND	ND	ND	ND	ND

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ATRA- ZINE (UG/L)	ATRA- ZINE IN BOTTOM MATERI- AL (UG/ KG DRY SOLIDS)	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDE (UG/L)
JAN 30...	1400	--	ND	--	--	--	ND	--	ND	--
MAY 24...	--	ND	ND	ND	--	ND	ND	ND	ND	ND
24...	1400	--	--	--	ND	--	--	--	--	--
SEP 03...	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	UDE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDT (UG/L)	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- AZINON (UG/L)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- ELDRIN (UG/L)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ETHION (UG/L)
JAN 30...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 24...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
24...	--	--	--	--	--	--	--	--	--	--
SEP 03...	--	ND	--	ND	--	ND	--	ND	--	ND

ND Material specifically analyzed for but not detected.

COLORADO RIVER MAIN STEM

09380000. COLORADO RIVER AT LEES FERRY, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	ETHION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL METH- OXY- CHLOR (UG/L)
JAN 30...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 24...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
24...	--	--	--	--	--	--	--	--	--	--
SEP 03...	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	METHOX- YCHLOR IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL METHYL PARA- THION (UG/L)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL METHYL TRI- THION (UG/L)	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL PARA- THION (UG/L)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG)	SIMA- ZINE TOTAL (UG/L)	SIMA- ZINE IN BOTTOM MATERI- AL (UG/ KG DRY SOLIDS)	TOTAL TOX- APHENE (UG/L)
JAN 30...	ND	--	ND	--	ND	--	ND	--	--	--
MAY 24...	ND	ND	ND	ND	ND	ND	ND	--	--	ND
24...	--	--	--	--	--	--	--	--	ND	--
SEP 03...	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL 2,4-D (UG/L)	2,4-D IN BOTTOM MA- TERIAL (UG/KG)	TOTAL 2,4,5-T (UG/L)	2,4,5-T IN BOTTOM MA- TERIAL (UG/KG)	TOTAL SILVEX (UG/L)	SILVEX IN BOTTOM MA- TERIAL (UG/KG)
JAN 30...	ND	--	ND	--	ND	--	ND	--	ND
MAY 24...	ND	ND	ND	ND	--	ND	--	ND	--
24...	--	--	--	--	ND	--	ND	--	ND
SEP 03...	--	ND	--	ND	--	ND	--	ND	--

ND Material specifically analyzed for but not detected.

COLORADO RIVER MAIN STEM

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09380000. COLORADO RIVER AT LEES FERRY, ARIZ.--CONTINUED

PERIODIC DAILY SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	INSTAN- TANEOUS DIS- CHARGE (CFS)	SUS- PENDE SEDIM- ENT (MG/L)	SUS- PENDE SEDI- MENT DIS- CHARGE (T/DAY)
OCT.			
14...	12800	7	242
28...	7420	2	40
NOV.			
10...	10600	13	372
17...	8470	139	3180
DEC.			
01...	7830	9	190
08...	4640	3	38
15...	12400	22	737
JAN.			
12...	11800	5	159
14...	14700	5	198
26...	12900	11	383
FEB.			
09...	12200	8	264
17...	12200	8	264
23...	10700	10	289
MAR.			
08...	12500	34	1150
15...	10600	11	315
22...	11000	9	267
APR.			
06...	10000	7	189
19...	10100	5	136
26...	17100	12	554
MAY			
03...	15800	128	5460
10...	12700	29	994
17...	17300	32	1500
JUNE			
07...	16200	30	1310
14...	12000	15	486
24...	6910	28	522
JULY			
06...	14900	12	483
12...	14100	4	152
AUG.			
01...	7300	7	138
05...	8450	1	23
SEP.			
03...	13800	19	708

COLORADO RIVER MAIN STEM

09380000. COLORADO RIVER AT LEES FERRY, ARIZ.--CONTINUED

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	800	750	830	800	840	940	920	940	870	840	---	820
2	800	750	820	810	820	940	920	940	880	830	800	820
3	800	750	820	810	810	960	920	890	870	830	800	820
4	800	760	830	810	780	920	920	900	870	840	820	820
5	780	760	820	780	780	940	940	900	880	840	---	820
6	790	760	820	800	860	960	940	900	880	840	820	820
7	820	740	820	800	820	920	930	920	870	860	820	820
8	820	750	800	810	820	910	920	900	880	850	830	820
9	790	740	810	810	830	900	930	890	880	840	800	850
10	790	850	800	810	830	910	940	890	890	840	810	830
11	810	830	800	810	830	910	940	920	890	880	870	820
12	820	840	800	750	830	950	940	920	890	860	850	800
13	820	840	810	810	840	950	940	920	880	---	810	820
14	830	820	800	810	840	920	920	920	890	840	800	820
15	780	820	830	800	---	960	940	900	870	860	820	820
16	800	840	810	800	---	960	940	880	860	840	840	820
17	800	840	800	810	840	930	940	870	---	---	850	820
18	800	840	800	800	940	940	940	880	---	840	830	820
19	780	850	800	780	940	960	960	890	860	860	850	820
20	780	820	800	780	980	960	940	900	860	---	820	820
21	780	830	790	800	970	940	920	880	860	820	830	830
22	780	850	780	810	980	940	970	900	860	840	820	840
23	860	850	780	780	900	930	960	880	840	860	810	830
24	870	770	780	780	960	960	940	880	870	840	810	820
25	770	870	780	780	900	940	930	890	880	840	820	810
26	720	830	780	800	880	940	960	900	820	800	820	---
27	800	780	800	800	950	940	960	920	820	820	820	820
28	780	790	800	800	950	940	960	880	820	840	800	800
29	790	880	790	770	950	940	920	900	860	820	800	810
30	800	880	790	800	---	940	920	900	880	820	840	800
31	800	---	800	780	---	940	---	920	---	850	820	---
MEAN	799	809	803	796	877	938	937	901	867	841	822	820
YEAR	MAX	980	MIN	720	MEAN	851						

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

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

COLORADO RIVER MAIN STEM

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09380000. COLORADO RIVER AT LEES FERRY, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll a	Chlorophyll b	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight	(mg/m ²)	(mg/m ²)		
Dec. 05	29	.800	.100	.200	.000	3500	Polyethylene strip
Apr. 09	28	5.60	3.80	14.0	.000	130	Polyethylene strip
July 26	31	.615	.308	.793	.127	390	Polyethylene strip

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

DEC. 30, 1974
1345 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,400 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
.CHLOROPHYCEAE				
..CHLOROCOCCALES				
...COELASTRACEAE				
DCOELASTRUM		330	23	
...OOCYSTACEAE				
....TETRAEDRON				
	TOTALS	<u>22</u> 350	<u>2</u> 25	0.337=DIVERSITY
CHRYSTOPHYTA				
.BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		88	6	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
....ACHNANTHES		22	2	
...COCCONEIS		88	6	
....RHODICOSPHEA		180	12	
...CYMBELLACEAE				
....CYMBELLA		22	2	
...DIATOMACEAE				
....DIATOMA		44	3	
...FRAGILARIACEAE				
....FRAGILARIA		22	2	
DSYNEORA		310	22	
...NAVICULACEAE	NAVICULOID			
....NAVICULA				
	TOTALS	<u>22</u> 790	<u>2</u> 57	2.523=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
.MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
DAGMENELLUM		<u>260</u> 260	<u>19</u> 19	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 1.420
CLASS 1.420
ORDER 1.703
FAMILY 2.589
GENERA 2.923

COLORADO RIVER MAIN STEM

09380000. COLORADO RIVER AT LEES FERRY, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAR. 24, 1975
1230 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1.200 CELLS/ML

__ORGANISM__NAME__	__COMMON__NAME__	CELLS/ML	PER_CENT	
CHRYSTOPHYTA				
.BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...ACHNANTHACEAE		21	2	
....COCCONEIS		110	10	
....RHOICOSPHENIA				
...CYMBELLACEAE		51	4	
....CYMBELLA				
...DIATOMACEAE		41	4	
....DIATOMA		10	1	
...FRAGILARIACEAE	NAVICULOID	31	3	
....SYNEDRA				
...NAVICULACEAE				
....NAVICULA				
...NITZSCHACEAE				
....NITZSCHIA				
	TOTALS	<u>10</u> 280	<u>1</u> 25	2.369=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
.MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
DLYNGBYA		<u>880</u> 880	<u>76</u> 76	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.793
CLASS 0.793
ORDER 0.793
FAMILY 1.288
GENERA 1.359

APR. 30, 1975
1300 HOURS

IDENTIFICATION OF PHYTOPLANKTON

510 CELLS/ML

__ORGANISM__NAME__	__COMMON__NAME__	CELLS/ML	PER_CENT	
CHRYSTOPHYTA				
.BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...ACHNANTHACEAE		7	1	
....COCCONEIS		7	1	
....RHOICOSPHENIA				
...DIATOMACEAE		34	7	
....DIATOMA				
...NAVICULACEAE	NAVICULOID			
....NAVICULA		<u>14</u> 62	<u>3</u> 12	1.658=DIVERSITY
	TOTALS			
CYANOPHYTA	BLUE-GREEN ALGAE			
.MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
DLYNGBYA		<u>450</u> 450	<u>88</u> 88	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.534
CLASS 0.534
ORDER 0.534
FAMILY 0.709
GENERA 0.736

COLORADO RIVER MAIN STEM

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09380000. COLORADO RIVER AT LEES FERRY, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JUNE 30, 1975
1530 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,100 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...VOLVOCEAE				
...CHLAMYDOMONADACEAE				
....CARTERIA				
	TOTALS	15	1	0.000=DIVERSITY
CHRYSTOPHYTA	DIATOMS			
..BACILLARIOPHYCEAE	PENNATE			
..PENNALES				
...ACHNANTHACEAE				
....RHOICOSPHENIA		90	8	
...CYMBELLACEAE				
....CYMBELLA		15	1	
...DIATOMACEAE				
DDIATOMA		230	20	
...FRAGILARIACEAE				
DFRAGILARIA		260	23	
...GOMPHONEMATACEAE				
....GOMPHONEMA		15	1	
...NAVICULACEAE	NAVICULOID			
....NAVICULA		75	7	
	TOTALS	680	60	2.043=DIVERSITY
..CHRYSTOPHYCEAE	YELLOW-BROWN ALGAE			
...CHRYSOMONADALES				
...OCHROMONADACEAE				
....DINOBRYON				
	TOTALS	15	1	0.000=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
DGOMPHOSPHAERIA		420	37	
	TOTALS	420	37	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 1.046
CLASS 1.139
ORDER 1.139
FAMILY 2.365
GENERA 2.365

COLORADO RIVER MAIN STEM

09380000. COLORADO RIVER AT LEES FERRY, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JULY 30, 1975

1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

460 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCIDODISCACEAE				
L ...CYCLOTELLA			0	
...MELOSIRA		63	14	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
....COCCONEIS		21	5	
....RHOICOSPHEAIA		21	5	
...CYMBELLACEAE				
...CYMBELLA		42	9	
...DIATOMACEAE				
D ...DIATOMA		270	59	
...GOMPHONEMATACEAE				
....GOMPHONEMA		21	5	
...NAVICULACEAE	NAVICULOID			
....NAVICULA		21	5	
	TOTALS	460	102	1.966=DIVERSITY
..CHRYSTOPHYCEAE	YELLOW-BROWN ALGAE			
..CHRYSONOMADALES				
...OCHROMONADACEAE				
LDINORRYON			0	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

SAMPLING METHOD: PLASTIC SLIDES, RANDOM

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

ORDER 0.575

FAMILY 1.875

GENERA 1.966

AUG. 30, 1975

1000 HOURS

IDENTIFICATION OF PHYTOPLANKTON

120 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...ACHNANTHACEAE				
....COCCONEIS		8	6	
....RHOICOSPHEAIA		8	6	
...CYMBELLACEAE				
...CYMBELLA		16	12	
...DIATOMACEAE				
D ...DIATOMA		39	31	
...GOMPHONEMATACEAE				
....GOMPHONEMA		8	6	
...NAVICULACEAE	NAVICULOID			
D ...NAVICULA		39	31	
...NITZSCHIAEAF				
....NITZSCHIA		8	6	
	TOTALS	120	98	2.424=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
LOSCILLATORIA			0	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

FAMILY 2.299

GENERA 2.424

09380000. COLORADO RIVER AT LEES FERRY, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

SEP. 29, 1975
1330 HOURS

IDENTIFICATION OF PHYTOPLANKTON

140 CELLS/ML

ORGANISM_NAME	COMMON_NAME	CELLS/ML	PER_CENT	
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		17	12	
...PENNALES	PENNATE			
...ACHNANTHACEAE				
....ACHNANTHES		9	6	
L ...COCCONEIS			0	
...RHOICOSPHENIA		9	6	
...CYMBELLACEAE				
....CYMBELLA		9	6	
...DIATOMACEAE				
D ...DIATOMA		85	62	
...NAVICULACEAE	NAVICULOID			
L ...GYROSIGMA			0	
L ...NAVICULA			0	
...NITZSCHIACEAE				
....NITZSCHIA				
	TOTALS	<u>9</u> 140	<u>6</u> 98	1.799=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 ORDER 0.544
 FAMILY 1.674
 GENERA 1.799

OCT. 29, 1975
1530 HOURS

IDENTIFICATION OF PHYTOPLANKTON

350 CELLS/ML

ORGANISM_NAME	COMMON_NAME	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...ZYGNEMALES				
...DESMIDIACEAE	PLACODERM DESMIDS			
....STAUSTRUM				
	TOTALS	<u>9</u> 9	<u>3</u> 3	0.000=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...PENNALES	PENNATE			
...ACHNANTHACEAE				
....COCCONEIS		18	5	
...RHOICOSPHENIA		28	8	
...CYMBELLACEAE				
....CYMBELLA		18	5	
...DIATOMACEAE				
D ...DIATOMA		170	50	
...GOMPHONEMACEAE				
....GOMPHONEMA		9	3	
...NAVICULACEAE	NAVICULOID			
D ...NAVICULA		73	21	
...NITZSCHIACEAE				
....NITZSCHIA				
	TOTALS	<u>9</u> 330	<u>3</u> 95	2.018=DIVERSITY
..CHRYSOPHYCEAE	YELLOW-BROWN ALGAE			
...CHRYSONOMADALES				
...OCHROMONADACEAE				
....DINOBRYON				
	TOTALS	<u>9</u> 9	<u>3</u> 3	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.176
 CLASS 0.350
 ORDER 0.350
 FAMILY 2.134
 GENERA 2.262

COLORADO RIVER MAIN STEM

09380000. COLORADO RIVER AT LEES FERRY, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

NOV. 24, 1975
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

530 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
LCHLAMYDOMONAS			0	
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		17	3	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
....ACHNANTHES		6	1	
....COCCONEIS		12	2	
DRHOICOSPHENIA		120	22	
...CYMBELLACEAE				
....CYMBELLA		6	1	
...DIATOMACEAE				
....DIATOMA		17	3	
...GOMPHONEMACEAE				
LGOMPHONEMA			0	
...NAVICULACEAE	NAVICULOID			
....NAVICULA		23	4	
...NITZSCHACEAE				
....NITZSCHIA				
	TOTALS	12 210	2 38	2.171=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
DANACYSTIS		320	61	0.000=DIVERSITY
	TOTALS	320	61	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.966

CLASS 0.966

ORDER 1.128

FAMILY 1.646

GENERA 1.815

09380000. COLORADO RIVER AT LEES FERRY, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JAN. 2, 1976

0900 HOURS

IDENTIFICATION OF PHYTOPLANKTON

250 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....MELOSIRA		33	13
...PENNALES	PENNATE		
...ACHNANTHACEAE			
....ACHNANTHES		13	5
....COCCONEIS		33	13
....RHOICOSPHENIA		33	13
...CYMBELLACEAE			
....CYMBELLA		7	3
...DIATOMACEAE			
....DIATOMA		7	3
...FRAGILARIACEAE			
....SYNEDRA		20	8
...GOMPHONEMATACEAE			
LGOMPHONEMA			0
...NAVICULACEAE	NAVICULOID		
....NAVICULA		26	11
...NITZSCHIACEAE			
....DENTICULA		7	3
DNITZSCHIA		73	29
	TOTALS	250	101
			2.942=DIVERSITY
PYRRHOPHYTA	FIRE ALGAE		
..DINOPHYCEAE	DINOFLAGELLATES		
...PERIDINIALES			
...GLENODINIACEAE			
LGLENODINIUM			0

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 ORDER 0.562
 FAMILY 2.343
 GENERA 2.942

JAN. 30, 1976

1400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

170 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
...CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		18	11
....MELOSIRA		18	11
...PENNALES	PENNATE		
...ACHNANTHACEAE			
....ACHNANTHES		6	4
....COCCONEIS		24	14
....RHOICOSPHENIA		18	11
...CYMBELLACEAE			
DCYMBELLA		30	18
...DIATOMACEAE			
....DIATOMA		18	11
...FRAGILARIACEAE			
LFRAGILARIA			0
...NAVICULACEAE	NAVICULOID		
....NAVICULA		24	14
....PINNULARIA		6	4
...NITZSCHIACEAE			
....NITZSCHIA		6	4
	TOTALS	170	102
			3.142=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 ORDER 0.750
 FAMILY 2.397
 GENERA 3.142

COLORADO RIVER MAIN STEM

09380000. COLORADO RIVER AT LEES FERRY, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

FEB. 27, 1976
1400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

70 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....CLOSTERIOPSIS		4	5	
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
LCHLAMYDOMONAS				
	TOTALS	4	5	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		7	11	
...PENNALES	PENNATE			
...ACHNANTHACEAE				
....COCCONEIS		4	5	
DRHOICOSPHEA		33	47	
...CYMBELLACEAE				
....CYMBELLA		4	5	
...DIATOMACEAE				
DDIATOMA		19	26	
...FRAGILARIACEAE				
LSYNEDRA				
	TOTALS	67	94	1.829=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.297

CLASS 0.297

ORDER 0.774

FAMILY 1.783

GENERA 2.030

COLORADO RIVER MAIN STEM

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09380000. COLORADO RIVER AT LEES FERRY, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAR. 30, 1976
1300 HOURS

IDENTIFICATION OF PHYTOPLANKTON

190 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS				
	TOTALS	8	4	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...ACHNANTHACEAE				
....ACHNANTHES		8	4	
D ...RHOICOSPHENIA		46	25	
...CYMBELLACEAE				
L ...CYMBELLA			0	
...DIATOMACEAE				
D ...DIATOMA		100	54	
...NAVICULACEAE	NAVICULOID			
...NAVICULA		15	8	
...NITZSCHIA				
	TOTALS	180	95	1.671=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIA				
LOSCILLATORIA			0	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.250
CLASS 0.250
ORDER 0.250
FAMILY 1.678
GENERA 1.851

COLORADO RIVER MAIN STEM

09380000. COLORADO RIVER AT LEES FERRY, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

APR. 30, 1976

1500 HOURS

IDENTIFICATION OF PHYTOPLANKTON

440 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...SCENEDESMACEAE				
....SCENEDESMUS				
	TOTALS	<u>20</u> 20	<u>4</u> 4	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CFNTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		10	2	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
....COCCONEIS		10	2	
....RHOICOSPHENIA		15	3	
...CYMBELLACEAE				
....CYMBELLA		30	7	
..DIATOMACEAE				
DDIATOMA		120	27	
...GOMPHONEMACEAE				
....GOMPHONEMA		5	1	
...NAVICULACEAE	NAVICULOID			
....NAVICULA		5	1	
...NITZSCHIACEAE				
....NITZSCHIA		<u>15</u> 210	<u>3</u> 46	2.081=DIVERSITY
	TOTALS			
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIA				
DOSCILLATORIA		<u>200</u> 200	<u>44</u> 44	0.000=DIVERSITY
	TOTALS			
EUGLENOPHYTA	EUGLENOIDS			
..CRYPTOPHYCEAE	CRYPTOMONADS			
...CRYPTOMONIDALES				
...CRYPTOMONODACEAE				
....CRYPTOMONAS		<u>20</u> 20	<u>4</u> 4	0.000=DIVERSITY
	TOTALS			

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.432
 CLASS 1.432
 ORDER 1.561
 FAMILY 2.350
 GENERA 2.404

09380000. COLORADO RIVER AT LEES FERRY, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAY 24, 1976
1400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

240 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...PENNALES	PENNATE			
...ACHNANTHACEAE		27	11	
....RHOICOSPHENIA				
...CYMBELLACEAE		5	2	
....CYMBELLA				
...DIATOMACEAE				
DDIATOMA		49	20	
...NAVICULACEAE	NAVICULOID	16	7	
....NAVICULA				
...NITZSCHIAEAE				
....NITZSCHIA		11	5	
	TOTALS	110	45	1.977=DIVERSITY
..CHRYSOPHYCEAE	YELLOW-BROWN ALGAE			
...CHRYSONOMADALES				
...OCHROMONADACEAE		5	2	
....OCHROMONAS		5	2	0.000=DIVERSITY
	TOTALS	5	2	
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
DOSCILLATORIA		130	52	
	TOTALS	130	52	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.999
CLASS 1.130
ORDER 1.130
FAMILY 2.029
GENERA 2.029

JUNE 28, 1976
1230 HOURS

IDENTIFICATION OF PHYTOPLANKTON

10,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...PENNALES	PENNATE			
...ACHNANTHACEAE		63	1	
....COCCONEIS			0	
LRHOICOSPHENIA				
...CYMBELLACEAE				
LAMPHORA			0	
LCYMBELLA			0	
...DIATOMACEAE				
....DIATOMA		160	2	
...FRAGILARIACEAE				
LASTERIONELLA			0	
...NAVICULACEAE	NAVICULOID			
LNAVICULA			0	
	TOTALS	290	3	1.840=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
DOSCILLATORIA		10,000	97	
	TOTALS	10,000	97	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.184
CLASS 0.184
ORDER 0.184
FAMILY 0.228
GENERA 0.235

09380000. COLORADO RIVER AT LEES FERRY, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JULY 28, 1976

1030 HOURS

IDENTIFICATION OF PHYTOPLANKTON

4,300 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHRYSTOPHYTA				
.BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...ACHNANTHACEAE				
LCOCCONEIS			0	
LRHOICOSPHENIA			0	
...CYMBELLACEAE				
...CYMBELLA		29	1	
...DIATOMACEAE				
...DIATOMA		36	1	
...NAVICULACEAE	NAVICULOID			
LNAVICULA			0	
...NITZSCHIAEAE				
LNITZSCHIA			0	
	TOTALS	100	2	2.264=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
.MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
DLYNGBYA		1,900	45	
DOSCILLATORIA		2,300	53	
	TOTALS	4,200	98	0.994=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.163
 CLASS 0.163
 ORDER 0.163
 FAMILY 0.213
 GENERA 1.188

AUG. 19, 1976

0000 HOURS

IDENTIFICATION OF PHYTOPLANKTON

350 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
.CHLOROPHYCEAE				
..CHLOROCOCCALES				
...SCENEDESMACEAE				
LCRUCIGFANIA			0	
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
DCHLAMYDOMONAS		82	23	
	TOTALS	82	23	0.000=DIVERSITY
CHRYSTOPHYTA				
.BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		15	4	
...COCCONEIS		37	11	
...RHOICOSPHENIA		15	4	
...CYMBELLACEAE				
...CYMBELLA		7	2	
...DIATOMACEAE				
DDIATOMA		110	32	
...NAVICULACEAE	NAVICULOID			
...NAVICULA		22	6	
	TOTALS	210	59	1.987=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
.MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
DOSCILLATORIA		60	17	
	TOTALS	60	17	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.370
 CLASS 1.370
 ORDER 1.370
 FAMILY 2.279
 GENERA 2.554

PARIA RIVER BASIN

55

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, on left bank 0.6 mi (1.0 km) northwest of Lees Ferry, and 1.1 mi (1.8 km) upstream from mouth.

DRAINAGE AREA.--1,410 mi² (3,652 km²).

PERIOD OF RECORD.--October 1923 to current year.

GAGE.--Water-stage recorder. Datum of gage is 3,123.40 ft (952.012 m) above mean sea level. Prior to Oct. 5, 1925, nonrecording gage at site 2,000 ft (610 m) upstream at different datum. Oct. 13, 1925, to Sept. 11, 1929, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--53 years, 29.5 ft³/s (0.835 m³/s), 21,370 acre-ft/yr (26.3 hm³/yr); median of yearly mean discharges, 26 ft³/s (0.74 m³/s), 18,800 acre-ft/yr (23 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 718 ft³/s (20.3 m³/s) Feb. 9 (gage height, 8.10 ft or 2.469 m); minimum daily, 2.9 ft³/s (0.082 m³/s) July 7.

Period of record: Maximum discharge, 16,100 ft³/s (456 m³/s) Oct. 5, 1925 (gage height, 16.3 ft or 4.97 m, from floodmark), from rating curve extended above 2,000 ft³/s (57 m³/s) on basis of float-area measurement of peak flow; maximum gage height, 16.35 ft (4.983 m) Sept. 1, 1963; minimum daily discharge, 1 ft³/s (0.03 m³/s) in most years prior to 1931.

REMARKS.--Records good. Diversions above station for irrigation of about 3,300 acres (13.4 km²). Records of water temperatures and suspended-sediment loads for the current water year are published on following pages.

REVISIONS (WATER YEAR).--WSP 1925: 1958(M), drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	13	13	11	21	25	14	9.4	4.0	3.4	9.0	3.9
2	5.0	14	11	7.0	19	111	14	8.2	3.8	3.2	11	3.9
3	5.2	13	19	15	19	57	13	7.8	3.8	3.0	7.0	3.9
4	5.2	14	24	18	20	32	14	7.0	3.6	3.0	5.0	3.9
5	5.2	14	24	14	30	22	14	6.0	3.6	3.0	4.0	4.0
6	5.2	15	23	13	57	24	16	5.5	3.6	3.0	4.0	4.2
7	5.2	14	24	13	76	25	16	6.5	3.4	2.9	4.0	4.2
8	5.0	9.8	23	13	44	27	15	19	3.4	3.2	4.0	4.2
9	5.0	8.2	24	15	184	29	15	33	3.4	3.2	4.0	4.2
10	5.2	8.6	29	15	420	27	14	51	3.3	3.2	5.0	4.5
11	5.2	15	28	18	80	27	13	31	3.4	3.2	4.0	5.5
12	5.0	15	28	19	48	27	14	16	3.4	3.2	4.0	7.8
13	5.0	15	28	31	43	21	14	12	3.8	3.6	4.0	6.5
14	5.0	16	29	20	35	21	24	7.8	3.4	3.6	4.0	5.2
15	5.2	20	19	16	35	21	62	6.5	3.4	3.6	4.0	5.0
16	5.5	21	10	16	35	20	61	4.8	3.6	15	4.0	4.5
17	5.5	21	12	25	29	20	87	4.8	3.6	12	4.0	4.5
18	5.5	19	13	35	29	22	58	4.5	3.4	12	4.0	4.4
19	5.8	19	16	35	26	22	51	4.8	3.3	19	3.9	4.4
20	6.2	18	19	28	24	21	34	5.0	3.4	8.1	3.9	4.4
21	7.8	17	24	16	23	19	37	7.4	3.3	8.0	4.0	4.8
22	7.4	18	32	16	23	18	38	14	3.6	5.0	4.0	10
23	7.8	17	34	17	24	16	31	9.8	3.3	4.0	4.0	8.0
24	13	18	32	21	26	16	23	6.0	3.0	3.4	3.9	5.0
25	14	22	20	27	26	16	20	4.8	3.2	3.6	3.9	15
26	11	20	24	14	22	16	17	4.4	3.2	7.9	3.9	6.0
27	13	13	29	14	21	16	13	4.2	3.3	10	3.9	19
28	12	25	26	16	22	14	13	4.2	3.2	14	3.8	10
29	11	33	19	22	24	14	13	4.0	3.2	12	3.9	8.0
30	9.8	15	11	21	---	14	11	4.2	3.4	9.3	3.8	8.0
31	13	---	18	21	---	14	---	3.9	---	27	4.0	---
TOTAL	224.9	500.6	685	582.0	1485	774	779	317.5	103.3	218.6	139.9	186.9
MEAN	7.25	16.7	22.1	18.8	51.2	25.0	26.0	10.2	3.44	7.05	4.51	6.23
MAX	14	33	34	35	420	111	87	51	4.0	27	11	19
MIN	5.0	8.2	10	7.0	19	14	11	3.9	3.0	2.9	3.8	3.9
AC-FT	446	993	1360	1150	2950	1540	1550	630	205	434	277	371

CAL YR 1975 TOTAL 7962.5 MEAN 21.8 MAX 450 MIN 3.6 AC-FT 15790
WTR YR 1976 TOTAL 5996.7 MEAN 16.4 MAX 420 MIN 2.9 AC-FT 11890

PEAK DISCHARGE (BASE, 1,400 CFS).--No peak above base.

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 mi (1.0 km) northwest of Lees Ferry, and 1.1 mi (1.8 km) upstream from mouth.

DRAINAGE AREA.--1,410 mi² (3,652 km²).

PERIOD OF RECORD.--Chemical analyses: October 1947 to February 1950, October 1969 to September 1972.

Specific conductance: October 1964 to September 1976 (discontinued).

Water temperatures: October 1956 to September 1976 (discontinued).

Sediment records: October 1947 to September 1976 (discontinued).

EXTREMES.--Current year:

Specific conductance: Maximum daily, 2,480 micromhos July 28; minimum daily, 285 micromhos Aug. 27.

Water temperatures: Maximum observed, 33.0°C July 9; minimum observed, freezing point Dec. 19, 25, 30, 31, Jan. 3, 4, 5.

Sediment concentrations: Maximum daily, 129,000 mg/L February 10; minimum daily, 1 mg/L July 11.

Sediment discharge: Maximum daily, 163,000 tons (148,000 tonnes) February 10; minimum daily, 0.01 ton (0.01 tonnes) July 11.

Period of record:

Specific conductance: Maximum daily, 4,750 micromhos July 19, 1971; minimum daily, 285 micromhos August 27, 1976.

Water temperatures (1956-61, 1965-76): Maximum observed, 38.0°C June 18, 1972; minimum observed, freezing point on many days during winter months.

Sediment concentrations: Maximum daily, 780,000 mg/L Aug. 9, 1968; minimum daily, 1 mg/L June 1-10, 1950, July 11, 1976.

Sediment discharge: Maximum daily, 5,100,000 tons (4,630,000 tonnes) Sept. 12, 1958; minimum daily, 0 ton (0 tonne) on many days of most years.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	590	980	550	1180	1010	1170	1140	1050	510	478	988	463
2	690	1190	790	1460	990	1160	1180	1100	525	481	817	464
3	550	1010	720	1050	1040	990	1160	955	530	479	1300	459
4	570	850	1450	965	1010	1370	1180	840	525	481	827	462
5	560	1000	1420	---	1110	1580	1120	780	510	482	1170	475
6	540	1030	1250	585	1120	1460	1140	750	515	445	730	489
7	550	1050	1300	615	1240	1460	1210	635	550	440	684	469
8	560	1000	745	1160	1120	1450	1110	1110	535	448	494	463
9	540	900	860	1180	1280	1210	1040	1160	540	439	538	464
10	530	800	1120	1170	1840	1200	1090	1750	580	464	561	436
11	550	540	1180	1160	1580	1190	1070	2440	490	468	539	466
12	570	850	1270	1160	1440	1210	1090	1750	470	468	503	1190
13	570	1050	1300	1190	1460	1110	1500	1620	530	---	511	1320
14	560	---	1190	1370	1500	990	1540	1500	515	442	504	915
15	560	1000	1150	1300	---	1050	1230	1160	530	---	520	716
16	530	1300	650	1200	---	1160	1090	1110	505	1820	510	706
17	520	1800	690	1130	1340	1180	1170	915	---	---	362	376
18	520	1100	490	1140	1280	1200	1520	690	---	1410	489	335
19	530	1470	730	1170	1180	1230	1980	635	500	945	480	602
20	520	1150	820	1100	1190	1240	1610	610	490	---	481	535
21	550	1270	1000	980	1260	1050	1500	680	500	1140	484	521
22	510	1420	1100	1030	1290	1070	1340	2330	480	1220	478	825
23	900	1200	1150	965	1260	1090	1220	1160	490	789	295	1400
24	1000	1300	1150	1010	1110	1100	1070	915	510	601	469	1380
25	1700	1550	900	1160	1190	1110	1170	875	460	488	474	---
26	1320	1350	1180	1180	1090	1050	1220	780	475	485	309	1040
27	1800	1200	1110	1220	1110	1190	1130	585	465	726	285	1450
28	1290	1050	1210	975	1160	1200	1160	565	510	2480	289	1370
29	1230	1200	1050	1010	1150	1220	1250	550	475	1200	328	850
30	1200	1270	1200	1300	---	1140	1280	540	485	2030	482	663
31	1100	---	1000	1350	---	1110	---	530	---	1390	486	---
MEAN	765	1130	1020	1120	1240	1190	1250	1030	507	842	558	735
YEAR	MAX	2480	MIN	285	MEAN	950						

09382000. PARIA RIVER AT LEES FERRY, ARIZ.--CONTINUED

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.5	15.0	8.0	1.0	7.0	10.0	19.0	24.0	28.0	32.0	30.5	28.5
2	24.0	16.0	8.0	0.5	7.0	12.0	21.0	25.0	28.0	29.0	30.0	30.5
3	21.0	7.0	7.5	0.0	7.0	6.0	20.0	21.5	30.0	30.0	20.0	31.0
4	24.0	13.0	0.5	0.0	7.0	8.0	22.0	21.0	30.0	30.0	25.5	29.0
5	26.0	16.5	0.5	0.0	9.0	9.0	10.0	22.0	30.0	30.0	28.0	21.5
6	24.5	15.5	3.0	1.0	8.0	10.0	17.0	16.0	30.0	30.0	26.5	22.0
7	25.5	16.0	5.0	0.5	6.5	12.0	22.0	19.0	31.0	32.0	23.5	25.0
8	24.0	15.5	6.0	1.0	10.0	12.0	22.0	20.0	31.0	32.0	27.0	28.5
9	22.0	12.0	5.0	1.5	8.0	16.0	22.0	25.0	30.0	33.0	29.0	23.0
10	22.5	10.5	5.0	0.5	7.0	12.0	23.0	24.0	30.0	30.0	30.0	24.0
11	21.0	10.0	5.0	1.0	5.0	11.0	24.0	23.0	29.0	28.0	28.5	25.5
12	20.0	12.0	5.0	1.0	7.0	4.0	19.0	25.0	29.0	25.0	28.0	27.0
13	20.0	11.0	5.5	1.0	6.5	14.0	18.0	26.0	29.0	---	30.0	29.0
14	19.0	11.0	4.0	1.5	7.0	12.0	14.0	27.0	28.0	26.0	25.0	24.5
15	16.0	10.0	2.5	3.0	---	16.0	14.0	28.0	28.0	---	25.5	25.5
16	20.0	12.0	0.5	6.5	---	12.0	8.0	30.0	30.0	25.0	24.5	26.0
17	19.0	12.0	0.5	6.5	9.0	16.0	14.0	31.0	---	---	25.0	26.0
18	20.0	10.5	0.5	6.0	12.0	15.0	8.0	31.0	---	23.0	29.0	26.5
19	20.0	4.0	0.0	6.5	11.0	15.0	14.0	25.0	32.0	21.0	30.5	26.5
20	17.0	8.0	1.0	5.0	3.0	16.0	18.0	25.0	31.5	---	31.0	26.5
21	19.0	8.5	1.0	5.0	5.0	15.0	21.0	25.0	27.0	29.0	30.0	21.0
22	16.0	8.0	2.0	5.0	5.0	15.0	18.0	27.0	26.0	27.0	30.0	25.0
23	17.0	6.0	3.0	7.0	8.0	15.0	21.0	25.0	27.0	30.0	29.0	19.0
24	9.5	7.5	1.0	6.0	11.0	10.0	20.0	23.0	30.0	32.0	31.5	17.0
25	12.0	3.0	0.0	5.0	13.0	10.0	21.0	26.0	30.0	32.0	29.5	---
26	14.0	1.0	4.0	4.0	13.0	9.0	16.0	27.0	31.0	30.0	28.0	23.0
27	17.5	4.0	4.0	6.0	11.0	10.0	22.0	29.0	31.0	26.0	30.5	20.0
28	11.0	6.0	4.0	6.0	9.0	12.0	15.0	30.0	28.0	28.0	28.5	22.0
29	17.0	3.0	1.0	6.5	9.0	13.0	13.0	30.0	30.0	24.0	30.5	18.5
30	16.0	1.0	0.0	6.5	---	18.0	24.0	29.0	31.0	29.5	28.5	16.0
31	16.0	---	0.0	5.0	---	20.0	---	27.0	---	24.0	24.5	---
MEAN	18.5	10.0	3.0	3.5	8.0	12.5	18.0	25.5	29.5	28.5	28.0	24.5
YEAR	MAX	33.0	MIN	0.0	MEAN	17.5						

SUSPENDED-SEDIMENT CONCENTRATION (MG/L), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	341	580	520	1330	2740	630	596	88	12	25900	96
2	22	301	640	540	1320	14600	571	556	99	13	26200	102
3	16	214	1270	880	1780	11100	525	370	79	12	22700	94
4	15	324	2080	912	1490	4700	550	183	86	7	26200	93
5	14	252	2740	970	1620	1560	680	188	65	4	26600	112
6	23	411	3470	910	2850	1380	790	147	69	3	11300	100
7	18	340	3150	850	4500	1400	890	136	71	22	2950	97
8	14	52	1950	1810	9400	1900	890	6910	84	7	2070	113
9	16	24	1240	3040	67800	1930	870	14900	57	6	1170	127
10	20	60	1330	2530	129000	2400	600	21300	76	7	1220	140
11	15	175	1070	3010	37500	2850	510	55000	43	1	1250	9890
12	16	200	980	2940	14200	5030	1240	54000	38	4	464	28600
13	16	228	1030	3610	8000	2910	1650	21000	51	10	413	27700
14	20	470	1550	1690	5400	2810	2870	2620	37	24	356	19500
15	21	410	1560	1180	4300	2210	9580	746	41	100	339	6100
16	17	960	420	790	3800	3400	8520	418	42	51000	288	2160
17	16	1050	235	1140	3100	3200	13900	164	50	39500	304	1200
18	15	1050	251	2420	2050	4130	16600	120	50	47600	310	810
19	15	990	476	2530	1260	4500	42200	165	60	34900	239	760
20	12	660	1050	1780	1060	4800	30800	182	67	27000	234	500
21	59	620	1350	760	2160	4360	31900	24000	57	42000	282	526
22	43	1950	2290	530	2800	3800	32800	10600	45	17800	227	14400
23	64	1440	1740	430	1610	2950	32200	46000	41	4400	249	36500
24	449	2210	1310	613	1400	2750	25500	7000	28	1250	173	12000
25	2710	3830	1600	726	1460	2720	10600	1230	54	5400	167	58300
26	1480	3400	1800	650	980	2800	7100	480	22	7880	171	59500
27	950	1660	2260	1070	2100	2960	6900	200	38	95000	94	55000
28	625	2420	1860	468	2710	2420	3500	187	40	93300	159	40700
29	184	2880	850	1010	2700	2460	2600	116	74	93500	190	11500
30	176	1180	770	1550	---	1390	1380	128	36	77300	111	5500
31	216	---	720	1380	---	835	---	122	---	85200	158	---
MONTH	236	491	1410	1390	11000	3520	9640	8700	56	23300	4920	13100
YEAR	MAX	129000	MIN	1								

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

[illegible]

COLORADO RIVER MAIN STEM

59

09383000. COLORADO RIVER AT COMPACT POINT, NEAR LEES FERRY, ARIZ.

LOCATION.--Lat 36°51'05", long 111°36'21", in NE¼SE¼ sec.23, T.40 N., R.7 E., Coconino County, 1.0 mi (1.6 km) downstream from Paria River, 1.4 mi (2.3 km) downstream from gage on Colorado River at Lees Ferry, and 29 mi (47 km) downstream from Utah-Arizona State line.

DRAINAGE AREA (REVISED)--112,000 mi² (290,100 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming, which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--October 1913 to current year (monthly discharge only). Prior to October 1950, published in WSP 1313.

DETERMINATION OF DISCHARGE.--There is no gage. Monthly and yearly discharge computed as the sum of flow at stations on Colorado River and Paria River at Lees Ferry.

AVERAGE DISCHARGE.--49 years (1913-62), 17,760 ft³/s (503 m³/s), 12,870,000 acre-ft/yr (15,900 hm³/yr); 12 years (1964-76), 12,260 ft³/s (347 m³/s), 8,882,000 acre-ft/yr (11,000 hm³/yr).

REMARKS.--This point on the Colorado River is the dividing point between the Upper Basin and Lower Basin, as defined in the Colorado River Compact of 1922. Flow completely regulated by Lake Powell beginning Mar. 13, 1963. (See elsewhere in this report.)

MONTHLY DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

Month	Mean	Runoff in acre-feet
October	10,360	637,300
November	7,159	426,000
December	8,481	521,500
CAL YR 1975	12,400	8,976,000
January	11,270	693,100
February	12,950	745,000
March	11,020	677,500
April	11,120	661,700
May	17,020	1,047,000
June	12,710	756,500
July	12,460	766,300
August	11,710	720,300
September	14,150	842,100
WTR YR 1976	11,700	8,494,000

NOTE.--Record shown is sum of flow at stations on Colorado River and Paria River at Lees Ferry.

LITTLE COLORADO RIVER BASIN

09383300. FILLER DITCH AT GREER, ARIZ.

LOCATION.--Lat 34°00'58", long 109°27'26", in NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.11, T.7 N., R.27 E., Apache County, in Apache National Forest, on left bank at Greer, 0.1 mi (0.2 km) downstream from point of diversion.

PERIOD OF RECORD.--August 1960 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 8,300 ft (2,530 m), from topographic map.

AVERAGE DISCHARGE.--16 years, 2.32 ft³/s (0.066 m³/s), 1,680 acre-ft/yr (2.07 hm³/yr).

EXTREMES.--Period of record: Maximum daily discharge, 19 ft³/s (0.54 m³/s) Oct. 7, 1974; no flow for long periods.

REMARKS.--Records poor. Diversion is to supply Greer Lakes, used for recreation and storage for irrigation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.7	7.3	3.5	.60	1.5	2.0	2.8	.10	.30	0	.60	.10
2	7.7	7.3	3.0	.60	1.5	1.9	2.9	.10	.30	0	.10	.10
3	7.5	7.1	2.0	.60	1.5	1.9	3.2	.10	.20	0	.10	.10
4	7.3	7.1	.60	.60	1.5	1.8	4.0	.10	.20	.10	0	0
5	7.1	6.9	.60	.50	1.0	1.9	4.4	.10	.20	.10	0	0
6	7.1	6.9	.60	.50	1.0	1.9	4.1	.10	.20	.30	0	0
7	7.3	6.7	.60	.50	1.0	1.9	4.9	.10	.20	.40	0	0
8	7.3	6.7	.60	.50	1.2	1.8	6.9	.90	.20	.40	0	0
9	7.5	6.7	.60	.50	1.5	1.8	9.2	.60	.10	.40	0	0
10	7.3	6.7	.60	.50	1.5	1.8	9.1	.20	.20	.30	0	0
11	7.3	6.0	.60	.50	1.5	1.8	8.5	.10	0	.40	0	0
12	7.3	5.0	.60	1.0	2.0	1.8	7.1	0	0	.40	0	0
13	7.3	6.0	.60	1.0	2.0	1.8	5.6	0	0	.50	0	0
14	7.3	6.0	.60	1.0	1.8	1.9	2.9	0	0	.40	0	.10
15	7.1	6.0	.60	1.0	1.4	1.9	.40	0	0	.30	0	4.4
16	7.1	6.0	.60	1.0	1.5	1.8	1.0	.10	0	.30	0	6.4
17	7.1	6.0	.60	1.0	1.3	1.9	1.1	.10	0	.30	0	6.2
18	7.3	6.0	.60	1.0	1.4	2.0	.50	.10	0	.30	.10	6.2
19	7.3	6.0	.60	1.0	1.4	2.1	.40	.10	.10	.60	.40	6.2
20	7.3	6.0	.60	1.0	1.4	2.0	.80	.10	.40	.30	.30	6.2
21	7.5	6.0	.60	1.0	1.3	2.0	1.1	1.8	.40	.30	.20	6.2
22	7.5	6.0	.60	1.0	1.3	2.0	.70	.80	.40	.40	.20	6.4
23	7.7	5.0	.60	1.0	1.3	2.1	.60	.40	.40	.30	.20	6.9
24	7.3	5.0	.60	1.0	1.4	2.2	.60	.40	.30	.30	.10	6.7
25	6.7	5.0	.60	1.0	1.7	2.4	.30	.40	.10	.10	0	7.5
26	7.3	5.0	.60	1.0	1.7	2.5	.20	.40	0	.10	0	8.0
27	7.3	5.0	.60	1.0	1.8	2.6	.10	.40	0	.20	.30	8.2
28	7.3	5.0	.60	1.0	1.9	2.6	.10	.30	0	.40	.40	7.3
29	7.3	3.5	.60	1.0	1.9	2.5	.10	.30	0	.80	.30	7.1
30	7.3	3.5	.60	1.0	---	2.5	.10	.30	0	.80	.20	6.9
31	7.3	---	.60	1.0	---	2.5	---	.30	---	1.0	.20	---
TOTAL	226.7	177.4	25.90	25.90	43.2	63.6	83.70	8.80	4.20	10.50	3.70	107.20
MEAN	7.31	5.51	.82	.84	1.49	2.05	2.79	.28	.14	.34	.12	3.57
MAX	7.7	7.3	3.5	1.0	2.0	2.6	9.2	1.8	.40	1.0	.60	8.2
MIN	6.7	3.5	.60	.50	1.0	1.8	.10	0	0	0	0	0
AC-FI	450	302	50	51	86	126	166	17	8.3	21	7.3	213
CAL YR 1975	TOTAL 607.70			MEAN 1.66	MAX	12	MIN 0	AC-FI 1210				
WTR YR 1976	TOTAL 700.20			MEAN 2.13	MAX	9.2	MIN 0	AC-FI 1550				

LITTLE COLORADO RIVER BASIN

61

09383400. LITTLE COLORADO RIVER AT GREER, ARIZ.

LOCATION.--Lat 34°01'00", long 109°27'24", in NE4SE4 sec.11, T.7N., R.27 E., Apache County, in Apache National Forest, on upstream side of right abutment of culverts on State Highway 373, at Greer, 0.1 mi (0.2 km) downstream from Filler ditch.

DRAINAGE AREA.--30.9 mi² (80.0 km²).

PERIOD OF RECORD.--August 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 8,283 ft (2,524.7 m), above mean sea level.

AVERAGE DISCHARGE.--16 years, 15.5 ft³/s (0.439 m³/s), 11,200 acre-ft/yr (13.8 hm³/yr); median of yearly mean discharges, 14 ft³/s (0.40 m³/s), 10,100 acre-ft/yr (12 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 97 ft³/s (2.75 m³/s) Apr. 10 (gage height, 2.05 ft or 0.625 m); maximum gage height, 2.28 ft (0.695 m) Dec. 31 (backwater from ice); minimum daily, 1.1 ft³/s (0.031 m³/s) Nov. 1.

Period of record: Maximum discharge, 615 ft³/s (17.4 m³/s) Oct. 20, 1972 (gage height, 5.65 ft or 1.722 m), from rating curve extended above 150 ft³/s (4.25 m³/s) on basis of partially estimated culvert computation of peak flow; minimum daily, 0.8 ft³/s (0.023 m³/s) Oct. 11-14, 1962, Oct. 22-29, Nov. 4, 9, 14, 20, 25, 1967.

REMARKS.--Records fair except those for winter periods, which are poor. Filler ditch diverts water from river 0.1 mi (0.2 km) above station. (See preceding page.)

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	1.1	1.5	3.5	12	12	16	30	31	13	21	10
2	4.2	1.2	1.5	3.5	12	12	17	30	30	13	18	10
3	4.0	1.5	1.5	4.0	13	10	21	30	30	12	15	9.7
4	4.0	1.6	2.0	4.0	12	10	24	37	30	12	15	9.7
5	4.0	1.0	3.0	4.5	12	10	27	34	29	12	14	12
6	3.0	1.5	4.0	4.5	12	10	24	32	29	12	13	11
7	3.0	1.5	4.0	3.5	12	10	26	32	29	12	13	11
8	2.4	1.5	5.0	3.5	13	10	37	43	29	12	14	10
9	2.4	1.3	5.0	3.5	20	10	52	36	29	12	13	11
10	2.2	1.5	5.0	3.5	19	10	57	33	27	12	12	12
11	2.2	1.6	5.0	4.0	14	10	56	32	25	15	12	10
12	1.0	2.0	5.0	4.0	15	10	46	34	24	16	13	10
13	1.7	2.0	4.0	4.5	15	10	38	34	22	20	13	9.7
14	2.0	2.0	4.0	7.0	14	10	30	36	22	19	13	9.7
15	2.2	2.0	4.0	9.5	12	10	32	36	20	14	12	5.2
16	2.2	2.0	4.0	10	13	10	24	40	19	14	11	3.9
17	1.0	1.0	5.0	11	12	10	34	40	18	13	10	3.8
18	2.0	1.5	6.0	11	12	11	30	41	17	12	9.0	3.5
19	2.2	1.5	6.0	11	12	11	27	46	17	25	9.0	3.3
20	2.4	2.0	6.0	12	10	11	37	44	17	20	10	3.0
21	2.4	2.0	6.0	12	10	11	41	56	16	16	11	2.5
22	2.0	1.5	6.0	12	12	11	41	46	16	18	12	2.0
23	1.5	1.5	5.0	12	11	12	41	44	15	22	13	2.0
24	2.0	1.5	5.0	12	10	13	39	41	14	23	11	2.0
25	2.4	1.5	4.5	12	11	14	37	39	14	17	10	2.0
26	1.5	1.5	4.5	12	10	15	36	37	13	17	10	2.0
27	1.3	1.5	4.5	12	11	15	33	36	13	19	14	2.0
28	1.3	2.0	4.5	12	11	15	33	34	12	23	12	2.0
29	1.3	2.0	4.5	12	12	14	31	34	12	25	10	2.0
30	1.3	2.0	4.0	12	---	14	30	34	12	24	9.7	2.0
31	1.2	---	4.0	12	---	14	---	32	---	26	9.3	---
TOTAL	14.5	47.5	134.0	254.0	364	355	1019	1155	631	520	382.0	189.0
MEAN	2.40	1.65	4.32	8.19	12.6	11.5	34.0	37.3	21.0	16.8	12.3	6.30
MAX	4.2	2.0	6.0	12	20	15	57	56	31	26	21	12
MIN	1.2	1.1	1.5	3.5	10	10	16	30	12	12	9.0	2.0
AC-FT	140	50	266	504	722	704	2020	2290	1250	1030	758	375

CAL YR 1975 TOTAL 6594.0 MEAN 18.3 MAX 162 MIN 1.1 AC-FT 13260
 1976 TOTAL 3127.0 MEAN 14.0 MAX 57 MIN 1.1 AC-FT 10170

PEAK DISCHARGE (BASE, 60 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4-10	1930	2.05	97	7-19	1930	1.83	86
5-21	0530	1.73	71				

LITTLE COLORADO RIVER BASIN

09583400. LITTLE COLORADO RIVER AT GREER, ARIZ.

LOCATION.--Lat 34°01'00", long 109°27'24", in NESE₁ sec.11, T.7 N., R.27 E., Apache County, in Apache National Forest, at gaging station at culverts on State Highway 373, at Greer, 0.1 mi (0.2 km) downstream from Filler ditch.

DRAINAGE AREA.--30.9 mi² (80.0 km²).

PERIOD OF RECORD.--Chemical analyses: January 1976 to September 1976.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPE-CIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	CHEM-ICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	COU IN BOTTOM MATERIAL (MG/KG)	FECAL COLIFORM (COL. PER 100 ML)	HARD-NESS (CA+MG) (MG/L)
JAN 27...	1500	11	80	8.2	9.0	3	--	--	--	--	31
FEB 17...	0900	17	80	7.3	1.0	3	--	--	--	1	35
MAR 18...	1030	17	80	8.1	3.0	3	--	--	--	<1	36
APR 13...	1300	50	70	8.1	8.0	6	--	17	--	<1	26
MAY 19...	1430	52	50	7.0	10.5	4	7.2	9	--	31	13
JUN 24...	1100	15	60	8.1	14.0	1	7.8	12	13000	8	18
JUL 14...	1030	18	60	7.9	16.0	10	8.2	--	--	61200	22
AUG 18...	0915	10	75	9.0	11.0	3	7.6	--	--	24	33
SEP 13...	1520	10	75	7.5	18.0	1	6.5	--	--	20	30

DATE	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION TION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO ₃) (MG/L)	CARBONATE (CO ₃) (MG/L)	DIS-SOLVED SULFATE (SO ₄) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)
JAN 27...	0	7.3	3.1	4.5	.4	1.9	45	0	3.8	1.6
FEB 17...	0	6.9	3.2	4.9	.4	2.0	50	0	4.7	1.4
MAR 18...	0	9.0	3.4	4.7	.3	2.0	51	0	4.1	1.1
APR 13...	6	6.3	2.6	2.9	.2	1.4	25	0	10	1.3
MAY 19...	0	4.0	.7	2.6	.3	1.4	16	0	5.5	.9
JUN 24...	0	4.7	1.4	4.4	.5	1.4	26	0	3.8	1.0
JUL 14...	0	5.5	2.0	3.3	.3	1.9	33	0	5.2	1.2
AUG 18...	1	8.4	2.8	4.0	.3	1.7	39	0	4.8	1.2
SEP 13...	0	7.9	2.6	6.1	.5	3.1	39	0	5.1	.9

DATE	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO ₂) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS PER AC+FT (TONS)	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED URIC ACID (P) (MG/L)	DIS-SOLVED BROMINE (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
JAN 27...	.1	26	73	71	.10	.11	.11	.04	9	140
FEB 17...	.1	26	70	77	.10	.13	.13	.01	2	250
MAR 18...	.2	26	77	76	.10	--	.06	.01	10	210
APR 13...	.1	16	56	53	.08	--	.04	.01	30	200
MAY 19...	.1	18	66	43	.09	--	--	--	1400	380
JUN 24...	.1	23	53	53	.07	--	--	--	0	200
JUL 14...	.1	21	61	57	.08	--	.02	.03	20	100
AUG 18...	.1	24	75	67	.10	--	.01	.07	10	240
SEP 13...	.1	25	69	71	.09	--	.01	.03	10	400

B Results based on non-ideal colony count.

LITTLE COLORADO RIVER BASIN

63

09383400. LITTLE COLORADO RIVER AT GREER, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	TOTAL ARSENIC IN BOTTOM MA- TERIAL (UG/G)	TOTAL BARIUM (BA) (UG/L)	TOTAL BARIUM IN BOTTOM MA- TERIAL (UG/G)	TOTAL BORON (B) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CADMIUM IN BOTTOM MA- TERIAL (UG/G)	TOTAL CHRO- MIUM (CR) (UG/L)
JAN 27...	1500	0	--	0	--	50	9	<10	1	--	0
FEB 17...	0900	0	--	100	--	80	2	<10	1	--	0
MAR 18...	1030	0	--	100	--	0	10	<10	1	--	20
APR 13...	1300	0	--	0	--	1200	30	<10	1	--	0
MAY 14...	1430	0	--	100	--	1400	1400	<10	0	--	<10
JUN 24...	1100	1	3	--	80	20	0	<10	0	<10	20
JUL 14...	1030	1	--	0	--	40	20	<10	1	--	0
AUG 18...	0915	0	--	0	--	40	10	<10	--	--	0
SEP 13...	1520	1	--	0	--	60	10	<10	--	--	0

DATE	TOTAL CHRO- MIUM IN BOTTOM MA- TERIAL (UG/G)	TOTAL COPPER (CU) (UG/L)	TOTAL COPPER IN BOTTOM MA- TERIAL (UG/G)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL LEAD IN BOTTOM MA- TERIAL (UG/G)	TOTAL MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL MERCURY IN BOTTOM MA- TERIAL (UG/G)
JAN 27...	--	10	--	560	140	<100	--	50	30	.0	--
FEB 17...	--	<10	--	570	250	<100	--	80	50	.0	--
MAR 18...	--	10	--	420	210	<100	--	60	30	.0	--
APR 13...	--	10	--	740	200	<100	--	50	10	.0	--
MAY 14...	--	<10	--	760	380	<100	--	40	0	.0	--
JUN 24...	<10	17	<10	20	200	<100	<20	20	20	.3	.0
JUL 14...	--	<10	--	1000	100	<100	--	50	20	.0	--
AUG 18...	--	<10	--	560	240	<100	--	40	10	.0	--
SEP 13...	--	<10	--	410	400	<100	--	20	20	.0	--

DATE	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SELE- NIUM IN BOTTOM MA- TERIAL (UG/G)	TOTAL SILVER (AG) (UG/L)	TOTAL SILVER IN BOTTOM MA- TERIAL (UG/G)	TOTAL ZINC (ZN) (UG/L)	TOTAL ZINC IN BOTTOM MA- TERIAL (UG/G)	TOTAL ORGANIC CARBON (C) (MG/L)	CYANIDE (CN) (MG/L)	TOTAL CYANIDE IN BOTTOM MA- TERIAL (UG/G)	PHENOLS (UG/L)
JAN 27...	0	--	<10	--	30	--	11	--	--	--
FEB 17...	0	--	<10	--	20	--	--	.00	--	2
MAR 18...	0	--	<10	--	10	--	2.3	.00	--	4
APR 13...	0	--	<10	--	50	--	5.3	.00	--	3
MAY 14...	--	--	<10	--	20	--	4.6	.00	--	6
JUN 24...	0	0	<10	<10	20	30	1.7	.00	0	0
JUL 14...	0	--	<10	--	0	--	4.2	.00	--	3
AUG 18...	0	--	<10	--	10	--	1.8	.00	--	4
SEP 13...	0	--	<10	--	0	--	1.9	.00	--	1

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

LITTLE COLORADO RIVER BASIN

09383400. LITTLE COLORADO RIVER AT GREER, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL- NITRO- GEN (N) (MG/L)	TOTAL KJEL- NITRO- GEN IN BOTTOM MAT. (MG/KG)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)
JAN 27...	1500	.11	.00	.15	.11	.39	--	.54	2.4	.04	.04
FEB 17...	0900	.13	.00	.13	.13	.11	--	.24	1.1	.05	.01
MAR 18...	1030	--	--	.06	.06	.03	--	.09	.40	.07	.01
APR 13...	1300	--	--	.04	.04	.32	--	.36	1.6	.06	.01
MAY 19...	1430	--	--	.01	--	.29	--	.30	1.3	.04	--
JUN 24...	1100	--	--	.01	--	.09	300	.10	.44	.01	--
JUL 14...	1030	--	--	.03	.02	.34	--	.37	1.6	.07	.03
AUG 10...	0915	--	--	.03	.01	.20	--	.23	1.0	.04	.07
SEP 13...	1520	--	--	.01	.01	.18	--	.19	.84	.05	.03

DATE	TIME	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	DDD IN BOTTOM MA- TERIAL (UG/KG)	DDE IN BOTTOM MA- TERIAL (UG/KG)	DDT IN BOTTOM MA- TERIAL (UG/KG)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG)	DI- ELURIN IN BOTTOM MA- TERIAL (UG/KG)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	ETHION IN BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)
JUN 24...	1100	.0	0	.0	.0	.0	.2	.0	.0	.0	.0	.0

DATE	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG)	METHYL PAKA- THION IN BOT- TOM MA- TERIAL (UG/KG)	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG)	2,4-D IN BOTTOM MA- TERIAL (UG/KG)	2,4,5-T IN BOTTOM MA- TERIAL (UG/KG)	SILVEX IN BOTTOM MA- TERIAL (UG/KG)	PCB IN BOTTOM MA- TERIAL (UG/KG)
JUN 24...	.0	.0	.0	.0	.0	0	.0	0	0	0	0

09383400. LITTLE COLORADO RIVER AT GREER, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll a (mg/m ²)	Chlorophyll b (mg/m ²)	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight				
June 24	36	1.23	1.00	.000	.000	--	Polyethylene strip

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

JUNE 24, 1976

1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

310 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...COELASTRACEAE				
DCOELASTRUM		86	28	
...OOCYSTACEAE				
....ANKISTRODESMUS				
	TOTALS	<u>6</u> 92	<u>2</u> 30	0.337=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		9	3	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
....ACHNANTHES		26	8	
...COCCONEIS		6	2	
....RHOICOSPHENIA		3	1	
...CYMBELLACEAE				
....CYMBELLA		14	5	
...DIATOMACEAE				
....DIATOMA		3	1	
...FRAGILARIACEAE				
....SYNEDRA		12	4	
...GOMPHONEMACEAE				
....GOMPHONEMA		14	5	
...NAVICULACEAE	NAVICULOID			
DNAVICULA		55	18	
...PINNULARIA		6	2	
...NITZSCHIACEAE				
....NITZSCHIA		<u>9</u> 160	<u>3</u> 52	2.904=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
....OSCILLATORIA				
DOSCILLATORIA		<u>55</u> 55	<u>18</u> 18	0.000=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
...EUGLENALES				
....EUGLENACEAE				
....TRACHELOMONAS		<u>9</u> 9	<u>3</u> 3	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.605

CLASS 1.605

ORDER 1.759

FAMILY 2.952

GENERA 3.156

LITTLE COLORADO RIVER BASIN

09383500. NUTRIOS CREEK ABOVE NELSON RESERVOIR, NEAR SPRINGVILLE, ARIZ.

LOCATION.--Lat 34°01'49", long 109°11'09", in NE¼SW¼ sec.4, T.7 N., R.30 E., Apache County, in Apache National Forest, on right bank 2.4 mi (3.9 km) upstream from dam on Nelson Reservoir and 9 mi (14 km) southeast of Springville.

DRAINAGE AREA.--83.4 mi² (216.0 km²).

PERIOD OF RECORD.--June 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 7,421.7 ft (2,262.13 m).

AVERAGE DISCHARGE.--9 years, 5.99 ft³/s (0.170 m³/s), 4,340 acre-ft/yr (5.35 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 41 ft³/s (1.16 m³/s) Apr. 5; maximum gage height, 7.15 ft (2.179 m) Aug. 1; no flow at times.

Period of record: Maximum discharge, 439 ft³/s (12.4 m³/s) Apr. 28, 1973 (gage height, 9.72 ft or 2.963 m), from rating curve extended above 190 ft³/s (5.4 m³/s) on basis of slope-area measurement at gage height 8.96 ft (2.731 m); no flow at times during most years.

REMARKS.--Records fair except those for winter periods, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	.39	.20	.10	.48	2.1	8.4	1.1	1.4	.52	17	.13
2	1.3	.44	.20	.10	.44	2.4	9.8	.84	1.2	.52	7.2	.08
3	1.9	.35	.20	.10	.39	3.0	15	.71	.84	.31	4.6	.08
4	1.0	.31	.20	.10	.35	1.9	19	1.3	.56	.13	3.8	.08
5	.71	.31	.25	.10	.48	1.9	27	4.0	.56	.08	2.2	.08
6	.64	.31	.25	.10	.56	2.2	17	2.2	.52	.04	1.1	.13
7	.60	.27	.25	.20	.52	2.0	15	.90	.52	.04	.77	.44
8	.52	.31	.25	.20	.52	2.2	23	2.0	.48	.13	.64	.97
9	.52	.31	.25	.20	2.2	1.9	24	5.4	.44	.35	.56	1.1
10	.48	.31	.25	.20	2.2	1.6	21	2.8	.35	.32	.56	.77
11	.44	.27	.25	.20	5.6	1.6	18	1.7	.39	.39	.77	.77
12	.39	.27	.25	.20	4.0	1.7	16	1.1	.44	.52	.97	.48
13	.23	.27	.25	.20	3.2	2.4	11	.77	.44	.64	.31	.39
14	.23	.31	.25	.20	3.5	2.4	7.1	.71	.39	.77	.13	.18
15	.31	.31	.25	.20	2.2	2.1	5.4	.71	.35	.56	0	.08
16	.35	.31	.25	.20	2.1	1.7	6.0	.84	.31	.35	0	.04
17	.35	.31	.25	.30	2.2	2.1	7.2	.90	.27	.18	.04	.04
18	.35	.27	.25	.30	1.7	2.5	7.8	.90	.23	.13	.31	0
19	.39	.35	.25	.30	1.6	3.5	8.0	.84	.27	.48	.52	0
20	.39	.31	.25	.30	1.3	3.5	7.5	1.0	.27	.97	.35	0
21	.48	.20	.25	.30	1.2	3.1	8.0	17	.84	.56	.27	0
22	.48	.20	.20	.30	1.1	3.2	4.1	16	1.8	.77	.35	0
23	.48	.20	.20	.30	2.0	4.5	3.1	10	1.6	1.1	.44	.13
24	.44	.20	.20	.30	1.7	4.8	2.8	8.2	.64	1.1	.35	.18
25	.48	.20	.20	.30	1.5	6.0	2.2	5.4	.39	4.3	.27	.31
26	.48	.20	.20	.30	1.4	7.8	1.9	3.3	.31	1.9	.13	.31
27	.44	.20	.20	.30	1.6	8.5	1.4	1.7	.31	1.4	.52	.44
28	.39	.20	.20	.30	1.7	10	1.2	1.6	.18	2.2	1.8	.35
29	.39	.15	.20	.30	1.9	8.2	1.2	1.3	.18	2.1	1.3	.27
30	.39	.10	.20	.30	---	6.9	1.2	1.4	.23	3.3	.77	.18
31	.35	---	.10	.40	---	6.8	---	1.3	---	4.9	.44	---
TOTAL	16.80	8.14	6.95	7.20	49.64	114.5	300.3	97.92	16.71	31.06	48.47	8.01
MEAN	.54	.27	.22	.23	1.71	3.69	10.0	3.16	.56	1.00	1.56	.27
MAX	1.9	.44	.25	.40	5.6	10	27	17	1.8	4.9	17	1.1
MIN	.23	.10	.10	.10	.35	1.6	1.2	.71	.18	.04	0	0
AC-FT	33	16	14	14	98	227	596	194	33	62	96	16

CAL YR 1975 TOTAL 2290.95 MEAN 7.92 MAX 96 MIN 0 AC-FT 5730
WTR YR 1976 TOTAL 705.70 MEAN 1.93 MAX 27 MIN 0 AC-FT 1400

PEAK DISCHARGE (BASE, 40 CFS).--Apr. 5 (0200) 41 cfs (6.95 ft).

LITTLE COLORADO RIVER BASIN

67

09383550. NUTRIOS CREEK BELOW NELSON RESERVOIR, NEAR SPRINGVILLE, ARIZ.

LOCATION.--Lat 34°03'36", long 109°11'40", in SE¼ sec.29, T.8 N., R.30 E., Apache County, in Apache National Forest, on right bank about 200 ft (60 m) downstream from dam on Nelson Reservoir and 7 mi (11 km) southeast of Springerville.

DRAINAGE AREA.--86.8 mi² (224.8 km²).

PERIOD OF RECORD.--July 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 7,364.8 ft (2,244.79 m).

AVERAGE DISCHARGE.--9 years, 5.65 ft³/s (0.160 m³/s), 4,090 acre-ft/yr (5.04 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 22 ft³/s (0.623 m³/s) Apr. 5 (gage height, 5.43 ft or 1.655 m); minimum daily, 0.09 ft³/s (0.003 m³/s) Nov. 5-11, Dec. 4-12, Sept. 7-15.

Period of record: Maximum discharge, 465 ft³/s (13.2 m³/s) Apr. 29, 1973 (gage height, 7.03 ft or 2.143 m), from rating curve extended above 150 ft³/s (4.2 m³/s) on basis of slope-area measurement at gage height 7.02 ft (2.140 m); no flow Dec. 10, 1967, to Jan. 3, 1968, Sept. 11-13, 17, 18, 1968.

REMARKS.--Records good. Flow regulated by Nelson Reservoir, 200 ft (60 m) upstream, minor stock ponds, and a small lake in Nutrioso.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.12	.11	.11	.11	.12	1.7	6.0	.82	2.1	.45	.11	.10
2	.12	.10	.11	.11	.12	4.3	6.0	.65	.14	.50	.11	.10
3	.12	.10	.10	.12	.12	2.6	9.6	.82	.14	.50	.11	.10
4	.12	.10	.09	.12	.12	.14	12	.82	.14	.50	.11	.10
5	.12	.09	.09	.12	.12	.55	14	1.8	.14	.76	.11	.10
6	.12	.09	.09	.12	.12	1.6	10	3.0	.14	4.0	.11	.10
7	.12	.09	.09	.14	.12	.88	9.9	2.2	.16	4.4	.11	.09
8	.12	.09	.09	.14	.11	1.1	13	2.2	.16	5.8	.11	.09
9	.12	.09	.09	.16	.12	1.5	14	2.9	.16	6.0	.11	.09
10	.11	.09	.09	.16	.12	1.8	13	3.0	.20	5.6	.11	.09
11	.11	.09	.09	.16	.14	.82	11	2.2	.20	5.6	.11	.09
12	.11	.10	.09	.16	.11	.82	11	.88	.20	5.6	.11	.09
13	.11	.10	.10	.16	.11	1.5	7.8	.50	.22	5.3	.11	.09
14	.12	.10	.10	.16	.11	2.1	5.1	.39	.22	5.5	.11	.09
15	.12	.10	.10	.16	.11	1.6	5.1	.30	.22	5.5	.10	.09
16	.12	.11	.11	.12	.11	1.4	4.9	.27	.22	1.4	.10	.10
17	.12	.11	.11	.11	.50	1.4	5.1	.36	.22	.20	.11	.10
18	.12	.11	.11	.11	1.0	1.6	6.0	.30	.24	.18	.11	.10
19	.11	.11	.12	.11	2.5	2.2	6.0	.20	.27	.20	.11	.10
20	.11	.11	.12	.12	.69	1.7	5.8	.30	.36	.20	.11	.10
21	.12	.11	.12	.12	.30	2.5	5.8	2.2	.36	.18	.10	.10
22	.12	.11	.12	.12	.70	2.9	4.2	7.5	.36	.18	.10	.10
23	.12	.11	.12	.12	1.6	3.0	3.0	5.1	.36	.18	.10	.10
24	.12	.11	.12	.12	1.5	3.3	2.5	3.7	.36	.16	.10	.10
25	.12	.11	.12	.12	.20	4.4	2.3	2.3	.36	.18	.10	.10
26	.12	.11	.12	.12	.55	4.4	2.2	1.2	.36	.16	.10	.10
27	.12	.11	.12	.12	1.0	6.0	1.3	.70	.36	.14	.10	.10
28	.12	.11	.12	.12	1.1	6.7	.76	.88	.36	.14	.10	.10
29	.12	.11	.12	.12	1.4	8.0	.60	2.5	.39	.12	.10	.10
30	.11	.11	.12	.12	---	5.5	.60	1.6	.39	.11	.10	.10
31	.11	---	.11	.12	---	5.5	---	1.8	---	.12	.10	---
TOTAL	3.64	3.09	3.31	3.99	14.92	83.51	198.56	53.39	9.51	59.86	3.28	2.91
MEAN	.12	.10	.11	.13	.51	2.69	6.62	1.72	.32	1.93	.11	.097
MAX	.12	.11	.12	.16	2.5	8.0	14	7.5	2.1	6.0	.11	.10
MIN	.11	.09	.09	.11	.11	.14	.60	.20	.14	.11	.10	.09
AC-FI	7.2	6.1	6.6	7.9	30	166	394	106	19	119	6.5	5.8

CAL YR 1975 TOTAL 2620.83 MEAN 7.18 MAX 108 MIN .09 AC-FI 5200
 *TR YR 1976 TOTAL 439.97 MEAN 1.20 MAX 14 MIN .09 AC-FI 873

LITTLE COLORADO RIVER BASIN

09384000. LITTLE COLORADO RIVER ABOVE LYMAN LAKE, NEAR ST. JOHNS, ARIZ.

LOCATION.--Lat 34°19'50", long 109°21'18", in NE¼SE¼ sec.27, T.11 N., R.28 E., Apache County, on right bank 1.9 mi (3.1 km) downstream from Coyote Creek, 5 mi (8 km) upstream from Lyman Dam, and 12 mi (19 km) south of St. Johns.

DRAINAGE AREA.--747 mi² (1,935 km²).

PERIOD OF RECORD.--April 1940 to current year. Prior to October 1975 published as "above Lyman Reservoir."

GAGE.--Water-stage recorder. Datum of gage is 5,988.8 ft (1,825.39 m) above mean sea level. Prior to July 25, 1940, water-stage recorder at site 600 ft (180 m) upstream at datum 1.70 ft (0.518 m) higher. Aug. 2 to Oct. 27, 1940, nonrecording gage at site within 1 mi (1.6 km) upstream at different datum.

AVERAGE DISCHARGE.--36 years, 21.1 ft³/s (0.598 m³/s), 15,290 acre-ft/yr (18.9 hm³/yr); median of yearly mean discharges, 15 ft³/s (0.42 m³/s), 10,900 acre-ft/yr (13 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 170 ft³/s (4.81 m³/s) Apr. 9 (gage height, 16.44 ft or 5.01 m); minimum daily, 0.60 ft³/s (0.017 m³/s) Sept. 23.

Period of record: Maximum discharge, 16,000 ft³/s (453 m³/s) July 25, 1940 (gage height, 17.1 ft or 5.21 m, present datum, from floodmarks), by slope-area measurement of peak flow and reservoir inflow studies; maximum gage height, 18.6 ft (5.67 m), Sept. 12, 1975 (from graph recorded to 18.4 ft or 5.61 m); no flow at times.

REMARKS.--Records poor. Flow regulated by many small reservoirs—combined capacity, about 15,500 acre-ft (19.1 km³). Diversions for irrigation of about 6,700 acres (27.1 km²) above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	4.1	3.0	1.5	6.0	9.2	13	6.0	8.0	3.3	20	20
2	5.3	4.1	3.5	3.6	6.4	9.2	20	6.0	8.4	3.0	18	22
3	5.5	3.6	3.5	3.1	7.6	8.8	27	5.3	8.0	3.0	16	20
4	4.8	4.1	3.5	3.4	7.6	10	62	8.4	7.6	5.3	14	16
5	4.8	3.8	3.5	4.3	7.6	8.8	95	23	7.2	4.1	14	17
6	4.6	3.6	4.0	4.1	8.0	8.8	91	24	6.8	8.8	12	16
7	4.6	4.3	5.0	3.1	7.6	8.0	98	20	7.2	14	10	14
8	4.6	3.6	7.6	4.1	7.6	6.8	134	26	7.5	14	9.0	13
9	4.6	4.3	7.6	4.1	6.8	6.0	150	45	8.4	16	8.0	10
10	4.3	4.3	7.6	3.4	11	5.8	145	38	7.6	23	6.0	12
11	4.6	4.3	6.4	3.4	16	5.0	140	29	6.0	32	4.3	6.8
12	4.1	3.8	6.4	3.1	13	5.0	140	23	5.0	41	3.3	5.5
13	3.8	3.8	6.4	3.0	14	5.5	110	19	4.3	55	2.8	5.0
14	3.1	4.6	4.3	2.8	14	6.8	100	19	3.4	53	2.0	3.8
15	2.8	4.6	3.0	2.8	14	7.2	91	17	2.6	34	1.9	2.8
16	3.1	5.3	3.0	2.2	14	6.8	82	15	2.5	45	1.3	2.3
17	3.1	4.8	3.0	2.2	12	6.4	66	17	2.0	50	1.0	1.9
18	3.1	5.3	3.0	2.3	12	6.4	66	18	1.9	50	.90	1.4
19	3.3	5.3	3.0	2.6	11	6.4	59	16	1.7	55	.90	1.1
20	3.6	5.3	4.0	2.5	9.2	7.6	66	26	1.7	50	2.5	.90
21	3.6	4.8	4.8	2.6	6.8	8.4	66	30	1.8	50	4.5	.90
22	3.6	4.1	5.0	3.0	8.0	8.4	59	36	1.9	45	6.0	.80
23	4.1	3.8	5.3	3.4	7.6	9.2	50	33	1.9	40	6.4	.60
24	4.1	4.8	3.3	3.8	8.8	11	38	34	1.7	40	10	.90
25	4.1	6.0	2.5	4.6	9.2	11	30	24	2.5	35	8.4	2.8
26	3.8	4.8	2.5	4.3	7.2	13	25	18	2.8	35	9.6	6.8
27	3.6	5.8	2.5	3.8	7.2	14	12	17	2.6	30	36	12
28	4.1	5.3	2.5	4.3	9.6	17	9.2	18	2.3	30	44	18
29	4.1	4.5	2.5	6.0	9.2	21	8.0	14	2.5	25	26	30
30	3.8	3.0	2.5	6.0	---	19	8.4	9.2	2.8	25	21	30
31	3.8	---	2.5	5.8	---	18	---	8.8	---	20	19	---
TOTAL	125.4	133.8	127.2	109.2	279.0	294.5	2060.6	642.7	130.7	934.5	338.90	294.30
MEAN	4.05	4.46	4.10	3.52	9.62	9.50	68.7	20.7	4.36	30.1	10.9	9.81
MAX	5.5	6.0	7.6	6.0	16	21	150	45	8.4	55	44	30
MIN	2.8	3.0	2.5	1.5	6.0	5.0	8.0	5.3	1.7	3.0	.90	.60
AC-FT	249	265	252	217	553	584	4090	1270	259	1850	672	584

CAL YR 1975 TOTAL 11055.0 MEAN 30.3 MAX 458 MIN 1.9 AC-FT 21930
WTR YR 1976 TOTAL 5470.80 MEAN 14.9 MAX 150 MIN .60 AC-FT 10850

PEAK DISCHARGE (BASE, 400 CFS).--No peak above base.

LITTLE COLORADO RIVER BASIN

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09384000. LITTLE COLORADO RIVER ABOVE LYMAN LAKE, NEAR ST. JOHNS, ARIZ.

LOCATION.--Lat 34°19'50", long 109°21'18", in NE¼SE¼ sec.27, T.11 N., R.28 E., Apache County, at gaging station 1.9 mi (3.1 km) downstream from Coyote Creek, 5 mi (8 km) upstream from Lyman Dam, and 12 mi (19 km) south of St. Johns.

DRAINAGE AREA.--747 mi² (1,935 km²).

PERIOD OF RECORD.--Chemical analyses: January 1976 to September 1976.

WATER QUALITY DATA WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICHO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	CHEM- ICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	FECAL COLI- FORM (CUL. PER 100 ML)	HARD- NESS (CA+MG) (MG/L)
JAN 27...	1130	4.3	490	8.8	1.0	25	--	--	--	180
FEB 16...	1600	10	430	8.6	13.0	15	--	--	4	170
MAR 17...	1700	7.0	420	8.5	15.0	22	--	--	8160	160
APR 13...	1600	300	150	8.3	12.0	59	--	27	8100	63
MAY 19...	1150	17	345	7.3	21.0	15	6.2	10	55	150
JUN 24...	1330	5.0	690	8.5	30.0	2	6.0	16	9	260
JUL 13...	1730	42	470	8.5	22.0	50	6.5	--	8900	170
AUG 18...	1230	5.0	500	8.6	27.0	10	6.9	--	55	230
SEP 13...	1315	3.0	485	8.4	25.5	15	6.4	--	82	190

DATE	NON- CAH- MONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAH- MONATE (HCO3) (MG/L)	CAH- MONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
JAN 27...	0	44	18	37	1.2	2.8	277	7	18	13
FEB 16...	0	40	17	31	1.0	2.8	257	0	16	11
MAR 17...	0	37	16	29	1.0	2.8	246	0	13	9.9
APR 13...	0	16	5.7	8.9	.5	1.6	96	0	9.5	2.9
MAY 19...	0	35	15	25	.9	2.8	212	0	14	8.5
JUN 24...	0	55	29	56	1.5	4.5	362	0	29	18
JUL 13...	0	40	18	39	1.3	4.4	274	0	19	13
AUG 18...	0	54	22	38	1.1	3.5	302	8	20	13
SEP 13...	0	45	20	37	1.2	4.1	292	0	22	12

B--Results based on non-ideal colony count.

LITTLE COLORADO RIVER BASIN

09384000. LITTLE COLORADO RIVER ABOVE LYMAN LAKE, NEAR ST. JOHNS, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO ₂) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTIT- TUENTS) (MG/L)	DIS- SOLVED SOLIDS (TUNS PER AC-FT)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
JAN 27...	.3	16	294	293	.40	.01	.01	.13	50	10
FEB 16...	.3	19	254	264	.35	--	.01	.11	50	0
MAR 17...	.3	20	252	250	.34	--	.00	.08	40	10
APR 13...	.1	17	122	109	.17	--	.01	.04	20	100
MAY 19...	.3	20	222	225	.30	--	--	--	10	330
JUN 24...	.6	21	378	392	.51	--	--	--	110	60
JUL 13...	.4	20	283	290	.38	--	.17	.14	90	60
AUG 18...	.4	23	320	333	.44	--	.36	.13	70	70
SEP 13...	.3	23	302	308	.41	--	.01	.12	70	40

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	TOTAL ARSENIC IN BOTTOM MA- TERIAL (UG/G)	TOTAL BARIUM (BA) (UG/L)	TOTAL BARIUM IN BOTTOM MA- TERIAL (UG/G)	TOTAL BORON (B) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CAUDIUM IN BOTTOM MA- TERIAL (UG/G)	TOTAL CHRO- MIUM (CR) (UG/L)
JAN 27...	1130	1	--	0	--	100	50	<10	1	--	0
FEB 16...	1600	2	--	0	--	70	50	<10	1	--	0
MAR 17...	1700	1	--	0	--	60	40	<10	1	--	0
APR 13...	1600	5	--	200	--	20	20	<10	0	--	0
MAY 19...	1150	2	--	0	--	40	10	<10	1	--	<10
JUN 24...	1330	2	3	0	20	110	110	<10	2	<10	20
JUL 13...	1730	4	--	0	--	120	90	<10	1	--	0
AUG 18...	1230	1	--	100	--	90	70	<10	--	--	0
SEP 13...	1315	3	--	100	--	130	70	<10	--	--	0

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

LITTLE COLORADO RIVER BASIN

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09384000. LITTLE COLORADO RIVER ABOVE LYMAN LAKE, NEAR ST. JOHNS, ARIZ.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL CHROMIUM IN BOTTOM MATERIAL (UG/G)	TOTAL COPPER (CU) (UG/L)	TOTAL COPPER IN BOTTOM MATERIAL (UG/G)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL LEAD IN BOTTOM MATERIAL (UG/G)	TOTAL MANGANESE (MN) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL MERCURY IN BOTTOM MATERIAL (UG/G)
JAN 27...	--	10	--	1300	10	<100	--	90	30	.0	--
FEB 16...	--	10	--	890	0	<100	--	60	20	.2	--
MAR 17...	--	10	--	1200	10	<100	--	80	10	.2	--
APR 13...	--	10	--	7800	100	<100	--	310	10	.0	--
MAY 19...	--	4	--	2500	330	<100	--	120	30	.0	--
JUN 24...	<10	5	<10	190	60	<100	<20	20	10	.0	.0
JUL 13...	--	10	--	3400	60	<100	--	230	10	.0	--
AUG 18...	--	<10	--	770	70	<100	--	40	10	.0	--
SEP 13...	--	<10	--	2500	40	<100	--	90	10	.0	--

DATE	TOTAL SELENIUM (SE) (UG/L)	TOTAL SELENIUM IN BOTTOM MATERIAL (UG/G)	TOTAL SILVER (AG) (UG/L)	TOTAL SILVER IN BOTTOM MATERIAL (UG/G)	TOTAL ZINC (ZN) (UG/L)	TOTAL ZINC IN BOTTOM MATERIAL (UG/G)	TOTAL ORGANIC CARBON (C) (MG/L)	CYANIDE (CN) (MG/L)	TOTAL CYANIDE IN BOTTOM MATERIAL (UG/G)	PHENOLS (UG/L)
JAN 27...	1	--	<10	--	10	--	11	--	--	--
FEB 16...	0	--	<10	--	20	--	5.5	.00	--	2
MAR 17...	0	--	<10	--	10	--	3.7	.00	--	2
APR 13...	0	--	<10	--	30	--	9.6	.00	--	3
MAY 19...	--	--	<10	--	20	--	5.6	.00	--	6
JUN 24...	0	0	<10	<10	20	20	3.3	.00	0	0
JUL 13...	0	--	<10	--	10	--	8.2	.00	--	2
AUG 18...	0	--	<10	--	10	--	4.1	.00	--	4
SEP 13...	0	--	<10	--	10	--	12	.00	--	1

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

LITTLE COLORADO RIVER BASIN

09384000. LITTLE COLORADO RIVER ABOVE LYMAN LAKE, NEAR ST. JOHNS, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL- NITRO- GEN (N) (MG/L)	TOTAL KJEL- NITRO- GEN IN BOTTOM MAT. (MG/KG)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)
JAN 27...	1130	.01	.00	.01	.01	.56	--	.57	2.5	.20	.13
FEB 16...	1600	--	--	.01	.01	.71	--	.72	3.2	.25	.11
MAR 17...	1700	--	--	.00	.00	.64	--	.64	2.8	.19	.08
APR 13...	1600	--	--	.01	.01	.87	--	.88	3.9	.31	.04
MAY 14...	1150	--	--	.04	--	.49	--	.53	2.3	.29	--
JUN 24...	1330	--	--	.00	--	.35	120	.35	1.6	.02	--
JUL 13...	1730	--	--	.16	.17	.80	--	.96	4.3	.24	.14
AUG 18...	1230	--	--	.01	.36	.29	--	.30	1.3	.11	.13
SEP 13...	1315	--	--	.03	.01	.69	--	.72	3.2	.21	.12

DATE	TIME	ALURIN IN BOTTOM MA- TERIAL (UG/KG)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	DDD IN BOTTOM MA- TERIAL (UG/KG)	DDE IN BOTTOM MA- TERIAL (UG/KG)	DDT IN BOTTOM MA- TERIAL (UG/KG)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	ETHION IN BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)
JUN 24...	1330	.0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0

DATE	TIME	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG)	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG)	2,4-D IN BOTTOM MA- TERIAL (UG/KG)	2,4,5-T IN BOTTOM MA- TERIAL (UG/KG)	SILVEX IN BOTTOM MA- TERIAL (UG/KG)	PCB IN BOTTOM MA- TERIAL (UG/KG)
JUN 24...		.0	.0	.0	.0	.0	0	.0	0	0	0	0

LITTLE COLORADO RIVER BASIN

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09384000. LITTLE COLORADO RIVER ABOVE LYMAN LAKE, NEAR ST. JOHNS, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll _a	Chlorophyll _b	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight	(mg/m ²)	(mg/m ²)		
June 24	36	6.00	5.15	.541	.000	1600	Polyethylene strip

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

JUNE 24, 1976
1330 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,500 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
DANKISTRODESMUS		890	35	
....TETRAEDRON		150	6	
....SCENEDESMACEAE				
....SCENEDESMUS		200	8	
	TOTALS	1,200	49	1.131=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
DCYCLOTELLA		400	16	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...COCCONEIS		49	2	
...GOMPHONEMATACEAE		49	2	
...GOMPHONEMA				
...NAVICULACEAE	NAVICULOID	99	4	
...NAVICULA				
...NITZSCHACEAE		540	22	
DNITZSCHIA		1,100	46	1.739=DIVERSITY
	TOTALS			
..CHRYSTOPHYCEAE	YELLOW-BROWN ALGAE			
..CHRYSSOMONADALES				
...OCHROMONADACEAE		150	6	
....OCHROMONAS		150	6	0.000=DIVERSITY
	TOTALS			

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.000
 CLASS 1.263
 ORDER 1.683
 FAMILY 2.358
 GENERA 2.601

LITTLE COLORADO RIVER BASIN

09384500. LYMAN LAKE NEAR ST. JOHNS, ARIZ.
(Formerly published as Lyman Reservoir near St. Johns)

LOCATION.--Lat 34°22'06", long 109°22'55", in SW 1/4 sec. 9, T.11 N., R.28 E., Apache County, in control tower of Lyman Dam on Little Colorado River, 9.5 mi (15.3 km) south of St. Johns.

DRAINAGE AREA.--790 mi² (2,046 km²).

PERIOD OF RECORD.--May 1940 to September 1947; April 1948 to September 1975 (daily contents), October 1975 to current year (daily gage heights). Prior to October 1975 published as Lyman Reservoir near St. Johns.

GAGE.--Water-stage recorder. Datum of gage is 5,923.7 ft (1,805.54 m) above mean sea level.

EXTREMES.--Current year: Maximum gage height, 52.51 ft (16.005 m) April 25; minimum, 44.34 ft (13.515 m) Sept. 29, 30.
1940-75: Maximum contents, 32,200 acre-ft (39.7 hm³) May 6, 1973 (gage height, 57.93 ft or 17.657 m); no storage at times in recent years.

REMARKS.--Lake is formed by an earthfill and rockfill dam, rubble faced; dam completed and storage began in 1920; original dam washed out Apr. 14, 1915. Crest of permanent spillway raised from 50.0 ft (15.24 m) to 56.8 ft (17.31 m) during March and April 1949. Capacity (based on 1953 studies), 30,600 acre-ft (37.7 hm³) between gage heights 20.0 ft (6.10 m)—bottom of Lyman Canal—and 56.8 ft (17.31 m)—average elevation of spillway crest. Contents between gage heights 14.0 ft (4.27 m)—12.0 ft (3.66 m) above sill of outlet gates—and 20.0 ft (6.10 m), about 800 acre-ft (1.0 hm³), not available for release to Lyman Canal but can be released to river channel. Due to silt deposition in the lake, contents cannot be determined until new capacity tables can be prepared. Water is used for irrigation in vicinity of St. Johns.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49.52	49.17	48.94	49.30	49.65	49.80	50.18	52.27	51.11	48.31	47.64	45.60
2	49.51	49.17	48.94	49.30	49.66	49.80	50.22	52.20	51.06	48.22	47.67	45.53
3	49.51	49.17	48.97	49.30	49.66	49.78	50.30	52.12	51.02	48.11	47.67	45.46
4	49.50	49.17	48.98	49.30	49.63	49.77	50.40	52.09	50.96	48.03	47.62	45.38
5	49.44	49.16	49.00	49.28	49.64	49.77	50.52	52.05	50.90	47.93	47.57	45.31
6	49.47	49.13	49.00	49.26	49.66	49.76	50.68	52.01	50.84	47.84	47.51	45.25
7	49.45	49.12	49.01	49.32	49.68	49.76	50.80	51.98	50.76	47.75	47.43	45.18
8	49.45	49.10	49.02	49.34	49.70	49.75	50.97	51.93	50.67	47.65	47.37	45.10
9	49.44	49.10	49.03	49.35	49.70	49.75	51.16	51.92	50.56	47.54	47.27	45.04
10	49.43	49.06	49.05	49.36	49.70	49.74	51.35	51.90	50.47	47.45	47.20	44.96
11	49.42	49.06	49.06	49.38	49.72	49.75	51.56	51.85	50.36	47.37	47.13	44.88
12	49.34	49.06	49.07	49.40	49.75	49.75	51.72	51.80	50.26	47.29	47.07	44.78
13	49.36	49.05	49.10	49.40	49.77	49.76	51.88	51.75	50.16	47.21	46.97	44.68
14	49.35	49.03	49.10	49.42	49.80	49.77	51.99	51.81	50.04	47.10	46.85	44.58
15	49.35	49.02	49.10	49.43	49.80	49.77	52.08	51.65	49.95	47.03	46.74	44.46
16	49.34	49.02	49.10	49.46	49.80	49.78	52.16	51.62	49.83	46.93	46.64	44.45
17	49.33	49.00	49.10	49.48	49.80	49.79	52.20	51.56	49.71	46.83	46.55	44.43
18	49.32	48.99	49.10	49.50	49.82	49.80	52.25	51.53	49.60	46.76	46.45	44.42
19	49.31	48.98	49.11	49.50	49.80	49.80	52.30	51.47	49.51	46.73	46.37	44.41
20	49.30	48.98	49.12	49.52	49.80	49.80	52.35	51.46	49.41	46.65	46.27	44.40
21	49.29	48.96	49.13	49.54	49.80	49.80	52.41	51.44	49.32	46.59	46.21	44.40
22	49.28	48.95	49.16	49.54	49.80	49.81	52.46	51.43	49.18	46.57	46.16	44.39
23	49.26	48.95	49.20	49.56	49.80	49.83	52.50	51.41	49.08	46.62	46.09	44.39
24	49.25	48.93	49.22	49.59	49.80	49.84	52.50	51.41	48.99	46.98	46.06	44.38
25	49.25	48.92	49.22	49.60	49.80	49.84	52.50	51.39	48.89	47.13	45.96	44.38
26	49.23	48.92	49.23	49.60	49.80	49.87	52.49	51.36	48.79	47.21	45.88	44.38
27	49.21	48.92	49.23	49.60	49.80	49.90	52.48	51.33	48.67	47.27	45.88	44.36
28	49.20	48.91	49.25	49.61	49.80	49.98	52.44	51.30	48.58	47.33	45.88	44.35
29	49.19	48.94	49.25	49.62	49.80	50.05	52.38	51.25	48.46	47.54	45.82	44.34
30	49.17	48.95	49.26	49.63	---	50.10	52.32	51.21	48.40	47.58	45.76	44.34
31	49.16	---	49.29	49.64	---	50.14	---	51.15	---	47.61	45.68	---
MAX	49.35	49.03	49.11	49.46	49.75	49.83	51.72	51.67	49.85	47.33	46.69	44.73
MAX	49.52	49.17	49.29	49.64	49.82	50.14	52.50	52.27	51.11	48.31	47.67	45.60
MIN	49.16	48.91	48.94	49.26	49.63	49.74	50.18	51.15	48.40	46.57	45.68	44.34

WTR YR 1976 MEAN 49.04 MAX 52.50 MIN 44.34

LITTLE COLORADO RIVER BASIN

75

09385000. LYMAN CANAL BELOW LYMAN LAKE, NEAR ST. JOHNS, ARIZ.
(Formerly published as Lyman Canal below Lyman Reservoir, near St. Johns)

LOCATION.--Lat 34°22'05", long 109°22'55", in SW¼NE¼ sec.9, T.11 N., R.28 E., Apache County, on right bank 45 ft (14 m) downstream from outlet tunnel in Lyman Dam and 9.5 mi (15.3 km) south of St. Johns.

PERIOD OF RECORD.--June 1950 to June 1954, April 1955 to current year. Prior to October 1975 published as "below Lyman Reservoir, near St. Johns."

GAGE.--Water-stage recorder. Datum of gage is 5,943.4 ft (1,811.55 m) above mean sea level.

AVERAGE DISCHARGE.--24 years (1950-53, 1955-76), 11.6 ft³/s (0.329 m³/s), 8,400 acre-ft/yr (10.4 hm³/yr).

EXTREMES.--Period of record: Maximum daily discharge, 74 ft³/s (2.10 m³/s) July 3-5, Aug. 8, 9, 1952; no flow for long periods in each year.

REMARKS.--Records good. Canal diverts water from Lyman Lake for irrigation of about 1,500 acres (6.07 km²) in vicinity of St. Johns. No diversion between reservoir outlet and station. A feeder ditch 9 mi (14 km) downstream diverts up to 400 acre-ft/yr (0.493 hm³/yr) from Lyman Canal to Little Reservoir.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10						0	37	20	43	33	43
2	.10						0	38	22	43	33	43
3	.10						0	38	22	42	32	43
4	.08						0	38	26	39	32	43
5	0						0	37	28	39	39	43
6	0						0	37	28	40	42	43
7	0						0	38	39	40	42	43
8	0						0	38	43	40	42	43
9	0						0	38	43	39	42	43
10	0						0	39	42	39	42	43
11	0						0	39	42	40	43	43
12	0						0	37	42	40	43	43
13	0						0	37	42	39	44	44
14	0						0	36	41	39	43	45
15	0						4.3	35	41	39	43	47
16	0						5.4	35	41	39	44	0
17	0						5.4	35	41	39	44	0
18	0						5.4	35	42	39	44	0
19	0						5.4	35	42	39	44	0
20	0						5.4	35	42	40	44	0
21	0						5.4	35	41	40	44	0
22	0						5.4	30	41	40	44	0
23	0						6.2	20	41	33	44	0
24	0						20	20	41	0	44	0
25	0						20	20	41	0	44	0
26	0						20	20	42	0	44	0
27	0						20	20	42	0	44	0
28	0						20	20	42	0	44	0
29	0						29	20	42	13	44	0
30	0				---		37	20	43	23	44	0
31	0	---			---		---	20	---	30	44	---
TOTAL	.38	0	0	0	0	0	214.3	982	1145	976	1299	652
MEAN	.012	0	0	0	0	0	7.14	31.7	38.2	31.5	41.9	21.7
MAX	.10	0	0	0	0	0	37	39	43	43	44	47
MIN	0	0	0	0	0	0	0	20	20	0	32	0
AC-FT	.8	0	0	0	0	0	425	1950	2270	1940	2580	1290
CAL YR 1975	TOTAL	4536.58	MEAN 12.4	MAX 45	MIN 0	AC-FT 9000						
WTR YR 1976	TOTAL	5268.68	MEAN 14.4	MAX 47	MIN 0	AC-FT 10450						

LITTLE COLORADO RIVER BASIN

09385500. LITTLE COLORADO RIVER BELOW LYMAN LAKE, NEAR ST. JOHNS, ARIZ.
(Formerly published as Little Colorado River below Lyman Reservoir, near St. Johns)

LOCATION.--Lat 34°22'05", long 109°22'56", in SW¼NE¼ sec.9, T.11 N., R.28 E., Apache County, on right bank 65 ft (20 m) downstream from outlet tunnel in Lyman Dam, and 9.5 mi (15.3 km) south of St. Johns.

DRAINAGE AREA.--790 mi² (2,046 km²).

PERIOD OF RECORD.--April 1941 to June 1954, April 1955 to current year. Prior to October 1975 published as "below Lyman Reservoir, near St. Johns."

GAGE.--Water-stage recorder and concrete control for determination of quantity of water released to river channel. Datum of gage is 5,925.35 ft (1,806.047 m) above mean sea level. Water-stage recorder on Lyman Reservoir for determination of flow in spillway channel 0.4 mi (0.6 km) north, in SW¼ sec.4, T.11 N., R.28 E.

AVERAGE DISCHARGE.--33 years (1941-53, 1955-76), 3.25 ft³/s (0.092 m³/s), 2,350 acre-ft/yr (2.90 hm³/yr).

EXTREMES.--Current year: Maximum daily discharge, 7.8 ft³/s (0.22 m³/s) Aug. 2; minimum daily, 0.51 ft³/s (0.014 m³/s) Apr. 10-14. Period of record: Maximum discharge observed, 603 ft³/s (17.1 m³/s) May 8, 1941 (including 546 ft³/s or 15.5 m³/s of spilled water); no flow at times prior to 1960.

REMARKS.--Records good. Records show all water spilled and released from Lyman Lake to the river channel, but do not include flow diverted to Lyman Canal. (See preceding page.) No flow over Lyman Dam spillway this year. Since 1929 spill has occurred only during periods Apr. 8 to about May 6, 1932, Apr. 30 to May 13, 1941, Apr. 5-23, 1966, Apr. 29 to May 26, 1973. Except for periods of flow over spillway, flow is completely regulated by many reservoirs—combined capacity, 46,900 acre-ft (57.8 hm³)—the largest of which is Lyman Lake. (See elsewhere in this report.) Diversions above station for irrigation of about 8,200 acres (33.2 km²), including 1,500 acres (6.07 km²) served by Lyman Canal. Flow past this station, supplemented by spring inflow downstream and feeder ditch diversions from Lyman Canal, used to irrigate an additional 2,000 acres (8.09 km²) in vicinity of St. Johns.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.68	.68	.68	.89	.89	.59	.59	2.6	3.9	6.4	7.4	5.1
2	.68	.78	.68	.89	.89	.68	.59	2.6	3.9	6.7	7.8	5.1
3	.68	.89	.68	.89	.78	.68	.59	2.6	4.2	6.7	7.4	5.1
4	.68	.89	.68	.89	.78	.68	.59	2.8	4.8	6.4	7.4	5.4
5	.68	.89	.68	.89	.78	.68	.59	3.0	4.8	6.4	7.4	5.4
6	.68	.89	.68	.89	.78	.68	.59	3.2	4.8	6.4	7.0	5.7
7	.59	.89	.68	.89	.78	.68	.59	3.2	4.5	6.4	7.0	6.0
8	.59	.89	.68	.89	.78	.59	.59	3.0	4.5	6.4	7.0	6.0
9	.59	.89	.68	.89	.78	.59	.59	2.8	3.9	6.4	7.0	6.0
10	.59	.89	.68	.89	.78	.59	.51	2.6	4.2	6.4	7.0	6.0
11	.59	.89	.68	.89	.78	.59	.51	2.6	4.5	6.4	6.7	5.4
12	.59	.89	.68	.89	.68	.59	.51	2.4	4.8	6.4	6.7	5.4
13	.59	.89	.68	.89	.68	.59	.51	2.4	5.1	6.7	6.7	5.4
14	.59	.89	.78	.89	.68	.59	.51	3.0	5.1	6.7	6.4	5.4
15	.59	.89	.78	.89	.68	.59	.89	3.9	5.1	7.0	6.4	5.7
16	.59	.89	.78	.89	.68	.59	1.0	4.2	4.8	7.0	6.7	1.8
17	.59	.89	.78	.89	.68	.59	1.0	4.2	5.1	7.0	6.7	1.5
18	.59	.89	.78	.89	.68	.59	1.0	4.2	4.8	7.0	6.7	1.5
19	.59	.89	.78	.89	.68	.59	1.0	4.2	5.1	7.0	6.7	1.5
20	.59	.78	.78	.89	.68	.59	.89	4.2	5.1	7.0	6.7	1.5
21	.59	.68	.78	.89	.68	.59	.89	3.9	5.7	6.7	6.4	1.5
22	.68	.68	.78	.89	.68	.59	.89	3.7	5.7	7.0	6.0	1.5
23	.68	.68	.89	.89	.68	.59	.89	3.9	5.4	6.4	5.7	1.5
24	.68	.68	.89	.89	.68	.59	1.0	3.9	5.4	6.4	5.7	1.5
25	.59	.68	.89	.89	.68	.59	1.0	3.7	5.7	5.1	5.4	1.5
26	.59	.68	.89	.89	.68	.59	1.1	3.7	5.7	4.8	5.4	1.5
27	.68	.68	.89	.89	.59	.59	2.4	3.7	6.0	3.7	5.4	1.7
28	.68	.68	.89	.89	.59	.59	3.4	3.9	6.0	3.4	5.4	1.7
29	.68	.68	.89	.89	.52	.59	3.0	3.9	5.7	5.4	5.4	1.7
30	.68	.68	.89	.89	---	.59	2.8	3.4	6.0	7.4	5.4	1.7
31	.68	---	.89	.89	---	.59	---	3.4	---	7.4	5.1	---
TOTAL	19.55	24.17	23.87	27.59	20.70	18.83	31.01	104.8	150.3	196.5	200.1	106.7
MEAN	.63	.81	.77	.89	.71	.61	1.03	3.38	5.01	6.34	6.45	3.56
MAX	.68	.89	.89	.89	.89	.68	3.4	4.2	6.0	7.4	7.8	6.0
MIN	.59	.68	.68	.89	.52	.59	.51	2.4	3.9	3.4	5.1	1.5
AC-FT	39	48	47	55	41	37	62	208	298	390	397	212

CAL YR 1975 TOTAL 659.57 MEAN 1.81 MAX 5.7 MIN .12 AC-FT 1310
WTR YR 1976 TOTAL 924.12 MEAN 2.52 MAX 7.8 MIN .51 AC-FT 1830

LITTLE COLORADO RIVER BASIN

77

09386030. LITTLE COLORADO RIVER ABOVE ZION RESERVOIR, NEAR ST. JOHNS, ARIZ.

LOCATION.--Lat 34°35'01", long 109°24'23", in SE¼SE¼ sec.30, T.14 N., R.28 E., Apache County, on downstream side of center pier of bridge on private road, 1.5 mi (2.4 km) upstream from Carrizo Creek, 4 mi (6 km) upstream from Zion Reservoir, and 5.8 mi (9.3 km) northwest of St. Johns.

DRAINAGE AREA.--975 mi² (2,525 km²).

PERIOD OF RECORD.--October 1975 to September 1976.

GAGE.--Water-stage recorder. Altitude of gage is 5,560 ft (1,690 m), from topographic map.

EXTREMES.--Water year 1976: Maximum discharge, 92 ft³/s (2.61 m³/s) Aug. 4 (gage height, 2.50 ft or 0.762 m), from rating curve extended above 13 ft³/s (0.4 m³/s); minimum daily, 0.10 ft³/s (0.003 m³/s) June 30, July 1.

REMARKS.--Records fair except those for July, which are poor. Diversions above station for irrigation of about 10,200 acres (41.3 km²), including 1,500 acres (6.07 km²), served by Lyman Canal. Regulation by many reservoirs above station (combined capacity, 46,900 acre-ft), the largest of which is Lyman Lake (see sta 09384500).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	5.8	11	2.7	7.6	7.6	6.1	1.5	3.9	.10	4.0	7.6
2	8.0	5.8	11	.87	8.0	7.6	4.4	2.7	2.9	.20	3.9	14
3	6.8	5.4	11	1.0	8.8	6.8	3.9	.87	1.1	.30	16	7.2
4	6.8	5.8	12	1.3	9.2	6.4	3.7	.87	3.7	.40	48	7.2
5	7.6	5.9	12	1.5	8.8	5.8	3.4	2.9	3.7	.50	4.5	7.2
6	7.6	6.3	10	1.6	9.2	5.4	3.1	2.2	3.4	1.0	2.2	6.8
7	7.2	4.1	9.6	1.5	9.6	5.1	5.9	2.9	1.5	1.0	7.2	8.0
8	5.1	7.3	9.2	1.5	9.6	5.1	7.2	4.2	1.0	1.0	44	7.6
9	6.8	7.2	8.8	3.9	9.6	5.1	7.2	4.5	1.1	1.0	7.6	7.2
10	7.2	7.7	8.8	4.5	10	5.4	7.2	4.2	.87	1.0	6.1	6.8
11	6.8	7.9	8.4	5.4	9.6	6.1	7.2	4.5	.50	1.0	5.8	6.5
12	1.6	8.1	8.8	5.1	9.6	7.6	7.6	2.9	1.0	1.0	5.1	6.5
13	3.9	8.3	8.8	5.1	10	9.2	7.2	1.6	1.1	1.0	6.5	6.1
14	7.6	8.1	5.5	6.4	12	9.6	6.1	2.2	1.3	1.0	4.8	6.1
15	8.4	8.4	3.4	7.6	11	9.6	5.1	1.8	2.0	1.0	4.2	6.1
16	8.4	8.4	3.4	6.8	10	8.8	6.1	2.9	3.1	2.0	3.7	6.1
17	8.0	8.7	5.4	4.2	10	9.6	6.1	2.4	1.3	2.0	3.4	6.1
18	8.0	9.1	5.8	3.9	9.2	9.2	5.1	2.2	.41	2.0	3.4	5.8
19	8.4	9.4	5.8	4.2	9.2	7.6	5.1	2.2	.62	2.0	3.4	5.4
20	8.0	9.6	8.0	4.2	8.4	6.4	4.8	2.7	.24	2.0	3.7	5.4
21	7.6	8.2	8.0	4.5	8.0	7.6	4.0	3.9	1.0	3.0	3.9	5.4
22	8.0	9.3	6.5	4.5	8.4	8.4	3.8	3.7	1.8	3.0	3.9	5.4
23	8.0	10	6.5	5.1	9.6	7.7	3.6	3.1	1.6	3.0	8.0	5.4
24	7.6	9.1	5.4	5.7	8.4	2.9	3.0	3.4	1.0	3.0	21	5.4
25	8.0	9.2	5.1	6.8	8.0	3.0	2.0	1.6	.74	3.0	7.2	5.4
26	7.6	8.0	4.8	6.4	8.4	4.5	1.0	2.7	.12	4.0	7.2	5.4
27	6.8	10	4.5	6.4	8.4	4.4	.70	2.9	2.2	4.0	18	5.4
28	6.1	11	3.7	6.4	8.4	2.5	1.5	2.9	2.2	4.0	8.8	5.4
29	6.1	11	3.7	7.2	8.4	5.2	1.1	3.7	.41	4.0	7.6	5.4
30	6.1	11	3.1	7.6	---	6.8	.87	3.7	.10	4.0	7.2	5.4
31	5.8	---	1.6	7.6	---	7.2	---	3.7	---	4.0	6.8	---
TOTAL	217.9	244.1	219.6	141.47	265.4	204.2	134.07	87.54	45.91	60.50	287.1	193.7
MEAN	7.03	8.14	7.08	4.56	9.15	6.59	4.47	2.82	1.53	1.95	9.26	6.46
MAX	8.4	11	12	7.6	12	9.6	7.6	4.5	3.9	4.0	48	14
MIN	1.6	4.1	1.6	.87	7.6	2.5	.70	.87	.10	.10	2.2	5.4
AC-FT	432	484	436	281	526	405	266	174	91	120	569	384

WTR YR 1976 TOTAL 2101.49 MEAN 5.74 MAX 48 MIN .10 AC-FT 4170

NOTE.--No gage-height record July 1 to Aug. 2.

LITTLE COLORADO RIVER BASIN

09386950. ZUNI RIVER ABOVE BLACK ROCK RESERVOIR, N. MEX.

LOCATION.--Lat 35°06'03", long 108°45'00", in NE¼ sec.17, T.10 N., R.18 W., McKinley County, on Zuni Indian Reservation, on left bank, downstream from bridge on State Highway 36, 0.8 mi (1.3 km) upstream from flow line of Black Rock Reservoir, 2.3 mi (3.7 km) north-east of Black Rock, and 5.9 mi (9.5 km) northeast of Zuni Pueblo.

DRAINAGE AREA.--810 mi² (2,100 km²), approximately.

PERIOD OF RECORD.--October 1969 to current year. Prior to October 1974 published as "above Zuni Reservoir."

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 6,450 ft (1,966 m) from topographic map.

AVERAGE DISCHARGE.--7 years, 9.27 ft³/s (0.263 m³/s), 6,720 acre-ft/yr (8.29 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,310 ft³/s (93.7 m³/s) Aug. 20 (gage height, 5.98 ft or 1.823 m), from rating curve extended as explained below; no flow for many days.

Period of record: Maximum discharge, 5,200 ft³/s (147 m³/s) Aug. 4, 1974 (gage height, 6.61 ft or 2.015 m), from rating curve extended above 670 ft³/s (19.0 m³/s) on basis of slope-area measurements at gage heights 4.05 ft (1.234 m), 3.94 ft (1.201 m), 5.16 ft (1.573 m), and 6.61 ft (2.015 m); no flow for many days.

REMARKS.--Records fair except those for winter periods, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.27	.50	0	.80	.90	.83	1.7	.21	0	3.2	.10	
2	.19	.50	0	.80	.80	.83	1.9	.28	0	1.7	0	
3	0	.43	0	.80	.65	1.1	3.2	.25	0	.76	0	
4	0	.51	0	.75	.70	1.3	3.0	.15	0	2.3	0	
5	0	.55	0	.75	.99	1.2	2.1	.13	0	9.1	0	
6	0	.51	0	.76	.65	1.9	3.8	.17	0	6.6	0	
7	0	.51	0	.70	1.2	3.7	3.3	.45	0	3.0	0	
8	0	.50	0	.76	1.3	3.7	2.8	.35	0	4.8	0	
9	0	.72	0	.76	.65	4.6	2.4	.27	0	5.3	0	
10	0	.43	0	.76	.65	2.3	1.5	.10	0	3.5	0	
11	.10	.51	0	.76	1.2	2.0	1.5	.03		.76	2.4	0
12	.20	.59	.50	.65	1.5	2.7	4.1	0		1.2	.65	0
13	.50	.15	.70	.65	1.7	4.4	2.8	0		13	0	0
14	.50	.52	.80	.70	2.0	2.2	4.5	0		19	0	0
15	.50	.47	.90	.70	2.4	1.7	2.3	0		16	0	0
16	.80	.55	1.0	.70	2.4	3.0	2.5	0		7.3	0	0
17	.90	.55	1.0	.70	2.2	1.3	3.2	0		23	0	0
18	1.0	.47	1.0	.80	3.0	1.1	2.1	0		2.3	0	0
19	1.5	.50	1.0	.80	2.9	1.7	2.6	0		.41	27	0
20	2.0	.59	1.0	.80	2.3	2.0	3.1	0		.41	279	0
21	2.2	.27	.90	.80	3.2	4.4	2.6	0		.32	31	0
22	2.0	.51	.90	.80	3.0	3.0	1.2	0		.08	70	0
23	2.4	.27	.90	.90	1.3	3.5	.60	0		32	132	0
24	1.8	.55	.90	.90	2.7	7.3	.52	0		18	54	0
25	1.5	.59	.90	.90	1.2	6.0	.51	0		40	8.6	0
26	1.0	.59	.80	1.0	1.3	5.1	.41	0		17	1.1	1.4
27	.80	.50	.80	1.0	1.5	4.0	.22	0		36	.27	.01
28	.70	.56	.80	1.0	1.0	3.0	.06	0		37	.14	0
29	.60	.43	.80	1.0	.83	2.0	.19	0		28	.05	0
30	.50	0	.80	1.0	---	2.0	.22	0		11	.03	0
31	.50	---	.80	1.0	---	1.9	---	0	---	4.8	.06	---
TOTAL	22.46	13.33	17.20	25.20	46.18	85.76	60.93	2.39	0	307.58	646.56	1.51
MEAN	.72	.44	.55	.81	1.59	2.77	2.03	.077	0	9.92	20.9	.050
MAX	2.4	1.2	1.0	1.0	3.2	7.3	4.5	.45	0	40	279	1.4
MIN	0	0	0	.65	.65	.83	.06	0	0	0	0	0
AC-F T	45	26	34	50	92	170	121	4.7	0	610	1280	3.0
CAL YR 1975	TOTAL	1702.10	MEAN	4.66	MAX	55	MIN	0	AC-F T	3380		
WTR YR 1976	TOTAL	1229.10	MEAN	3.36	MAX	279	MIN	0	AC-F T	2440		

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-15	1800	3.58	102	8-23	2030	5.10	1,420
8-20	0015	5.98	3,310				

LITTLE COLORADO RIVER BASIN

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09390500. SHOW LOW CREEK NEAR LAKESIDE, ARIZ.

LOCATION.--Lat 34°10'46", long 109°59'14", in SW¼NW¼ sec.14, T.9 N., R.22 E., Navajo County, on left bank 1 mi (2 km) upstream from pumping plant on Show Low Lake, 1.9 mi (3.1 km) northwest of Lakeside, 2.2 mi (3.5 km) upstream from Jaques Dam, and 6 mi (10 km) southeast of Show Low.

DRAINAGE AREA.--68.6 mi² (177.7 km²).

PERIOD OF RECORD.--May 1953 to current year.

GAGE.--Water-stage recorder and concrete-dam control with V-notch sharp-crested weir. Altitude of gage is 6,610 ft (2,015 m), from topographic map.

AVERAGE DISCHARGE.--23 years, 11.1 ft³/s (0.314 m³/s), 8,040 acre-ft/yr (9.91 hm³/yr); median of yearly mean discharges; 7.9 ft³/s (0.22 m³/s), 5,700 acre-ft/yr (7.0 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 632 ft³/s (17.9 m³/s) Apr. 20 (gage height, 4.22 ft or 1.286 m); minimum daily, 0.71 ft³/s (0.020 m³/s) Nov. 19-21.

Period of record: Maximum discharge, 5,450 ft³/s (154 m³/s) Dec. 26, 1971 (gage height, 9.53 ft or 2.905 m); from rating curve extended above 2,500 ft³/s (71 m³/s) on basis of slope-area measurement of peak flow; no flow Oct. 5, 6, Dec. 10-19, 1964, Jan. 4-15, 1970.

REMARKS.--Records fair except those for October to January, which are poor. Record shows inflow to Show Low Lake. Flow partly regulated by several small reservoirs, largest of which are Rainbow Lake and Scott Reservoir, combined capacity, 2,400 acre-ft (2.96 hm³). Diversions for irrigation of about 250 acres (1.01 km²) above station.

REVISIONS (WATER YEARS).--WSP 1513: 1954-56. WSP 1926: Drainage area. WRD Ariz. 1971: 1970(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	2.5	3.2	3.0	3.3	8.0	13	2.5	4.2	8.8	6.0	6.9
2	5.6	2.5	3.3	3.0	3.3	12	33	2.3	3.8	8.5	5.4	6.7
3	5.4	2.5	3.3	3.0	3.3	18	24	2.4	3.6	8.4	5.0	6.6
4	5.2	2.0	3.7	3.0	3.4	19	15	2.9	3.3	8.4	4.6	6.5
5	4.9	2.0	3.9	3.0	4.9	14	11	2.8	3.1	8.5	1.8	6.7
6	4.7	2.0	3.9	3.0	7.0	16	8.6	2.9	3.0	8.5	2.9	5.7
7	3.9	2.0	3.9	3.5	7.4	18	6.8	2.5	3.2	8.5	3.0	5.0
8	3.0	1.5	4.0	3.5	7.0	16	5.9	2.9	3.5	8.5	3.0	5.2
9	2.5	1.5	4.0	3.5	99	13	5.5	3.0	3.7	8.6	3.1	5.4
10	2.5	1.5	4.1	3.5	300	14	4.5	2.8	3.5	8.5	3.2	5.0
11	2.5	1.5	4.1	3.5	88	16	4.2	2.9	3.2	8.7	3.4	5.1
12	2.5	1.0	3.8	4.1	57	14	4.7	2.6	3.4	10	3.2	4.9
13	2.5	1.0	4.0	4.1	45	12	4.4	2.1	3.3	10	3.3	4.5
14	2.5	1.0	4.1	4.1	66	13	4.6	1.9	3.2	8.2	3.1	4.8
15	2.5	1.0	3.4	4.0	43	19	8.6	1.4	3.1	6.0	3.1	5.3
16	2.5	1.0	3.3	4.0	23	17	16	1.4	3.0	5.7	3.3	5.1
17	2.5	.90	3.4	4.0	17	15	16	1.5	2.9	5.6	3.5	4.8
18	2.5	.78	3.5	4.0	13	16	33	4.0	3.1	9.4	3.0	4.8
19	2.5	.71	3.7	4.0	10	19	91	6.1	3.1	8.2	2.7	4.9
20	2.5	.71	3.6	4.0	9.5	17	274	5.9	3.0	6.3	2.9	4.9
21	2.5	.71	4.2	4.0	9.0	13	285	6.9	3.4	6.7	4.0	4.9
22	2.5	.74	4.0	4.0	8.5	10	182	5.8	7.4	6.0	7.5	5.8
23	2.5	.76	4.0	4.0	8.4	9.2	66	5.8	7.5	5.9	5.3	5.1
24	2.5	.76	3.5	4.0	8.5	8.9	34	5.7	7.5	8.6	3.2	5.7
25	2.5	.77	3.5	3.9	7.2	8.4	18	5.4	7.9	10	3.0	6.4
26	2.5	1.1	3.5	3.8	6.4	7.5	12	5.3	11	6.9	3.2	5.7
27	2.5	2.0	3.5	3.7	6.2	6.4	8.1	4.4	12	5.8	3.4	6.2
28	2.5	3.7	3.0	3.6	6.3	6.7	5.9	4.3	8.3	5.7	3.0	4.5
29	2.5	3.0	3.0	3.5	6.7	8.6	4.6	4.4	8.4	18	2.9	1.2
30	2.5	3.0	3.0	3.4	---	10	3.3	4.4	8.8	18	3.9	.89
31	2.5	---	3.0	3.4	---	9.8	---	4.4	---	8.3	6.7	---
TOTAL	95.7	46.14	112.4	113.1	877.3	404.5	1202.7	113.6	148.4	263.2	115.6	155.19
MEAN	3.09	1.54	3.63	3.65	30.3	13.0	40.1	3.66	4.95	8.49	3.73	5.17
MAX	5.6	3.7	4.2	4.1	300	19	285	6.9	12	18	7.5	6.9
MIN	2.5	.71	3.0	3.0	3.3	6.4	3.3	1.4	2.9	5.6	1.8	.89
AC-FT	190	52	223	224	1740	802	2390	225	294	522	229	308

CAL YR 1975 TOTAL 7199.94 MEAN 19.7 MAX 260 MIN .50 AC-FT 14280
WTR YR 1976 TOTAL 3047.83 MEAN 9.97 MAX 300 MIN .71 AC-FT 7240

PEAK DISCHARGE (BASE, 100 CFS).--Feb. 9 (2315) 380 cfs (3.77 ft); Apr. 20 (2300) 632 cfs (4.22 ft).

NOTE.--No gage-height record Oct. 9 to Nov. 17.

LITTLE COLORADO RIVER BASIN

09390500. SHOW LOW CREEK NEAR LAKESIDE, ARIZ.

LOCATION.--Lat 34°10'46", long 109°59'14", in SW¹/₄ sec.14, T.9 N., R.22 E., Navajo County, at gaging station 1 mi (2 km) upstream from pumping plant on Show Low Lake, 1.9 mi (3.1 km) northwest of Lakeside, 2.2 mi (3.5 km) upstream from Jaques Dam, and 6 mi (10 km) southeast of Show Low.

DRAINAGE AREA.--68.6 mi² (177.7 km²).

PERIOD OF RECORD.--Chemical analyses: January 1976 to September 1976.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO- MHUS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	COD IN BOTTOM MATERIAL (MG/KG)	FECAL COLIFORM (COL. PER 100 ML)	HARDNESS (CA+MG) (MG/L)
JAN 27...	1700	3.5	180	8.8	6.0	3	--	--	--	--	79
FEB 17...	1100	18	85	--	3.5	20	--	--	--	2	47
MAR 18...	1600	17	135	8.0	4.0	13	--	--	--	<1	70
APR 13...	0900	4.8	200	8.2	9.0	6	--	16	--	5	91
MAY 20...	0530	5.7	80	7.3	12.0	5	7.4	20	--	130	95
JUN 24...	1400	7.2	180	8.7	20.5	20	7.8	20	2000	180	62
JUL 14...	1700	7.1	140	9.1	23.0	20	8.9	--	--	8170	61
AUG 18...	0600	3.2	200	8.6	9.0	4	8.0	--	--	24	110
SEP 14...	1520	4.8	125	8.5	20.0	4	7.6	--	--	1	60

DATE	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM AD-SORPTION RATIO	DISSOLVED PO-TASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
JAN 27...	0	17	8.8	7.0	.3	1.9	107	0	7.8	3.9
FEB 17...	0	9.6	5.6	3.7	.2	1.1	58	--	8.0	1.9
MAR 18...	6	15	7.9	4.7	.2	1.6	78	0	6.9	2.6
APR 13...	0	20	10	6.8	.3	2.0	122	0	6.6	4.0
MAY 20...	0	20	11	7.2	.3	2.1	123	0	4.8	4.7
JUN 24...	0	11	8.4	7.8	.4	1.6	80	0	5.1	3.3
JUL 14...	0	11	8.2	5.9	.3	1.6	84	0	5.7	3.7
AUG 18...	0	22	13	8.5	.4	2.1	132	0	4.3	6.2
SEP 14...	0	13	6.6	4.6	.3	1.6	74	0	6.5	1.9

B Results based on non-ideal colony count.

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

LITTLE COLORADO RIVER BASIN

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09390500. SHOW LOW CREEK NEAR LAKESIDE, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF TENTS) (MG/L)	DIS-SOLVED SOLIDS (TENS PER AC-FT)	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHO. PHOSPHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
JAN 27...	.1	11	113	110	.15	.01	.02	.02	20	40
FEB 17...	.1	11	65	70	.09	.03	.03	.00	20	30
MAR 18...	.1	11	93	88	.13	--	.00	.00	20	40
APR 13...	.1	12	115	122	.16	--	.00	.00	0	110
MAY 20...	.1	4.9	125	116	.17	.03	.03	.00	20	110
JUN 24...	.1	9.2	98	86	.13	--	--	--	30	250
JUL 14...	.1	4.3	85	83	.12	--	.03	.03	30	440
AUG 18...	.1	5.3	135	127	.18	--	.01	.00	30	120
SEP 14...	.1	4.5	78	75	.11	--	.01	.00	20	40

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	TOTAL BARIUM (BA) (UG/L)	TOTAL BORON (B) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	TOTAL CADMIUM (CD) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
JAN 27...	1700	0	0	70	20	<10	3	0	10	170	40
FEB 17...	1100	0	0	60	20	<10	1	0	<10	1300	30
MAR 18...	1600	1	0	30	20	<10	1	10	10	890	40
APR 13...	0900	1	0	30	0	<10	0	0	<10	730	110
MAY 20...	0530	1	0	20	20	<10	2	<10	<10	420	110
JUN 24...	1400	3	--	30	30	<10	0	10	5	1500	250
JUL 14...	1700	5	0	50	30	<10	1	0	<10	1800	440
AUG 18...	0600	1	0	50	30	<10	--	0	<10	420	120
SEP 14...	1520	2	0	50	20	<10	--	0	<10	630	40

DATE	TOTAL LEAD (PB) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL SELENIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)
JAN 27...	<100	0	10	.0	0	<10	10	5.6	--	--
FEB 17...	<100	40	0	.0	0	<10	0	21	.00	4
MAR 18...	<100	30	10	.0	0	<10	20	6.2	.00	11
APR 13...	<100	30	10	.0	0	<10	20	5.0	.00	4
MAY 20...	<100	10	0	.1	--	<10	10	6.2	.00	2
JUN 24...	<100	40	10	.0	0	<10	10	6.4	.00	0
JUL 14...	<100	60	30	.0	0	<10	0	8.2	.00	2
AUG 18...	<100	40	10	.0	0	<10	10	9.0	.00	5
SEP 14...	<100	20	0	.0	0	<10	0	5.3	.00	2

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

LITTLE COLORADO RIVER BASIN

09390500. SHOW LOW CREEK NEAR LAKESIDE, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	TOTAL NITRATE PLUS NITRITE (N) (MG/L)	DIS- SOLVED NITRATE PLUS NITRITE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)
JAN 27...	1700	.01	.01	.02	.02	.62	.64	2.8	.02	.02
FEB 17...	1100	.03	.00	.04	.03	.38	.42	1.9	.06	.00
MAR 18...	1600	--	--	.00	.00	.39	.39	1.7	.05	.00
APR 13...	0900	--	--	.00	.00	.41	.41	1.8	.05	.00
MAY 20...	0530	.03	.00	.00	.03	.48	.48	2.1	.02	.00
JUN 24...	1400	--	--	.00	--	.44	.44	1.9	.02	--
JUL 14...	1700	--	--	.02	.03	.56	.58	2.6	.07	.03
AUG 18...	0500	--	--	.01	.01	.51	.52	2.3	.02	.00
SEP 14...	1520	--	--	.01	.01	.39	.40	1.8	.04	.00

DATE	TIME	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	DDO IN BOTTOM MA- TERIAL (UG/KG)	DDE IN BOTTOM MA- TERIAL (UG/KG)	DDT IN BOTTOM MA- TERIAL (UG/KG)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	ETHION IN BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)
JUN 24...	1400	.0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0

DATE	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG)	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG)	2,4-D IN BOTTOM MA- TERIAL (UG/KG)	2,4,5-T IN BOTTOM MA- TERIAL (UG/KG)	SILVEX IN BOTTOM MA- TERIAL (UG/KG)	PCB IN BOTTOM MA- TERIAL (UG/KG)
JUN 24...	.0	.0	.0	.0	.0	0	.0	0	0	0	0

LITTLE COLORADO RIVER BASIN

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09390500. SHOW LOW CREEK NEAR LAKESIDE, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll a (mg/m ²)	Chlorophyll b (mg/m ²)	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight				
June 24	26	2.69	.692	.267	.000	7500	Polyethylene strip

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

JUNE 24, 1976

1400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,100 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
.CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
DDICTYOSPHAERIUM		590	29	
....KIRCHNERIELLA		25	1	
....SCENEDESMACEAE				
DSCENEDESMUS				
	TOTALS	<u>790</u> 1,400	<u>38</u> 68	1.095=DIVERSITY
CHRYSOPHYTA				
.BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		74	4	
..PENNALES	PENNATE			
....ACHNANTHACEAE				
....ACHNANTHES		200	10	
....COCconeIS		270	13	
....NAVICULACEAE	NAVICULOID			
....NAVICULA		25	1	
....NITZSCHIA				
....NITZSCHIA				
	TOTALS	<u>98</u> 660	<u>5</u> 33	1.984=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.906
 CLASS 0.906
 ORDER 1.068
 FAMILY 1.993
 GENERA 2.287

LITTLE COLORADO RIVER BASIN

09392000. SHOW LOW CREEK BELOW JAKUES DAM, NEAR SHOW LOW, ARIZ.

LOCATION.--Lat 34°11'47", long 110°00'13", in NW¼ sec.10, T.9 N., R.22 E., Navajo County, on right bank just downstream from Jaques Dam, 3.5 mi (5.6 km) northwest of Lakeside, and 4.5 mi (7.2 km) southeast of Show Low.

DRAINAGE AREA.--73.0 mi² (189 km²).

PERIOD OF RECORD.--November 1941 to January 1945, June 1953 to September 1955 (monthly discharge only), October 1955 to current year. Monthly discharge only November 1941 to January 1945, published in WSP 1313. Published as "at Jaques damsite, near Lakeside" 1941-45.

GAGE.--Water-stage recorder and sharp-crested weir, with periodic supplementary lake elevation readings for flow over concrete spillway. Altitude of gage is 6,530 ft (1,990 m), from topographic map. November 1941 to January 1945 nonrecording gage at site 100 ft (30 m) upstream at different datum.

AVERAGE DISCHARGE.--23 years (1953-76), 5.98 ft³/s (0.169 m³/s), 4,330 acre-ft/yr (5.34 hm³/yr); median of yearly mean discharges, 3.2 ft³/s (0.09 m³/s), 2,300 acre-ft/yr (2.8 hm³/yr).

EXTREMES.--Current year: Maximum daily discharge, 6.6 ft³/s (0.19 m³/s) for many days in July and August (lake elevation, about 6,540 ft or 1,993 m); no flow Nov. 12-17.

1941-45: Maximum daily discharge, 304 ft³/s (8.61 m³/s) Mar. 6, 1943; no flow Aug. 8, 9, 1943.

1953-76: Maximum discharge, about 2,500 ft³/s (71 m³/s), spillway flow entering 0.2 mi (0.3 km) downstream from station, Dec. 26, 1971 (lake elevation unknown); no flow at times.

REMARKS.--Records good. Record since 1953 shows release from Show Low Lake. Flow regulated by several reservoirs, largest of which are Show Low Lake, completed in 1953; Rainbow Lake, completed prior to 1941; and Scott Reservoir, completed in 1946 (combined capacity, 8,800 acre-ft or 10.9 hm³). Diversions for irrigation of about 250 acres (1.0 km²) above Show Low Lake and diversion by pumping of floodwater stored in Show Low Lake to Forestdale Creek in Salt River basin (see record for Forestdale Creek diversion from Show Low Creek, near Show Low, elsewhere in this report).

REVISIONS.--WSP 1926: Drainage area.

09391000. SHOW LOW LAKE.--A lake on Show Low Creek, formed by Jaques Dam, in NW¼ sec.10, T.9 N., R.22 E., Navajo County, 4.5 mi (7.2 km) southeast of Show Low; dam completed and storage began in spring of 1953. Total capacity to spillway, 6,176 acre-ft (7.62 hm³), consisting of 1,070 acre-ft (1.32 hm³) dead storage below elevation 6,535.0 ft (1,991.87 m), sill of outlet structure, and 5,106 acre-ft (6.30 hm³) usable storage between elevations 6,535.0 and 6,570.0 ft (1,991.87 and 2,002.54 m), sill of overflow spillway. Capacity table prepared by Leeds, Hill, and Jewett, consulting engineers, from surveys by the firm. Water cannot be pumped when lake elevation is below 6,538.5 ft (1,992.93 m), sill of intake to pumping plant, but can be released to river channel down to elevation 6,535.0 ft (1,991.87 m). Partial listing of periodic observations made by Navapache Electric Co. and Geological Survey were as follows:

Date	Elevation (feet)	Usable contents (acre-feet)	Date	Elevation (feet)	Usable contents (acre-feet)
Nov. 4, 1975	6,538.0	1,360	May 3, 1976	a 6,552.2	3,140
Jan. 5, 1976	6,540.1	1,590	June 1	6,541.95	1,790
Feb. 2	6,541.2	1,710	July 2	b 6,537.65	1,330
Mar. 2	6,548.8	2,660	Aug. 2	6,540.4	1,620
Apr. 1	6,545.15	2,180	Sept. 2	6,538.6	1,420

a Maximum observed.

b Minimum observed.

LITTLE COLORADO RIVER BASIN

85

09392000. SHOW LOW CREEK BELOW JAQUES DAM, NEAR SHOW LOW, ARIZ.--CONTINUED

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	3.4	.30	.24	.30	.37	.40	6.0	5.9	6.5	5.0	3.1
2	4.9	3.4	.30	.24	.30	.40	.44	6.0	5.8	6.5	5.8	1.1
3	4.9	3.4	.30	.24	.30	.44	.44	5.5	5.8	6.6	5.8	1.0
4	4.9	3.4	.30	.24	.30	.44	.44	5.3	5.8	6.6	6.2	2.5
5	4.9	3.4	.30	.26	.30	.44	.44	4.6	5.8	6.6	6.6	3.9
6	4.9	3.4	.30	.30	.30	.44	.44	4.4	5.8	6.6	6.6	3.9
7	4.9	3.4	.30	.30	.30	.44	.44	4.4	5.7	6.6	6.6	3.0
8	4.9	3.4	.27	.30	.30	.44	1.9	4.4	5.6	6.6	6.6	2.3
9	4.9	3.4	.24	.30	.30	.44	3.7	4.4	5.6	6.6	6.1	1.7
10	4.9	3.4	.24	.30	.30	.44	3.8	4.4	6.0	6.6	5.6	1.1
11	5.0	1.2	.24	.30	.30	.44	3.7	4.4	6.0	6.6	5.6	1.1
12	5.1	0	.24	.30	.30	.44	3.7	4.4	6.0	6.6	5.6	1.8
13	5.1	0	.24	.30	.30	.44	3.7	4.8	6.0	5.3	6.0	5.0
14	5.1	0	.24	.30	.30	.44	3.7	5.1	6.0	4.2	6.6	6.0
15	5.0	0	.24	.30	.34	.44	3.7	5.1	6.0	4.0	6.6	6.0
16	4.9	0	.24	.30	.37	.40	3.7	5.1	6.0	4.0	6.6	6.0
17	4.9	0	.24	.30	.37	.40	3.7	5.1	6.0	4.0	6.6	6.0
18	4.9	.10	.24	.30	.37	.40	3.7	5.1	6.0	4.0	6.6	6.0
19	4.9	.19	.24	.30	.37	.40	3.7	5.1	6.0	4.0	6.6	6.0
20	4.9	.19	.24	.30	.37	.40	3.7	5.1	6.0	4.0	6.6	6.0
21	4.9	.19	.24	.30	.37	.40	5.0	5.1	6.5	4.0	6.6	6.0
22	4.9	.19	.24	.30	.37	.40	5.0	5.1	6.5	4.0	6.6	6.0
23	4.9	.19	.24	.30	.37	.40	5.0	5.1	6.5	4.0	6.6	6.0
24	4.2	.19	.24	.30	.37	.40	5.0	5.0	6.5	3.3	6.6	6.0
25	3.5	.19	.24	.30	.37	.40	5.0	4.9	6.5	2.5	6.6	5.3
26	3.5	.21	.24	.30	.37	.40	6.0	5.1	6.5	2.5	6.6	4.0
27	3.4	.24	.24	.30	.37	.40	6.0	6.0	6.5	3.1	5.4	2.6
28	3.4	.28	.24	.30	.37	.40	6.0	6.0	6.5	3.9	4.7	1.2
29	3.4	.30	.24	.30	.37	.40	6.0	6.0	6.5	3.9	5.6	1.2
30	3.4	.30	.24	.30	---	.40	6.0	6.0	6.5	3.9	4.8	1.2
31	3.4	---	.24	.30	---	.40	---	6.0	---	3.9	3.7	---
TOTAL	141.6	37.96	7.89	9.02	9.72	12.89	104.44	159.0	182.8	151.5	188.1	113.0
MEAN	4.57	1.27	.25	.29	.34	.42	3.48	5.13	6.09	4.89	6.07	3.77
MAX	5.1	3.4	.30	.30	.37	.44	6.0	6.0	6.5	6.6	6.6	6.0
MIN	3.4	0	.24	.24	.30	.37	.40	4.4	5.6	2.5	3.7	1.0
AC-FT	281	75	16	18	19	26	207	315	363	301	373	224
CAL YR 1975	TOTAL	2698.31	MEAN	7.39	MAX	150	MIN	0	AC-FT	5350		
WTH YR 1976	TOTAL	1117.92	MEAN	3.05	MAX	6.6	MIN	0	AC-FT	2220		

LITTLE COLORADO RIVER BASIN

09393500. SILVER CREEK NEAR SNOWFLAKE, ARIZ.

LOCATION.--Lat 34°40'00", long 110°02'30", in SW 1/4 sec. 29, T.15 N., R.22 E., Navajo County, on left bank 6 mi (10 km) upstream from mouth and 11 mi (18 km) north of Snowflake.

DRAINAGE AREA.--886 mi² (2,295 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 5,204.1 ft (1,586.21 m) above mean sea level.

AVERAGE DISCHARGE.--26 years, 16.8 ft³/s (0.476 m³/s), 12,170 acre-ft/yr (15.0 hm³/yr); median of yearly mean discharges, 13 ft³/s (0.37 m³/s), 9,400 acre-ft/yr (12 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 2,540 ft³/s (71.9 m³/s) Feb. 10 (gage height, 8.78 ft or 2.68 m); no flow May 2, 3.

Period of record: Maximum discharge, 10,100 ft³/s (286 m³/s) Jan. 19, 1952 (gage height, 18.0 ft or 5.49 m), from rating curve extended above 4,400 ft³/s (125 m³/s) on basis of peak discharge for former station near Woodruff; no flow for several days in water years 1971, 1974-76.

REMARKS.--Records good except those for Aug. 2-17, which are poor. Diversions for irrigation above station of about 6,600 acres (26.7 km²). Flow regulated by several reservoirs--combined capacity, about 13,700 acre-ft (16.9 hm³), excluding Lone Pine Reservoir, but including 6,176 acre-ft (7.62 hm³) in Show Low Lake.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	.30	1.7	4.5	3.8	.64	.84	.02	2.2	.22	3.5	6.2
2	1.9	.19	1.5	2.5	3.4	.64	.64	0	1.9	3.6	2.4	4.3
3	2.2	.44	4.8	2.5	3.2	.57	.57	0	3.0	1.7	2.0	5.0
4	3.6	.37	6.5	2.0	2.6	2.0	.57	.07	1.4	.93	1.5	3.4
5	2.0	.20	6.8	1.5	4.5	2.2	.40	.04	1.0	.57	1.5	3.8
6	.74	.44	6.0	.80	3.6	1.7	.30	2.2	2.2	.44	1.5	2.6
7	.64	.24	5.8	1.0	3.2	1.1	.30	3.4	1.4	.93	1.0	81
8	.74	.44	5.0	1.0	2.3	.64	.20	2.5	2.0	2.0	1.0	16
9	.64	1.1	5.0	1.0	3.0	2.2	.20	2.5	1.5	1.1	1.0	20
10	1.2	1.0	6.2	1.5	782	4.5	.20	3.4	1.4	42	4.0	31
11	1.5	1.0	5.8	1.9	100	3.4	.20	2.0	.74	50	10	11
12	1.4	.20	5.0	1.9	50	5.2	.20	.57	.30	62	6.0	7.0
13	.64	.26	4.5	6.2	29	5.8	.10	.57	.13	16	4.0	4.3
14	.30	.57	5.5	6.2	18	6.0	.10	.44	.04	9.1	3.0	5.5
15	.16	1.9	5.0	3.4	15	5.0	.10	1.2	.16	3.8	2.5	7.3
16	.93	1.5	4.5	2.3	10	5.5	.10	.57	.30	2.5	2.0	4.1
17	2.2	1.0	2.5	1.9	8.5	5.5	.10	.13	.30	2.2	2.6	3.4
18	.74	.74	3.0	2.2	1.0	5.2	.07	.74	.37	61	4.8	3.4
19	.37	.24	4.3	2.2	5.0	3.4	.10	1.7	2.0	49	37	4.5
20	.50	2.8	3.8	1.9	5.8	4.3	.10	5.8	1.4	15	45	2.5
21	.44	4.1	4.8	1.7	6.0	4.8	.04	6.5	.84	6.2	21	2.0
22	.37	2.6	5.0	1.6	5.5	3.8	.07	5.8	.37	9.4	23	2.6
23	.57	2.2	5.2	2.5	5.5	2.0	.07	3.8	.16	513	16	6.5
24	.37	1.7	5.8	6.2	5.8	1.6	.07	4.3	.16	43	12	6.5
25	.26	1.1	4.3	5.5	5.5	1.4	.02	2.5	.10	13	5.2	46
26	.30	.24	4.1	4.8	5.5	1.4	.07	1.5	.07	240	3.4	50
27	.64	.53	5.0	4.8	4.8	1.0	.10	.64	.04	142	15	35
28	.37	2.0	4.5	4.5	2.3	.64	.07	.50	.13	163	7.9	10
29	.26	2.8	4.1	4.5	1.6	.57	.04	.57	.26	97	5.5	5.0
30	1.0	2.6	2.5	5.2	---	1.7	.02	1.0	.22	19	3.2	2.6
31	.74	---	4.5	5.0	---	1.7	---	2.0	---	7.8	4.1	---
TOTAL	29.92	37.56	143.0	94.70	1102.4	86.10	5.96	56.96	26.09	1577.49	252.6	392.5
MEAN	.97	1.27	4.61	3.05	38.0	2.78	.20	1.84	.87	50.9	8.15	13.1
MAX	3.6	4.1	6.8	6.2	782	6.0	.84	6.5	3.0	513	45	81
MIN	.16	.19	1.5	.80	1.6	.57	.02	0	.04	.22	1.0	2.0
AC-FT	59	15	284	188	2190	171	12	113	52	3130	501	779

CAL YR 1975 TOTAL 2845.49 MEAN 7.80 MAX 220 MIN 0 AC-FT 5640
WTR YR 1976 TOTAL 3805.68 MEAN 10.4 MAX 782 MIN 0 AC-FT 7550

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-10	0315	8.78	2,540	7-27	2315	6.20	1,130
7-23	0145	8.69	2,480				

09394500. LITTLE COLORADO RIVER AT WOODRUFF, ARIZ.

LOCATION.--Lat 34°46'58", long 110°02'37", in NE¼SW¼ sec.17, T.16 N., R.22 E., Navajo County, on left bank at county road bridge in Woodruff, 3.7 mi (6.0 km) downstream from Silver Creek.

DRAINAGE AREA.--8,100 mi² (21,000 km²), approximately.

PERIOD OF RECORD.--March to May 1905; June to July 1905 (gage heights only); August 1905 to May 1907; July 1907 to April 1908, July to October 1908, December 1908, and December 1915 to September 1916 (gage heights only); October 1916 to August 1917 (monthly discharge only); September 1917 to March 1918, December 1918 to December 1919, April 1929 to December 1933, September 1935 to current year. Published as "near Woodruff" 1916-19, 1929-48.

GAGE.--Water-stage recorder. Datum of gage is 5,130.3 ft (1,563.72 m) above mean sea level. See WSP 1733 for history of changes prior to Sept. 22, 1949.

AVERAGE DISCHARGE.--47 years (1905-6, 1916-17, 1929-33, 1935-76), 51.8 ft³/s (1.467 m³/s), 37,530 acre-ft/yr (46.3 hm³/yr); median of yearly mean discharges, 44 ft³/s (1.25 m³/s), 31,900 acre-ft/yr (39 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 2,460 ft³/s (69.7 m³/s) July 23 (gage height, 12.86 ft or 3.920 m); no flow May 31 to June 19, June 25, 27-29, July 2-9.

Period of record: Maximum discharge not determined, occurred Jan. 19, 1916; maximum discharge recorded, 25,000 ft³/s (708 m³/s) Dec. 5, 1919; maximum gage height, 22.50 ft (6.858 m) from floodmark, Sept. 30, 1971; no flow at times in most years prior to 1960 and in 1974 and 1976.

REMARKS.--Records fair except those for June and July, which are poor. Diversions above station for irrigation of about 22,000 acres (89.0 km²) including a pump installation 1,000 ft (305 m) upstream installed in spring of 1973. Some regulation by reservoirs above station; combined capacity, about 73,000 acre-ft (90.0 hm³), excluding Lone Pine Reservoir.

REVISIONS (WATER YEARS).--WSP 1049: 1917. WSP 1213: 1906, 1919(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	2.8	3.2	10	8.0	3.6	4.0	4.0	0	4.0	4.0	6.0
2	2.8	2.8	2.8	5.0	7.0	2.8	3.6	4.0	0	0	7.0	6.0
3	2.8	2.8	3.6	3.0	8.5	2.8	3.6	4.0	0	0	3.6	5.6
4	2.8	2.8	4.8	2.0	8.5	2.8	3.6	4.8	0	0	2.8	3.6
5	3.6	2.8	5.0	2.0	6.0	3.2	3.6	4.0	0	0	3.6	4.0
6	2.8	2.8	6.0	2.4	6.0	3.2	3.6	4.0	0	0	2.8	4.8
7	2.8	2.8	5.2	3.6	5.2	2.8	3.6	5.6	0	0	2.8	15.0
8	2.8	3.2	4.8	3.2	4.8	2.8	3.6	2.2	0	0	2.4	6.0
9	2.8	2.8	4.8	2.8	5.6	2.8	3.6	5.0	0	0	2.8	5.0
10	2.8	2.8	15	2.4	6.0	3.2	3.6	13	0	5.0	2.0	4.0
11	2.8	2.8	14	2.8	15.0	4.0	4.0	7.0	0	200	15	2.0
12	2.8	2.8	12	2.8	75	3.6	4.0	5.0	0	80	12	10
13	2.8	2.8	11	2.8	4.0	4.4	4.0	3.0	0	173	17	5.0
14	2.8	2.8	9.0	5.2	23	4.4	4.0	3.0	0	40	5.0	6.0
15	2.8	2.8	5.2	7.0	18	4.4	4.1	3.0	0	10	5.6	8.0
16	2.8	2.8	10	4.0	15	4.4	4.4	3.0	0	5.0	4.8	6.0
17	2.8	2.8	7.0	15	12	4.4	4.0	3.0	0	5.0	4.4	5.6
18	3.2	2.8	4.8	19	10	4.4	4.0	2.9	0	10	4.8	4.4
19	2.0	2.8	3.2	22	9.5	3.9	4.0	2.6	0	434	8.0	5.6
20	2.8	2.8	3.2	22	8.0	4.4	4.0	2.8	1.0	40	6.1	5.6
21	2.8	3.6	3.6	13	7.5	4.4	4.0	4.0	1.0	30	116	4.8
22	2.8	3.6	4.0	8.5	6.5	4.3	4.0	3.6	2.0	50	82	15
23	2.0	3.2	38	11	5.0	4.4	4.0	2.8	1.0	1360	22	6.0
24	2.8	2.8	28	12	4.8	3.6	4.0	3.2	1.0	40	14	7.5
25	2.8	2.8	28	11	5.2	3.6	4.0	3.2	0	60	12	22
26	2.8	2.8	21	9.0	5.2	3.6	4.0	2.8	1.20	300	12	77
27	2.8	2.8	18	9.0	5.6	3.6	4.0	2.0	0	200	16	103
28	2.8	2.8	18	10	4.8	3.6	4.0	2.4	0	150	7.5	18
29	2.8	0.0	18	12	4.0	3.6	4.0	1.70	0	120	6.0	9.5
30	2.8	3.2	16	9.0	---	3.6	4.0	2.8	1.30	30	9.0	6.0
31	2.8	---	13	9.0	---	4.0	---	0	---	10	8.5	---
TOTAL	89.2	90.0	377.5	252.5	1085.3	114.6	116.9	175.60	4.70	3397.40	479.4	675.0
MEAN	2.88	3.00	12.2	8.15	37.4	3.70	3.90	5.66	1.6	110	15.5	22.5
MAX	4.0	6.0	40	22	620	4.4	4.4	50	2.0	1360	116	150
MIN	2.0	2.8	2.8	2.0	4.0	2.8	3.0	0	0	0	2.0	3.6
AC-FI	177	179	749	501	2150	227	232	348	9.3	6740	951	1340
CAL YR 1975	TOTAL	7235.00	MEAN	19.8	MAX	500	MIN	0.70	AC-FI	14350		
WTR YR 1976	TOTAL	6658.10	MEAN	18.7	MAX	1360	MIN	0	AC-FI	13600		

PEAK DISCHARGE (BASE, 1,900 CFS).--July 23 (0600) 2,460 cfs (12.86 ft).

LITTLE COLORADO RIVER BASIN

09395900. BLACK CREEK NEAR LUPTON, ARIZ.

LOCATION.--Lat 35°27'09", long 109°07'30", in E½NE¼ sec.26, T.24 N., R.30 E. (unsurveyed), Apache County, in Navajo Indian Reservation, on downstream end of center bridge pier on State Highway 166, 7 mi (11 km) upstream from West Fork, and 8 mi (13 km) northwest of Lupton, and 16 mi (26 km) south of Window Rock.

DRAINAGE AREA.--500 mi² (1,300 km²), approximately.

PERIOD OF RECORD.--August 1964 to December 1972, May 1974 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,550 ft (1,996 m), from topographic map. Prior to May 1974 at site 160 ft (49 m) downstream at same datum.

AVERAGE DISCHARGE.--10 years, 7.83 ft³/s (0.222 m³/s), 5,670 acre-ft/yr (6.99 hm³/yr); median of yearly mean discharges, 7.0 ft³/s (0.20 m³/s), 5,100 acre-ft/yr (6.3 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 830 ft³/s (23.5 m³/s) July 27 (gage height, 6.65 ft or 2.027 m); no flow for many days. Period of record: Maximum discharge, 5,470 ft³/s (155 m³/s) Aug. 1, 1964 (gage height, 7.8 ft or 2.38 m, site then in use), from rating curve extended above 900 ft³/s (25 m³/s) on basis of contracted-opening measurement of peak flow; no flow for many days each year.

REMARKS.--Records poor. Small diversions above station for irrigation and stock water. Red Lake, near headwaters 35 mi (56 km) upstream, was built in 1954, with capacity of 9,700 acre-ft (12.0 hm³), but silting may have reduced this amount.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	0	0	0	.10	.30	.10	0	0	0	2.0	0
2	.10	0	0	0	2.0	.40	.10	0	0	0	1.0	0
3	.10	0	0	0	1.0	.40	.10	0	0	0	.50	0
4	.10	0	0	0	.80	.40	.10	.10	0	0	.10	0
5	.10	0	0	0	.60	.40	.10	.10	0	0	.10	0
6	.10	0	0	0	.60	.30	0	.10	0	0	.10	0
7	.10	0	0	0	.60	.30	.10	.10	0	0	0	0
8	.10	0	0	0	.60	.30	.10	.30	0	0	0	0
9	.10	0	0	0	.60	.30	0	.20	0	0	0	0
10	.10	0	0	0	.60	.20	0	.10	0	0	0	0
11	.10	0	.10	0	.40	.20	0	0	0	.10	0	0
12	.10	0	.90	0	.40	.20	0	0	0	.30	0	0
13	.10	0	.50	0	.40	.20	0	0	0	65	0	0
14	0	0	.30	0	.50	.20	0	0	0	15	0	0
15	0	0	.20	0	.50	.20	.10	0	0	2.0	0	0
16	0	0	.10	0	.50	.10	.20	0	0	1.0	0	0
17	0	0	.10	0	.40	.10	.20	0	0	1.0	0	0
18	0	0	0	0	.50	0	.10	0	0	1.0	0	0
19	0	0	0	0	.50	0	.10	0	0	1.0	0	0
20	0	0	0	0	.50	0	.10	0	0	1.0	1.0	0
21	0	0	0	0	.50	.10	.10	0	0	1.0	1.0	0
22	0	0	0	0	.50	.10	.10	0	0	2.0	.50	0
23	0	0	0	.10	.60	.10	0	0	0	1.0	.50	0
24	0	0	0	.10	.60	.10	0	0	0	1.0	.10	0
25	0	0	0	.10	.60	0	0	0	0	1.0	.10	0
26	0	0	0	.10	.50	.10	0	0	0	8.0	0	0
27	0	0	0	.10	.40	.10	0	0	0	84	0	0
28	0	0	0	.10	.30	.10	0	0	0	30	0	0
29	0	0	0	.10	.30	.10	0	0	0	5.0	0	0
30	0	0	0	.10	---	.10	0	0	0	1.0	0	0
31	0	---	0	.10	---	.10	---	0	---	1.0	0	---
TOTAL	1.30	0	2.20	.90	16.40	5.50	1.70	1.00	0	222.40	7.00	0
MEAN	.042	0	.071	.029	.57	.18	.057	.032	0	7.17	.23	0
MAX	.10	0	.90	.10	2.0	.40	.20	.30	0	84	.50	0
MIN	0	0	0	0	.10	0	0	0	0	0	0	0
AC-FT	2.6	0	4.4	1.8	33	11	3.4	2.0	0	441	14	0

CAL YR 1975 TOTAL 1132.10 MEAN 3.10 MAX 103 MIN 0 AC-FT 2250
 CAL YR 1976 TOTAL 258.40 MEAN .71 MAX 84 MIN 0 AC-FT 513

PEAK DISCHARGE (BASE, 1,500 CFS).--No peak above base.

NOTE.--No gage-height record Dec. 15 to Jan. 31, July 27 to Sept. 3.

LITTLE COLORADO RIVER BASIN

89

09396100. PUERCO RIVER NEAR CHAMBERS, ARIZ.

LOCATION.--Lat 35°10'42", long 109°27'15", in SW¼NW¼ sec.35 (revised), T.21 N., R.27 E., Apache County, on upstream side of right abutment of Atchison, Topeka, and Santa Fe Railway Co. bridge, 1.5 mi (2.4 km) southwest of Chambers.

DRAINAGE AREA.--2,160 mi² (5,600 km²), approximately.

PERIOD OF RECORD.--Water years 1971-72 (annual maximums only), January 1973 to current year (discharge above 500 ft³/s or 14 m³/s only).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 5,705 ft (1,738.9 m), from topographic map.

EXTREMES.--Current year: Maximum discharge, 3,680 ft³/s (104 m³/s) July 28 (gage height, 3.10 ft or 0.945 m, from high-water mark in gage well).

Period of record: Maximum discharge, 17,800 ft³/s (504 m³/s) Sept. 30, 1971 (gage height, 9.65 ft or 2.941 m); no flow observed on many days each year.

REMARKS.--Records poor. Only daily discharges above 500 ft³/s (14 m³/s) are published. Small diversions above station for irrigation and livestock. Red Lake, near the headwaters of Black Creek, was built in 1954, with a capacity of 9,700 acre-ft (12.0 hm³), but capacity may have been reduced by silting.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										---	---	
2										---	---	
3										---	---	
4										---	800	
5										---	---	
6										---	---	
7										---	---	
8										---	---	
9										---	---	
10										---	---	
11										---	---	
12										---	---	
13										---	---	
14										519	---	
15										---	---	
16										---	---	
17										---	---	
18										---	---	
19										---	---	
20										---	---	
21										---	---	
22										---	---	
23										---	---	
24										---	---	
25										---	---	
26										---	---	
27										---	---	
28										600	---	
29										1300	---	
30										---	---	
31										---	---	
TOTAL	---			---						---	---	0
MEAN	---			---						---	---	0
MAX	---			---						---	---	0
MIN	---			---						---	---	0
AC-F T	---			---						---	---	0

PEAK DISCHARGE (BASE, 3,000 CFS).--July 28 (0300) 3,680 cfs (3.10 ft).

LITTLE COLORADO RIVER BASIN

09397300. LITTLE COLORADO RIVER NEAR JOSEPH CITY, ARIZ.

LOCATION.--Lat 34°54'04", long 110°15'17", in NE¼SE¼ sec.6, T.17 N., R.20 E., Navajo County, on right bank just upstream from diversion dam, 5.4 mi (8.7 km) west of Holbrook, 5.7 mi (9.2 km) southeast of Joseph City, and 8.5 mi (13.7 km) downstream from Puerco River.

DRAINAGE AREA.--12,200 mi² (31,600 km²), approximately.

PERIOD OF RECORD.--July 1973 to current year (daily discharge only for those days on which instantaneous discharge exceeds 500 ft³/s or 14 m³/s).

GAGE.--Water-stage recorder and concrete diversion dam. Datum of gage is 5,031.10 ft (1,533.479 m) above mean sea level (Corps of Engineers bench mark).

EXTREMES.--Current year: Maximum discharge, 3,880 ft³/s (110 m³/s) July 30 (gage height, 3.85 ft or 1.173 m).

Period of record: Maximum discharge, 20,600 ft³/s (583 m³/s) Oct. 29, 1974 (gage height, 6.90 ft or 2.103 m), from rating curve extended above 1,500 ft³/s (42 m³/s) on basis of slope-area measurement at gage height 6.82 ft (2.079 m).

A discharge of 60,000 ft³/s (1,700 m³/s) was determined for peak of Sept. 19, 1923, at Holbrook (see prior records for sta 09397000, Little Colorado River at Holbrook, for this peak and other peaks 1905-6, 1949-73).

REMARKS.--Records poor. Published record includes only those days when instantaneous discharge over the crest of the dam exceeds 500 ft³/s (14 m³/s). Diversions above station for irrigation of about 23,000 acres (93 km²), diversions at dam on right bank of most low flows for irrigation of about 1,500 acres (6.07 km²) in vicinity of Joseph City. Some regulation by reservoirs; combined capacity of principal reservoirs, about 83,000 acre-ft (100 hm³).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---		---			---		---	---	---
2			---		---			---		---	---	---
3			---		---			---		---	---	---
4			---		---			---		---	300	---
5			---		---			---		---	300	---
											500	---
6			---		---			---		---	---	---
7			---		---			---		---	---	---
8			---		---			220		---	---	369
9			---		---			---		---	---	---
10			---		662			---		---	---	---
11			---		603			---		1000	---	---
12			---		---			---		600	---	---
13			---		---			---		900	---	---
14			---		---			---		500	---	---
15			---		---			---		---	---	---
16			---		---			---		---	---	---
17			---		---			---		---	---	---
18			---		---			---		---	---	---
19			---		---			---		900	---	---
20			---		---			---		---	---	---
21			472		---			---		---	346	---
22			783		---			---		---	206	---
23			---		---			---		1300	---	---
24			---		---			---		400	---	---
25			---		---			---		---	---	---
26			---		---			---		1510	---	---
27			---		---			---		713	---	600
28			---		---			---		896	---	---
29			---		---			---		1000	---	---
30			---		---			---		2120	60	---
31			---		---			---		---	---	---
TOTAL	---		---	---	---			---		---	---	---
MEAN	---		---	---	---			---		---	---	---
MAX	---		---	---	---			---		---	---	---
MIN	---		---	---	---			---		---	---	---
AC-FT	---		---	---	---			---		---	---	---

PEAK DISCHARGE (BASE, 5,000 CFS).--No peak above base.

09398300. BLUE RIDGE RESERVOIR NEAR PINE, ARIZ.

LOCATION.--Lat 34°33'19", long 111°11'00", in NE¼SE¼ sec.33, T.14 N., R.11 E., Coconino County, in Coconino National Forest, on upstream side of left end of spillway structure of Blue Ridge Dam on East Clear Creek, at mouth of General Springs Canyon, 7.3 mi (11.7 km) east of Clints Well and 20 mi (32 km) northeast of Pine.

DRAINAGE AREA.--71.1 mi² (184.1 km²).

PERIOD OF RECORD.--December 1964 to March 1965 (periodic elevations only), April 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,620 ft (2,018 m) above mean sea level; gage readings have been reduced to elevations above mean sea level. Prior to Apr. 2, 1965, nonrecording-gage readings (at intervals of 3 to 8 days) at datum of mean sea level.

EXTREMES.--Current year: Maximum contents, 15,480 acre-ft (19.09 hm³) Apr. 22 (elevation, 6,721.75 ft or 2,048.789 m; minimum, 2,180 acre-ft (2.69 hm³) Nov. 15-27, Dec. 28; minimum elevation, 6,640.70 ft (2,024.085 m) Nov. 27.

Period of record: Maximum contents, about 16,000 acre-ft (19.7 hm³) Dec. 30, 1965, based on outflow studies and weather records; minimum since reservoir filled (April 1965), 1,850 acre-ft (2.28 hm³) Dec. 12, 1967 (elevation, 6,636.68 ft or 2,022.860 m).

REMARKS.--Reservoir is formed by a concrete arch dam. Dam completed and storage began in December 1964. Total capacity is 19,500 acre-ft (24.0 hm³) at elevation 6,735 ft (2,053 m), of which 15,000 acre-ft (18.5 hm³) is usable storage below 6,720 ft (2,048 m)—crest of spillway. Drawdown below elevation 6,640 ft (2,024 m)—capacity, 2,120 acre-ft (2.61 hm³)—for diversion to East Verde River is not permitted. Figures given herein represent total contents. Reservoir is used as a basin for pumping water to east Verde River. (See records for East Verde River diversion from East Clear Creek, near Pine.)

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on surveys by Leeds, Hill, and Jewett, Inc., January 1962)

6,630	1,400	6,700	10,260
6,640	2,120	6,720	15,000
6,660	3,920	6,730	17,960
6,680	6,580		

CONTENTS, IN ACRE-FeET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4830	2910	2200	---	2210	9300	14590	15110	14380	11910	10030	---
2	4760	2860	2200	2200	2210	9570	14850	15090	14290	11830	9970	7920
3	4700	2810	2200	2200	2210	9720	15150	15080	14210	11740	9900	7850
4	4640	2750	2200	2200	2230	9810	15230	15250	14130	11660	9840	7780
5	4580	2700	2200	---	2250	---	15200	15180	14040	11580	9770	7710
6	4510	2640	2200	---	2260	---	15150	15140	13950	11500	9730	7640
7	4450	2590	2200	---	2280	10030	15140	15130	13870	11450	9660	7560
8	4380	2530	2200	---	2320	10040	15160	15090	13790	11380	9600	7510
9	4320	2470	2200	---	5170	10060	15180	15070	13690	11300	9530	7440
10	4260	2410	2200	---	6380	10100	15180	15050	13600	11230	9470	7370
11	4190	2350	2200	---	6820	10140	15170	15030	13520	11190	9410	7310
12	4130	2290	2190	---	7140	10150	15170	15010	13450	11140	9370	7250
13	4060	2230	2190	2200	7450	10150	15160	14990	13370	11070	9300	7180
14	3990	2190	2200	2200	7710	10170	15150	14950	13300	11010	9220	7120
15	3920	2180	2200	2200	7860	10210	15120	14910	13220	10960	9150	7050
16	3860	2180	2200	2200	7950	10290	15070	14860	13140	10900	9090	6990
17	3800	2180	2190	2190	8020	10400	15070	14810	13050	10830	9020	6930
18	3750	2180	2190	2190	8080	10640	15060	14750	12980	10770	8940	6860
19	3690	2180	2190	2190	8180	11030	15110	14730	12890	10700	8870	6790
20	3640	2180	2190	2190	8280	11350	15290	14940	12810	10640	8800	6720
21	3580	2180	2190	2190	8330	11600	15420	15000	12730	10590	8720	6660
22	3520	2180	2190	2190	8360	11900	15480	15010	12640	10550	8650	6600
23	3460	2180	2190	2200	8380	12280	15400	14980	12560	10520	8580	6550
24	3400	2180	2190	2200	8400	12740	15330	14950	12480	10470	8500	6490
25	3340	2180	2190	2200	8420	13260	15290	14900	12400	10420	8440	6430
26	3280	2180	2190	2200	8480	13690	15240	14840	12320	10380	---	6390
27	3220	2180	2190	2200	8590	14000	15200	14770	12240	10320	---	6340
28	3150	2200	2180	2200	8760	14200	15170	14680	12150	10260	---	6280
29	3100	2200	2190	2200	9000	14330	15140	14610	12080	10210	---	6230
30	3040	2200	2190	2210	---	14400	15120	14530	11990	10150	---	6180
31	2980	---	2200	2210	---	14480	---	14450	---	10090	8050	---
MAX	4830	2910	2200	2210	9000	14480	15480	15250	14380	11910	10030	7920
MIN	2980	2180	2180	2190	2210	9300	14590	14450	11990	10090	8050	6180
(†)	6650.57	6641.01	6640.94	6641.07	6693.71	6718.00	6720.46	6717.98	6707.88	6699.17	---	6677.15
(‡)	-1920	-780	0	+10	+6790	+5480	+640	-670	-2460	-1900	-2040	-1870

CAL YR 1975 ‡ +50

WTR YR 1976 ‡ +1,280

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

NOTE.--No gage-height record on days when no values of contents are listed.

LITTLE COLORADO RIVER BASIN

09398500. CLEAR CREEK BELOW WILLOW CREEK, NEAR WINSLOW, ARIZ.

LOCATION.--Lat 34°40'03", long 111°00'25", in SW¼SE¼ sec.19, T.15 N., R.13 E., Coconino County, in Sitgreaves National Forest, on right bank 2 mi (3 km) downstream from Willow Creek and 30 mi (48 km) southwest of Winslow.

DRAINAGE AREA.--321 mi² (831 km²).

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

GAGE.--Water-stage recorder. Altitude of gage is 5,957 ft (1,815.7 m), from Topographic Division by photogrammetry.

AVERAGE DISCHARGE (unadjusted for diversion or storage).--29 years, 78.2 ft³/s (2.215 m³/s), 56,660 acre-ft/yr (69.9 hm³/yr); median of yearly mean discharges, 58 ft³/s (1.64 m³/s), 42,000 acre-ft/yr (52 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 4,170 ft³/s (118 m³/s) Feb. 9 (gage height, 12.64 ft or 3.853 m); no flow for many days. Period of record: Maximum discharge, 16,400 ft³/s (464 m³/s) Jan. 18, 1952 (gage height, 21.5 ft or 6.55 m), from rating curve extended above 6,000 ft³/s (170 m³/s); no flow at times in most years.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. Flow is partially controlled by Blue Ridge Reservoir (usable capacity 15,000 acre-ft or 18.5 hm³) about 20 mi (32 km) upstream. (See sta 09398300.) Diversion to East Verde River from Blue Ridge Reservoir. (See sta 09507580.)

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0	263	182	331	1.4	0	2.0	
2					0	299	314	276	1.0	0	1.4	
3					0	235	520	231	.66	0	1.0	
4					0	150	708	516	.43	0	.60	
5					0	133	888	785	.23	0	.40	
6					0	124	553	442	.10	0	.10	
7					0	103	430	321	.05	0	.03	
8					5.4	74	505	237	0	0	0	
9					1240	78	663	202	0	0	0	
10					1860	81	661	166	0	25	0	
11					564	99	600	133	0	20	0	
12					321	93	557	105	0	13	0	
13					297	69	475	83	0	9.0	0	
14					283	79	372	65	0	7.0	0	
15					230	79	284	52	0	7.5	0	
16					172	96	225	42	0	3.5	0	
17					139	125	152	34	0	2.5	0	
18					114	166	179	29	0	2.0	0	
19					109	363	191	26	0	1.5	0	
20					121	405	317	27	0	1.0	0	
21					100	313	842	34	0	.80	0	
22					83	290	1530	27	0	.50	0	
23					83	372	1720	23	0	.20	0	
24					84	443	1360	18	0	.20	0	
25					70	578	1160	14	0	.20	0	
26					74	661	949	10	0	.20	0	
27					99	492	706	7.3	0	.20	0	
28					131	337	522	5.6	0	20	0	
29					185	250	438	4.1	0	10	0	
30					---	175	384	3.1	0	5.0	0	
31		---			---	156	---	2.2	---	2.5	0	---
TOTAL	0	0	0	0	6364.4	7181	18387	4251.3	3.87	131.80	5.53	0
MEAN	0	0	0	0	219	232	613	137	.13	4.25	.18	0
MAX	0	0	0	0	1860	661	1720	785	1.4	25	2.0	0
MIN	0	0	0	0	0	69	152	2.2	0	0	0	0
AC-FT	0	0	0	0	12620	14240	36470	8430	7.7	261	11	0
CAL YR 1975	TOTAL	15794.78	MEAN 43.3	MAX 769	MIN 0	AC-FT 31330						
WTR YR 1976	TOTAL	36324.90	MEAN 99.2	MAX 1860	MIN 0	AC-FT 72050						

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2- 9	1830	12.64	4,170	4-23	0500	10.03	2,070
3-26	0630	7.53	792	5- 4	1900	8.27	1,110
4- 5	0800	8.07	1,020				

NOTE.--No gage-height record June 22 to Aug. 6.

09399000. CLEAR CREEK NEAR WINSLOW, ARIZ.

LOCATION.--Lat 34°58'10", long 110°38'40", in SE¼SE¼ sec.9, T.18 N., R.16 E., Navajo County, on right bank 10 ft (3.0 m) downstream from bridge on State Highway 99, 1.5 mi (2.4 km) upstream from mouth, and 5 mi (8 km) southeast of Winslow.

DRAINAGE AREA.--607 mi² (1,572 km²).

PERIOD OF RECORD.--June to December 1906, January 1907 to January 1909 (gage heights only), March 1929 to February 1934, September 1935 to current year.

GAGE.--Water-stage recorder with diversion dam 1,200 ft (366 m) downstream as control. Datum of gage is 4,861.32 ft (1,481.730 m) above mean sea level. See WSP 1713, 1733, or 1926 for history of changes prior to July 10, 1931.

AVERAGE DISCHARGE.--45 years (1929-33, 1935-76), 77.3 ft³/s (2.189 m³/s), 56,000 acre-ft/yr (69.0 hm³/yr); median of yearly mean discharges, 60 ft³/s (1.70 m³/s), 43,500 acre-ft/yr (54 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 2,120 ft³/s (60.0 m³/s) Feb. 10 (gage height, 7.96 ft or 2.426 m); no flow for many days.

Period of record: Maximum discharge, 50,000 ft³/s (1,420 m³/s) Apr. 4, 1929 (gage height, 18.1 ft or 5.52 m, present datum), from rating curve extended above 13,500 ft³/s (382 m³/s) on basis of velocity-area studies and verified by slope-area measurement at gage height 13.4 ft (4.08 m); no flow for many days in most years.

Floodmarks 3 ft (0.9 m) higher than stage of flood of Apr. 4, 1929, were found 1,850 ft (564 m) downstream from gage in 1929.

REMARKS.--Records fair except for those below 10 ft³/s (0.28 m³/s), which are poor. Records show discharge over dam and do not include flow in canal that diverts at dam or leakage through dam. Storage in and diversion from Blue Ridge Reservoir near Pine, about 50 mi (80 km) upstream, since December 1964. (See sta 09398300.)

REVISIONS (WATER YEARS).--WSP 859: 1929.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	2.2	5.6	2.5	.62	13	143	415	4.5	1.2	90	.05
2	2.7	2.3	5.9	2.4	.70	78	128	376	3.3	1.1	10	0
3	2.9	2.4	6.2	2.0	.75	220	276	317	2.3	1.0	8.0	0
4	3.2	2.5	6.0	1.8	.79	222	479	267	1.8	1.1	6.4	0
5	3.4	2.6	6.1	1.5	.81	138	632	442	1.7	1.1	5.4	0
6	3.7	2.7	6.3	1.0	.84	94	765	690	1.7	1.1	6.0	0
7	3.8	2.8	6.4	.80	.89	83	541	473	1.7	1.1	4.6	0
8	3.6	2.9	6.4	.80	.87	77	449	379	1.6	1.1	2.8	0
9	3.9	3.0	6.4	.80	1.1	69	489	289	1.5	1.0	2.1	0
10	4.1	3.2	6.4	.70	500	62	603	223	1.4	1.2	2.8	0
11	4.3	3.5	6.2	.60	1070	36	608	185	1.4	52	4.2	0
12	4.4	3.7	6.2	.60	543	11	566	139	1.4	58	2.7	0
13	3.4	3.9	6.0	.60	392	14	532	108	1.4	49	2.3	0
14	.94	4.2	6.0	.60	330	13	480	84	1.5	20	1.9	0
15	.24	4.5	6.0	.60	354	4.8	414	65	1.6	13	1.6	0
16	.09	4.7	6.0	.60	338	4.0	346	49	1.4	8.5	2.2	0
17	.10	5.0	5.8	.60	256	4.0	273	39	.17	6.9	1.9	0
18	.21	5.4	5.8	.60	173	4.7	155	33	0	7.1	.44	0
19	.35	5.4	5.6	.60	101	4.7	174	30	.01	6.3	0	0
20	.52	5.5	5.4	.60	20	59	159	27	.24	4.7	.10	0
21	.70	5.6	5.4	.60	9.3	126	269	26	.47	3.9	.33	0
22	.96	5.6	5.4	.60	14	109	813	23	.58	3.1	.45	0
23	1.2	5.5	5.4	.60	11	127	1490	19	.64	.91	.71	0
24	1.4	5.5	5.2	.60	5.0	257	1490	17	.75	.09	1.0	0
25	1.6	5.5	5.0	.60	2.3	345	1180	18	.75	.10	1.2	0
26	1.8	5.6	4.7	.60	2.3	478	1000	16	.81	.68	.28	0
27	1.9	5.4	4.5	.60	2.2	565	831	14	.86	.26	0	0
28	2.0	8.2	4.0	.60	2.4	490	648	11	.92	.26	0	0
29	2.0	5.7	3.5	.60	4.8	365	519	8.5	.98	30	0	0
30	2.1	5.6	3.0	.59	---	234	454	6.9	1.1	73	0	0
31	2.1	---	2.7	.60	---	193	---	5.5	---	200	.24	---
TOTAL	66.11	130.6	169.5	26.89	4137.67	4500.2	16906	4794.9	38.48	548.80	159.65	.05
MEAN	2.13	4.35	5.47	.87	143	145	564	155	1.28	17.7	5.15	.002
MAX	4.4	8.2	6.4	2.5	1070	565	1490	690	4.5	200	90	.05
MIN	.09	2.2	2.7	.59	.62	4.0	128	5.5	0	.09	0	0
AC-FT	131	259	336	53	8210	8930	33530	9510	76	1090	317	.10

CAL YR 1975	TOTAL	19072.54	MEAN	52.3	MAX	791	MIN	.09	AC-FT	37830
WTR YR 1976	TOTAL	31478.85	MEAN	86.0	MAX	1490	MIN	0	AC-FT	62440

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-10	1900	7.96	2,120	5- 5	1800	7.01	900
3-27	0600	6.72	628	7-11	2000	6.68	594
4- 6	0400	6.94	830	7-31	0130	6.70	610
4-23	2330	7.81	1,900				

NOTE.--No gage-height record Dec. 8 to Jan. 30.

LITTLE COLORADO RIVER BASIN

09401200. LITTLE COLORADO RIVER AT CAMERON, ARIZ.
(National stream-quality accounting network and pesticide station)

LOCATION.--Lat 35°52'40", long 111°24'40", in NE4SE4 sec.22, T.29 N., R.9 E. (unsurveyed), Coconino County, at bridge on U.S. Highway 89 at Cameron, in Navajo Indian Reservation, 2.5 mi (4.0 km) upstream from Moenkopi Wash, 12 mi (19.3 km) upstream from gaging station 09402000 Little Colorado River near Cameron, and 57.5 mi (92.5 km) upstream from mouth.

DRAINAGE AREA.--24,000 mi² (62,000 km²), approximately.

PERIOD OF RECORD.--Chemical analyses: October 1950 to September 1958, October 1974 to current year.

Specific conductance: October 1964 to September 1970.

Water temperatures: October 1951 to September 1970.

Sediment records: October 1947 to September 1970.

REMARKS.--Streamflow ungaged. No flow for extended periods each year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)
FEB 14...	1500	E700	355	8.9	9.0	6000	B1000	2000	42	0
MAR 24...	1030	E480	310	8.1	10.0	1700	B200	B400	68	0
APR 29...	1230	E700	240	8.1	170	1800	B100	400	42	0
JUL 29...	1100	E800	860	8.0	24.0	47000	B700	B400	110	0
SEP 27...	1700	E160	1010	7.6	22.0	14000	6200	54000	330	180

DATE	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)
FEB 14...	12	3.0	61	4.1	2.3	104	0	34	40
MAR 24...	15	7.4	44	2.3	2.0	113	0	20	37
APR 29...	12	2.8	36	2.4	1.7	86	0	17	26
JUL 29...	33	5.7	150	6.3	4.7	193	0	210	47
SEP 27...	94	20	96	2.3	7.8	179	0	360	19

DATE	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS PER AC-FT	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHO. PHOSPHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
FEB 14...	.4	4.9	221	209	.30	.08	.03	110	80
MAR 24...	.3	5.3	173	187	.24	.02	.01	60	--
APR 29...	.2	5.1	151	143	.21	.03	.00	60	40
JUL 29...	.8	12	555	570	.75	2.6	.05	200	--
SEP 27...	.7	9.3	746	723	1.01	5.2	.03	130	--

E Estimated value.

b Results based on non-ideal colony count.

09401200. LITTLE COLORADO RIVER AT CAMERON, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL- NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N03) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)
FEB 14...	1500	--	--	.11	.08	4.6	4.7	21	2.8	.03
MAR 24...	1030	--	--	.13	.02	3.3	3.4	15	2.0	.01
APR 29...	1230	.03	.00	.11	.03	2.8	2.9	13	2.9	.00
JUL 29...	1100	--	--	4.7	2.6	880	880	3900	36	.05
SEP 27...	1700	--	--	5.5	5.2	1800	1800	8000	8.0	.03

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS-SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DIS-SOLVED CHRO- MIUM (CR) (UG/L)
FEB 14...	1500	110	2	110	10	1	40	0
APR 29...	1230	47	2	60	<10	2	40	0
AUG 28...	1130	750	6	220	40	1	450	50

DATE	TOTAL COBALT (CO) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)
FEB 14...	100	2	150	10	--	80	300	6	4800
APR 29...	100	0	80	5	42000	40	100	3	2800
AUG 28...	600	0	770	5	490000	20	1100	2	28000

DATE	DIS-SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	DIS-SOLVED SELE- NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
FEB 14...	0	.3	.0	0	0	450	20	82
APR 29...	0	.3	.0	1	0	310	20	36
AUG 28...	0	3.6	.1	0	1	3000	670	765

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

		ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	DDD IN BOTTOM MA- TERIAL (UG/KG)	DDE IN BOTTOM MA- TERIAL (UG/KG)	DDT IN BOTTOM MA- TERIAL (UG/KG)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	ETHION IN BOTTOM MA- TERIAL (UG/KG)	
DATE	TIME										
APR 30...	1000	ND	ND	ND	4.4	ND	ND	.0	ND	ND	
		HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE IN BOTTOM MA- TERIAL (UG/KG)	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG)	METHOX- YCHLOR IN BOTTOM MA- TERIAL (UG/KG)	METHYL PARA- THION IN BOTTOM MA- TERIAL (UG/KG)	METHYL TRI- THION IN BOTTOM MA- TERIAL (UG/KG)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG)
DATE											
APR 30...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	

ND Material specifically analyzed for but not detected.
 < Actual value is known to be less than the value shown.

LITTLE COLORADO RIVER BASIN

09401200. LITTLE COLORADO RIVER AT CAMERON, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ATRA- ZINE (UG/L)	ATRA- ZINE IN BOTTOM MATERI- AL (UG/ KG DRY SOLIDS)	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDE (UG/L)
FEB 14....	1500	ND	--	ND	--	ND	--	ND	--	ND
APR 24....	--	ND	--	--	--	ND	--	ND	--	ND
24....	1230	--	ND	--	ND	--	ND	--	ND	--
AUG 24....	1130	ND	--	ND	--	ND	--	ND	--	ND

DATE	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDT (UG/L)	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DIE- AZINON (UG/L)	DIE- AZINON IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DIE- ELDRIN (UG/L)	DIE- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ETHION (UG/L)
FEB 14....	--	ND	--	ND	--	ND	--	ND	--	ND
APR 24....	--	ND	--	ND	--	ND	--	ND	--	ND
24....	ND	--	ND	--	ND	--	ND	--	ND	--
AUG 24....	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	ETHION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL METH- OXY- CHLOR (UG/L)
FEB 14....	--	ND	--	ND	--	ND	--	ND	--	ND
APR 24....	--	ND	--	ND	--	ND	--	ND	--	ND
24....	ND	--	ND	--	ND	--	ND	--	ND	--
AUG 24....	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	METHOX- YCHLOR IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL METHYL PARA- THION (UG/L)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL METHYL TRI- THION (UG/L)	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL PARA- THION (UG/L)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG)	SIMA- ZINE TOTAL (UG/L)	SIMA- ZINE IN BOTTOM MATERI- AL (UG/ KG DRY SOLIDS)	TOTAL TOX- APHENE (UG/L)
FEB 14....	--	ND	--	ND	--	ND	--	--	--	ND
APR 24....	--	ND	--	ND	--	ND	--	--	--	ND
24....	ND	--	ND	--	ND	--	ND	--	ND	--
AUG 24....	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL 2,4-D (UG/L)	2,4-D IN BOTTOM MA- TERIAL (UG/KG)	TOTAL 2,4,5-T (UG/L)	2,4,5-T IN BOTTOM MA- TERIAL (UG/KG)	TOTAL SILVEX (UG/L)	SILVEX IN BOTTOM MA- TERIAL (UG/KG)
FEB 14....	--	ND	--	ND	--	ND	--	ND	--
APR 24....	--	ND	--	ND	--	ND	--	ND	--
24....	ND	--	ND	--	ND	--	ND	--	ND
AUG 24....	--	ND	--	ND	--	ND	--	ND	--

ND Material specifically analyzed for but not detected.

LITTLE COLORADO RIVER BASIN

97

09401200. LITTLE COLORADO RIVER AT CAMERON, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

APR. 30, 1975
1000 HOURS

IDENTIFICATION OF PHYTOPLANKTON

- - - NO ORGANISMS REPORTED - - -

NOTE: ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE

JULY 29, 1975
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

- - - NO ORGANISMS REPORTED - - -

NOTE: SAMPLING METHOD: PLASTIC SLIDES, RANDOM
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPESEP. 12, 1975
1130 HOURS

IDENTIFICATION OF PHYTOPLANKTON

0 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...NITZSCHIACEAE			
....NITZSCHIA			0

NOTE: L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPEFEB. 14, 1976
1500 HOURS

IDENTIFICATION OF PHYTOPLANKTON

- - - NO ORGANISMS REPORTED - - -

NOTE: ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE

MAR. 24, 1976
1030 HOURS

IDENTIFICATION OF PHYTOPLANKTON

230 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHRYSOPHYTA				
.BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...ACHNANTHACEAE				
DACHNANTHES				
TOTALS		230	100	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE

LITTLE COLORADO RIVER BASIN

09401200. LITTLE COLORADO RIVER AT CAMERON, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

APR. 29, 1976
1230 HOURS

IDENTIFICATION OF PHYTOPLANKTON

- - - NO ORGANISMS REPORTED - - -

NOTE: ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE

JULY 29, 1976
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

- - - NO ORGANISMS REPORTED - - -

NOTE: ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE

AUG. 28, 1976
1130 HOURS

IDENTIFICATION OF PHYTOPLANKTON

- - - NO ORGANISMS REPORTED - - -

NOTE: ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE

LITTLE COLORADO RIVER BASIN

99

09401250. MOENKOPI WASH NEAR MOENKOPI, ARIZ.

LOCATION.--Lat 36°06'36", long 111°09'19", in SW¼ sec.31, T.32 N., R.12 E. (unsurveyed), Coconino County, in Navajo Indian Reservation, on right bank 2.5 mi (4.0 km) upstream from bridge on State Highway 264, 3.8 mi (6.1 km) east of Moenkopi, 10 mi (16 km) downstream from Begashibito Wash.

DRAINAGE AREA.--1,650 mi² (4,270 km²), approximately.

PERIOD OF RECORD.--October 1973 to June 1976 (discontinued).

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,680 ft (1,426 m), from topographic map.

EXTREMES.--October 1975 to June 1976: Maximum discharge during period, not determined; maximum daily, 10 ft³/s (0.28 m³/s) Feb. 4; no flow June 10-30.

Period of record: Maximum discharge, 2,380 ft³/s (67.4 m³/s) Sept. 13, 1975 (gage height, 4.70 ft or 1.433 m), from floodmarks near staff gage; no flow at times each year.

A discharge of 15,100 ft³/s (428 m³/s) occurred Aug. 4, 1929, at site about 6 mi (10 km) downstream.

REMARKS.--Records poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO JUNE 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.86	2.3	3.0	2.4	2.0	2.0	1.9	1.3	.48			
2	.78	2.4	3.0	1.4	3.0	2.0	1.8	1.4	.31			
3	.78	2.4	3.0	1.0	4.0	2.0	1.9	1.6	.25			
4	.78	2.4	3.0	1.0	5.0	2.0	2.0	1.8	.17			
5	.86	2.4	3.0	2.0	10	2.0	2.0	2.0	.13			
6	.86	2.4	3.0	2.0	6.0	2.0	2.3	1.8	.11			
7	1.0	2.3	3.0	2.0	4.0	2.0	2.3	1.9	.05			
8	1.0	2.4	3.0	2.0	2.0	2.0	2.0	1.9	.05			
9	1.0	2.3	3.0	2.0	2.0	2.0	1.8	2.0	.01			
10	1.0	2.3	3.0	2.0	2.0	2.0	1.8	2.0	0			
11	1.0	2.2	3.0	2.0	2.0	2.0	1.8	2.0	0			
12	1.0	1.9	3.0	2.0	2.0	2.0	1.5	1.9	0			
13	1.0	1.8	3.5	2.0	2.0	2.0	1.4	1.8	0			
14	1.1	1.9	3.5	2.0	2.0	2.0	1.9	1.3	0			
15	.94	2.2	1.2	2.0	2.0	2.0	2.5	1.3	0			
16	1.4	2.3	1.3	2.0	2.0	2.0	3.0	1.2	0			
17	1.6	2.3	1.6	2.0	2.0	2.0	2.5	1.1	0			
18	1.8	2.3	1.6	2.0	2.0	2.0	2.0	1.2	0			
19	1.8	2.3	1.6	2.0	2.0	1.9	2.0	1.3	0			
20	1.6	2.0	2.0	2.0	2.0	1.8	2.0	1.4	0			
21	1.8	2.2	2.7	2.0	2.0	2.0	1.9	5.0	0			
22	1.8	2.2	4.3	2.0	2.0	2.2	1.8	3.0	0			
23	1.6	2.0	5.0	2.0	2.0	2.2	1.7	1.5	0			
24	1.5	2.0	2.8	2.0	2.0	1.9	1.6	1.4	0			
25	1.5	2.0	1.8	2.0	2.0	1.8	1.5	1.3	0			
26	1.8	2.0	1.4	2.0	2.0	1.5	1.4	1.2	0			
27	1.9	3.0	1.6	2.0	2.0	1.6	1.3	1.0	0			
28	2.0	4.0	2.3	2.0	2.0	1.8	1.4	.44	0			
29	1.9	4.0	1.2	2.0	2.0	1.9	1.5	.40	0			
30	1.9	3.0	2.5	2.0	---	1.8	1.4	.36	0			
31	2.2	---	2.2	2.0	---	1.9	---	.44	---			
TOTAL	42.06	71.2	80.1	59.8	78.0	60.3	55.9	48.24	1.56			
MEAN	1.36	2.37	2.58	1.93	2.69	1.95	1.86	1.56	.052			
MAX	2.2	4.0	5.0	2.4	10	2.2	3.0	5.0	.48			
MIN	.78	1.8	1.2	1.0	2.0	1.5	1.3	.36	0			
AC-FT	83	141	159	119	155	120	111	96	3.1			

CAL YR 1975 TOTAL 3736.53 MEAN 10.2 MAX 595 MIN 0 AC-FT 7410

PEAK DISCHARGE (BASE, 1,200 CFS).--No peak above base.

NOTE.--No gage-height record Jan. 3 to March 17.

LITTLE COLORADO RIVER BASIN

09401260. MOENKOPI WASH AT MOENKOPI, ARIZ.

LOCATION.--Lat 36°06'18", long 111°12'04", in NW¼NE¼ sec.3, T.31 N., R.11 E. (unsurveyed), Coconino County, in Navajo Indian Reservation on left bank 100 ft (30 m) upstream from bridge on State Highway 264, 1.3 mi (2.1 km) southeast of Moenkopi, 2.5 mi (4.0 km) downstream from former gaging station 09401250, and 12.5 mi (20.1 km) downstream from Begashibito Wash.

DRAINAGE AREA.--1,660 mi² (4,300 km²), approximately.

PERIOD OF RECORD.--July to September 1976.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,610 ft (1,405 m), from topographic map.

EXTREMES.--Maximum discharge during period, 5,420 ft³/s (153 m³/s) Sept. 25 (gage height, 9.9 ft or 3.02 m, from profile of floodmarks past gage), from rating curve extended above 140 ft³/s (4.0 m³/s) based on velocity-area study; no flow for many days.

A discharge of 15,100 ft³/s (428 m³/s) occurred Aug. 4, 1929, at former gaging station site 3.5 mi (5.6 km) downstream.

REMARKS.--Records poor. Records of chemical analyses, water temperature, and suspended-sediment loads are published on following pages.

DISCHARGE, IN CUBIC FEET PER SECOND, JULY TO SEPTEMBER 1976

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										0	14	0
2										0	4.0	0
3										0	2.8	0
4										0	1.3	0
5										0	.10	0
6										0	0	0
7										0	0	3.2
8										0	20	4.9
9										0	7.8	1.8
10										0	2.8	1.8
11										0	.90	1.5
12										0	.30	1.8
13										0	.10	.90
14										0	0	.70
15										0	0	.40
16										0	0	.20
17										0	0	.10
18										0	0	0
19										0	0	0
20										3.2	46	.10
21										1.9	4.4	.60
22										0	1.1	3.6
23										0	.30	3.6
24										0	.40	2.8
25										0	.10	1,600
26										66	0	600
27										52	0	100
28										27	0	11
29										40	0	4.0
30					-----					4.0	0	2.8
31		-----			-----		-----		-----	238	0	-----
TOTAL										432.1	106.40	2,345.80
MEAN										13.9	3.43	78.2
MAX										238	46	1,600
MIN										0	0	0
AC-FT										857	211	4,650

PEAK DISCHARGE (BASE, 1,200 CFS).--Sept. 25 (0900) 5,420 cfs (9.9 ft, from profile of floodmarks past gage).

LITTLE COLORADO RIVER BASIN

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09401260. MOENKOPI WASH AT MOENKOPI, ARIZ.

LOCATION.--Lat 36°06'18", long 111°12'04", in NE¼ sec.3, T.31 N., R.11 E. (unsurveyed), Coconino County, in Navajo Indian Reservation, at gaging station 1.3 mi (2.1 km) southeast of Moenkopi, 12.5 mi (20.1 km) downstream from Begashibito Wash, 2.5 mi (4.0 km) downstream from former gaging station 09401250.

DRAINAGE AREA.--1,660 mi² (4,300 km²), approximately.

PERIOD OF RECORD.--Specific conductance: October 1973 to current year.

Water temperature: October 1973 to current year.

Sediment records: October 1973 to current year.

EXTREMES.--Current year:

Specific conductance: Maximum daily, 3,000 micromhos July 30; minimum daily, 700 micromhos Dec. 13.

Water temperatures: Maximum observed, 33.0°C July 30; minimum observed, 1.0°C Nov. 21, Jan 3, 4, 15, 24.

Sediment concentrations: Maximum daily, 262,000 mg/L Sept. 25; minimum daily, no flow on many days.

Sediment discharge: Maximum daily, 1,600,000 tons (1,450,000 tonnes) Sept. 25; minimum daily, 0 ton (0 tonne) on many days.

Period of record:

Specific conductance: Maximum daily, 4,070 micromhos July 14, 1975; minimum daily, 700 micromhos Dec. 13, 1975.

Water temperatures: Maximum observed, 33.0°C July 9, Aug. 22, 1975, July 30, 1976; minimum observed, freezing point on many days during winter months.

Sediment concentrations: Maximum daily, 262,000 mg/L Sept. 25, 1976; minimum daily, no flow on many days.

Sediment discharge: Maximum daily, 1,600,000 tons (1,450,000 tonnes) Sept. 25, 1976; minimum daily, 0 ton (0 tonne) on many days.

REMARKS.--Sediment loads from Oct. 1 to June 30 were computed using discharge at sta 09401250; after July 1 sediment loads were computed from discharge obtained at this site.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1390	850	1300	860	870	940	1030	1040	1150	---	2550	---
2	1380	870	1300	1060	---	950	1070	1080	1180	---	2400	---
3	---	850	960	1090	970	1040	955	1040	1200	---	2400	---
4	1300	850	810	990	975	1040	1140	1080	1200	---	2300	1480
5	1220	750	850	1010	980	1000	1140	1040	---	---	2300	1160
6	1210	810	800	890	975	1020	1120	1070	---	---	2400	1460
7	1210	830	800	885	965	940	980	1090	---	---	---	1450
8	1250	800	800	870	990	925	1000	1070	---	---	2000	982
9	1250	800	800	860	1010	940	980	1060	---	---	2600	1740
10	1250	820	780	820	1090	950	965	1030	---	---	2500	1760
11	1210	800	850	840	1070	935	1100	1020	---	---	2400	1500
12	1210	880	800	770	1040	990	1030	1010	---	---	---	1280
13	1210	870	700	820	1010	965	1080	1080	---	---	---	1150
14	1200	920	890	855	1060	1000	1110	1090	---	---	---	1290
15	1200	850	900	875	1040	920	1140	1100	---	---	---	1550
16	1180	820	1050	790	975	935	1360	1070	---	---	---	1550
17	1220	820	1150	780	1060	940	1120	1040	---	---	---	1450
18	1100	820	1150	815	925	980	1100	1060	---	---	---	1410
19	1070	850	770	830	1050	960	970	1040	---	---	---	1370
20	1070	920	860	815	1050	1010	970	1060	---	---	1690	1180
21	1150	900	950	855	1090	975	930	1320	---	---	1600	1160
22	1150	910	750	770	1050	950	915	1100	---	---	1520	1310
23	1120	870	730	790	1030	925	915	1120	---	---	1410	1170
24	1060	920	900	920	990	1030	930	1040	---	2700	885	1320
25	1040	950	880	870	940	950	930	1100	---	2700	---	1210
26	1020	1220	900	850	---	990	965	1160	---	3000	1990	1260
27	1020	---	880	890	---	---	---	1240	---	2600	2400	---
MEAN	1170	878	886	858	1010	984	1020	1080	---	---	---	1430
YEAR	MAA	3000	MIN	700	MEAN	1130						

LITTLE COLORADO RIVER BASIN

09401260. MOENKOPI WASH AT MOENKOPI, ARIZ.--CONTINUED

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
UNCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.0	9.0	4.0	2.0	8.0	10.0	14.0	20.0	26.0	---	20.0	---
2	12.0	5.0	4.0	4.0	---	8.0	15.0	22.0	28.0	---	22.0	---
3	---	0.0	2.0	1.0	8.0	6.0	19.0	12.0	26.0	---	22.0	---
4	13.0	5.0	4.0	1.0	7.0	---	19.0	18.0	14.0	---	19.0	17.0
5	14.0	5.0	4.0	2.0	6.0	9.0	11.0	19.0	---	---	24.0	24.0
6	11.0	7.5	4.0	3.0	5.0	10.0	16.0	16.0	---	---	22.0	19.0
7	13.0	12.0	4.0	2.0	8.0	5.0	6.0	17.0	---	---	---	18.0
8	9.0	5.0	6.0	2.0	9.0	10.0	6.0	18.0	---	---	18.0	19.0
9	8.0	5.0	7.0	2.0	10.0	12.0	6.0	12.0	---	---	14.0	22.0
10	10.0	5.0	7.0	3.0	8.0	10.0	18.0	24.0	---	---	16.0	26.0
11	13.0	11.0	6.0	2.0	6.0	10.0	16.0	26.0	---	---	14.0	22.0
12	12.0	2.0	5.0	3.0	12.0	9.0	15.0	24.0	---	---	---	20.0
13	10.0	10.0	5.0	4.0	10.0	6.0	15.0	26.0	---	---	---	18.0
14	9.0	3.0	3.0	3.0	10.0	12.0	12.0	28.0	---	---	---	12.0
15	12.0	3.0	2.0	1.0	9.0	14.0	11.0	14.0	---	---	---	17.0
16	7.0	4.0	4.0	4.0	11.0	10.0	10.0	24.0	---	---	---	15.0
17	8.0	2.0	4.0	4.0	10.0	14.0	15.0	26.0	---	---	---	15.0
18	9.0	4.0	2.0	2.0	12.0	12.0	12.0	16.0	---	---	---	13.0
19	10.0	2.0	3.0	4.0	12.0	6.0	6.0	19.0	---	---	---	12.0
20	10.0	3.0	3.0	4.0	10.0	4.0	7.0	22.0	---	---	24.0	11.0
21	10.0	1.0	4.0	4.0	10.0	13.0	18.0	18.0	---	---	19.0	15.0
22	9.0	5.0	3.0	4.0	10.0	12.0	11.0	19.0	---	---	22.0	18.0
23	8.0	5.0	2.0	3.0	9.0	14.0	12.0	24.0	---	---	19.0	16.0
24	4.0	6.0	5.0	1.0	9.0	15.0	10.0	17.0	---	---	20.0	16.0
25	3.0	3.0	4.0	4.0	10.0	16.0	8.0	19.0	---	---	26.0	14.0
26	4.0	5.0	2.0	3.0	12.0	15.0	6.0	22.0	---	---	---	15.0
27	9.0	3.0	3.0	3.0	10.0	12.0	5.0	25.0	---	24.0	---	19.0
28	6.0	2.0	3.0	5.0	12.0	7.0	8.0	24.0	---	24.0	24.0	15.0
29	12.0	3.0	3.0	10.0	10.0	---	10.0	22.0	---	27.0	---	15.0
30	6.0	3.0	3.0	10.0	---	---	12.0	23.0	---	33.0	24.0	19.0
31	8.0	---	2.0	5.0	---	---	---	15.0	---	21.0	12.0	---
MEAN	9.5	5.0	4.0	3.5	9.5	10.5	11.5	20.5	---	---	---	17.0
YEAR	MAX	33.0	MIN	1.0	MEAN	11.0						

SUSPENDED-SEDIMENT CONCENTRATION (MG/L), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	272	438	277	390	272	177	760	182	0	88800	0
2	10	291	490	371	700	292	167	746	175	0	39000	0
3	15	300	363	246	942	283	168	197	196	0	14500	0
4	17	296	456	192	1450	282	164	210	181	0	850	0
5	21	316	646	209	980	342	184	218	180	0	193	0
6	19	280	538	248	625	376	193	166	180	0	0	0
7	24	408	558	253	734	327	231	195	180	0	0	765
8	124	330	402	251	383	315	193	218	180	0	95300	811
9	40	311	402	268	337	287	195	224	68	0	107000	97
10	27	285	388	316	330	250	254	185	0	0	75500	131
11	50	250	460	477	315	223	166	192	0	0	64000	451
12	42	266	393	376	198	208	167	206	0	0	10000	380
13	46	272	289	381	203	221	176	174	0	0	1000	301
14	60	359	280	390	191	179	214	158	0	0	0	136
15	55	389	286	479	179	216	262	160	0	0	0	75
16	369	384	279	426	195	228	269	185	0	0	0	139
17	140	336	258	552	218	214	258	140	0	0	0	101
18	104	341	284	485	258	352	185	156	0	0	0	585
19	106	383	266	508	158	355	178	186	0	0	0	121
20	106	489	260	525	134	310	175	166	0	32500	73900	165
21	93	334	229	456	152	178	176	30000	0	5000	41000	254
22	106	339	444	510	127	152	187	6670	0	0	154	5500
23	116	350	792	498	306	246	196	610	0	0	89	25800
24	87	476	454	450	251	321	179	760	0	0	276	108000
25	88	608	375	413	270	266	230	250	0	0	100	262000
26	116	550	365	351	236	200	201	220	0	150000	0	60000
27	141	470	367	597	240	300	185	204	0	147000	0	36000
28	125	1250	365	424	178	282	212	294	0	174000	0	21000
29	109	1340	375	367	166	207	198	158	0	215000	0	920
30	115	620	195	414	---	182	198	164	0	74000	0	206
31	114	---	273	459	---	191	---	188	---	208000	0	---
YEAR	MAX	262000	MIN	0								

LITTLE COLORADO RIVER BASIN

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09401260. MOENKOPI WASH AT MOENKOPI, ARIZ.--CONTINUED

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
SUMMATION VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.008	1.7	3.5	1.8	2.1	1.5	.91	2.7	.24	0	3840	0
2	.002	1.9	4.0	1.4	5.7	1.6	.81	2.6	.15	0	421	0
3	.03	1.9	2.9	.66	10	1.5	.86	.85	.13	0	110	0
4	.04	1.9	3.7	.52	20	1.5	.89	1.0	.08	0	3.0	0
5	.05	2.0	5.2	1.1	26	1.8	.99	1.2	.06	0	.05	0
6	.04	1.6	4.4	1.3	10	2.0	1.2	.81	.05	0	0	0
7	.06	2.5	4.5	1.4	7.9	1.8	1.4	1.0	.02	0	0	0.7
8	.33	2.1	3.3	1.4	2.1	1.7	1.0	1.1	.02	0	7720	11
9	.11	1.9	3.3	1.4	1.8	1.5	.95	1.2	.01	0	2250	.47
10	.07	1.8	3.1	1.7	1.8	1.4	1.2	1.0	0	0	571	.64
11	.14	1.5	3.7	2.6	1.7	1.2	.81	1.0	0	0	156	1.8
12	.11	1.4	3.2	2.0	1.1	1.1	.68	1.1	0	0	8.1	1.8
13	.12	1.3	2.7	2.1	1.1	1.2	.67	.84	0	0	.27	.73
14	.16	2.0	2.6	2.1	1.0	.97	1.1	.55	0	0	0	.26
15	.14	2.3	.93	2.6	.97	1.2	1.8	.56	0	0	0	.08
16	1.4	2.4	.98	2.3	1.1	1.2	2.2	.60	0	0	0	.08
17	.60	2.1	1.1	3.0	1.2	1.2	1.7	.42	0	0	0	.03
18	.50	2.1	1.2	2.6	1.4	1.9	1.0	.51	0	0	0	0
19	.51	2.3	1.1	2.7	.85	1.8	.96	.65	0	0	0	0
20	.40	2.6	1.4	2.8	.72	1.5	.94	.63	0	527	16300	.04
21	.45	2.0	1.7	2.5	.82	.96	.90	405	0	26	487	.41
22	.52	2.0	5.2	2.8	.69	.90	.91	54	0	0	.46	54
23	.50	1.9	11	2.7	1.7	1.5	.90	2.5	0	0	.07	251
24	.35	2.6	3.4	2.4	1.4	1.6	.77	2.9	0	0	.30	816
25	.36	3.3	1.8	2.2	1.5	1.3	.93	.68	0	0	.03	1600000
26	.56	3.0	1.4	1.9	1.3	.81	.76	.71	0	26700	0	97200
27	.72	3.8	1.6	3.2	1.3	1.3	.65	.55	0	23300	0	9720
28	.68	14	2.3	2.3	.96	1.4	.80	.35	0	13200	0	624
29	.56	14	1.2	2.0	.90	1.1	.80	.17	0	23200	0	9.9
30	.59	5.0	1.3	2.2	---	.88	.75	.16	0	799	0	1.6
31	.68	---	1.6	2.5	---	.98	---	.22	---	252000	0	---
TOTAL	10.78	91.1	89.31	64.18	109.11	42.3	30.24	487.96	.76	339752	31867.28	1706700.54
YEAR	TOTAL	2081245.56										

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
(ANALYSES MADE IN DISTILLED WATER)

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	TEMPER- ATURE (DEG C)	SUS- PENDED SEDI- MENT (MG/L)	SUS- PENDED SEDI- MENT DIS- CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	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
JUL											
31...	1000	640	20.0	493000	852000	32	39	52	94	97	100
AUG											
08...	0800	45	14.0	189000	23000	45	56	78	93	97	100
20...	1430	26	26.0	73600	5170	57	69	91	99	100	--

LITTLE COLORADO RIVER BASIN

09401400. MOENKOPI WASH NEAR TUBA CITY, ARIZ.

LOCATION.--Lat 36°01'25", long 111°23'48", in sec.35, T.31 N., R.9 E. (unsurveyed), Coconino County, on Navajo Indian Reservation, on downstream side of bridge on U.S. Highway 89, 3,500 ft (1,070 m) downstream from Hamblin Wash, 11 mi (18 km) upstream from mouth, and 12 mi (19 km) southwest of Tuba City.

DRAINAGE AREA.--2,500 mi² (6,500 km²), approximately, of which about 1,200 mi² (3,100 km²) is partly or entirely noncontributing.

PERIOD OF RECORD.--June 1941 to December 1953 (published as "near Tuba"), February 1965 to current year. Records for July 1926 to June 1941 at site 8 mi (13 km) upstream not equivalent.

GAGE.--Water-stage recorder. Datum of gage is 4,309 ft (1,313.4 m) above mean sea level. June 23, 1941, to Dec. 10, 1953, at site 2,500 ft (760 m) upstream at datum 4,310.96 ft (1,313.981 m) above mean sea level (State Highway Department bench mark).

AVERAGE DISCHARGE.--23 years (1941-53, 1965-76), 15.2 ft³/s (0.430 m³/s), 11,010 acre-ft/yr (13.6 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,990 ft³/s (113 m³/s) Sept. 25 (gage height, 13.16 ft or 4.011 m), from rating curve extended above 2,000 ft³/s (56.6 m³/s) on basis of slope-area measurement of peak flow; no flow for many days.
Period of record: Maximum discharge, 12,100 ft³/s (343 m³/s) Oct. 19, 1972 (gage height, 16.98 ft or 5.176 m, from floodmarks in recorder shelter); no flow for many days in each year.
A discharge of 15,100 ft³/s (428 m³/s) occurred 8 mi (13 km) upstream (published as "near Tuba City") Aug. 4, 1929, from rating curve extended above 200 ft³/s (5.7 m³/s) on basis of slope-area measurement of peak flow; this is maximum discharge for period 1926-41.

REMARKS.--Records poor. Diversions above station for irrigation of about 500 acres (2.0 km²).

REVISIONS.--WSP 1213: 1943(M). WSP 1926: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	2.2	3.0	2.5	2.5	1.8	1.0	0		0	39	0
2	1.0	2.4	2.1	2.0	2.4	1.8	1.2	0		0	20	0
3	1.0	2.4	2.2	2.0	3.2	2.5	1.0	0		0	15	0
4	1.0	2.4	3.0	2.0	4.1	3.0	.80	0		0	10	0
5	1.0	2.4	3.2	2.0	11	3.2	.80	0		0	5.0	0
6	1.0	2.4	3.0	2.0	9.3	3.0	.80	0		0	2.0	0
7	1.0	2.1	2.7	2.0	6.2	2.8	1.0	0		0	2.0	0
8	.80	2.2	2.7	2.0	4.0	2.5	1.1	0		0	13	0
9	.60	2.1	2.7	3.0	3.0	2.1	1.1	0		0	5.0	74
10	.50	2.1	3.0	3.0	3.0	1.8	1.0	0		0	2.0	24
11	.60	2.1	3.0	5.0	3.0	1.8	1.0	0		0	1.0	10
12	.60	2.0	2.8	2.0	3.0	1.5	.70	0		0	0	3.0
13	.50	2.0	2.7	2.0	3.0	1.3	.40	0		32	0	1.0
14	.40	2.0	3.2	2.5	3.0	1.3	.40	0		3.4	0	0
15	.40	2.1	2.5	2.5	3.0	1.1	2.7	0		0	0	0
16	.60	2.5	2.0	2.5	3.0	.80	9.3	0		0	0	0
17	.80	2.8	2.0	2.4	3.0	.80	3.2	0		0	0	0
18	.90	2.8	2.0	2.5	2.1	.80	1.8	0		0	0	0
19	.90	2.8	2.0	2.2	2.2	.70	.70	0		3.3	0	0
20	.80	2.5	2.0	2.4	2.0	.60	0	.20		0	22	0
21	.80	2.1	2.0	2.5	1.8	.60	0	.10		0	10	3.8
22	.80	1.5	2.0	2.1	1.6	.50	0	2.7		0	5.0	7.5
23	.80	2.0	2.0	2.1	1.8	.80	0	1.8		0	2.0	9.9
24	.80	1.8	2.0	2.1	2.0	.30	0	.80		0	1.0	9.9
25	.80	2.4	2.4	2.2	2.4	0	0	.20		0	0	907
26	1.0	2.1	2.0	2.0	2.2	0	0	0		29	0	406
27	1.1	3.0	2.1	2.1	2.2	0	0	0		56	0	198
28	1.5	4.3	2.2	2.4	2.4	0	0	0		37	0	40
29	1.8	3.0	1.8	2.4	2.1	0	0	0		35	0	25
30	2.1	2.1	2.1	2.4	---	.50	0	0		8.3	0	20
31	2.1	---	2.1	2.5	---	1.0	---	0	---	193	0	---
TOTAL	29.00	70.6	75.1	73.3	94.5	38.90	30.00	5.80	0	397.0	154.0	1739.1
MEAN	.94	2.35	2.42	2.36	3.26	1.25	1.00	.19	0	12.8	4.97	58.0
MAX	2.1	4.3	3.2	5.0	11	3.2	9.3	2.7	0	193	39	907
MIN	.40	1.5	1.8	2.0	1.6	0	0	0	0	0	0	0
AC-FT	58	140	149	145	187	77	60	12	0	787	305	3450

CAL YR 1975 TOTAL 3192.35 MEAN 8.75 MAX 436 MIN 0 AC-FT 6330
WTR YR 1976 TOTAL 2107.30 MEAN 7.40 MAX 907 MIN 0 AC-FT 5370

PEAK DISCHARGE (BASE, 1,400 CFS).--Sept. 25 (1430) 3,990 cfs (13.16 ft).

LITTLE COLORADO RIVER BASIN

105

09402000. LITTLE COLORADO RIVER NEAR CAMERON, ARIZ.

LOCATION.--Lat 35°55'35", long 111°34'00", in NW¼ sec.5, T.29 N., R.8 E. (unsurveyed), Coconino County, in Navajo Indian Reservation, on left bank 3 mi (5 km) downstream from Coconino damsite, 9.5 mi (15.3 km) downstream from Moenkopi Wash, 9.5 mi (15.3 km) northwest of Cameron, and 45 mi (72 km) upstream from mouth.

DRAINAGE AREA.--26,500 mi² (68,600 km²), approximately.

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

GAGE.--Water-stage recorder. Datum of gage is 3,979.2 ft (1,212.86 m) above mean sea level.

AVERAGE DISCHARGE.--29 years, 223 ft³/s (6.315 m³/s), 161,600 acre-ft/yr (199 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,780 ft³/s (107 m³/s) Sept. 25 (gage height, 8.30 ft or 2.530 m); no flow for many days. Period of record: Maximum discharge, 24,900 ft³/s (705 m³/s) Jan. 21, 1952 (gage height, 20.7 ft or 6.31 m); no flow at times in each year.

A discharge of about 120,000 ft³/s (3,400 m³/s) occurred on Sept. 19 or 20, 1929, based on discharge at Grand Falls.

REMARKS.--Records fair. Diversions above station for irrigation of about 32,000 acres (130 km²), and for municipal uses. Some regulation by reservoirs above station (combined capacity of principal reservoirs, about 127,000 acre-ft or 157 hm³). Records of periodic chemical analyses taken upstream at Cameron. (See sta. 09401200.)

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24		0	3.0	1.8	56	338	430		0	1300	13
2	23		0	2.4	1.4	51	246	360		0	150	15
3	20		0	4.0	1.1	66	177	302		0	80	28
4	13		0	2.2	2.0	321	138	258		0	60	22
5	6.0		0	.40	2.6	425	186	223		0	45	14
6	3.0		0	.40	15	360	595	212		0	30	12
7	.10		0	5.4	6.6	297	908	405		0	25	8.6
8	0		0	1.8	4.7	212	836	525		0	20	7.0
9	0		0	1.0	3.4	152	540	390		0	18	5.9
10	0		0	.20	2.4	126	420	297		0	14	115
11	0		.50	.20	2.4	119	440	328		0	12	95
12	0		.60	.70	1150	95	608	250		0	10	38
13	0		.70	.70	1560	79	596	192		228	8.0	29
14	0		.60	.70	812	72	550	162		877	6.0	31
15	0		0	.70	500	69	530	128		855	5.0	25
16	0		0	.70	455	70	460	93		460	3.0	21
17	0		0	5.0	370	86	380	79		264	2.0	18
18	0		0	7.4	288	86	288	50		124	1.0	16
19	0		0	6.6	212	72	230	30		97	1.0	14
20	0		0	4.4	138	64	200	110		63	0	14
21	0		0	2.6	116	60	150	55		490	0	13
22	0		0	2.2	79	473	100	20		347	0	13
23	0		1.4	2.6	72	632	342	5.0		149	0	11
24	0		34	2.8	92	475	1600	1.0		88	0	11
25	0		142	2.8	108	400	1920	0		795	0	1330
26	0		82	2.0	97	526	1630	0		823	50	1110
27	0		62	.30	75	740	1240	0		751	33	520
28	0		46	1.0	67	878	962	0		1200	34	113
29	0		38	2.4	62	836	740	0		800	61	37
30	0		22	2.4	---	638	550	0		150	40	166
31	0	---	20	2.4	---	450	---	0	---	1080	20	---
TOTAL	89.10	0	449.80	71.40	6296.4	8986	17900	4905.0	0	9641	2028.0	3865.5
MEAN	2.87	0	14.5	2.30	217	290	597	158	0	311	65.4	129
MAX	24	0	142	7.4	1560	878	1920	525	0	1200	1300	1330
MIN	0	0	0	.20	1.1	51	100	0	0	0	0	5.9
AC-FT	177	0	892	142	12490	17820	35500	9730	0	19120	4020	7670
CAL YR 1975	TOTAL	45691.50	MEAN	125	MAX	1920	MIN	0	AC-FT	90630		
WTR YR 1976	TOTAL	54232.20	MEAN	148	MAX	1920	MIN	0	AC-FT	107600		

PEAK DISCHARGE (BASE, 4,000 CFS).--No peak above base.

NOTE.--No gage-height record July 28 to Aug. 27.

COLORADO RIVER MAIN STEM

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, on left bank 0.2 mi (0.3 km) upstream from Kaibab Bridge, 0.4 mi (0.6 km) upstream from Bright Angel Creek, 4.5 mi (7.2 km) north-east of village of Grand Canyon, 26 mi (42 km) downstream from Little Colorado River, and 267 mi (430 km) upstream from Hoover Dam.

DRAINAGE AREA (REVISED)--141,600 mi² (366,700 km²) approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming which is non-contributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--October 1922 to current year. Prior to 1944, published as Colorado River at Bright Angel Creek, near Grand Canyon. Gage-height records collected 1.5 mi (2.4 km) downstream 1908-13, published in reports of U.S. Weather Bureau.

GAGE.--Water-stage recorder with supplementary water-stage recorder on right bank 700 ft (213 m) downstream (prior to Oct. 1, 1934, supplementary gage was the only gage). Datum of both gages is 2,418.7 ft (737.22 m) above mean sea level.

AVERAGE DISCHARGE (unadjusted for storage in Lake Powell)--40 years (1922-62), 16,930 ft³/s (479.5 m³/s), 12,260,000 acre-ft/yr (15,100 hm³/yr); 12 years (1964-76), 12,800 ft³/s (362.5 m³/s), 9,274,000 acre-ft/yr (11,400 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 27,700 ft³/s (784 m³/s) May 20 (gage height, 15.40 ft or 4.694 m); minimum daily, 2,320 ft³/s (65.7 m³/s) Dec. 27.

Period of record: Maximum discharge, 127,000 ft³/s (3,600 m³/s) July 2, 1927 (gage height, 29.25 ft or 8.915 m); minimum, 700 ft³/s (19.8 m³/s) Dec. 28, 1924 (gage height, -0.70 ft or -0.213 m).

Maximum discharge since at least 1884, 300,000 ft³/s (8,500 m³/s) about July 8, 1884 (computed on basis of flood studies at Lees Ferry). Crest discharge of flood of June 19, 1921, was 220,000 ft³/s (6,230 m³/s), gage height, 37.5 ft (11.43 m) from floodmarks, from rating curve extended above 120,000 ft³/s (3,400 m³/s).

REMARKS.--Records good. Flow regulated by Lake Powell, 104 mi (167 km) upstream, since Mar. 13, 1963. (See elsewhere in this report.) Many diversions above station for irrigation, municipal, and industrial uses. Records of chemical analyses and water temperatures for the current water year are published on following pages.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15100	5130	4010	11800	8050	14500	12700	15500	13500	13800	10100	15800
2	13800	3120	7680	4570	4930	12900	12500	16000	19000	14000	8340	16000
3	15000	2470	5940	12300	13500	12200	9580	15300	19900	12600	9260	14500
4	15300	2340	7870	9040	14300	15200	7150	16200	18400	8060	10000	14000
5	11500	3270	9870	8080	19100	18000	6900	14700	13600	8230	9420	10200
6	12300	2590	13500	8730	20600	15600	11000	15600	10400	9430	8670	7940
7	17500	3500	4870	11000	19200	11700	10400	16200	8220	15700	8990	8050
8	14800	3360	2810	14300	9050	7330	8590	18300	17000	15700	9300	14300
9	15300	3040	4380	15800	6320	13100	7800	19000	17800	15500	7970	13600
10	11300	4290	5700	13200	13300	14100	7210	11300	18100	16300	12600	12200
11	14600	10800	7610	4740	16400	12300	6870	14600	16500	13800	12200	17800
12	9470	15400	8740	4330	15300	12900	6840	18200	12300	14400	10800	12500
13	4270	16000	11100	9670	13000	15400	10800	18900	9370	14100	9820	9030
14	9320	15500	8650	10900	11400	10100	11800	17700	6880	11900	9680	13200
15	12600	9660	6560	15600	9460	7300	14300	19000	12100	13000	6860	15900
16	13300	4390	12800	14600	5570	11100	14600	19000	12300	11200	6830	17600
17	10500	3400	11900	10700	9930	11100	14100	15200	12100	12700	10700	17800
18	10900	8650	16800	12000	13000	9530	8680	19100	12300	10700	12900	15300
19	5910	11000	16500	13200	12400	9760	7000	20100	12000	9010	12100	13600
20	3620	14700	17300	18100	13900	11700	10800	22200	8160	15400	15200	8980
21	8960	10100	15000	13900	18200	6350	13200	21300	7750	13800	16200	15300
22	8140	10200	13700	17400	15100	3390	11300	20000	14000	15800	14100	17400
23	8730	6650	10900	15300	11700	12500	12000	16500	14600	14700	11800	16900
24	10000	4250	8830	15900	11900	13200	15400	16300	8980	16200	16100	16600
25	11100	6610	4320	12500	17500	13400	17000	19200	7030	10300	16500	16300
26	9740	11000	2840	6000	17200	12800	16200	19900	11200	9640	15900	17000
27	7750	11900	2320	13900	16900	11800	18800	19400	8400	13700	17700	12900
28	6140	4510	4950	11300	16300	8680	16200	19000	7860	14000	15500	17200
29	7520	7760	3560	10300	13400	6940	14400	20200	16700	15900	11800	18600
30	7530	6250	6640	10400	---	11200	15700	16500	16600	14700	10400	18100
31	5010	---	6380	12600	---	12900	---	13500	---	12400	16500	---
TOTAL	327010	222520	264030	362160	386910	358980	349820	543900	383050	406670	364240	434600
MEAN	10550	7417	8517	11680	13340	11580	11660	17550	12770	13120	11750	14490
MAX	17500	16000	17300	18100	20600	18000	18800	22200	19900	16300	17700	18600
MIN	3620	2340	2320	4330	4930	3390	6840	11300	6880	8060	6830	7940
AC-FT	648600	441400	523700	718300	767400	712000	693900	1079000	759800	806600	722500	862000
CAL YR 1975 TOTAL	4643850			12720								
WTR YR 1976 TOTAL		4403890		12030								
					23400	2320		9211000				
					22200	2320		8735000				

COLORADO RIVER MAIN STEM

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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, at gaging station in Grand Canyon National Park, on left bank, 0.2 mi (0.3 km) upstream from Kaibab Bridge, 0.4 mi (0.6 km) upstream from Bright Angel Creek, 4.5 mi (7.2 km) northeast of village of Grand Canyon, 26 mi (42 km) downstream from Little Colorado River, 104 mi (167 km) downstream from Glen Canyon Dam, and 267 mi (430 km) upstream from Hoover Dam.

DRAINAGE AREA (REVISED).--141,600 mi² (366,700 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--Chemical analyses: August 1925 to November 1942, September 1943 to current year.
Water temperatures: October 1936 to October 1942, September 1943 to September 1976 (discontinued).
Sediment records: October 1925 to November 1942, September 1943 to September 1972.

EXTREMES.--Current year:

Water temperatures: Maximum, 15.0°C Aug. 1, 2; minimum, 6.5°C on several days during December, January, and February.

Period of record:

Water temperatures: Maximum, 23.0°C Sept. 4, 1967, Sept. 9, 10, 1968; minimum, 4.0°C Jan. 4, 1966, Jan. 7, 1968.

REMARKS.--Because of the permanent change in stream characteristics owing to the regulation of flow by Glen Canyon Dam since Mar. 13, 1963, and the subsequent initial filling of Lake Powell, extreme values for the period of record include only those obtained after July 31, 1965, at which time a normal flow release pattern was begun. Water temperature recorder inoperative Jan. 5-16.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)
OCT								
01...	0745	17800	860	8.1	11.0	270	140	67
NOV								
02...	0845	3310	1050	7.6	10.5	300	150	77
DEC								
01...	1000	3910	963	8.1	8.0	300	170	77
JAN								
05...	1100	7020	914	8.0	7.0	250	120	62
FEB								
01...	0930	4580	917	8.0	--	280	150	69
MAR								
01...	0930	15300	990	8.0	9.0	290	150	73
APR								
03...	0915	12300	1030	--	9.5	300	150	77
MAY								
01...	0915	18900	960	7.9	9.5	310	160	80
JUN								
01...	0900	17000	980	8.2	12.0	310	170	77
JUL								
02...	0815	19500	940	8.2	13.0	300	160	74
AUG								
01...	0800	11400	900	8.0	10.5	290	150	78
SEP								
01...	1430	19300	830	8.0	12.0	290	150	72

COLORADO RIVER MAIN STEM

09402500. COLORADO RIVER NEAR GRAND CANYON, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	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...	26	88	2.3	3.7	167	0	220	71	.3
NOV 02...	25	100	2.5	4.5	178	0	230	100	.3
DEC 01...	25	94	2.4	4.4	165	0	230	77	.3
JAN 05...	24	79	2.2	4.1	157	0	190	72	.2
FEB 01...	25	79	2.1	3.9	165	0	210	72	.3
MAR 01...	27	90	2.3	3.6	175	0	230	83	.3
APR 03...	27	100	2.5	4.0	189	0	230	84	.4
MAY 01...	27	100	2.5	4.0	166	7	250	86	.3
JUN 01...	28	96	2.4	4.0	170	0	240	83	.3
JUL 02...	27	93	2.4	3.9	168	0	220	80	.3
AUG 01...	23	97	2.5	4.3	176	0	230	75	.3
SEP 01...	26	83	2.1	4.3	167	0	250	63	.3

DATE	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT 01...	7.0	593	567	.81	.42	.00	110	0
NOV 02...	7.1	642	634	.87	.52	.01	110	0
DEC 01...	7.1	617	599	.84	.53	.01	110	10
JAN 05...	7.2	586	518	.80	.37	.04	90	0
FEB 01...	6.3	581	549	.79	.43	.00	100	10
MAR 01...	7.2	647	603	.88	.54	.01	100	10
APR 03...	7.4	658	625	.89	.56	.00	110	0
MAY 01...	4.7	639	643	.87	.42	.00	100	10
JUN 01...	7.4	627	622	.85	.51	.00	100	10
JUL 02...	7.3	600	591	.82	.49	.00	100	0
AUG 01...	8.3	618	606	.84	.69	.01	110	10
SEP 01...	7.1	592	590	.81	.49	.00	100	10

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

[illegible]

KANAB CREEK BASIN

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 Nagles Crossing, on left bank 0.2 mi (0.3 km) downstream from Johnson Wash and 6.5 mi (10.5 km) southwest of Fredonia.

DRAINAGE AREA.--1,085 mi² (2,810 km²).

PERIOD OF RECORD.--October 1963 to current year.

GAGE.--Water-stage recorder and concrete control with supplementary water-stage recorder at control since Apr. 14, 1975. Altitude of gages is 4,500 ft (1,372 m), from topographic map.

AVERAGE DISCHARGE.--13 years, 5.44 ft³/s (0.154 m³/s), 3,940 acre-ft/yr (4.86 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 410 ft³/s (11.6 m³/s) Sept. 25 (gage height, 2.90 ft or 0.884 m); no flow for most of year. Period of record: Maximum discharge, 4,630 ft³/s (131 m³/s) Aug. 18, 1970 (gage height, 9.11 ft or 2.777 m, inside, 9.7 ft or 2.96 m, from profile past gage), from rating curve extended above 850 ft³/s (24 m³/s) on basis of slope-area measurement of peak flow; no flow for most of time.

REMARKS.--Records fair. Diversions upstream for irrigation of about 1,400 acres (5.67 km²) in Utah and 800 acres (3.24 km²) in Arizona in 1967.

REVISIONS (WATER YEARS).--WRD Ariz. 1974: 1969.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0			0	0	0	0	0		0	.68	0
2	0			0	0	7.1	0	0		0	0	0
3	0			0	0	0	0	0		0	0	0
4	0			.25	0	0	0	0		0	0	0
5	0			5.2	0	0	0	0		0	0	0
6	0			9.3	.57	0	0	0		0	0	0
7	0			7.4	.10	0	0	0		0	0	0
8	0			2.9	.02	5.8	0	0		0	0	0
9	0			1.2	17	7.6	0	0		0	0	0
10	0			1.2	30	.13	0	0		0	0	0
11	0			.30	2.0	1.4	0	0		0	0	0
12	0			.29	0	.70	0	0		0	0	0
13	0			.68	0	.30	.04	0		0	0	0
14	0			.48	0	.15	1.5	0		0	0	0
15	.30			.15	0	.08	.72	0		0	0	0
16	.99			.36	2.2	0	12	0		0	0	0
17	.99			.37	11	0	5.0	0		0	0	0
18	1.0			.12	.20	0	1.9	0		0	0	0
19	.78			.08	0	0	.19	0		5.9	0	0
20	.18			0	6.8	0	26	0		1.4	0	0
21	.04			0	0	0	72	.29		0	0	0
22	0			0	0	0	35	0		0	0	0
23	0			0	0	0	9.2	0		0	0	0
24	0			0	0	0	.40	0		0	0	0
25	0			0	0	0	0	0		0	0	36
26	0			0	1.0	0	0	0		0	0	18
27	0			0	3.2	0	0	0		.35	0	2.0
28	0			0	0	0	0	0		9.9	0	0
29	0			0	0	0	0	0		10	0	0
30	0			0	---	0	0	0		0	.75	0
31	0	---		0	---	0	---	0	---	14	0	---
TOTAL	4.28	0	0	30.28	74.09	23.26	163.95	.29	0	41.55	1.43	56.0
MEAN	.14	0	0	.98	2.55	.75	5.47	.009	0	1.34	.046	1.87
MAX	1.0	0	0	9.3	30	7.6	72	.29	0	14	.75	36
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	8.5	0	0	60	147	46	325	.6	0	82	2.8	111

CAL YR 1975 TOTAL 2201.28 MEAN 6.03 MAX 212 MIN 0 AC-FT 4370
WTR YR 1976 TOTAL 395.13 MEAN 1.08 MAX 72 MIN 0 AC-FT 784

PEAK DISCHARGE (BASE, 300 CFS).--Sept. 25 (1800) 410 cfs (2.90 ft).

NOTE.--No gage-height record Feb. 11 to Mar. 10, Apr. 23 to May 22, and Aug. 1 to Sept. 2.

09415000 Virgin River at Littlefield, Ariz.

LOCATION.--Lat 36°53'30", long 113°55'25", in SW¼SW¼ sec.4, T.40 N., R.15 W., Mohave County, on right bank 0.5 mi (0.8 km) downstream from Beaver Dam Wash, 0.4 mi (0.6 km) upstream from Littlefield, and 36 mi (58 km) upstream from water line of Lake Mead at elevation 1,221 ft (372.2 m) above mean sea level.

DRAINAGE AREA.--5,090 mi² (13,200 km²), approximately.

PERIOD OF RECORD.--October 1929 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,763.68 ft (537.570 m) above mean sea level, datum of 1929. Prior to May 28, 1933, nonrecording gage at same site and May 28, 1933, to Nov. 7, 1939, at site 300 ft (90 m) downstream, both at datum 2.53 ft (0.771 m) higher. Nov. 8, 1939, to Mar. 31, 1942, nonrecording gage at site 300 ft (90 m) downstream at datum 2.00 ft (0.610 m) higher. Apr. 1, 1942, to Sept. 30, 1970, water-stage recorder at site 300 ft (90 m) downstream at same datum.

AVERAGE DISCHARGE.--47 years, 222 ft³/s (6.287 m³/s), 160,800 acre-ft/yr (198 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 5,180 ft³/s (147 m³/s) Feb. 9, gage height, 9.87 ft (3.008 m); minimum daily, 44 ft³/s (1.25 m³/s) Apr. 5, 11.

Period of record: Maximum discharge, 35,200 ft³/s (997 m³/s) Dec. 6, 1966, gage height, 15.66 ft (4.773 m), site then in use, from rating curve extended above 1,500 ft³/s (42.5 m³/s) on basis of slope-area measurement of peak flow; minimum, 38 ft³/s (1.08 m³/s) May 1, 10, 1975.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Diversion above station for irrigation of about 23,200 acres (93.9 km²).

REVISED RECORDS.--WSP 959: 1932. WSP 979: 1930-31, 1933-37. WSP 1313: 1940 (M)

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	110	105	150	160	171	48	150	66	62	376	64
2	58	92	120	150	160	260	48	159	66	64	144	64
3	54	95	130	140	147	266	48	186	66	64	92	66
4	56	92	130	140	147	198	48	185	66	62	72	64
5	56	100	125	135	171	174	44	185	66	64	64	66
6	56	98	135	135	224	171	48	200	64	64	62	66
7	58	85	140	140	276	171	54	320	64	62	60	66
8	56	80	135	140	245	168	50	240	64	64	56	66
9	75	90	145	140	1600	159	46	200	64	64	54	66
10	78	90	150	150	1510	135	48	190	64	62	54	70
11	92	95	139	150	507	110	44	183	62	62	56	94
12	78	98	130	150	259	92	52	165	62	64	56	238
13	70	98	125	155	210	105	68	155	62	62	54	153
14	85	98	120	160	210	95	105	177	62	62	54	75
15	82	115	125	160	234	88	171	228	62	62	54	66
16	88	120	130	160	266	90	220	214	62	62	56	64
17	82	120	125	160	231	98	331	186	66	62	56	62
18	75	126	125	160	195	98	290	135	68	60	60	60
19	82	144	135	160	180	85	228	132	68	62	62	60
20	85	141	135	155	180	92	147	132	66	62	62	60
21	85	141	140	155	180	72	135	132	66	60	64	60
22	98	115	130	160	174	54	156	105	64	62	66	58
23	126	115	135	165	168	56	238	78	66	62	70	62
24	201	112	145	170	165	56	224	70	62	64	82	64
25	165	115	150	175	174	60	231	64	62	64	68	162
26	171	130	155	165	174	60	214	62	62	64	64	563
27	165	130	155	175	174	66	207	66	62	62	64	270
28	150	130	160	174	168	60	150	66	62	62	62	245
29	118	120	156	175	174	54	110	66	62	417	62	153
30	115	110	150	175	---	56	110	66	62	198	64	95
31	110	---	145	165	---	58	---	66	---	115	64	---
TOTAL	2930	3305	4225	4844	8663	3478	3913	4563	1920	2482	2334	3322
MEAN	94.5	110	136	156	299	112	130	147	64.0	80.1	75.3	111
MAX	201	144	160	175	1600	266	331	320	68	417	376	563
MIN	54	80	105	135	147	54	44	62	62	60	54	58
AC-FT	5810	6560	8380	9610	17180	6900	7760	9050	3810	4920	4630	6590

CAL YR 1975 TOTAL 51703 MEAN 142 MAX 2380 MIN 44 AC-FT 102600
WTR YR 1976 TOTAL 45979 MEAN 126 MAX 1600 MIN 44 AC-FT 91200

PEAK DISCHARGE (BASE, 1,600 CFS).--Feb. 9 (2200) 5,180 cfs (9.87 ft).

NOTE.--No gage-height record Nov. 26 to Feb. 1.

VIRGIN RIVER BASIN

09415000. VIRGIN RIVER AT LITTLEFIELD, ARIZ.

LOCATION.--Lat 36°53'30", long 113°55'25", in SW¼SW¼ sec.4, T.40 N., R.15 W., Mohave County, at gaging station on right bank 0.5 mi (0.8 km) downstream from Beaver Dam Wash, 0.4 mi (0.6 km) upstream from Littlefield, and 36 mi (58 km) upstream from waterline of Lake Mead at elevation 1,221 ft (372.2 m) above mean sea level.

DRAINAGE AREA.--5,090 mi² (13,180 km²), approximately.

PERIOD OF RECORD.--Chemical analyses: July 1949 to current year.

Water temperatures: October 1947 to current year.

Sediment records: October 1947 to September 1968.

EXTREMES.--Current year:

Specific conductance: Maximum daily, 3,950 micromhos Aug. 2; minimum daily, 1,510 micromhos Feb. 10.

Water temperatures: Maximum, 31.0°C June 29, July 9, 15, 26, 28; minimum, 9.0°C Jan. 2.

Period of record:

Specific conductance (1949-75): Maximum daily, 4,650 micromhos Aug. 21, 1966; minimum daily, 685 micromhos May 12, 1973.

Water temperatures: Maximum, 33.5°C July 7, 1953; minimum, 1.5°C Jan. 4, 1949; Jan. 4, 1950.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)
OCT										
09...	1000	74	3520	7.5	19.0	1400	1100	390	110	300
19...	1000	--	3470	--	--	--	--	--	--	--
NOV										
13...	1230	85	3130	8.1	17.0	1200	880	300	100	260
DEC										
11...	1530	120	2760	--	16.0	1400	1100	390	110	260
JAN										
14...	1700	164	2690	7.4	11.5	970	680	260	77	260
FEB										
13...	1400	230	2440	7.8	15.5	1100	800	300	76	200
MAR										
10...	1300	123	2660	7.5	17.5	960	710	260	76	240
APR										
15...	1100	187	2420	7.3	16.0	870	610	230	71	220
MAY										
11...	1230	177	2360	7.9	24.0	830	590	220	69	210
JUN										
17...	1400	66	3410	--	30.5	1500	1200	390	120	270
JUL										
14...	1215	63	3260	7.3	29.5	1500	1200	380	130	270
AUG										
19...	1030	60	3410	8.4	22.5	1500	1200	390	120	260
SEP										
15...	1300	60	3500	7.7	26.5	1400	1200	380	120	280

VIRGIN RIVER BASIN

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09415000. VIRGIN RIVER AT LITTLEFIELD, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	SODIUM AD- SORP- TION RATIO	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 SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)
OCT										
09...	3.5	33	365	0	1200	420	18	2650	3.60	.23
19...	--	--	--	--	--	--	--	--	--	--
NOV										
13...	3.3	33	342	0	950	400	18	2230	3.03	--
DEC										
11...	3.0	28	350	--	950	340	19	2270	3.09	--
JAN										
14...	3.6	25	348	0	730	350	17	1890	2.57	.71
FEB										
13...	2.7	23	321	0	680	290	15	1740	2.37	--
MAR										
10...	3.4	24	308	0	730	330	17	1830	2.49	--
APR										
15...	3.3	23	311	0	700	300	15	1710	2.33	.44
MAY										
11...	3.2	21	298	0	630	280	14	1590	2.16	--
JUN										
17...	3.1	32	302	--	1300	420	20	2700	3.67	--
JUL										
14...	3.1	30	300	0	1200	410	20	2590	3.52	.19
AUG										
19...	3.0	30	316	0	1200	390	20	2570	3.50	--
SEP										
15...	3.2	32	307	0	1200	380	18	2560	3.48	--

DATE	TIME	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOL- VED- PHOS- PHORUS (P) (MG/L)
OCT					
09...	1000	.22	.01	.23	.02
JAN					
14...	1700	.69	.02	.71	.06
APR					
15...	1100	.43	.01	.44	.05
JUL					
14...	1215	.19	.00	.19	.01

VIRGIN RIVER BASIN

09415000. VIRGIN RIVER AT LITTLEFIELD, ARIZ.--CONTINUED

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3380	3290	2940	2880	2830	2540	3310	2500	3330	3350	3580	3320
2	3380	3320	2950	2800	2760	2370	3320	2510	3370	3340	3950	3380
3	3330	3280	2900	2920	2830	2170	3200	2440	3390	3430	3750	3300
4	3380	3280	2870	2920	2820	2590	3250	2310	3360	3370	3490	3430
5	3370	3280	2900	2800	2760	2650	---	2240	3380	3420	3400	3370
6	3330	3260	2390	2730	2550	2540	3350	2230	3360	3370	3420	3430
7	3380	3280	2570	2730	2370	2570	3220	2120	3280	3260	3330	3430
8	3380	3340	2440	2620	2430	2650	3240	2440	3340	3270	3430	3360
9	3390	3300	2070	2760	2830	2700	3200	2390	3340	3260	3330	3350
10	3430	3320	2690	2590	1510	2660	3350	2560	3340	3360	3330	3280
11	3550	3290	2760	2660	1950	2730	3330	2490	3280	3300	---	3360
12	3410	3210	2830	2620	2340	2790	3390	2450	3240	3310	3420	3620
13	3410	3130	1880	2620	2440	2890	3260	2330	3380	3360	3400	3850
14	3490	3230	1820	2690	2450	2850	3010	2370	3320	3260	3430	3400
15	3200	3230	1740	2620	2250	2970	2420	2340	3360	3390	3430	3500
16	3400	3240	2070	2800	2200	2830	2600	2490	3340	3290	3430	3430
17	3530	3190	2200	2690	2390	2970	2060	2440	3330	3310	3330	3360
18	3470	3160	1990	2660	2550	3040	2240	2590	3270	3360	3320	3400
19	3470	3170	2020	2690	2600	3020	2360	3030	3390	3130	3410	3400
20	3540	2920	2030	2660	2620	3230	2740	3040	3450	3360	3330	3400
21	3500	2980	1970	2760	2620	3330	2850	2750	3450	3360	3310	3400
22	3460	3000	2010	2840	2650	3240	2610	3230	3400	3370	3390	3400
23	3510	3150	2000	2660	2740	3330	2420	3230	3440	3370	3400	3380
24	3210	3100	2110	2690	2650	3300	2420	3340	3440	3260	3430	3400
25	3100	3100	2150	2730	2640	3140	2390	3320	3420	3260	3410	3450
26	3100	2950	2150	2690	2640	3310	2390	3290	3450	3400	3410	3310
27	3070	3000	2190	2760	2660	3330	2530	3390	3480	3310	3410	3260
28	3100	2920	2060	2660	2660	3370	2870	3360	3450	3340	3410	3030
29	3280	2850	2060	2660	2660	3420	3010	3400	3440	3460	3400	3390
30	3270	2830	2390	2690	---	3330	3050	3430	3480	3950	3410	3470
31	3380	---	2440	2760	---	3380	---	3390	---	3390	3410	---
MEAN	3360	3150	2310	2720	2530	2940	2880	2760	3380	3350	3430	3400
YEAR	MAX	3950	MIN	1510	MEAN	3020						

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.5	20.5	11.0	10.0	16.0	15.5	21.0	25.0	28.0	27.0	27.0	28.5
2	26.5	20.0	13.5	9.0	16.0	13.0	25.0	24.5	25.5	28.0	27.0	29.5
3	26.0	19.0	13.5	11.5	16.0	14.5	24.0	22.0	25.5	28.5	26.0	29.0
4	25.5	20.5	14.5	11.5	15.5	---	23.0	24.0	26.0	28.5	27.5	29.5
5	26.0	20.0	15.0	12.0	16.0	15.0	---	22.0	27.5	28.0	28.0	25.0
6	23.0	20.5	14.0	12.0	12.5	15.0	26.0	20.5	28.0	29.0	25.0	28.5
7	21.5	20.0	14.5	12.0	14.5	16.5	25.0	19.5	26.0	30.0	26.5	28.5
8	23.5	20.0	15.0	11.5	14.5	17.0	20.0	24.0	24.0	30.5	26.0	29.0
9	24.5	19.0	15.5	12.5	13.0	19.0	23.0	26.0	25.5	31.0	---	28.0
10	25.0	17.5	14.5	12.5	12.5	17.0	24.5	26.0	24.0	29.5	25.0	24.0
11	22.0	17.5	16.0	13.0	13.0	17.5	22.0	25.5	25.5	28.5	28.0	24.5
12	20.0	15.5	15.5	12.5	15.5	17.0	21.0	25.5	28.0	29.0	27.5	25.0
13	24.0	15.5	14.0	12.5	16.5	19.0	19.5	26.0	26.0	30.0	25.0	25.5
14	23.0	17.0	10.5	13.0	16.0	19.0	19.5	26.5	26.0	30.0	25.0	26.0
15	22.5	17.0	10.0	13.0	15.5	19.0	15.5	27.0	28.0	31.0	24.5	26.0
16	23.0	16.5	11.5	15.0	13.0	19.0	13.0	25.5	26.5	27.0	26.5	25.5
17	23.5	15.0	12.0	15.5	16.0	20.5	17.0	25.5	29.0	25.0	26.5	26.5
18	23.0	15.0	11.5	16.0	16.0	20.0	16.5	25.0	26.0	28.5	25.0	26.0
19	22.5	16.5	12.0	14.5	14.0	20.0	21.0	26.0	26.0	30.0	29.0	26.0
20	23.0	14.5	13.0	14.0	15.0	20.0	23.0	26.0	25.0	30.0	29.0	24.5
21	24.0	13.0	13.5	14.0	14.0	23.0	24.5	24.5	26.0	30.0	29.5	25.0
22	22.5	14.5	12.5	13.0	16.0	24.0	24.0	26.0	25.5	30.5	27.5	23.5
23	18.5	15.5	14.0	14.0	16.0	24.0	24.0	24.5	28.0	29.5	29.0	23.5
24	16.0	15.5	13.5	15.0	17.0	25.0	24.0	25.5	28.5	30.0	27.5	26.0
25	16.5	15.0	13.5	13.5	---	21.0	19.0	26.0	28.5	30.0	27.0	25.0
26	17.5	12.5	14.0	13.0	18.0	22.0	19.0	29.0	28.5	31.0	28.5	21.0
27	17.0	16.0	14.5	14.0	18.0	20.5	21.0	26.0	29.0	30.5	29.0	23.0
28	19.0	12.5	12.5	15.0	19.0	21.5	22.0	25.5	30.5	31.0	29.0	22.0
29	20.0	10.5	12.5	16.0	16.5	20.0	25.5	24.0	31.0	28.0	29.0	22.5
30	20.0	11.0	13.0	16.0	---	24.0	23.0	25.0	27.0	26.5	30.5	26.0
31	20.0	---	11.5	15.5	---	25.0	---	25.0	---	30.0	29.0	---
MEAN	22.0	16.5	13.5	13.5	15.5	19.5	21.5	25.0	27.0	29.0	27.5	25.5
YEAR	MAX	31.0	MIN	9.0	MEAN	21.5						

LOCATION.--Lat 36°05'20", long 114°59'05", in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.30, T.21 S., R.63 E., Clark County, on right bank at upstream end of 4.5 ft (1.37 m) pipe culvert on road, 3.5 mi (5.6 km) north of Henderson, and 6.0 mi (9.7 km) upstream from high-water line of Lake Mead at elevation 1,221.4 ft (372.28 m) above mean sea level.

PERIOD OF RECORD.--February 1957 to current year.

AVERAGE DISCHARGE.--19 years, 33.8 ft³/s (0.957 m³/s), 24,490 acre-ft/yr (30.2 hm³/yr).

Period of record: Maximum discharge, 6,510 ft³/s (184 m³/s) July 4, 1975, gage height, 10.67 ft (3.252 m), from flood marks, from rating curve extended above 3,340 ft³/s (94.6 m³/s) on basis of area-velocity computation to determine peak flow; minimum daily, 4.8 ft³/s (0.14 m³/s) Aug. 17, 1960.

REVISED RECORDS.--WSP 1926: Drainage area.

CAL YR 1975	TOTAL	22883	MEAN 62.7	MAX 1430	MTN 42	AC-FT 45390
WTR YR 1976	TOTAL	23477	MEAN 64.1	MAX 586	MTN 44	AC-FT 46570

LAS VEGAS VALLEY

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, at gaging station 3.5 mi (5.6 km) north of Henderson, and 6.0 mi (9.6 km) upstream from high-water line of Lake Mead at elevation 1,221.4 ft (372.3 m) above mean sea level.

DRAINAGE AREA.--2,125 mi² (5,504 km²), of which 1,518 mi² (3,932 km²) contributed directly to surface runoff.

PERIOD OF RECORD.--Chemical analyses: October 1968 to current year.

REMARKS.--Discharge includes sewage effluent and perhaps some waste water from industrial plants. Chemical analyses for period January 1964 to September 1968 available from U.S. Environmental Protection Agency.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)
OCT 14...	0900	70	2460	7.3	14.5	650	420	150	67	250
NOV 10...	1300	55	2830	--	12.0	--	--	--	--	--
DEC 15...	1230	54	2670	--	6.5	--	--	--	--	--
JAN 12...	1200	69	2630	7.4	7.5	730	480	170	73	290
JAN 26...	1030	--	2850	--	8.0	--	--	--	--	--
FEB 10...	1130	220	2260	--	12.5	--	--	--	--	--
FEB 23...	1115	71	3130	--	10.0	--	--	--	--	--
MAR 15...	1000	60	3270	--	10.5	--	--	--	--	--
APR 12...	1315	60	2930	7.4	15.5	770	530	190	72	310
MAY 10...	1100	74	2860	--	19.5	--	--	--	--	--
JUN 14...	1015	66	2740	--	17.5	--	--	--	--	--
JUL 12...	1115	55	2840	--	24.0	860	620	210	82	320
AUG 16...	1030	61	2700	--	19.0	--	--	--	--	--
SEP 13...	1045	77	2690	--	20.5	--	--	--	--	--

LAS VEGAS VALLEY

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09419700. LAS VEGAS WASH NEAR HENDERSON, NEV.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	SODIUM AD- SORP- TION RATIO	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 SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)
OCT									
14...	4.3	21	276	0	560	300	28	1510	2.05
NOV									
10...	--	--	--	--	--	--	--	--	--
DEC									
15...	--	--	--	--	--	--	--	--	--
JAN									
12...	4.7	23	294	0	640	340	26	1710	2.33
26...	--	--	--	--	--	--	--	--	--
FEB									
10...	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--
MAR									
15...	--	--	--	--	--	--	--	--	--
APR									
12...	4.9	24	291	0	740	340	28	1850	2.52
MAY									
10...	--	--	--	--	--	--	--	--	--
JUN									
14...	--	--	--	--	--	--	--	--	--
JUL									
12...	4.7	24	295	--	750	380	37	1950	2.65
AUG									
16...	--	--	--	--	--	--	--	--	--
SEP									
13...	--	--	--	--	--	--	--	--	--

		TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOL- VED- PHOS- PHORUS (P) (MG/L)
DATE	TIME										
OCT											
14...	0900	1.4	.67	--	14	4.0	--	20	--	6.3	6.2
NOV											
10...	1300	1.5	.40	1.9	15	--	--	--	--	6.1	--
DEC											
15...	1230	1.9	.29	2.2	12	--	--	--	--	7.1	--
JAN											
12...	1200	--	--	8.6	--	--	--	--	--	6.3	6.2
26...	1020	1.5	.23	1.7	15	--	--	--	--	6.0	--
FEB											
10...	1130	1.5	.23	1.7	3.0	--	--	--	--	1.2	--
23...	1115	2.7	.31	3.0	9.3	--	--	--	--	4.8	--
MAR											
15...	1000	4.0	.33	4.3	3.5	--	--	--	--	5.0	--
APR											
12...	1315	3.4	.39	3.8	7.0	5.0	12	16	70	5.9	5.8
MAY											
10...	1100	1.9	.25	2.1	9.2	--	--	--	--	5.2	--
JUN											
14...	1015	1.6	.27	--	7.7	--	--	--	--	5.5	--
JUL											
12...	1115	1.2	.30	--	2.0	8.0	--	12	--	5.3	5.4
AUG											
16...	1030	2.1	.49	2.6	8.6	--	--	--	--	4.9	--
SEP											
13...	1045	.70	.22	.92	11	--	--	--	--	4.5	--

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, on left bank near mouth, on upstream side of lake shore highway, about 0.8 mi (1.3 km) upstream from high-water line of Lake Mead at elevation 1,221.4 ft (372.28 m) above mean sea level, and 11 mi (18 km) north-northwest of Boulder City.

DRAINAGE AREA.--2,193 mi² (5,680 km²), of which 1,586 mi² (4,108 km²) contribute directly to surface runoff.

PERIOD OF RECORD.--August 1969 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,280 ft (390 m), from topographic map.

EXTREMES.--Current year: Maximum discharge, 1,050 ft³/s (2.97 m³/s) Feb. 10, gage height, 7.75 ft (2.362 m); minimum daily, 49 ft³/s (1.39 m³/s) June 28, July 10.

Period of record: Maximum discharge, 2,430 ft³/s (68.8 m³/s) July 4, 1975, gage height, 12.32 ft (3.76 m), from indirect measurement of peak flow; minimum, 14 ft³/s (0.40 m³/s) July 7, 8, 1971.

Flood of June 26, 1964, reached a stage of 7.5 ft (2.29 m) from floodmarks, discharge, 1,050 ft³/s (29.7 m³/s) from indirect measurement of peak flow, and another flood between 1964 and 1969 reached a stage of about 10 ft (3.05 m), from floodmarks, discharge, about 1,700 ft³/s (48.1 m³/s) from rating curve extended above 300 ft³/s (8.50 m³/s) on basis of theoretical weir and culvert formulas.

REMARKS.--Records good. In closed basin above station, 2,150 acres (8.70 km²) are irrigated, mostly by pumping from ground water. Discharge includes sewage effluent.

DISCHARGE, IN CURIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	78	80	88	82	84	73	73	64	52	76	78
2	60	82	82	84	80	71	73	73	62	57	62	74
3	60	78	82	84	86	71	74	67	62	65	64	76
4	60	71	82	84	82	78	71	73	63	58	64	80
5	65	71	82	84	76	78	75	73	63	55	62	73
6	67	74	78	86	96	76	75	69	64	62	67	82
7	69	78	78	86	281	74	81	96	65	60	65	82
8	78	78	82	82	276	67	74	167	66	57	60	86
9	82	76	82	74	226	67	77	113	57	55	60	90
10	76	74	84	76	622	71	83	98	62	49	69	96
11	82	74	82	76	184	69	82	98	65	52	73	308
12	82	74	78	82	100	64	84	94	69	54	71	241
13	80	80	78	84	100	65	81	84	69	58	67	116
14	84	80	80	84	96	73	85	82	60	55	65	109
15	86	78	76	86	92	71	88	73	60	57	64	116
16	86	82	76	86	88	73	90	73	69	62	62	100
17	86	80	78	84	84	74	90	76	65	69	65	90
18	84	80	82	82	94	74	88	80	67	65	62	86
19	84	76	82	82	102	71	86	76	69	60	64	88
20	80	74	82	80	96	69	82	70	64	58	60	90
21	78	73	78	76	96	71	80	72	55	52	62	84
22	82	74	78	80	98	69	74	63	55	52	60	80
23	76	74	82	84	105	71	71	58	62	57	64	74
24	76	82	80	76	107	73	67	60	67	57	67	80
25	80	88	80	78	102	71	69	62	65	64	67	73
26	78	78	74	84	98	65	67	64	64	82	67	74
27	76	80	82	84	102	73	73	64	55	132	69	107
28	78	78	84	84	102	88	73	68	49	115	74	84
29	80	80	82	84	100	84	73	69	55	100	71	74
30	84	80	88	84	---	71	73	73	54	94	71	78
31	80	---	88	82	---	69	---	71	---	98	84	---
TOTAL	2381	2325	2502	2550	3853	2245	2332	2432	1866	2063	2058	2969
MEAN	76.8	77.5	80.7	82.3	133	72.4	77.7	78.5	62.2	66.5	66.4	99.0
MAX	86	88	88	88	622	88	90	167	69	132	84	308
MIN	60	71	74	74	76	64	67	58	49	49	60	73
AC-FT	4720	4610	4960	5060	7640	4450	4630	4820	3700	4090	4080	5890
CAL YR 1975	TOTAL	27948	MEAN 76.6	MAX 784	MIN 37	AC-FT 55430						
WTR YR 1976	TOTAL	29576	MEAN 80.8	MAX 622	MIN 49	AC-FT 58660						

LAS VEGAS VALLEY

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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, at gaging station 11 mi (18 km) northwest of Boulder City, and 0.8 mi (1.3 km) upstream from high-water line of Lake Mead at elevation 1,221.4 ft (372.3 m) above mean sea level.

DRAINAGE AREA.--2,193 mi² (5,680 km²), of which 1,586 mi² (4,108 km²) contribute directly to surface runoff.

PERIOD OF RECORD.--Chemical analyses: October 1968 to current year.

REMARKS.--Discharge includes sewage effluent and waste water from industrial plants. Chemical analyses for period January 1964 to September 1968 available from U.S. Environmental Protection Agency.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	DISSOLVED OXYGEN (MG/L)	CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	HARDNESS (CA, MG) (MG/L)
OCT									
14...	1015	78	4000	8.1	13.5	65	10.6	37	1300
NOV									
10...	1200	70	4170	--	12.0	55	--	29	--
24...	1200	84	4010	--	9.0	55	--	26	--
DEC									
15...	1030	71	4050	--	6.5	55	--	24	--
29...	1000	76	3840	--	11.0	100	--	29	--
JAN									
12...	1000	80	3950	7.4	6.0	50	11.0	40	1300
26...	0915	76	4040	--	6.0	45	--	24	--
FEB									
10...	1030	616	3650	--	12.5	1900	--	340	--
23...	1015	102	4310	--	9.0	80	--	31	--
MAR									
15...	1100	71	4510	--	10.5	24	--	32	--
29...	1000	76	4260	--	12.0	84	--	38	--
APR									
12...	1115	84	4260	8.0	15.5	140	10.0	41	1400
22...	1000	64	4410	--	16.0	43	--	33	--
MAY									
10...	1030	98	4300	--	17.5	200	--	49	--
25...	0930	49	4470	--	17.5	65	--	7	--
JUN									
14...	1045	50	4310	--	18.5	70	--	59	--
28...	1000	47	4540	--	20.0	9	--	--	--
JUL									
12...	1000	43	4570	--	22.0	20	9.0	38	1600
27...	1100	150	4470	--	25.0	200	--	50	--
AUG									
16...	1130	46	4260	--	19.0	40	--	20	--
30...	1000	55	4110	--	23.5	95	--	32	--
SEP									
13...	1045	144	4350	--	22.0	300	--	36	--
27...	0930	132	4130	--	20.0	100	--	26	--

LAS VEGAS VALLEY

09419800. LAS VEGAS WASH NEAR BOULDER CITY, NEV.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

[illegible][illegible]

09419800. LAS VEGAS WASH NEAR BOULDER CITY, NEV.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL CHLOR-DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI-AZINON (UG/L)	TOTAL DI-ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA-CHLOR (UG/L)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)
OCT 16...	0945	.00	.0	.00	.00	.00	.03	.00	.00	.00	.00	.00
JAN 12...	1000	.00	.0	.00	.00	.00	.04	.00	.00	.00	.00	.00
MAY 06...	1415	.00	.0	.00	.00	.00	.11	.00	.00	.00	.00	.00
JUL 27...	1100	.00	.0	.03	.02	.00	.03	.00	.00	.00	.00	.00

DATE	TIME	TOTAL LINDANE (UG/L)	TOTAL MALA-THION (UG/L)	TOTAL METHYL PARA-THION (UG/L)	TOTAL METHYL TRI-THION (UG/L)	TOTAL PARA-THION (UG/L)	TOTAL PCB (UG/L)	POLY-CHLORINATED NAPHTHA-LENES (UG/L)	TOTAL TOX-APHENE (UG/L)	TOTAL TRI-THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)
OCT 16...	.03	.00	.00	.00	.00	.00	.0	--	0	.00	.04	.00	.00
JAN 12...	.05	.00	.00	.00	.00	.00	.0	--	0	.00	.00	.00	.00
MAY 06...	.05	.00	.00	.00	.00	.00	.0	.00	0	.00	.00	.00	.00
JUL 27...	.04	.00	.00	.00	.00	.00	.0	.00	0	.00	.07	.00	.00

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (NO3) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOL-VED PHOS-PHORUS (P) (MG/L)
OCT 14...	1015	7.7	.01	7.7	.86	.44	1.3	9.0	40	4.0	3.9
NOV 10...	1200	10	.64	11	.43	2.7	3.1	14	62	4.9	--
NOV 24...	1200	11	.40	11	.62	2.2	2.8	14	61	3.8	--
DEC 15...	1030	11	.31	11	1.8	1.7	3.5	15	64	4.7	--
DEC 24...	1000	11	.46	11	2.3	1.7	4.0	15	66	4.9	--
JAN 12...	1000	11	.31	11	2.8	1.0	3.8	15	66	4.5	4.3
JAN 26...	0915	12	.23	12	2.8	1.5	4.3	16	72	4.5	--
FEB 10...	1030	4.1	.09	4.2	.33	9.5	9.8	14	62	8.9	--
FEB 23...	1015	9.8	.17	10	.48	2.2	2.7	13	56	3.5	--
MAR 14...	1100	9.9	.02	9.9	.08	.61	.69	11	47	3.0	--
MAR 24...	1000	9.3	.01	9.3	.00	1.5	1.5	11	48	3.8	--
APR 12...	1115	7.9	.02	7.9	.04	1.3	1.3	9.2	41	4.4	3.9
APR 22...	1000	7.8	.05	7.8	.02	1.2	1.2	9.0	40	4.0	--
MAY 16...	1030	5.0	.04	5.0	.01	1.7	1.7	6.7	30	4.0	--
MAY 26...	0930	5.2	.01	5.2	.00	.84	.84	6.0	27	3.2	--
JUN 14...	1045	4.6	.00	--	.05	.65	--	5.3	--	3.3	--
JUN 28...	1000	4.0	.01	4.0	.07	.57	.64	4.6	21	2.6	--
JUL 12...	1000	5.0	.02	5.0	.09	.66	.75	5.8	25	2.6	2.8
JUL 27...	1100	2.7	.12	2.8	2.7	5.9	8.6	11	50	9.3	--
AUG 16...	1130	4.3	.01	4.3	.07	.91	.98	5.3	23	2.8	--
AUG 30...	1000	3.8	.01	3.8	.11	1.3	1.4	5.2	23	3.1	--
SEP 13...	1045	4.0	.17	4.2	.66	1.6	2.3	6.5	29	3.4	--
SEP 27...	0930	5.4	.06	5.5	.20	1.2	1.4	6.9	31	3.7	--

09419800. LAS VEGAS WASH NEAR BOULDER CITY, NEV.--CONTINUED

*WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	TOTAL BARIUM (BA) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)
OCT							
14...	1015	42	0	20	30	30	7700
NOV							
10...	1200	--	--	--	--	--	9400
24...	1200	37	100	10	45	30	7700
DEC							
15...	1030	--	--	--	--	--	3000
29...	1000	40	100	10	30	30	8300
JAN							
12...	1000	30	0	10	10	10	2000
26...	0915	31	0	<10	10	10	2800
FEB							
10...	1030	--	--	--	--	--	130000
23...	1015	38	100	<10	20	20	5600
MAR							
15...	1100	--	--	--	--	--	3300
29...	1000	53	0	20	10	20	6600
APR							
12...	1115	48	0	<10	20	30	7700
22...	1000	38	0	<10	30	30	4800
MAY							
10...	1030	--	--	--	--	--	14000
25...	0930	55	0	0	50	10	6500
JUN							
14...	1045	--	--	--	--	--	5800
28...	1000	40	0	0	20	10	2000
JUL							
12...	1000	44	0	0	30	10	2600
27...	1100	--	--	--	--	--	120000
AUG							
16...	1130	47	100	0	40	<10	2000
30...	1000	--	--	--	--	--	7300
SEPT							
13...	1045	120	500	0	50	30	20000
27...	0930	--	--	--	--	--	19000

DATE	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT							
14...	200	400	.0	2	20	30	10
NOV							
10...	--	--	--	--	--	--	13
24...	100	390	.1	2	10	90	13
DEC							
15...	--	--	--	--	--	--	13
29...	<100	410	.0	2	20	50	8.3
JAN							
12...	<100	170	.1	3	<10	20	10
26...	<100	340	.1	2	10	20	7.5
FEB							
10...	--	--	--	--	--	--	100
23...	100	540	.1	2	20	40	22
MAR							
15...	--	--	--	--	--	--	7.5
29...	150	460	.1	3	10	50	8.2
APR							
12...	<100	410	.1	3	10	70	8.0
22...	<100	320	.1	2	10	60	8.5
MAY							
10...	--	--	--	--	--	--	16
25...	<100	310	15	1	0	30	8.1
JUN							
14...	--	--	--	--	--	--	7.6
28...	<100	210	1.0	0	0	20	7.6
JUL							
12...	<100	160	.7	0	<10	20	4.4
27...	--	--	--	--	--	--	13
AUG							
16...	<100	170	.5	1	0	100	3.8
30...	--	--	--	--	--	--	--
SEPT							
13...	100	1100	.5	4	<10	110	13
27...	--	--	--	--	--	--	9.6

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

09421000. LAKE MEAD AT HOOVER DAM, AZ-NV.

LOCATION.--Lat 36°00'58", long 114°44'13", in NE¼SW¼ sec.3, T.30 N., R.23 W., Gila and Salt River meridian, Mohave-Clark Counties, in center of Hoover Dam on Colorado River.

DRAINAGE AREA (REVISED).--171,700 mi² (444,700 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming, which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--Contents: February 1935 to current year. Evaporation: March 1952 to current year. Diversions (monthly totals only): to Boulder City area, since October 1935; to Henderson and Las Vegas areas, since April 1942; combined diversions since October 1968. Prior to 1946 published as "at Boulder Dam."

GAGE.--Water-stage indicator read once daily at midnight, with supplementary water-stage recorder. Datum of gage is 0.40 ft (0.122 m) above mean sea level, used locally as at mean sea level, powerhouse datum.

EXTREMES.--Current year: Maximum contents, 20,530,000 acre-ft (25,300 hm³) Mar. 7 (gage height, 1,182.92 ft or 360.554 m); minimum, 19,788,000 acre-ft (24,400 hm³) Sept. 9 (gage height, 1,177.31 ft or 358.844 m).

Period of record: Maximum contents, 27,790,000 acre-ft (34,300 hm³) July 29, 30, 1941 (gage height, 1,220.45 ft or 371.993 m); minimum (since 1940), 10,695,000 acre-ft (13,200 hm³) Apr. 26, 1956 (gage height, 1,083.21 ft or 330.162 m).

REMARKS.--Reservoir is formed by concrete arch-gravity dam; storage began Feb. 1, 1935; dam completed Mar. 1, 1936. Total capacity (based on 1963-64 resurvey by Coast and Geodetic Survey; capacity table put into use Apr. 1, 1967), 29,755,000 acre-ft (36,700 hm³), consisting of the following: dead storage, 2,378,000 acre-ft (2,930 hm³) below gage height 895.0 ft (272.80 m)—gate sills in outlet towers; usable contents, 26,159,000 acre-ft (32,300 hm³) between gage heights 895.0 ft (272.80 m) and 1,221.4 ft (372.28 m)—top of automatic spillway gates in raised position; and uncontrolled storage, 1,218,000 acre-ft (1,500 hm³) between gage heights 1,221.4 ft (372.28 m) and 1,229.0 ft (374.60 m)—maximum water surface. Reservoir is used to store water for flood control, irrigation, municipal water supply, and power development. Figures given herein represent usable contents. Records of chemical analyses for the current year are published on following pages.

DIVERSIONS FROM LAKE MEAD.--Diversions to Boulder City area at dam; diversions to Henderson and Las Vegas areas from intakes 6 mi (10 km) upstream. Diversions measured by Venturi meters. Water used for municipal and industrial purposes.

COOPERATION.--Records of elevations and contents furnished by Bureau of Reclamation. Records of diversions from Lake Mead furnished by Bureau of Reclamation and Colorado River Commission of Nevada.

REVISIONS (WATER YEARS).--WSP 899: 1935-39.

CORRECTION.--Figures of contents given herein for Aug. 19, 28, supersede those published in WRD Nev. 1976.

CONTENTS, IN THOUSANDS OF ACRE-Feet, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20149	20204	20088	20066	20276	20521	20299	20102	20185	20166	20095	19811
2	20153	20208	20084	20073	20279	20528	20294	20117	20177	20161	20084	19805
3	20161	20204	20078	20069	20266	20521	20295	20112	20177	20170	20066	19802
4	20176	20190	20082	20061	20257	20514	20292	20100	20188	20182	20048	19807
5	20192	20176	20069	20058	20261	20508	20276	20092	20208	20186	20030	19823
6	20201	20162	20075	20058	20272	20518	20269	20084	20221	20168	20011	19831
7	20208	20144	20087	20062	20295	20530	20247	20070	20217	20149	20008	19815
8	20217	20133	20088	20069	20319	20524	20235	20088	20205	20141	20009	19798
9	20229	20125	20081	20087	20331	20508	20226	20106	20210	20141	19995	19788
10	20238	20108	20067	20104	20335	20491	20215	20103	20218	20152	19984	19790
11	20250	20090	20054	20117	20342	20486	20208	20087	20221	20169	19970	19805
12	20269	20062	20045	20123	20356	20463	20192	20073	20243	20169	19961	19826
13	20276	20066	20057	20117	20378	20465	20176	20074	20255	20160	19950	19824
14	20285	20100	20059	20117	20396	20473	20154	20074	20250	20156	19946	19823
15	20246	20114	20062	20125	20412	20465	20141	20094	20235	20147	19948	19811
16	20227	20123	20062	20141	20425	20449	20144	20106	20223	20133	19934	19813
17	20223	20119	20062	20157	20434	20434	20154	20108	20218	20141	19908	19817
18	20229	20104	20070	20172	20439	20412	20170	20106	20210	20148	19886	19843
19	20234	20096	20082	20177	20451	20407	20162	20098	20214	20140	19877	19865
20	20230	20090	20100	20189	20465	20406	20154	20104	20223	20124	19860	19870
21	20217	20107	20121	20209	20479	20411	20139	20115	20208	20110	19861	19874
22	20210	20115	20124	20221	20508	20407	20132	20141	20201	20230	19869	19877
23	20204	20119	20135	20231	20513	20392	20120	20164	20194	20091	19864	19886
24	20194	20123	20136	20245	20518	20367	20117	20165	20194	20095	19853	19898
25	20196	20115	20154	20266	20510	20364	20121	20150	20184	20121	19837	19912
26	20201	20106	20152	20267	20510	20356	20114	20152	20184	20116	19821	19950
27	20204	20095	20145	20266	20513	20362	20114	20149	20190	20092	19806	19969
28	20206	20098	20137	20265	20524	20368	20117	20144	20184	20083	19815	19982
29	20206	20099	20128	20269	20528	20352	20111	20150	20172	20082	19830	19997
30	20211	20094	20115	20265	---	20327	20099	20173	20164	20070	19822	20022
31	20196	---	20092	20265	---	20307	---	20193	---	20082	19818	---
1975	20276	20208	20154	20269	20528	20530	20299	20193	20255	20230	20095	20022
1976	20149	20082	20045	20058	20257	20307	20099	20070	20164	20070	19806	19788
(*)	1,180.41	1,179.64	1,179.63	1,180.93	1,182.90	1,181.25	1,179.68	1,180.39	1,180.17	1,179.55	1,177.54	1,179.10
(†)	+42,000	-102,000	-2,000	+173,000	+263,000	-221,000	-208,000	+94,000	-29,000	-82,000	-264,000	+204,000
(‡)	7,050	6,540	5,210	5,060	4,750	6,070	6,660	8,940	10,710	10,770	10,600	8,630
(**)	11.5	9.1	4.8	3.8	3.6	5.1	5.7	5.2	9.7	8.5	10.6	7.4
(††)	127,100	100,300	52,800	41,900	40,100	56,800	62,900	57,300	107,300	93,800	116,200	80,900
CAL YR 1975	† +371,000			‡ 86,680		** 94.8	†† 1,032,000					
WTR YR 1976	† -132,000			‡ 90,990		** 85.0	†† 937,400					

* Gage height, in feet, at end of month.

** Gross evaporation, in inches, from Lake Mead.

† Change in contents, in acre-feet.

†† Gross evaporation, in acre-feet, from Lake Mead.

‡ Diversions, in acre-feet.

NOTE.--Figures of gross evaporation are based on data obtained on Lake Mead by the Bureau of Reclamation and at Las Vegas by National Weather Service, and are computed by the Geological Survey. Only the mass-transfer method described in Geological Survey Professional Paper 298 is used. "Gross" denotes the total evaporation from the lake without deduction for precipitation on the lake surface or for natural losses that would have occurred in the area now occupied by the lake. Starting February 1976 coefficient changed to 0.0018.

COLORADO RIVER MAIN STEM

09421000. LAKE MEAD AT HOOVER DAM, ARIZ.-NEV.

LOCATION.--Lat 36°00'58", long 114°44'13", in NE4SW4 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 in center of Hoover Dam on Colorado River.

DRAINAGE AREA (REVISED).--171,700 mi² (444,000 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming which is noncontributing (previously considered part of the Missouri River basin).

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DEPTH (FT)	ELE- VATION ABOVE MEAN SEA LEVEL (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)
OCT										
31...	.0	1180	1080	7.7	20.5	330	210	79	31	100
31...	10	1170	1080	7.8	20.5	--	--	--	--	--
31...	25	1155	1060	7.8	20.5	--	--	--	--	--
31...	75	1105	1060	7.8	20.5	--	--	--	--	--
31...	125	1055	1080	7.8	16.5	--	--	--	--	--
31...	175	1005	1080	7.8	15.5	340	210	88	29	97
31...	225	955	1080	7.8	14.0	330	210	79	31	99
31...	272	908	1040	7.8	13.5	330	200	83	29	95
31...	275	905	1040	7.8	13.0	--	--	--	--	--
31...	325	855	1050	7.8	13.0	--	--	--	--	--
31...	375	805	1060	7.6	13.0	--	--	--	--	--
31...	425	755	1050	7.6	13.0	330	200	85	29	95
31...	462	718	1060	7.3	13.0	--	--	--	--	--
DEC										
01...	.0	1180	1070	7.8	17.5	330	210	82	30	99
01...	10	1170	1070	7.9	17.5	--	--	--	--	--
01...	25	1155	1070	8.1	17.0	--	--	--	--	--
01...	75	1105	1070	7.8	16.5	330	210	82	30	98
01...	125	1055	1070	7.7	16.5	--	--	--	--	--
01...	175	1005	1070	7.6	15.5	330	210	86	29	99
01...	225	955	1040	7.9	14.0	--	--	--	--	--
01...	272	908	1040	8.0	13.0	330	200	83	29	98
01...	275	905	1040	7.6	13.0	--	--	--	--	--
01...	325	855	1040	7.8	13.0	--	--	--	--	--
01...	375	805	1040	7.7	13.0	--	--	--	--	--
01...	425	755	1040	7.7	13.0	330	200	85	28	96
01...	458	722	1050	7.5	13.0	--	--	--	--	--
JAN										
05...	.0	1179	1070	7.7	14.0	330	210	83	30	100
05...	10	1169	1070	7.6	14.0	--	--	--	--	--
05...	25	1154	1070	7.7	14.0	--	--	--	--	--
05...	75	1104	1070	7.7	14.0	--	--	--	--	--
05...	125	1054	1070	7.6	14.0	330	210	83	30	100
05...	175	1004	1070	7.7	14.0	--	--	--	--	--
05...	225	954	1070	7.8	14.0	330	200	83	30	100
05...	275	904	1040	7.6	13.0	330	190	84	28	97
05...	325	854	1040	7.5	13.0	--	--	--	--	--
05...	375	804	1040	7.6	13.0	--	--	--	--	--
05...	425	754	1040	7.5	13.0	330	200	84	29	96
05...	458	721	1040	7.4	13.0	--	--	--	--	--
FEB										
28...	.0	1181	1070	7.5	14.0	330	200	83	30	100
28...	10	1171	1070	7.6	14.0	--	--	--	--	--
28...	25	1156	1070	7.6	13.5	--	--	--	--	--
28...	75	1106	1070	7.6	13.5	--	--	--	--	--
28...	125	1056	1070	7.6	13.5	330	200	82	30	100
28...	175	1006	1070	7.6	13.5	--	--	--	--	--
28...	225	956	1070	7.6	13.5	--	--	--	--	--
28...	272	909	1050	7.6	13.0	330	200	83	30	100
28...	275	906	1050	7.7	13.0	--	--	--	--	--
28...	325	856	1050	7.6	13.0	330	200	83	29	98
28...	375	806	1050	7.9	13.0	--	--	--	--	--
28...	425	756	1050	7.5	13.0	330	200	83	30	98
28...	458	723	1050	7.7	13.0	--	--	--	--	--

COLORADO RIVER MAIN STEM

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09421000. LAKE MEAD AT HOOVER DAM, ARIZ.-NEV.--CONTINUED

PERIOD OF RECORD.--Chemical analyses: October 1940 to current year.

REMARKS.--Samples collected by Bureau of Reclamation and analyzed by the Metropolitan Water District of Southern California, LaVerne, Calif.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	SODIUM AU- SORP- TION RATIO	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 SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRATE (NO3) (MG/L)
OCT										
31...	2.4	4.0	144	0	300	87	6.2	679	.92	.40
31...	--	--	143	0	--	88	--	--	--	--
31...	--	--	143	0	--	88	--	--	--	--
31...	--	--	145	0	--	88	--	--	--	--
31...	--	--	157	0	--	86	--	--	--	--
31...	2.3	4.0	157	0	290	83	6.2	676	.92	1.1
31...	2.4	4.0	145	0	290	88	6.2	669	.91	.40
31...	2.3	4.0	161	0	280	82	6.2	660	.90	1.3
31...	--	--	161	0	--	82	--	--	--	--
31...	--	--	161	0	--	82	--	--	--	--
31...	--	--	161	0	--	82	--	--	--	--
31...	2.3	4.0	162	0	280	82	6.9	663	.90	1.0
31...	--	--	165	0	--	82	--	--	--	--
DEC										
01...	2.4	4.0	149	0	290	89	6.8	675	.92	.60
01...	--	--	148	0	--	87	--	--	--	--
01...	--	--	149	0	--	87	--	--	--	--
01...	2.4	4.0	149	0	290	87	6.8	672	.91	.80
01...	--	--	149	0	--	86	--	--	--	--
01...	2.4	4.0	157	0	290	86	6.8	679	.92	1.2
01...	--	--	160	0	--	84	--	--	--	--
01...	2.4	4.0	160	0	280	83	7.6	664	.90	1.0
01...	--	--	160	0	--	84	--	--	--	--
01...	--	--	160	0	--	81	--	--	--	--
01...	--	--	161	0	--	82	--	--	--	--
01...	2.3	4.0	162	0	280	83	8.0	665	.90	1.2
01...	--	--	163	0	--	83	--	--	--	--
JAN										
05...	2.4	4.0	153	0	300	86	8.5	687	.93	.10
05...	--	--	153	0	--	87	--	--	--	--
05...	--	--	153	0	--	87	--	--	--	--
05...	--	--	153	0	--	87	--	--	--	--
05...	2.4	5.0	153	0	300	86	8.2	688	.94	.10
05...	--	--	153	0	--	87	--	--	--	--
05...	2.4	5.0	157	0	290	85	7.8	678	.92	.20
05...	2.3	4.0	161	0	280	80	7.6	660	.90	.30
05...	--	--	161	0	--	81	--	--	--	--
05...	--	--	161	0	--	82	--	--	--	--
05...	2.3	5.0	161	0	290	82	7.6	673	.92	.10
05...	--	--	163	0	--	81	--	--	--	--
28...	2.4	4.0	157	0	290	88	7.6	681	.93	.90
28...	--	--	--	--	--	87	--	--	--	--
28...	--	--	--	--	--	87	--	--	--	--
28...	--	--	--	--	--	86	--	--	--	--
28...	2.4	4.0	153	0	300	86	7.2	685	.93	.80
28...	--	--	--	--	--	86	--	--	--	--
28...	--	--	--	--	--	86	--	--	--	--
28...	2.4	4.0	159	0	290	84	7.8	678	.92	.70
28...	--	--	--	--	--	84	--	--	--	--
28...	2.4	4.0	160	0	290	82	8.0	674	.92	1.0
28...	--	--	--	--	--	82	--	--	--	--
28...	2.3	4.0	162	0	290	82	8.5	676	.92	.30
28...	--	--	--	--	--	83	--	--	--	--

COLORADO RIVER MAIN STEM

09421000. LAKE MEAD AT HOOVER DAM, ARIZ.-NEV.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	SODIUM AD- SORP- TION RATIO	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 SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRATE (NO3) (MG/L)
04...	2.4	4.8	156	0	290	85	6.8	678	.92	1.1
04...	--	--	156	0	--	85	--	--	--	--
04...	--	--	156	0	--	85	--	--	--	--
09...	--	--	155	0	--	85	--	--	--	--
09...	--	--	155	0	--	84	--	--	--	--
04...	2.4	4.6	156	0	290	85	6.4	677	.92	1.2
09...	2.4	4.6	161	0	290	84	6.4	678	.92	1.1
04...	2.3	4.6	161	0	280	84	6.8	665	.90	1.2
04...	--	--	161	0	--	84	--	--	--	--
04...	--	--	161	0	--	83	--	--	--	--
09...	2.4	4.6	161	0	280	84	6.8	669	.91	1.3
04...	--	--	161	0	--	84	--	--	--	--
31...	2.4	5.0	157	0	290	86	9.2	682	.93	1.2
31...	--	--	157	0	--	86	--	--	--	--
31...	--	--	157	0	--	86	--	--	--	--
31...	--	--	157	--	--	86	--	--	--	--
31...	--	--	156	0	--	86	--	--	--	--
31...	2.4	4.0	157	0	290	85	7.6	678	.92	.90
31...	2.4	4.0	159	0	280	84	7.8	668	.91	1.0
31...	2.4	4.0	160	0	280	85	8.0	668	.91	1.2
31...	--	--	161	0	--	85	--	--	--	--
31...	--	--	161	0	--	85	--	--	--	--
31...	2.4	4.0	161	0	280	85	7.8	669	.91	1.4
31...	--	--	161	0	--	84	--	--	--	--
29...	2.4	4.0	159	0	290	86	7.4	680	.92	.90
29...	--	--	157	0	--	86	--	--	--	--
29...	--	--	157	0	--	86	--	--	--	--
29...	--	--	157	0	--	86	--	--	--	--
29...	2.4	4.0	157	0	290	86	7.8	679	.92	1.0
29...	--	--	157	0	--	85	--	--	--	--
29...	2.4	4.0	159	0	290	84	7.8	678	.92	.60
29...	2.4	4.0	160	0	280	84	7.8	668	.91	.60
29...	--	--	160	0	--	84	--	--	--	--
29...	--	--	160	0	--	84	--	--	--	--
29...	2.4	4.0	161	0	280	84	9.2	669	.91	1.1
29...	--	--	161	0	--	84	--	--	--	--

COLORADO RIVER MAIN STEM

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09421000. LAKE MEAD AT HOOVER DAM, ARIZ.-NEV.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DEPTH (FT)	ELE- VATION ABOVE MEAN SEA LEVEL (FT)	SPF- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)
MAR										
09...	.0	1183.00	1050	7.8	14.5	330	200	83	30	100
09...	10	1173.00	1050	7.8	13.5	--	--	--	--	--
09...	25	1158.00	1060	7.9	13.5	--	--	--	--	--
09...	75	1108.00	1060	7.9	13.5	--	--	--	--	--
09...	125	1058.00	1060	7.8	13.0	--	--	--	--	--
09...	175	1008.00	1060	7.9	13.0	330	200	84	29	100
09...	225	958.00	1050	7.9	13.0	330	200	84	29	100
09...	275	908.00	1060	7.8	13.0	330	190	84	28	97
09...	325	858.00	1050	7.8	13.0	--	--	--	--	--
09...	375	808.00	1050	7.7	13.0	--	--	--	--	--
09...	425	758.00	1060	7.8	13.0	330	200	84	30	99
09...	462	721.00	1060	7.7	13.0	--	--	--	--	--
31...	.0	1181.00	1070	8.1	14.5	330	200	83	30	100
31...	10	1171.00	1070	8.0	14.5	--	--	--	--	--
31...	25	1156.00	1070	8.0	14.5	--	--	--	--	--
31...	75	1106.00	1070	8.4	14.0	--	--	--	--	--
31...	125	1056.00	1070	7.9	14.0	--	--	--	--	--
31...	175	1006.00	1070	8.2	13.5	330	200	83	30	100
31...	225	956.00	1060	7.8	13.5	330	200	83	30	100
31...	275	906.00	1050	8.3	13.0	330	200	82	30	99
31...	325	856.00	1050	7.9	13.0	--	--	--	--	--
31...	375	806.00	1050	8.0	13.0	--	--	--	--	--
31...	425	756.00	1050	8.0	13.0	330	200	82	30	99
31...	462	719.00	1050	7.9	13.0	--	--	--	--	--
APR										
29...	.0	1180.00	1070	8.0	--	330	200	83	30	100
29...	10	1170.00	1070	8.1	16.0	--	--	--	--	--
29...	25	1155.00	1070	7.9	16.0	--	--	--	--	--
29...	75	1105.00	1070	7.9	15.5	--	--	--	--	--
29...	125	1055.00	1070	8.0	14.5	330	200	83	30	100
29...	175	1005.00	1070	7.9	14.0	--	--	--	--	--
29...	225	955.00	1070	7.7	13.5	330	200	83	30	100
29...	275	905.00	1060	7.7	13.5	330	200	83	30	100
29...	325	855.00	1060	7.8	13.0	--	--	--	--	--
29...	375	805.00	1060	7.7	13.0	--	--	--	--	--
29...	425	755.00	1060	7.9	13.0	330	200	83	30	99
29...	462	718.00	1060	7.6	13.0	--	--	--	--	--

COLORADO RIVER MAIN STEM

09421500. COLORADO RIVER BELOW HOOVER DAM, ARIZ.-NEV.

LOCATION.--Lat 36°00'55", long 114°44'16", in NE¼SW¼ sec.3, T.30 N., R.23 W., Gila and Salt River meridian, or SW¼NE¼ sec.29, T.22 S., R.65 E., Mount Diablo meridian, Mohave-Clark Counties, in powerhouse at downstream side of Hoover Dam.

DRAINAGE AREA (REVISED).--171,700 mi² (444,700 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming, which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--October 1933 to current year (prior to April 1934, monthly discharge only, published in WSP 1313). Published as "near Willow Beach" 1933-39 and as "below Boulder Dam" 1939-45.

GAGE.--Totalizing flowmeters on each turbine in Hoover Dam powerhouse. Prior to Nov. 1, 1939, water-stage recorder at site 9 mi (14 km) downstream at datum 594.8 ft (181.30 m) above mean sea level. Nov. 1, 1939, to June 30, 1958, water-stage recorder at site 0.8 mi (1.3 km) downstream at datum 600.35 ft (182.987 m) above mean sea level.

AVERAGE DISCHARGE.--42 years (1934-76), 13,340 ft³/s (377.8 m³/s), 9,665,000 acre-ft/yr (11,900 hm³/yr) unadjusted for storage in Lake Mead.

EXTREMES.--Current year: Maximum daily discharge, 22,900 ft³/s (849 m³/s) Aug. 26; minimum daily, 2,510 ft³/s (71.1 m³/s) Nov. 1. Period of record: Maximum daily discharge, 36,000 ft³/s (1,020 m³/s) Jan. 28, 1942; no flow at Hoover Dam part of Feb. 10, 1935; minimum daily discharge, 152 ft³/s (4.30 m³/s) Feb. 10, 1935.

REMARKS.--Flow regulated by Lake Mead since Feb. 1, 1935. Many diversions above station for irrigation, industrial, and municipal use. Records of chemical analyses for the current year are published on following pages.

COOPERATION.--Records furnished by Bureau of Reclamation.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13800	2510	10300	10400	6020	17000	17000	12100	17200	14000	5390	15000
2	12000	2570	7840	13400	10500	16300	15400	7070	17500	15200	15600	17600
3	8760	6670	6350	10400	11600	16300	11400	19700	14600	7060	17300	16600
4	6320	8840	7270	9140	11700	15000	11500	19000	12800	6710	16600	11800
5	6000	8330	10800	11200	14000	16300	15300	21300	5990	6810	17700	4290
6	6430	8660	5910	10000	16100	10300	14500	21000	6300	18100	16100	4240
7	6940	10100	6870	6260	7000	10400	16000	18600	13000	16600	7060	17700
8	7510	8830	9040	7430	7700	16000	16100	9570	13800	16800	5280	16400
9	9100	7170	7690	6780	11900	17000	14800	8210	13200	14500	16800	14200
10	8140	10900	9990	4160	6850	18700	12800	21100	13200	6390	13600	19300
11	2710	11800	9760	5500	7280	18100	10100	20800	12100	5230	14900	6280
12	3350	8540	9810	5710	7340	19900	14600	19400	5890	15400	15900	5380
13	6050	9800	4590	8040	4270	11700	16600	17700	4670	15900	16300	14200
14	13400	9010	4200	5520	4240	8150	17400	16400	17600	17500	6770	13500
15	16300	7720	8980	6340	3680	17100	15400	9090	14200	15900	7680	13100
16	16500	5630	7370	7470	4310	16900	18000	9210	13400	17800	15800	12700
17	14800	9220	9710	6140	5250	17100	6600	17100	14300	8300	17600	12500
18	6080	8520	8510	5420	4070	16700	7030	19400	15000	6190	15700	3620
19	8990	9050	7840	5990	5610	16800	13800	19000	10200	15100	18100	3340
20	9760	8360	7640	7180	5570	8570	13200	14800	5050	18300	19700	9830
21	10600	8280	6230	6870	3190	9490	16000	14500	14200	19000	11900	10300
22	8120	5580	12500	8820	3390	12800	16100	7140	11800	16800	6860	8750
23	8960	6480	10500	10600	9800	14000	18100	7090	13800	18100	19400	10700
24	9480	8750	7660	7070	12400	16000	12600	15900	15200	9080	18600	9780
25	8510	9680	5130	6160	15300	14300	10200	20000	13200	5970	20400	3770
26	6260	10500	8240	11100	16000	15000	18900	19000	6860	17000	22900	3790
27	8400	7670	4570	10500	15100	11200	16800	18700	4790	19500	21800	8410
28	8050	10700	5500	10800	11400	7130	15200	19800	13000	16900	10900	6660
29	6130	8560	7230	11100	8270	18100	20400	14400	15000	17600	8570	7560
30	8430	6510	11500	11300	---	19400	21600	5010	13300	19600	16000	5570
31	10300	---	13000	9730	---	16900	---	6240	---	7480	13400	---
TOTAL	276780	244440	252530	256530	249840	458640	443430	468330	361150	424820	450610	306870
MEAN	8928	8165	8146	8275	8615	14790	14780	15110	12040	13700	14540	10230
MAX	16900	11800	13000	13400	16100	19900	21600	21300	17600	19600	22900	19300
MIN	2710	2510	4200	4160	3140	7130	6600	5010	4670	5230	5280	3340
AC-FT	549000	485800	500900	508800	495600	909700	879500	928900	716300	842600	893800	608700
CAL YR 1975	TOTAL	4218430	MEAN	11560	MAX	20900	MIN	2510	AC-FT	8367000		
WTR YR 1976	TOTAL	4194470	MEAN	11460	MAX	22900	MIN	2510	AC-FT	8320000		

COLORADO RIVER MAIN STEM

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09421500. COLORADO RIVER BELOW HOOVER DAM, ARIZ.-NEV.
(National stream-quality accounting network station)

LOCATION.--Lat 36°00'38", long 114°44'31", in SW¼SW¼ sec.3, T.30 N., R.23 W., Gila and Salt River meridian, Mohave County, Ariz., or in SW¼SE¼ sec.29, T.22 S., R.65 E., Mount Diablo meridian, Clark County, Nev., 0.3 mi (0.5 km) downstream from gaging station in powerhouse at downstream side of Hoover Dam.

DRAINAGE AREA (REVISED)---171,800 mi² (445,000 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--Chemical analyses: October 1939 to current year.
Water temperatures: October 1941 to September 1957.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	FECAL COLI- FORM (COL. PER 100 ML)	STREP- TOCOCCI (COL- ONIES PER 100 ML)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)
OCT										
07...	0830	8300	1140	7.9	13.0	1	--	--	360	220
08...	0815	8020	--	--	14.0	--	B1	B3	--	--
NOV										
11...	0830	23000	1060	7.2	12.5	0	--	--	340	200
12...	0800	6600	--	--	12.0	--	B1	B1	--	--
DEC										
09...	0900	14220	1070	6.9	12.5	0	--	--	320	190
10...	0830	10820	--	--	12.0	--	B1	B9	--	--
JAN										
13...	0830	16720	1100	7.7	12.0	1	--	--	340	200
14...	0815	6220	--	--	12.5	--	B1	B10	--	--
FEB										
10...	1000	9400	1080	7.6	11.5	2	--	--	320	180
11...	1000	12500	--	--	11.5	--	B1	B1	--	--
MAR										
09...	0915	23820	1090	7.7	12.0	0	--	--	320	190
10...	0800	21120	--	--	12.0	--	B1	B1	--	--
APR										
13...	0830	19920	1080	7.8	12.5	1	--	--	320	190
14...	0830	19150	--	--	11.5	--	B1	B1	--	--
MAY										
11...	0715	22400	1090	8.1	12.5	1	--	--	330	200
12...	0800	21820	--	--	12.5	--	B1	B1	--	--
JUN										
08...	0800	13600	1080	7.9	12.0	1	--	--	320	190
09...	0830	18700	--	--	12.5	--	B1	B1	--	--
JUL										
13...	0800	14820	1100	8.0	12.5	0	--	--	340	200
14...	0800	18720	--	--	12.5	--	B1	B9	--	--
AUG										
10...	0730	9250	1080	8.0	15.0	0	--	--	340	200
11...	0800	17930	--	--	12.5	--	B1	B1	--	--
SEP										
14...	0800	12860	1070	8.0	12.5	1	--	--	330	200
15...	0800	14020	--	--	13.0	--	B10	B7	--	--

B--Results based on non-ideal colony count.

COLORADO RIVER MAIN STEM

09421500. COLORADO RIVER BELOW HOOVER DAM, ARIZ.-NEV.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

[illegible][illegible]

COLORADO RIVER MAIN STEM

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09421500. COLORADO RIVER BELOW HOOVER DAM, ARIZ.-NEV.--CONTINUED

WATER QUALITY DATA. WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)
NOV								
11...	0830	3	3	130	<10	1	4	2
11...	0930	--	--	--	--	--	<10	--
FEH								
10...	1000	4	2	130	<10	1	0	0
MAY								
11...	0715	4	4	110	<10	0	0	0
AUG								
10...	0730	3	2	130	<10	1	0	0

DATE	TOTAL COBALT (CO) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)
NOV									
11...	<50	0	<10	1	0	0	<100	6	10
11...	--	--	--	--	--	--	--	--	--
FEH									
10...	<50	1	<10	0	100	10	<100	3	30
MAY									
11...	<50	0	20	3	40	10	<100	3	0
AUG									
10...	<50	1	20	0	120	20	<100	0	0

DATE	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
NOV								
11...	4	.0	.0	3	4	50	4	2.9
11...	--	--	--	--	--	--	--	--
FEH								
10...	0	.1	.0	4	3	20	0	3.9
MAY								
11...	0	.0	.0	3	3	40	20	4.4
AUG								
10...	10	.0	.0	3	3	40	0	1.9

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

COLORADO RIVER MAIN STEM

09421500. COLORADO RIVER BELOW HOOVER DAM, ARIZ.-NEV.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)
OCT										
07...	0830	.34	.01	.35	.35	.51	.86	3.8	.03	.01
NOV										
11...	0830	.35	.01	.36	.36	.22	.58	2.6	.00	.00
DEC										
09...	0900	.42	.00	.42	.42	.21	.63	2.8	.00	.00
JAN										
14...	0830	.38	.01	.42	.39	.58	1.0	4.4	.00	.01
FEB										
10...	1000	.53	.00	.54	.53	.76	1.3	5.8	.04	.03
MAR										
09...	0915	.47	.00	.39	.47	.24	.63	2.8	.00	.02
APR										
13...	0830	.41	.00	.41	.41	.49	.90	4.0	.03	.01
MAY										
11...	0715	.42	.00	.41	.42	--	--	--	.02	.01
JUN										
08...	0800	.38	.00	.37	.38	.38	.75	3.3	.00	.02
JUL										
13...	0800	.43	.00	.43	.43	.72	1.2	5.1	.02	.01
AUG										
10...	0730	.36	.00	.42	.36	.32	.74	3.3	.00	.02
SEP										
14...	0800	.44	.01	.44	.45	.11	.55	2.4	.01	.02

DATE	TIME	SUS- PENDE SEDIM- ENT (MG/L)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
APR			
13...	1230	1	79
MAY			
11...	1120	0	--
JUN			
08...	1440	0	--
JUL			
13...	1115	1	83
AUG			
10...	1130	0	--
SEP			
14...	1135	0	--

COLORADO RIVER MAIN STEM

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09421500. COLORADO RIVER BELOW HOOVER DAM, ARIZ.-NEV.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll a	Chlorophyll b	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight	(mg/m ²)	(mg/m ²)		
May 11	28	.308	.154	.741	.061	210	Polyethylene strip
Aug. 10	28	2.80	1.90	1.10	.036	820	Polyethylene strip

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

NOV. 5, 1974
0800 HOURS

IDENTIFICATION OF PHYTOPLANKTON

3,800 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..PENNIALES	PENNATE			
....ACHNANTHACEAE		100	3	
....RHOICOSPHEINIA		140	4	
....CYMBELLACEAE		68	2	
....CYMBELLA		100	3	
....FRAGILARIACEAE		34	1	
....FRAGILARIA				
....SYNEDRA				
....GOMPHONEMATACEAE				
....GOMPHONEMA				
....NAVICULACEAE	NAVICULOID			
DNAVICULA		580	15	
	TOTALS	1,000	28	1.940=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
..OSCILLATORIACEAE				
DOSCILLATORIA		2,800	72	
	TOTALS	2,800	72	0.000=DIVERSITY
PYRRHOPHYTA	FIRE ALGAE			
..DINOPHYCEAE	DINOFLAGELLATES			
..PERIDINIALES				
....GLENODINIACEAE		34	1	
....GLENODINIUM		34	1	0.000=DIVERSITY
	TOTALS			

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.908
CLASS 0.908
ORDER 0.908
FAMILY 1.384
GENERA 1.428

COLORADO RIVER MAIN STEM

09421500. COLORADO RIVER BELOW HOOVER DAM, ARIZ.-NEV.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

DEC. 3, 1974
0800 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,300 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
....OOCYSTIS		48	4	
...SCENEDESMACEAE				
....ACTINASTRUM		14	1	
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS		83	7	
...VOLVOCAEAE				
....PANDORINA		55	4	
	TOTALS	200	16	1.800=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		41	3	
..PENNALES	PENNATE			
...FRAGILARIACEAE		7	1	
....ASTERIONELLA		100	8	
....SYNEDRA				
...GOMPHONEMACEAE		14	1	
....GOMPHONEMA				
...NAVICULACEAE	NAVICULOID			
....NAVICULA		69	5	
...NITZSCHIACEAE		28	2	
....NITZSCHIA		260	20	2.160=DIVERSITY
	TOTALS	260	20	
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
....AGMENELLUM		110	9	
...OSCILLATORIALES	FILAMENTOUS			
....OSCILLATORIAEAE		690	55	
DLYNGBYA		800	64	0.579=DIVERSITY
	TOTALS	800	64	

NOTE: D = DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.309
CLASS 1.309
ORDER 1.948
FAMILY 2.380
GENERA 2.410

COLORADO RIVER MAIN STEM

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09421500. COLORADO RIVER BELOW HOOVER DAM, ARIZ.-NEV.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JAN. 7, 1975
0950 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,500 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....CHLORELLA		28	2	
...SCENEDESMACEAE				
....SCENEDESMUS				
	TOTALS	<u>110</u> 140	<u>7</u> 9	0.722=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		55	4	
..PENNACEAE	PENNATE			
...NAVICULACEAE	NAVICULOID			
....STAUROIDEIS				
	TOTALS	<u>14</u> 69	<u>1</u> 5	0.722=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
DAGMENELLUM		550	36	
...OSCILLATORIALES	FILAMENTOUS			
D ...OSCILLATORIA				
	TOTALS	<u>760</u> 1,300	<u>50</u> 86	0.982=DIVERSITY
PYRRHOPHYTA	FIRE ALGAE			
..DINOPHYCEAE	DINOFLAGELLATES			
...PERIDINIALES				
...GLENODINIACEAE				
....GLENODINIUM				
	TOTALS	<u>14</u> 14	<u>1</u> 1	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.768
CLASS 0.768
ORDER 1.641
FAMILY 1.706
GENERA 1.706

COLORADO RIVER MAIN STEM

09421500. COLORADO RIVER BELOW HOOVER DAM, ARIZ.-NEV.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

FEB. 11, 1975
0900 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,100 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
.CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS		9	1	
...SCENEDESMACEAE				
....SCENEDESMUS				
	TOTALS	<u>18</u> 27	<u>2</u> 3	0.918=DIVERSITY
CHRYSTOPHYTA				
.BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCEAE				
....CYCLOTELLA		9	1	
..PENNALES	PENNATE			
...CYMBELLACEAE				
....AMPHORA				
	TOTALS	<u>9</u> 18	<u>1</u> 2	1.000=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
.MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
....ANACYSTIS		9	1	
..OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIACEAE				
DLYNGBYA		<u>1.000</u> 1.000	<u>95</u> 96	0.072=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.288
 CLASS 0.288
 ORDER 0.374
 FAMILY 0.396
 GENERA 0.396

09421500. COLORADO RIVER BELOW HOOVER DAM, ARIZ.-NEV.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAR. 11, 1975
0815 HOURS

IDENTIFICATION OF PHYTOPLANKTON

71 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCONODISCACEAE			
....MELOSIRA		8	11
..PENNALES	PENNATE		
...ACHNANTHACEAE		8	11
....COCCONEIS			
...NAVICULACEAE	NAVICULOID		
DNAVICULA		47	67
...NITZSCHACEAE			
....NITZSCHIA		8	11
TOTALS		71	100

1.447=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
ORDER 0.503
FAMILY 1.447
GENERA 1.447

APR. 8, 1975
0900 HOURS

IDENTIFICATION OF PHYTOPLANKTON

320 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
.CHLOROPHYCEAE			
..CHLOROCOCCALES			
...SCENEDESMACEAE			
....SCENEDESMUS		42	13
TOTALS		42	13

0.000=DIVERSITY

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCONODISCACEAE			
DCYCLOTELLA		210	67
..PENNALES	PENNATE		
...ACHNANTHACEAE		21	7
....ACHNANTHES		21	7
....COCCONEIS			
...NAVICULACEAE	NAVICULOID		
....NAVICULA		21	7
TOTALS		270	88

1.145=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.567
CLASS 0.567
ORDER 1.242
FAMILY 1.426
GENERA 1.559

COLORADO RIVER MAIN STEM

09421500. COLORADO RIVER BELOW HOOVER DAM, ARIZ.-NEV.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAY 6, 1975

0745 HOURS

IDENTIFICATION OF PHYTOPLANKTON

64 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
....CHLORELLA				
	TOTALS	<u>8</u> 8	<u>12</u> 12	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAF	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
DCYCLOTELLA		32	50	
..PENNALES	PENNATE			
...NAVICULACEAE	NAVICULOID			
...NAVICULA		8	12	
...NITZSCHIA				
DNITZSCHIA		<u>16</u> 56	<u>25</u> 87	1.379=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.544
CLASS 0.544
ORDER 1.406
FAMILY 1.750
GENERA 1.750

JUNE 10, 1975

0800 HOURS

IDENTIFICATION OF PHYTOPLANKTON

190 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
....OOCYSTIS				
	TOTALS	<u>4</u> 4	<u>2</u> 2	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...CYMBELLACEAE				
....CYMBELLA		4	2	
...FRAGILARIACEAE				
DFRAGILARIA		160	84	
...NAVICULACEAE	NAVICULOID			
....NAVICULA		<u>23</u> 180	<u>12</u> 98	0.676=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.141
CLASS 0.141
ORDER 0.141
FAMILY 0.804
GENERA 0.804

09421500. COLORADO RIVER BELOW HOOVER DAM, ARIZ.-NEV.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

OCT. 7, 1975
0830 HOURS

IDENTIFICATION OF PHYTOPLANKTON

610 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
....TETRAEDRON		7	1	
...SCENEDESMACEAE				
LSCENEDESMUS			0	
..ULOTRICHALES				
...ULOTRICHACEAE				
DULOTHRIX				
	TOTALS	<u>140</u> 150	<u>23</u> 24	0.267=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		7	1	
....MELOSIRA		13	2	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
....RHOICOSPHENIA		13	2	
...CYMBELLACEAE				
....CYMBELLA		7	1	
...DIATOMACEAE				
LDIATOMA			0	
...NAVICULACEAE	NAVICULOID			
DNAVICULA		99	16	
...NITZSCHIA				
....NITZSCHIA				
	TOTALS	<u>20</u> 160	<u>3</u> 25	1.778=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...NOSTOCACEAE				
....ANABAENOPSIS		33	5	
...OSCILLATORIAEAE				
DLYNGBYA				
	TOTALS	<u>260</u> 300	<u>43</u> 48	0.503=DIVERSITY
PYRRHOPHYTA	FIRE ALGAE			
..DINOPHYCEAE	DINOFLAGELLATES			
...PERIDINIALES				
...PERIDINIACEAE				
....PERIDINIUM				
	TOTALS	<u>7</u> 7	<u>1</u> 1	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.575
 CLASS 1.575
 ORDER 1.780
 FAMILY 2.319
 GENERA 2.349

COLORADO RIVER MAIN STEM

09421500. COLORADO RIVER BELOW HOOVER DAM, ARIZ.-NEV.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

NOV. 11, 1975
0830 HOURS

IDENTIFICATION OF PHYTOPLANKTON

610 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....SELENASTRUM				
	TOTALS	<u>21</u> 21	<u>3</u> 3	0.000=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		10	2	
....MELOSIRA		21	3	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
....ACHNANTHES		10	2	
L ...COCCONEIS			0	
...FRAGILARIACEAE				
....FRAGILARIA		10	2	
...NAVICULACEAE	NAVICULOID			
....NAVICULA		41	7	
...NITZSCHIAEAE				
....NITZSCHIA		<u>10</u> 100	<u>2</u> 18	2.322=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
DLYNGBYA		440	73	
....OSCILLATORIA		<u>41</u> 490	<u>7</u> 80	0.420=DIVERSITY
	TOTALS			

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.861
 CLASS 0.861
 ORDER 1.010
 FAMILY 1.208
 GENERA 1.589

09421500. COLORADO RIVER BELOW HOOVER DAM, ARIZ.-NEV.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JAN. 13, 1976
0830 HOURS

IDENTIFICATION OF PHYTOPLANKTON

400 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
L ...CHODATELLA			0	
...SCENEDESMACEAE				
...SCENEDESMUS				
	TOTALS	<u>17</u> 17	<u>4</u> 4	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCONODISCACEAE				
...CYCLOTETRA		34	8	
..PENNALES	PENNATE			
...FRAGILARIACEAE				
...FRAGILARIA		34	8	
...NAVICULACEAE	NAVICULOID			
D ...NAVICULA				
	TOTALS	<u>59</u> 130	<u>15</u> 31	1.530=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
D ...ANACYSTIS				
	TOTALS	<u>260</u> 260	<u>65</u> 65	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.123
 CLASS 1.123
 ORDER 1.384
 FAMILY 1.601
 GENERA 1.601

FEB. 10, 1976
1000 HOURS

IDENTIFICATION OF PHYTOPLANKTON

68 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCONODISCACEAE				
D ...CYCLOTETRA		54	80	
..PENNALES	PENNATE			
...FRAGILARIACEAE				
L ...FRAGILARIA			0	
...NAVICULACEAE	NAVICULOID			
D ...NAVICULA				
	TOTALS	<u>14</u> 68	<u>20</u> 100	0.722=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 ORDER 0.722
 FAMILY 0.722
 GENERA 0.722

COLORADO RIVER MAIN STEM

09421500. COLORADO RIVER BELOW HOOVER DAM, ARIZ.-NEV.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAR. 9, 1976

0915 HOURS

IDENTIFICATION OF PHYTOPLANKTON

390 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....OOCYSTIS		44	11	
....TETRAEDRON		22	6	
	TOTALS	66	17	0.918=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
DCYCLOTELLA		200	50	
....MELOSIRA		44	11	
..PENNALES	PENNATE			
...NITZSCHIAEAE				
....NITZSCHIA		22	6	
	TOTALS	260	67	1.041=DIVERSITY
..CHRYSTOPHYCEAE	YELLOW-BROWN ALGAE			
..CHRYSONOMADALES				
...OCHROMONADACEAE				
....OCHROMONAS		44	11	
	TOTALS	44	11	0.000=DIVERSITY
PYRRHOPHYTA	FIRE ALGAE			
..DINOPHYCEAE	DINOFLAGELLATES			
..PERIDINIALES				
...PERIDINIAEAE				
....PERIDINIUM		22	6	
	TOTALS	22	6	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.944
 CLASS 1.405
 ORDER 1.681
 FAMILY 1.681
 GENERA 2.252

COLORADO RIVER MAIN STEM

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09421500. COLORADO RIVER BELOW HOOVER DAM, ARIZ.-NEV.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

APR. 13, 1976
0830 HOURS

IDENTIFICATION OF PHYTOPLANKTON

650 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
L ...OOCYSTIS			0	
..VOLVOCALES				
...PHACOTACEAE				
....PHACOTUS				
	TOTALS	<u>6</u> 6	<u>1</u> 1	0.000=DIVERSITY
CHRYSTOPHYTA	DIATOMS			
..BACILLARIOPHYCEAE	PENNATE			
..PENNALES				
...FRAGILARIACEAE				
....FRAGILARIA		23	4	
....SYNEDRA		18	3	
...NITZSCHIAEAE				
....DENTICULA				
	TOTALS	<u>6</u> 47	<u>1</u> 8	1.406=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
D ...ANACYSTIS		320	49	
..OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIACEAE				
DLYNGBYA				
	TOTALS	<u>280</u> 590	<u>43</u> 92	0.997=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.450
CLASS 0.450
ORDER 1.365
FAMILY 1.404
GENERA 1.467

COLORADO RIVER MAIN STEM

09421500. COLORADO RIVER BELOW HOOVER DAM, ARIZ.-NEV.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAY 11, 1976
0715 HOURS

IDENTIFICATION OF PHYTOPLANKTON

150 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS		5	4	
....KIRCHNERIELLA		11	7	
...SCENEDESMACEAE				
....SCENEDESMUS				
	TOTALS	22 38	14 25	1.379=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCAEAE				
....MELOSIRA		22	14	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
....ACHNANTHES		5	4	
...CYMBELLACEAE				
....CYMBELLA		5	4	
...FRAGILARIACEAE				
....ASTERIONELLA		16	11	
...NAVICULACEAE	NAVICULOID			
....NAVICULA		5	4	
...NITZSCHACEAE				
DNITZSCHIA		32 86	21 58	2.233=DIVERSITY
	TOTALS			
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...NOSTOCACEAE				
....ANABAENA		22	14	
...OSCILLATORIAEAE				
....SPIRULINA		5 27	4 18	0.722=DIVERSITY
	TOTALS			

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 1.405
CLASS 1.405
ORDER 1.869
FAMILY 3.057
GENERA 3.155

JUNE 8, 1976
0800 HOURS

IDENTIFICATION OF PHYTOPLANKTON

980 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...FRAGILARIACEAE				
....SYNEDRA		10	1	
...NAVICULACEAE	NAVICULOID			
LNAVICULA				
	TOTALS	10 10	0 1	0.000=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
DOSCILLATORIA		970 970	99 99	0.000=DIVERSITY
	TOTALS			

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.082
CLASS 0.082
ORDER 0.082
FAMILY 0.082
GENFRA 0.082

COLORADO RIVER MAIN STEM

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09421500. COLORADO RIVER BELOW HOOVER DAM, ARIZ.-NEV.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JULY 13, 1976
0800 HOURS

IDENTIFICATION OF PHYTOPLANKTON

810 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...SCENEDESMACEAE				
....SCENEDESMUS		5	1	
...VOLVOCALES				
...PHACOTACEAE				
....PHACOTUS				
	TOTALS	<u>5</u> 11	<u>1</u> 2	1.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		5	1	
....MELOSIRA		5	1	
...PENNALES	PENNATE			
...ACHNANTHACEAE				
....ACHNANTHES		11	1	
...CYMBELLACEAE				
....CYMBELLA		11	1	
...FRAGILARIACEAE				
....FRAGILARIA		11	1	
...NAVICULACEAE	NAVICULOID			
....NAVICULA				
	TOTALS	<u>22</u> 65	<u>3</u> 8	2.418=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
....ANACYSTIS		75	9	
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIACEAE				
DOSCILLATORIA				
	TOTALS	<u>660</u> 730	<u>81</u> 90	0.478=DIVERSITY
PYRRHOPHYTA	FIRE ALGAE			
..DINOPHYCEAE	DINOFLLAGELLATES			
...PERIDINIALES				
...GLENODINIACEAE				
....GLENODINIUM				
	TOTALS	<u>5</u> 5	<u>1</u> 1	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.557
CLASS 0.557
ORDER 1.052
FAMILY 1.180
GENERA 1.193

09421500. COLORADO RIVER BELOW HOOVER DAM, ARIZ.-NEV.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

AUG. 10, 1976

0730 HOURS

IDENTIFICATION OF PHYTOPLANKTON

350 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...PENNALES	PENNATE			
...CYMBELLACEAE				
....CYMBELLA		8	2	
...NAVICULACEAE	NAVICULOID			
D ...NAVICULA		51	15	
...NITZSCHIAEAE				
....NITZSCHIA		8	2	
	TOTALS	67	19	1.061=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
D ...OSCILLATORIA		280	80	0.000=DIVERSITY
	TOTALS	280	80	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.712
 CLASS 0.712
 ORDER 0.712
 FAMILY 0.919
 GENERA 0.919

SEP. 14, 1976

0800 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,900 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....OOCYSTIS		71	4	
	TOTALS	71	4	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...PENNALES	PENNATE			
...DIATOMACEAE				
L ...DIATOMA			0	
...NAVICULACEAE	NAVICULOID			
...NAVICULA		71	4	
...NITZSCHIAEAE				
....NITZSCHIA		18	1	
	TOTALS	88	5	0.722=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...NOSTOCACEAE				
D ...CYLINDROSPERMUM		280	15	
...OSCILLATORIAEAE				
D ...OSCILLATORIA		1,400	76	0.650=DIVERSITY
	TOTALS	1,700	91	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.507
 CLASS 0.507
 ORDER 0.507
 FAMILY 1.136
 GENERA 1.136

09422500. LAKE MOHAVE AT DAVIS DAM, AZ-NV.

LOCATION.--Lat 35°11'50", long 114°34'07", in SW¼SW¼ sec.18, T.21 N., R.21 W., Gila and Salt River meridian, Mohave County, on forebay structure on Arizona side of Davis Dam on Colorado River, 29 mi (47 km) west of Kingman, Ariz., and 67 mi (108 km) downstream from Hoover Dam.

DRAINAGE AREA (REVISED).--173,300 mi² (448,800 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming, which is noncontributing (previously considered part of Missouri River basin).

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

GAGE.--Water-stage recorder. Datum of gage is at mean sea level.

EXTREMES.--Current year: Maximum contents, 1,794,000 acre-ft (2,210 hm³) May 29, 30 (elevation, 646.44 ft or 197.035 m); minimum, 1,343,000 acre-ft (1,660 hm³) Oct. 13 (elevation, 629.39 ft or 191.838 m).

Period of record: Maximum contents, 1,811,000 acre-ft (2,230 hm³) May 24, 1958, May 29, 1963; maximum elevation, 647.04 ft (197.218 m) May 29, 1963; minimum contents (since 1952), 1,168,000 acre-ft (1,440 hm³) Sept. 8, 1953 (elevation, 622.15 ft or 189.631 m).

REMARKS.--Reservoir is formed by earthfill and rockfill dam; dam completed in April 1949 and storage began Jan. 17, 1950. Usable capacity, 1,810,000 acre-ft (2,230 hm³) between elevations 533.39 ft (162.577 m)—lowest point of penstock outlet—and 647.0 ft (197.21 m)—top of spillway gates. A small amount of additional storage is available through use of splashboards on the spillway gates. Dead storage, 8,530 acre-ft (10.5 hm³) below elevation 533.39 ft (162.577 m). Lake is used for power development, re-regulation for irrigation demand, and to satisfy requirements of the Treaty of 1944 with Mexico. Figures given herein represent usable contents.

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

629	1,334,000	641	1,644,000
632	1,409,000	644	1,726,000
635	1,486,000	647	1,810,000
638	1,564,000		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1389000	1396000	1488000	1549000	1619000	1688000	1650000	1643000	1774000	1661000	1603000	1569000
2	1394000	1389000	1490000	1563000	1617000	1690000	1647000	1632000	1786000	1663000	1603000	1579000
3	1389000	1384000	1489000	1570000	1612000	1689000	1638000	1638000	1789000	1647000	1606000	1585000
4	1381000	1383000	1488000	1577000	1615000	1688000	1638000	1643000	1788000	1635000	1607000	1584000
5	1377000	1383000	1494000	1587000	1623000	1692000	1635000	1650000	1775000	1616000	1610000	1572000
6	1365000	1387000	1492000	1596000	1638000	1682000	1631000	1659000	1764000	1620000	1610000	1562000
7	1361000	1392000	1496000	1597000	1641000	1682000	1630000	1677000	1762000	1621000	1593000	1580000
8	1357000	1398000	1499000	1600000	1650000	1689000	1630000	1690000	1762000	1624000	1576000	1595000
9	1355000	1398000	1500000	1604000	1666000	1700000	1623000	1690000	1762000	1623000	1576000	1605000
10	1358000	1406000	1505000	1603000	1673000	1710000	1615000	1698000	1762000	1605000	1570000	1640000
11	1353000	1414000	1509000	1605000	1680000	1723000	1615000	1704000	1758000	1589000	1567000	1652000
12	1347000	1419000	1515000	1606000	1690000	1734000	1615000	1715000	1740000	1588000	1568000	1657000
13	1345000	1426000	1511000	1614000	1691000	1729000	1618000	1728000	1728000	1590000	1566000	1673000
14	1355000	1432000	1509000	1616000	1696000	1724000	1638000	1735000	1735000	1598000	1548000	1689000
15	1368000	1432000	1507000	1616000	1699000	1727000	1658000	1732000	1734000	1601000	1540000	1700000
16	1387000	1434000	1506000	1616000	1702000	1729000	1688000	1727000	1730000	1611000	1541000	1709000
17	1397000	1438000	1509000	1610000	1708000	1732000	1691000	1732000	1728000	1598000	1546000	1716000
18	1394000	1440000	1507000	1612000	1711000	1732000	1696000	1735000	1728000	1587000	1546000	1703000
19	1396000	1439000	1504000	1606000	1717000	1734000	1696000	1746000	1721000	1586000	1550000	1694000
20	1395000	1440000	1503000	1599000	1717000	1715000	1685000	1751000	1708000	1590000	1557000	1692000
21	1398000	1442000	1504000	1598000	1706000	1709000	1681000	1754000	1709000	1600000	1551000	1691000
22	1401000	1437000	1519000	1600000	1701000	1712000	1675000	1737000	1704000	1601000	1540000	1687000
23	1400000	1442000	1530000	1605000	1698000	1703000	1674000	1746000	1700000	1607000	1547000	1698000
24	1396000	1446000	1532000	1602000	1696000	1696000	1662000	1745000	1702000	1600000	1554000	1707000
25	1390000	1456000	1530000	1605000	1692000	1702000	1659000	1751000	1700000	1589000	1563000	1712000
26	1382000	1462000	1530000	1610000	1691000	1690000	1657000	1762000	1686000	1593000	1577000	1708000
27	1387000	1465000	1524000	1611000	1693000	1676000	1652000	1779000	1671000	1607000	1589000	1714000
28	1391000	1474000	1524000	1611000	1686000	1663000	1645000	1792000	1668000	1616000	1580000	1717000
29	1390000	1481000	1524000	1612000	1681000	1659000	1647000	1794000	1666000	1622000	1572000	1719000
30	1392000	1482000	1534000	1618000	---	1658000	1654000	1780000	1660000	1630000	1572000	1721000
31	1401000	---	1542000	1617000	---	1655000	---	1765000	---	1615000	1570000	---
MAX	1401000	1482000	1542000	1618000	1717000	1734000	1696000	1794000	1789000	1663000	1610000	1721000
MIN	1345000	1383000	1488000	1549000	1612000	1655000	1615000	1632000	1660000	1586000	1540000	1562000
(†)	631.70	634.87	637.16	639.99	642.34	641.38	641.37	645.40	641.59	639.92	638.23	643.82
(‡)	+16,000	+81,000	+60,000	+75,000	+64,000	-26,000	-1,000	+111,000	-105,000	-45,000	-45,000	+151,000
CAL YR	1975	MAX	1668000	MIN	1345000	±	-18,000					
WTR YR	1976	MAX	1794000	MIN	1345000	±	+336,000					

† Elevation, in feet, at end of month.

‡ Change, in contents, in acre-feet.

COLORADO RIVER MAIN STEM

09423000. COLORADO RIVER BELOW DAVIS DAM, AZ-NV.

LOCATION.--Lat 35°11'30", long 114°34'17", in SE¼NE¼ sec.1, T.32 S., R.66 E., Mount Diablo meridian, in Nevada, Clark County, on right bank 0.5 mi (0.8 km) downstream from Davis Dam, 29 mi (47 km) west of Kingman, Ariz., and 68 mi (109 km) downstream from Hoover Dam.

DRAINAGE AREA (REVISED).--173,300 mi² (448,800 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming, which is noncontributing (previously considered part of Missouri River basin).

PERIOD OF RECORD.--June 1905 to September 1907 (published as "at Hardyville"), March 1949 to current year.

GAGE.--Water-stage recorder. Datum of gage is 500.00 ft (152.40 m) above mean sea level; gage readings have been reduced to elevations above mean sea level. 1905-7, nonrecording gage at site 4.8 mi (7.7 km) downstream at datum about 13.4 ft (4.1 m) lower. Mar. 16 to May 3, 1949, water-stage recorder at site 0.5 mi (0.8 km) downstream at present datum. May 4, 1949, to Feb. 24, 1956, water-stage recorder at site 400 ft (120 m) upstream at present datum.

AVERAGE DISCHARGE.--27 years (1949-76), 12,560 ft³/s (355.7 m³/s), 9,100,000 acre-ft/yr (11,200 km³/yr).

EXTREMES.--Current year: Maximum discharge, 25,500 ft³/s (722 m³/s) Apr. 28 (elevation 505.59 ft or 154.104 m); maximum elevation, 505.61 ft (154.110 m) June 30; minimum daily discharge, 2,090 ft³/s (59.2 m³/s) May 8.
1905-7: Maximum daily discharge, 116,000 ft³/s (3,290 m³/s) June 20, 1906; minimum daily, 2,850 ft³/s (80.7 m³/s) Jan. 5, 1906.
1949-76: Maximum discharge, 31,200 ft³/s (884 m³/s) Apr. 22, 1952 (elevation, 513.91 ft or 156.640 m); no flow at Davis Dam parts of several days July to September 1950 and Dec. 27, 1950, when gates in dam were closed; minimum daily discharge, 285 ft³/s (8.07 m³/s) Aug. 3, 1950.

REMARKS.--Records excellent. Flow regulated by Lake Mead since Feb. 1, 1935, and by Lake Mohave since Jan. 17, 1950. Many diversions upstream for irrigation, industrial, and municipal uses. Records of chemical analyses for the current year are published on following pages.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10800	5000	6020	7660	5180	14500	18700	18000	12000	13200	12200	14700
2	9870	6620	6200	7130	10800	15100	17400	13100	11500	13600	15000	12900
3	10800	8770	6400	6590	13200	17000	16700	15500	12700	16700	15200	13300
4	10900	8830	7500	4990	9590	15700	11400	17200	12900	12200	15700	11900
5	8030	7850	7040	5170	11600	15900	17400	17900	13100	17500	15800	10500
6	11900	6900	8080	5990	8390	14900	17400	17200	11500	15700	15800	9840
7	9510	6610	4620	5650	6010	9780	17100	9610	13400	16600	16600	8660
8	8830	7090	7150	5120	2820	12700	16600	2090	13300	15000	13900	8960
9	9270	6780	6780	4560	3960	13600	18700	8770	12900	14300	16500	9170
10	6650	7100	6930	4940	3620	13000	16700	17000	13200	16200	16600	3760
11	6330	7340	7040	4250	3380	12900	11300	18300	13500	13200	16500	2150
12	6290	4920	7260	4890	2150	13200	14200	14500	14900	16200	15400	2530
13	7520	5760	7590	4430	2130	14200	16700	10200	11800	15100	16500	4960
14	8170	5780	5580	4410	2130	10300	7180	12900	12900	13600	16500	5360
15	7810	7280	8400	5520	2130	15700	5230	11900	12800	13700	13600	6920
16	7860	4310	7880	7030	2130	16100	2220	11000	15100	13700	14600	6900
17	8950	7370	8150	8440	2150	15600	4840	15600	15400	15200	15700	8890
18	8920	8590	8930	4870	2160	15000	4850	18200	14500	12400	15700	9780
19	7390	8630	8510	9770	2140	18700	14700	13400	14100	15200	15600	8390
20	9440	7540	7590	9810	6160	18300	18700	13400	11500	15400	15800	10500
21	9650	7810	5040	7060	8740	12000	18500	13000	13600	14200	15800	10500
22	8750	7590	4440	7270	6060	10400	19600	16000	14500	15400	12300	10700
23	8580	4830	5740	7460	10600	19600	19500	2490	15500	15200	15300	6000
24	10900	5050	6250	8700	13100	19500	19300	15900	13800	13900	15300	4300
25	10900	4730	5880	5010	17200	13000	13800	17200	14300	11000	15300	2750
26	9800	5370	7740	8790	17000	20300	19400	14300	14400	14200	15500	4690
27	6900	6220	8870	9590	13800	19800	19800	10100	12600	12000	15400	5190
28	6370	5710	5060	10100	14900	14300	19600	12700	15000	11900	16200	5320
29	6400	5300	6090	9960	11900	20000	20000	14000	15500	14500	12400	5370
30	7490	6000	6140	9240	---	20000	18700	12100	16600	15600	15600	4290
31	6950	---	7020	9100	---	19700	---	15000	---	15100	15100	---
TOTAL	267930	197700	211920	213500	215130	480780	456220	418560	408800	447700	473400	229180
MEAN	8643	6590	6836	6887	7418	15510	15210	13500	13630	14440	15270	7639
MAX	11900	8830	8930	10100	17200	20300	20000	18300	16600	17500	16600	14700
MIN	6290	4310	4440	4250	2130	9780	2220	2090	11500	11000	12200	2150
AC-FT	531400	392100	420300	423500	426700	953600	904900	830200	810900	888000	939000	454600
CAL YR 1975 TOTAL	4154270			MEAN 11380	MAX 20700	MIN 2790	AC-FT 8240000					
WTR YR 1976 TOTAL	4020820			MEAN 10990	MAX 20300	MIN 2090	AC-FT 7975000					

COLORADO RIVER MAIN STEM

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09423000. COLORADO RIVER BELOW DAVIS DAM, ARIZ.-NEV.

LOCATION.--Lat 35°11'30", long 114°34'17", in SE 1/4 sec.1, T.32 S., R.66 E., Mount Diablo meridian, in Nevada, Clark County, at gaging station on right bank 0.5 mi (0.8 km) downstream from Davis Dam, 29 mi (47 km) west of Kingman, Ariz., and 68 mi (109 km) downstream from Hoover Dam.

DRAINAGE AREA (REVISED)--173,300 mi² (448,800 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--Chemical analyses: July 1969 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA,MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)
OCT 01...	0700	8760	1070	7.6	11.0	340	210	87	29	99	2.3	5.0
NOV 03...	1210	8785	1090	7.9	17.0	310	190	80	27	100	2.5	5.0
DEC 01...	1330	8700	1100	8.1	12.5	320	200	82	29	110	2.7	5.2
JAN 02...	1445	4920	1100	8.2	10.5	330	200	86	28	100	2.4	5.1
FEB 02...	1215	14010	1110	8.3	11.0	320	190	83	27	100	2.4	5.1
MAR 01...	1100	19160	1100	8.3	12.0	330	190	84	28	97	2.3	4.4
APR 01...	1035	24600	1090	8.2	14.5	330	200	84	30	100	2.4	5.0
MAY 03...	1130	19460	1090	8.2	15.5	320	190	82	29	100	2.4	5.4
JUN 01...	1330	17700	1090	8.0	18.0	330	200	81	30	100	2.4	4.9
JUL 01...	0630	4940	1080	7.9	19.0	350	220	90	30	100	2.3	4.9
AUG 02...	0850	17430	1070	7.7	18.0	350	230	91	30	99	2.3	5.1
SEP 01...	0830	19300	1080	8.0	20.0	320	210	82	29	100	2.4	5.0

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 SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED IRON (FE) (UG/L)
OCT 01...	158	0	290	86	.2	7.9	715	683	.97	.27	140	0
NOV 03...	150	0	280	85	.3	7.8	716	660	.97	.14	130	40
DEC 01...	152	0	290	86	.4	8.3	724	687	.98	.19	240	10
JAN 02...	159	0	300	83	.3	7.8	718	691	.98	.46	130	0
FEB 02...	162	0	290	86	.3	7.6	722	680	.98	.27	120	10
MAR 01...	163	0	290	87	.5	8.3	719	681	.98	.33	130	10
APR 01...	165	0	280	87	.3	7.8	717	677	.98	.25	100	0
MAY 03...	168	0	290	86	.3	5.3	710	683	.97	.24	650	10
JUN 01...	156	0	290	88	.4	7.1	694	680	.94	.26	130	20
JUL 01...	162	0	300	88	.4	8.7	710	704	.97	.54	120	0
AUG 02...	152	0	300	88	.3	8.4	709	698	.96	.20	130	0
SEP 01...	142	0	310	88	.3	8.4	710	694	.97	.22	130	10

COLORADO RIVER MAIN STEM

09423500. COLORADO RIVER AT NEEDLES, CALIF.

LOCATION.--Lat 34°51'06", long 114°36'33", in SE¼SE¼ sec.19, T.9 N., R.23 E., San Bernardino meridian, San Bernardino County, on right bank at Needles, 15 mi (24 km) upstream from gaging station near Topock, Ariz., 30 mi (48 km) downstream from Davis Dam, and 97 mi (156 km) downstream from Hoover Dam.

DRAINAGE AREA (REVISED)--174,500 mi² (452,000 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming, which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--April 1931 to current year (elevations only).

GAGE.--Water-stage recorder. Datum of gage is 400.00 ft (121.920 m) above mean sea level. Prior to May 15, 1942, at site 550 ft (170 m) downstream and May 15, 1942, to Feb. 16, 1969, at site 200 ft (60 m) upstream; at datum 66.23 ft (20.187 m) higher prior to Jan. 12, 1952, and at present datum thereafter.

EXTREMES.--Current year: Maximum elevation, 475.12 ft (144.817 m) Sept. 1; minimum, 458.69 ft (139.809 m) Feb. 19.
Period of record: Maximum elevation, 475.77 ft (145.015 m) Nov. 30, 1944; minimum, 457.84 ft (139.550 m) Feb. 26, 1973.

REMARKS.--Flow regulated by Lake Mead since Feb. 1, 1935, and by Lake Mohave since Jan. 17, 1950.

REVISIONS (WATER YEARS).--WSP 1119: 1931-47.

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64.21	61.44	61.58	62.34	62.38	64.93	68.08	67.63	65.24	65.86	65.23	70.65
2	63.76	61.16	61.53	62.13	62.34	65.63	67.28	65.79	64.90	65.27	64.86	65.53
3	63.98	62.37	61.44	61.83	64.69	66.51	67.06	66.14	64.28	66.44	65.14	65.28
4	64.20	63.35	61.93	61.64	64.26	66.45	65.96	66.40	65.22	65.04	65.98	64.99
5	63.57	62.82	62.31	60.56	63.75	66.66	65.41	67.11	65.11	66.84	66.47	64.62
6	63.42	62.09	62.63	61.06	63.69	65.96	67.08	67.14	64.61	66.05	66.43	64.17
7	63.89	61.95	61.88	61.46	62.45	65.05	66.80	66.12	65.08	66.84	66.82	63.11
8	63.40	62.02	61.14	61.01	60.80	64.14	67.36	60.83	65.12	66.14	65.66	62.94
9	63.38	62.12	61.63	60.82	59.72	65.14	67.26	60.46	65.19	65.69	66.65	63.31
10	62.70	61.85	62.16	60.48	60.25	65.26	67.06	65.08	65.28	66.28	66.89	63.07
11	61.70	62.00	62.48	60.63	59.83	64.93	65.70	67.09	65.40	65.40	66.71	60.38
12	61.59	62.27	61.70	60.30	59.43	65.17	64.78	66.57	65.65	66.20	66.37	59.26
13	62.14	60.80	61.98	60.81	59.03	65.10	66.35	65.16	65.40	66.07	66.74	59.89
14	62.69	61.70	62.07	60.36	59.01	64.86	64.96	64.08	64.81	65.49	66.81	60.85
15	62.53	61.77	61.65	60.45	59.01	65.00	61.52	65.02	65.20	65.41	65.76	60.71
16	62.52	61.68	62.81	61.56	59.01	66.68	60.20	64.19	65.80	65.13	65.66	61.99
17	62.63	60.87	62.51	61.97	59.01	66.42	59.86	64.85	66.24	65.90	66.13	62.69
18	63.02	62.33	62.81	62.05	59.00	66.06	60.69	66.97	66.24	65.26	66.17	63.34
19	62.68	62.94	63.51	61.67	58.93	67.11	62.70	65.73	65.77	65.57	66.48	63.26
20	62.86	62.74	62.48	63.78	58.91	67.42	66.36	65.44	64.83	66.16	66.52	63.01
21	63.40	62.39	61.86	62.97	62.55	66.10	67.79	64.98	65.25	65.57	66.57	64.07
22	63.31	62.55	61.04	61.77	62.27	63.24	67.86	65.70	65.65	66.36	65.70	64.23
23	63.02	61.86	60.76	62.20	62.38	67.48	67.84	63.60	66.04	66.20	65.68	64.03
24	63.69	60.74	61.36	62.58	64.29	67.86	67.90	62.25	65.96	65.73	66.26	60.26
25	64.12	60.94	61.55	62.15	66.72	64.86	66.29	66.39	65.64	65.16	66.26	61.15
26	64.12	60.67	61.50	61.55	67.20	66.84	67.22	66.16	65.76	65.05	66.25	59.51
27	62.47	61.08	62.64	63.09	65.72	68.44	68.02	65.12	65.38	64.97	66.39	61.24
28	61.93	61.14	62.41	63.58	66.20	66.21	68.05	63.61	65.34	64.33	66.75	60.90
29	61.76	61.34	60.95	63.86	65.50	67.50	68.17	65.48	65.72	65.16	65.46	61.08
30	62.04	60.93	61.76	63.19	---	68.29	67.75	64.66	66.52	66.29	65.97	61.11
31	62.41	---	61.49	63.22	---	68.21	---	65.14	---	65.94	66.26	---
MEAN	63.00	61.80	61.92	61.84	62.01	66.11	65.98	65.19	65.42	65.74	66.16	62.69
MAX	64.21	63.35	63.51	63.86	67.20	68.44	68.17	67.63	66.52	66.84	66.89	70.65
MIN	61.59	60.67	60.76	60.30	58.91	63.24	59.86	60.46	64.28	64.33	64.86	59.26

WTR YR 1976 MEAN 64.00 MAX 70.65 MIN 58.91

NOTE.--Add 400.00 ft to obtain elevation above mean sea level.

DIVERSIONS AND RETURN FLOWS BETWEEN DAVIS DAM AND PARKER DAM

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09423550. TOPOCK MARSH INLET NEAR NEEDLES, CALIF.

LOCATION.--Lat 34°50'10", long 114°35'03", in NE¼ sec.33, T.9 N., R.23 E., San Bernardino meridian, in Arizona, Mohave County, on left bank of Colorado River on north side of intake structure, 1.3 mi (2.1 km) east of Needles.

PERIOD OF RECORD.--January 1967 to current year.

GAGE.--Water-stage recorders above and below intake gates to record head; recorder to show gate opening. Datum of gages is 400.00 ft (121.920 m) above mean sea level.

AVERAGE DISCHARGE.--9 years, 65.7 ft³/s (1.861 m³/s), 47,600 acre-ft/yr (58.7 hm³/yr).

EXTREMES.--Period of record: Maximum daily discharge, 249 ft³/s (7.05 m³/s) Mar. 5, 1976; no flow at times.

REMARKS.--Records fair except those below 50 ft³/s (1.42 m³/s), which are poor. Topock Marsh inlet diverts water from the Colorado River into Topock Marsh, an area of about 4,000 acres (16.2 km²). This water flows through the marsh and returns to the Colorado River through the Topock Marsh outlet. (See following page.) The Bureau of Sport Fisheries and Wildlife maintains two gates to the same opening as the recording gate.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	36	32			111	0	58	68	184	113	94
2	0	14	31			228	0	50	84	106	117	88
3	0	56	29			247	0	52	74	0	149	86
4	0	98	41			246	0	53	110	0	163	83
5	0	78	60			249	0	68	144	0	166	78
6	0	50	73			230	0	38	131	0	165	73
7	40	46	45			204	0	52	144	0	171	58
8	90	46	21			176	0	34	152	0	151	57
9	93	50	35			208	0	30	174	0	169	63
10	68	41	50			211	0	45	176	0	171	62
11	39	48	66			198	0	55	180	0	169	30
12	39	58	23			205	0	49	185	0	164	21
13	54	12	46			206	0	44	177	0	170	17
14	76	35	53			198	0	40	161	0	169	44
15	71	35	30			201	0	46	172	0	152	38
16	72	41	92			247	0	39	192	0	105	40
17	74	19	79			237	0	37	202	0	48	56
18	83	62	94			228	0	40	201	0	13	60
19	68	82	120			163	0	40	192	0	0	60
20	80	75	78			77	0	40	163	0	0	52
21	93	64	53			71	0	40	180	0	0	67
22	98	69	12			46	0	40	188	0	0	68
23	90	47	12			74	30	40	196	0	55	75
24	116	11	23			78	60	61	196	0	114	25
25	126	12	26			67	53	88	189	0	114	35
26	125	10	29			75	58	88	192	54	114	25
27	68	13	92			81	60	88	184	110	115	25
28	47	24	69			68	60	66	185	105	119	55
29	38	28	14			76	61	85	188	115	103	25
30	49	16	38		---	80	60	66	207	127	102	40
31	67	---	0		---	33	---	83	---	122	93	---
TOTAL	1864	1276	1466	0	0	4819	442	1655	4987	923	3454	1600
MEAN	60.1	42.5	47.3	0	0	155	14.7	53.4	166	29.8	111	53.3
MAX	126	98	120	0	0	249	61	88	207	184	171	94
MIN	0	10	0	0	0	33	0	30	68	0	0	17
AC-FT	3700	2530	2910	0	0	9560	877	3280	9890	1830	6850	3170
CAL YR 1975	TOTAL	20535.9	MEAN 56.3	MAX 205	MIN 0	AC-FT 40730						
WTR YR 1976	TOTAL	22486.	MEAN 61.4	MAX 249	MIN 0	AC-FT 44600						

DIVERSIONS AND RETURN FLOWS BETWEEN DAVIS DAM AND PARKER DAM

09423650. TOPOCK MARSH OUTLET NEAR TOPOCK, ARIZ.

LOCATION.--Lat $34^{\circ}44'13''$, long $114^{\circ}29'22''$, in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.27, T.16 N., R.21 W., Gila and Salt River meridian, Mohave County, at outlet structure in left bank levee of Colorado River, 1.3 mi (2.1 km) north of Topock.

PERIOD OF RECORD.--January 1967 to current year.

GAGE.--Water-stage recorders on marsh and on river to record head over weir; log of elevations of stoplogs on crest of weir; log of operation of flapgates just downstream from weir. Datum of gages is 400.00 ft (121.920 m) above mean sea level.

AVERAGE DISCHARGE.--9 years, $12.0 \text{ ft}^3/\text{s}$ ($0.340 \text{ m}^3/\text{s}$), 8,690 acre-ft/yr ($10.7 \text{ hm}^3/\text{yr}$).

EXTREMES.--Period of record: Maximum daily discharge, $828 \text{ ft}^3/\text{s}$ ($23.4 \text{ m}^3/\text{s}$) July 8, 1968; no flow for most of time; maximum daily reverse flow, $238 \text{ ft}^3/\text{s}$ ($6.74 \text{ m}^3/\text{s}$) Aug. 15, 1967.

REMARKS.--No flow since Sept. 30, 1975. Figures of discharge for calendar year 1975 are as follows: total, 2,978 cfs-days; mean, $8.16 \text{ ft}^3/\text{s}$; maximum, $803 \text{ ft}^3/\text{s}$; minimum, 0; runoff, 5,910 acre-ft. Station measures return flow from Topock Marsh to Colorado River. Reverse flow (from Colorado River into Topock Marsh) can occur at times when flapgates are tied open. No reverse flow this year.

COOPERATION.--Log of stoplog elevations and flapgate operation furnished by Bureau of Sport Fisheries and Wildlife.

09424000. COLORADO RIVER NEAR TOPOCK, ARIZ.

LOCATION.--Lat 34°41'15", long 114°27'43", in SW¼ sec.13, T.15 N., R.21 W., Gila and Salt River meridian, Mohave County, on left bank in Mohave Canyon, 2.4 mi (3.9 km) southeast of Topock, 39 mi (63 km) upstream from Parker Dam, and 45 mi (72 km) downstream from Davis Dam.

DRAINAGE AREA (REVISED)--176,300 mi² (456,600 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming, which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--January 1917 to current year. Daily mean elevations published since October 1938.

GAGE.--Water-stage recorder. Datum of gage is 423.02 ft (128.936 m) above mean sea level; gage readings have been reduced to elevations above mean sea level. Prior to Dec. 3, 1922, at site about 1 mi (2 km) upstream at different datum.

AVERAGE DISCHARGE.--17 years (1917-34), 20,260 ft³/s (573.8 m³/s), 14,670,000 acre-ft/yr (18,100 hm³/yr); 42 years (1934-76), 12,860 ft³/s (364.2 m³/s), 9,317,000 acre-ft/yr (11,500 hm³/yr), unadjusted.

EXTREMES.--Current year: Maximum discharge, 19,900 ft³/s (564 m³/s) Mar. 31, Apr. 30 (elevation, 455.80 ft or 138.928 m, Mar. 31); minimum daily, 1,950 ft³/s (55.2 m³/s) Feb. 20; minimum elevation, 448.06 ft (136.569 m), Feb. 20.

1917-34: Maximum discharge probably exceeded 200,000 ft³/s (5,660 m³/s) June 22, 1921; minimum, 1,480 ft³/s (41.9 m³/s) Aug. 17, 1934.

1934-76: Maximum discharge, 35,700 ft³/s (1,010 m³/s) Jan. 29, 1942; maximum elevation, 457.37 ft (139.406 m) July 9, 1959; minimum discharge, 375 ft³/s (10.6 m³/s) Feb. 14, 1935; minimum daily, 422 ft³/s (12.0 m³/s) Feb. 14, 1935.

Discharge of about 300,000 ft³/s (8,500 m³/s), based on determination at Lees Ferry gaging station, occurred about July 10, 1884. Discharge estimated to be in excess of 400,000 ft³/s (11,300 m³/s) probably occurred within the period 1857-68 and most likely in 1862.

REMARKS.--Records good above 10,000 ft³/s (280 m³/s), and fair below. Many diversions above station for irrigation, municipal, and industrial uses. Flow regulated by Lake Mead since Feb. 1, 1935, and by Lake Mohave since Jan. 17, 1950.

REVISIONS (WATER YEARS)--WSP 918: 1921. WSP 1313: 1918-19(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10800	6530	5460	6680	8260	11200	18500	17500	13500	14700	13600	14100
2	10500	5270	5840	6800	5580	12600	17300	15900	12500	12800	12300	13500
3	10100	6380	5780	6580	10000	13800	16400	14000	11900	13800	14000	12400
4	10700	8450	5940	6070	11600	14900	15700	14600	12900	13800	14400	12500
5	10600	8080	6950	4990	9340	14800	12100	16100	12900	13500	14800	11600
6	8650	7450	6950	4680	10500	14000	15600	16800	12700	14500	14800	10800
7	11000	6740	7030	5450	8240	13400	15800	15700	12200	14900	15200	9740
8	9530	6600	4750	5180	5850	9910	16300	9250	12800	14800	14400	8930
9	9350	6750	6190	4760	3750	11500	15900	3860	12900	14000	14100	9300
10	8830	6630	6320	4290	4180	12400	16800	9680	12900	14000	15500	9860
11	7120	6650	6960	4340	3700	11800	15400	15500	13100	14000	15300	5680
12	6410	6880	6350	3870	3430	11900	11900	16100	13300	13500	14900	2900
13	6670	5280	6590	4410	2790	12300	13800	13800	13600	14400	14900	3000
14	7400	5860	6860	3940	2670	12600	14900	10900	11600	13300	15400	4450
15	7510	5800	5570	3820	2510	10600	8820	12700	12200	12800	14500	4360
16	7390	6690	7470	5050	2460	14100	6550	11800	13100	12600	12500	6050
17	7420	4500	7360	6190	2440	14600	3900	11700	14000	13100	14100	6740
18	8230	6540	7480	7180	2410	14000	4830	15200	14200	13300	14100	8070
19	8130	7670	8520	4890	2320	14400	5000	15800	13800	12200	14600	8650
20	7390	7820	7780	8570	1950	16600	12400	13100	12900	13900	14800	7780
21	8720	7030	6920	8770	5400	16500	16700	12800	12400	13700	14900	9430
22	9000	7230	5110	6560	7380	11100	17100	13400	13200	13600	14500	9690
23	8160	6880	4560	6760	5940	11600	17800	13700	13700	14200	12300	10200
24	8770	4730	5330	6940	9260	16900	17900	5500	14200	13700	14000	6050
25	10000	4710	5860	7670	12700	16600	16600	14200	13400	12900	14200	5550
26	10300	4500	5530	5120	15100	13400	14200	15600	13800	11300	14200	2800
27	8530	5160	7060	7770	14100	18200	17500	13500	13700	12700	14400	4780
28	6970	5650	7690	8780	13400	16900	18200	10700	12900	11300	14900	4760
29	6450	5490	5030	9450	13400	14500	18400	12600	13700	11800	14300	5020
30	6390	4980	5840	8890	---	18000	18200	12700	14600	14200	12500	5170
31	7230	---	5670	8480	---	18600	---	12200	---	14100	14200	---
TOTAL	264250	188930	196750	192930	200660	433710	430500	406890	394600	417400	442600	233860
MEAN	8524	6298	6347	6224	6919	13990	14350	13130	13150	13460	14280	7795
MAX	11000	8450	8520	9450	15100	18600	18500	17500	14600	14900	15500	14100
MIN	6390	4500	4560	3820	1950	9910	3900	3860	11600	11300	12300	2800
AC-FT	524100	374700	390300	382700	398000	860300	853900	807100	782700	827900	877900	463900
CAL YR 1975	TOTAL	3957650	MEAN	10840	MAX	19500	MIN	3090	AC-FT	7850000		
WTR YR 1976	TOTAL	3803080	MEAN	10390	MAX	18600	MIN	1950	AC-FT	7543000		

COLORADO RIVER MAIN STEM

09424000. COLORADO RIVER NEAR TOPOCK, ARIZ.--CONTINUED

MEAN ELEVATION, IN FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52.70	50.92	50.38	51.00	51.70	52.86	55.34	54.98	54.03	54.33	53.54	53.72
2	52.60	50.28	50.58	51.05	50.43	53.35	54.95	54.46	53.67	53.69	53.08	53.50
3	52.47	50.85	50.54	50.95	52.43	53.75	54.64	53.84	53.47	54.02	53.68	53.11
4	52.69	51.80	50.63	50.70	53.00	54.13	54.38	54.05	53.82	54.00	53.82	53.16
5	52.62	51.64	51.13	50.13	52.16	54.12	53.13	54.52	53.82	53.89	53.97	52.83
6	51.89	51.36	51.13	49.96	52.59	53.82	54.35	54.74	53.76	54.21	53.97	52.52
7	52.78	51.02	51.16	50.38	51.70	53.59	54.42	54.48	53.59	54.38	54.12	52.12
8	52.23	50.96	50.00	50.24	50.58	52.34	54.60	52.49	53.83	54.31	53.81	51.81
9	52.17	51.03	50.75	50.01	49.44	52.94	54.46	50.76	53.86	54.00	53.72	51.96
10	51.94	50.57	50.82	49.76	49.70	53.26	54.75	52.44	53.88	54.00	54.23	52.19
11	51.21	50.98	51.13	49.78	49.42	53.05	54.24	54.33	53.94	53.98	54.16	50.85
12	50.86	51.08	50.84	49.52	49.25	53.06	53.00	54.53	54.02	53.80	54.01	49.73
13	50.99	50.29	50.96	49.82	48.83	53.20	53.71	53.87	54.13	54.11	54.02	49.61
14	51.34	50.58	51.07	49.56	48.74	53.32	54.08	52.99	53.43	53.69	54.19	50.10
15	51.40	50.56	50.44	49.49	48.63	52.61	51.85	53.55	53.66	53.49	53.86	50.05
16	51.34	51.00	51.37	50.17	48.59	53.85	50.88	53.19	53.98	53.41	53.14	50.82
17	51.35	49.87	51.32	50.76	48.57	54.05	50.04	53.10	54.30	53.59	53.74	51.12
18	51.70	50.92	51.37	51.22	48.55	53.84	50.30	54.22	54.36	53.65	53.72	51.68
19	51.65	51.45	51.83	50.08	48.48	53.98	50.36	54.42	54.19	53.22	53.89	51.91
20	51.33	51.52	51.51	51.85	48.19	54.72	53.35	53.65	53.87	53.81	53.96	51.55
21	51.90	51.16	51.11	51.92	50.28	54.68	54.70	53.57	53.71	53.71	54.00	52.23
22	52.02	51.26	50.20	50.94	51.33	52.76	54.82	53.69	53.95	53.67	53.86	52.34
23	51.67	51.09	49.90	51.04	50.63	52.92	55.05	53.79	54.14	53.86	53.09	52.54
24	51.94	50.00	50.31	51.13	52.13	54.82	55.10	51.09	54.26	53.70	53.69	50.69
25	52.43	49.98	50.59	51.45	53.39	54.70	54.65	53.92	53.98	53.38	53.76	50.57
26	52.55	49.87	50.42	50.20	54.26	53.62	53.85	54.38	54.11	52.77	53.77	49.48
27	51.82	50.22	51.18	51.50	53.89	55.25	54.96	53.84	54.06	53.28	53.85	50.27
28	51.14	50.48	51.45	51.94	53.67	54.81	55.18	52.98	53.75	52.74	54.00	50.26
29	50.88	50.40	50.16	52.21	53.67	54.00	55.26	53.69	54.03	52.91	53.77	50.35
30	50.86	50.13	50.58	51.98	---	55.19	55.20	53.75	54.33	53.77	53.16	50.42
31	51.26	---	50.49	51.81	---	55.37	---	53.57	---	53.74	53.77	---
MEAN	51.80	50.79	50.82	50.73	50.84	53.81	53.85	53.64	53.93	53.71	53.79	51.45
MAX	52.78	51.80	51.83	52.21	54.26	55.37	55.34	54.98	54.36	54.38	54.23	53.72
MIN	50.86	49.87	49.90	49.49	48.19	52.34	50.04	50.76	53.43	52.74	53.08	49.48
CAL YR 1975	MEAN 52.75		MAX 55.74	MIN 49.08								
WTR YR 1976	MEAN 52.44		MAX 55.37	MIN 48.19								

NOTE.--Add 400.00 ft to obtain elevation above mean sea level.

COLORADO RIVER MAIN STEM

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09424000. COLORADO RIVER NEAR TOPOCK, ARIZ.

LOCATION.--Lat 34°41'15", long 114°27'43", in SW 1/4 sec.13, T.15 N., R.21 W., Mohave County, at gaging station on left bank in Mohave Canyon, 2.7 mi (4.3 km) downstream from Topock, 39.5 mi (63.6 km) upstream from Parker Dam, and 49 mi (79 km) downstream from Davis Dam.

DRAINAGE AREA (REVISED).--176,300 mi² (456,400 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--Chemical analyses: August 1969 to current year.

Water temperatures: July 1952 to July 1962.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA,MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)
OCT 01...	1200	11760	1080	7.8	19.0	330	200	83	29	100	2.4	5.0
NOV 03...	1450	7180	1100	8.1	17.0	310	190	79	28	100	2.5	5.1
DEC 01...	1615	5990	1110	8.2	12.0	320	200	82	29	110	2.7	5.2
JAN 02...	1050	6840	1100	8.3	11.0	330	200	86	28	100	2.4	5.3
FEB 02...	1530	5170	1120	8.4	11.0	330	200	83	30	100	2.4	5.0
MAR 01...	1500	10110	1110	8.3	12.5	330	200	85	29	98	2.3	4.6
APR 01...	1315	18820	1100	8.2	14.5	330	200	85	29	100	2.4	4.8
MAY 03...	1630	13980	1090	8.3	16.0	330	200	84	30	100	2.4	5.0
JUN 01...	1000	16150	1080	8.1	19.0	330	200	82	31	100	2.4	4.9
JUL 01...	1115	16200	1080	8.0	19.0	320	190	80	30	100	2.4	4.9
AUG 02...	1410	11600	1070	7.9	18.0	350	230	90	31	98	2.3	4.9
SEP 01...	1445	13920	1070	8.0	20.0	320	200	82	29	100	2.4	5.1

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 SILICA (SI02) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED IRON (FE) (UG/L)
OCT 01...	156	0	290	87	.3	7.7	694	680	.94	.19	140	0
NOV 03...	151	0	280	84	.3	7.8	722	659	.98	.12	140	20
DEC 01...	153	0	300	85	.3	8.1	696	696	.95	.15	150	30
JAN 02...	157	0	280	88	.3	7.6	715	674	.97	.17	140	0
FEB 02...	163	0	300	91	.3	7.4	706	698	.96	.27	130	20
MAR 01...	164	0	300	88	.4	8.2	702	695	.95	.25	130	10
APR 01...	166	0	280	86	.4	7.7	670	676	.91	.36	130	20
MAY 03...	166	0	300	85	.4	5.2	678	693	.92	.20	200	10
JUN 01...	156	0	320	87	.4	7.3	680	711	.92	.28	130	20
JUL 01...	162	0	280	87	.4	8.3	676	672	.92	.29	120	10
AUG 02...	153	0	320	88	.3	8.7	668	717	.91	.20	130	110
SEP 01...	156	0	300	88	.4	8.0	680	680	.92	.23	130	10

DIVERSIONS FROM LAKE HAVASU

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, in California, San Bernardino County, at intake pumping plant of Metropolitan Water District of Southern California on Lake Havasu, 1.8 mi (2.9 km) upstream from Parker Dam and 149 mi (240 km) downstream from Hoover Dam.

PERIOD OF RECORD.--January 1939 to current year (monthly diversions only since October 1942). Published as a supplement to records for Colorado River below Parker Dam, 1942-50. Percolation return flow (monthly flow only) October 1964 to September 1973 (discontinued); prior to October 1964 miscellaneous measurements only.

GAGE.--Venturi meters in pressure lines at intake pumping plant.

AVERAGE DISCHARGE.--37 years, 865 ft³/s (24.50 m³/s), 626,700 acre-ft/yr (773 hm³/yr).

EXTREMES.--Period of record: Maximum daily diversion, 3,986 acre-ft (4.91 hm³), 2,010 ft³/s (56.9 m³/s) Oct. 25, 1970; no diversion at times.

REMARKS.--Pumping began Jan. 7, 1939. Figures of monthly diversion shown represent water pumped from Lake Havasu less return surface flow from Gene and Copper Basin Reservoirs. No water returned as surface flow from these reservoirs this year. Percolation return flow from Gene and Copper Basin Reservoirs is estimated as 14 acre-ft/day (17,300 m³/day) or 5,110 acre-ft (6.30 hm³) for the year for accounting purposes.

COOPERATION.--Diversion records furnished by Metropolitan Water District of Southern California.

MONTHLY DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

Month	Diversions			
	Maximum	Minimum	Mean	Total
October	2,339	1,350	2,207	68,411
November	1,538	1,254	1,379	41,371
December	1,583	1,338	1,377	42,673
CAL YR 1975	3,348	0	2,155	786,757
January	2,433	558	1,574	48,788
February	3,045	0	1,830	53,077
March	2,341	2,116	2,204	68,320
April	2,704	2,103	2,309	69,264
May	2,758	2,148	2,511	77,836
June	2,726	2,565	2,662	79,845
July	3,212	2,825	3,061	94,878
August	3,294	2,949	3,061	94,895
September	2,693	2,143	2,422	72,675
WTR YR 1976	3,294	0	2,219	812,033

09424200. COTTONWOOD WASH NO. 1 NEAR KINGMAN, ARIZ.

LOCATION.--Lat 35°10'52", long 113°28'08", in NW¼ sec.29, T.21 N., R.11 W., Mohave County, on right bank, 13 mi (21 km) upstream from mouth, and 34 mi (55 km) east of Kingman.

DRAINAGE AREA.--143 mi² (370 km²).

PERIOD OF RECORD.--January 1959 to August 1963 (fragmentary low flow only published in WSP 1858), February 1964 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,545 ft (1,385.3 m), from special USGS project map. Prior to June 20, 1969, at site 10 ft (3 m) downstream at datum 2.72 ft (0.829 m) lower.

AVERAGE DISCHARGE.--12 years, 4.42 ft³/s (0.125 m³/s), 3,200 acre-ft/yr (3.95 km³/yr).

EXTREMES.--Current year: Maximum discharge, 5,250 ft³/s (149 m³/s) July 24 (gage height, 5.26 ft or 1.603 m), from rating curve extended above 2 ft³/s (0.06 m³/s) on basis of slope-area measurements at gage heights 2.79, 4.38, and 5.64 ft (0.850, 1.335, and 1.719 m); minimum daily, 0.10 ft³/s (0.003 m³/s) on many days.

Period of record: Maximum discharge, 7,000 ft³/s (198 m³/s) July 31, 1964 (gage height, 7.36 ft or 2.243 m, at former site and datum of supplementary gage), from rating curve extended above 400 ft³/s (11.3 m³/s) on basis of slope-area measurements at gage heights 3.82 and 7.36 ft (1.164 and 2.243 m); minimum daily, 0.10 ft³/s (0.003 m³/s) many days in 1972, 1974-76.

REMARKS.--Records poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	GCI	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	1.3	2.1	.60	.70	1.0	.80	.50	.20	.20	.20	.20
2	.20	1.3	1.1	.60	.50	1.0	.80	.50	.10	.20	.20	.20
3	.20	.70	.80	.60	.50	1.2	.80	.40	.20	.20	.20	.20
4	.20	.80	.70	.60	.70	1.3	.80	.40	.20	.20	.20	.30
5	.20	.70	.60	.60	1.6	1.2	.80	.30	.20	.20	.20	21
6	.20	.40	.60	.80	124	1.2	.70	.40	.20	.10	.20	.20
7	.20	.70	.50	.80	1.6	1.0	.70	.50	.20	.20	.20	.20
8	.20	1.0	.40	.60	5.5	1.0	.70	.60	.20	.30	.20	.20
9	.20	1.2	.40	.60	1900	1.0	.70	.60	.10	9.3	.20	.20
10	.10	.70	.40	.60	270	.90	.70	.60	.20	.50	.20	.30
11	.10	.80	.40	.80	30	.90	.70	.60	.30	.20	.20	.20
12	.10	.80	.40	.80	10	.90	.70	1.2	.80	.20	.20	.20
13	.20	.50	.60	.50	5.0	.90	.90	1.5	.20	.20	.20	.30
14	.10	.20	.60	.50	1.0	.90	1.0	1.5	1.6	.20	.20	.20
15	.20	.20	.60	.50	1.0	.90	.80	1.5	1.6	.20	.20	.20
16	.10	.20	.60	.50	1.0	.90	14	1.3	1.6	.20	.20	.20
17	.10	.20	.60	.70	1.0	.90	65	1.5	1.6	.20	.20	.20
18	.10	.20	.60	.70	1.0	.80	7.3	1.6	1.6	.20	.20	.20
19	.10	.20	.80	.50	1.0	.80	1.0	1.0	1.6	.20	.20	.20
20	.20	.20	.90	.50	1.0	.80	1.0	.20	1.6	.20	.30	.20
21	.10	.20	1.0	.60	1.0	.80	1.0	.20	1.6	.20	.30	.20
22	.10	.20	.90	.60	1.0	.80	1.0	.20	1.6	.20	.20	.20
23	.10	.80	.60	.60	1.0	.80	.90	.20	1.6	.50	.30	3.2
24	.10	.80	.60	.50	1.0	.80	.90	.20	.80	460	.20	17
25	.30	.80	.60	.50	1.0	.80	.80	.20	.30	50	.20	700
26	.90	.50	.60	.50	1.0	.80	.80	.20	.20	120	.20	50
27	.40	.80	.60	.50	1.0	.80	.70	.20	.20	15	.20	5.0
28	.80	2.1	.60	.50	1.0	.80	.70	.20	.20	.50	.20	20
29	.80	2.3	.60	.70	1.0	.80	.60	.20	.20	.20	.20	1.0
30	.70	2.3	.80	.70	---	.80	.60	.20	.20	.20	.20	1.0
31	.90	---	.60	.70	---	.80	---	.20	---	.20	.20	---
TOTAL	8.40	23.70	21.20	18.80	2366.10	28.30	107.90	18.90	23.00	660.40	6.50	852.40
MEAN	.27	.76	.68	.61	81.6	.91	3.60	.61	.77	21.3	.21	28.4
MAX	.90	2.7	2.1	.80	1900	1.3	65	1.6	2.0	460	.30	700
MIN	.10	.20	.40	.50	.50	.80	.60	.20	.10	.10	.20	.20
AC-FIT	17	47	42	37	4690	56	214	37	46	1310	13	1690
CAL YR 1975	TOTAL	303.80	MEAN	.83	MAX	.70	MIN	.10	AC-FIT	603		
WTR YR 1976	TOTAL	4135.60	MEAN	11.3	MAX	1900	MIN	.10	AC-FIT	8200		

PEAK DISCHARGE (BASE, 700 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-6	0100	3.18	846	7-26	1700	3.22	896
2-9	1930	4.80	3,920	9-25	0130	5.02	4,530
7-24	1700	5.26	5,250				

09424450. BIG SANDY RIVER NEAR WIKIEUP, ARIZ.

LOCATION.--Lat 34°27'45", long 113°37'25", in SE¼ sec.16, T.13 N., R.13 W., Mohave County, on left bank 7 mi (11 km) downstream from Burro Creek, 15 mi (24 km) upstream from confluence with Santa Maria River, and 17 mi (27 km) south of Wikieup.

DRAINAGE AREA.--2,800 mi² (7,250 km²), approximately.

PERIOD OF RECORD.--March 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,400 ft (427 m), from topographic map. Prior to Oct. 1, 1970, at datum 3.06 ft (0.933 m), higher. Oct. 1, 1970, to Oct. 10, 1973, at datum 2.06 ft (0.628 m) higher. Supplementary water-stage recorder for low flows at site 75 ft (23 m) upstream at same datum since Apr. 10, 1975; Mar. 28 to Dec. 7, 1966, Apr. 2, 1969 to Apr. 9, 1975, at site 0.8 mi (1.3 km) downstream at different datum.

AVERAGE DISCHARGE.--10 years, 50.0 ft³/s (1.42 m³/s), 36,220 acre-ft/yr (44.7 hm³/yr); median of yearly mean discharges, 35 ft³/s (0.99 m³/s), 25,400 acre-ft/yr (31 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 23,700 ft³/s (671 m³/s) Feb. 9 (gage height, 12.66 ft or 3.859 m); minimum daily, 2.6 ft³/s (0.074 m³/s) Oct. 13-16, 19-29, Dec. 14-16.

Period of record: Maximum discharge, 28,000 ft³/s (793 m³/s) Dec. 7, 1966 (gage height, 10.82 ft or 3.298 m), from rating curve extended above 12,000 ft³/s (340 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 1.3 ft³/s (0.037 m³/s) July 13, 1974.

REMARKS.--Records fair. Diversions above station for irrigation of about 3,800 acres (15 km²), mostly by pumping from ground water.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	2.7	3.0	2.7	7.8	8.9	7.3	11	6.2	5.1	4.0	3.3
2	2.9	2.8	2.9	2.7	8.4	8.4	7.0	11	6.2	5.1	3.8	3.2
3	2.9	2.9	2.9	2.8	9.7	8.0	7.2	9.8	5.7	4.9	3.9	3.3
4	2.9	2.9	2.9	2.9	10	7.9	7.5	9.4	5.8	5.0	3.8	3.4
5	2.9	3.1	2.9	2.9	12	8.5	7.5	8.9	5.9	4.9	3.9	3.9
6	2.9	3.1	2.9	2.9	6360	8.6	7.5	8.9	5.9	5.0	4.1	3.3
7	3.0	3.2	3.0	3.0	3320	8.0	7.5	8.8	5.7	4.9	4.1	3.3
8	2.9	3.2	3.0	3.0	1670	7.9	8.0	8.0	5.4	4.9	4.2	3.3
9	2.9	3.2	3.0	3.5	15400	8.9	7.5	8.1	5.7	5.0	4.0	3.2
10	2.8	3.4	2.9	3.7	8520	7.6	6.4	9.0	5.7	5.0	3.9	3.5
11	2.7	3.2	2.8	3.7	1560	7.5	6.2	11	5.5	5.0	3.8	3.4
12	2.7	3.2	2.8	4.1	464	7.8	7.0	9.1	5.5	4.9	4.0	3.8
13	2.6	3.1	2.7	4.5	190	8.1	7.5	7.7	5.5	5.1	4.0	3.7
14	2.6	3.1	2.6	4.5	109	7.8	8.4	7.7	5.6	5.2	4.2	3.7
15	2.6	3.1	2.6	4.5	78	8.1	59	7.8	5.5	5.2	4.4	3.6
16	2.6	3.1	2.6	4.9	49	8.0	860	7.8	5.5	5.2	4.2	3.5
17	2.7	3.0	2.7	4.9	34	8.7	1260	7.6	5.3	5.4	4.1	3.4
18	2.8	3.0	2.7	3.7	26	7.7	677	7.2	5.3	4.8	4.0	3.4
19	2.6	3.1	2.8	3.5	23	6.8	385	7.3	5.4	4.7	3.8	3.3
20	2.6	3.1	2.8	3.7	17	6.9	429	7.2	5.3	5.2	3.9	3.1
21	2.6	3.1	2.8	4.1	15	7.5	224	7.3	5.0	5.2	3.7	3.0
22	2.6	3.1	2.9	4.5	14	7.3	67	7.0	5.0	5.1	3.6	2.8
23	2.6	3.0	3.0	4.9	12	7.3	36	6.7	5.2	5.2	3.5	10
24	2.6	2.9	3.0	4.9	12	6.9	26	6.5	5.1	5.3	3.4	8.6
25	2.6	3.0	2.9	4.5	11	6.9	20	6.9	5.1	20	3.4	722
26	2.6	3.0	2.8	4.9	11	7.3	15	6.6	5.3	5.2	3.3	14
27	2.6	3.1	2.9	5.8	9.8	6.9	15	6.7	5.1	4.3	3.3	4.8
28	2.6	3.2	2.9	6.2	8.9	6.9	14	6.6	5.0	4.0	3.3	4.4
29	2.6	3.1	3.0	6.6	8.9	7.3	13	6.4	5.2	4.6	3.3	4.4
30	2.7	3.1	2.8	6.6	---	7.7	12	6.5	5.2	4.8	3.3	4.6
31	2.7	---	2.7	7.0	---	7.4	---	6.3	---	4.3	3.3	---
TOTAL	84.3	92.1	88.2	132.1	37970.5	239.5	4214.5	246.8	163.8	168.5	117.5	847.2
MEAN	2.72	3.07	2.85	4.26	1309	7.73	140	7.96	5.46	5.44	3.79	28.2
MAX	3.0	3.4	3.0	7.0	15400	8.9	1260	11	6.2	20	4.4	722
MIN	2.6	2.7	2.6	2.7	7.8	6.8	6.2	6.3	5.0	4.0	3.3	2.8
AC-FT	167	183	175	262	75310	475	8360	490	325	334	233	1680
CAL YR 1975	TOTAL 2065.9											
WTR YR 1976	TOTAL 44365.0											
MEAN	5.66											
MAX	234											
MIN	2.4											
AC-FT	4100											
WTR YR 1976	TOTAL 88000											

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-6	1730	8.74	11,600	4-17	0500	5.48	2,410
2-9	1530	12.66	23,700	9-25	0430	5.83	3,220

09424470. KIRKLAND CREEK NEAR KIRKLAND, ARIZ.

LOCATION.--Lat 34°23'38", long 112°43'19", in SW¼ sec.7, T.12 N., R.4 W., Yavapai County, on right bank 1.3 mi (2.1 km) upstream from Skull Valley Wash and 1.7 mi (2.7 km) southwest of Kirkland.

DRAINAGE AREA.--109 mi² (282 km²).

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

GAGE.--Water-stage recorder. Altitude of gage is 3,900 ft (1,190 m), from topographic map.

EXTREMES.--Current year: Maximum discharge, 2,710 ft³/s (76.7 m³/s) Feb. 9 (gage height, 6.97 ft or 2.124 m), from rating curve extended above 1,500 ft³/s (42.5 m³/s); minimum daily, 0.56 ft³/s (0.016 m³/s) June 23, 25, 26, 29.

Period of record: Maximum discharge, 2,710 ft³/s (76.7 m³/s) Feb. 9, 1976 (gage height, 6.97 ft or 2.124 m), from rating curve extended above 1,500 ft³/s (42.5 m³/s); minimum daily, 0.56 ft³/s (0.016 m³/s) June 23, 25, 26, 29, 1976.

REMARKS.--Records fair except those for period of no gage-height record, which are poor. No known diversions above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	1.7	2.5	2.7	3.1	2.2	2.6	2.5	2.0	.65	2.2	2.5
2	1.8	1.7	2.5	2.5	3.1	2.4	2.6	2.4	1.8	.60	1.4	2.5
3	1.8	1.7	2.4	2.6	3.1	2.5	2.6	2.2	1.7	.60	1.3	2.5
4	1.7	1.7	2.4	2.6	3.1	2.6	2.6	6.2	1.8	1.0	1.1	2.5
5	1.6	2.0	2.4	2.6	715	2.6	2.6	2.6	1.6	1.0	1.0	2.5
6	1.6	1.7	2.3	2.6	313	2.6	2.6	2.0	1.6	1.5	.86	60
7	1.7	1.7	2.3	2.6	79	2.6	2.6	2.0	1.6	1.5	.81	10
8	1.9	1.8	2.4	2.6	2.6	2.6	2.6	2.3	1.6	1.7	2.2	2.8
9	1.7	1.9	2.5	2.6	624	2.6	2.4	2.0	1.4	1.8	7.0	2.8
10	1.6	1.9	2.5	2.6	99	2.9	2.4	2.0	1.3	1.8	2.0	2.8
11	1.6	1.9	2.5	2.6	27	2.9	2.4	2.1	1.3	1.8	2.0	2.8
12	1.8	2.1	2.5	2.6	15	2.8	2.4	2.3	1.4	2.3	2.0	2.8
13	1.6	2.3	2.5	2.6	8.5	2.5	2.8	2.4	1.4	2.3	2.0	2.8
14	1.8	2.3	3.0	2.6	4.0	2.3	2.8	2.1	1.4	2.4	2.0	2.8
15	1.7	2.3	2.7	2.6	2.8	2.3	2.5	2.1	1.4	2.4	2.0	2.8
16	1.6	2.3	2.7	2.6	2.6	2.3	50	2.0	1.6	2.4	2.0	2.8
17	1.7	2.3	2.7	2.6	2.6	2.3	31	2.1	1.1	2.7	2.0	2.8
18	1.7	2.4	2.7	2.6	2.6	2.3	4.9	2.5	1.0	3.6	2.0	2.8
19	1.6	2.5	2.5	2.8	2.6	2.3	4.2	2.5	.65	3.4	2.0	2.8
20	1.7	2.5	2.5	2.8	2.4	2.3	4.0	2.5	.65	2.9	2.0	2.8
21	1.6	2.4	3.4	2.8	2.2	2.3	4.0	2.5	.65	2.8	2.0	2.8
22	1.6	2.3	3.0	2.8	2.0	2.3	4.0	2.5	.65	3.2	2.0	2.8
23	1.5	2.3	3.0	3.6	2.0	2.3	3.7	2.6	.56	3.6	2.0	3.7
24	1.7	2.3	3.0	3.4	2.0	2.3	3.7	2.2	.65	4.4	2.0	25
25	1.8	2.3	3.0	3.4	1.8	2.6	3.5	2.1	.56	4.0	2.0	220
26	1.7	2.5	3.0	3.1	2.0	2.6	3.3	2.5	.56	37	2.5	5.4
27	1.5	3.0	3.0	3.1	2.0	2.6	3.1	2.6	.65	3.9	2.5	3.2
28	1.5	5.0	3.0	3.1	2.0	2.6	3.0	2.6	.65	14	2.5	2.6
29	1.7	2.5	2.7	3.1	2.0	2.6	2.8	2.7	.56	4.9	2.5	2.0
30	1.7	2.5	2.7	3.1	---	2.6	2.7	2.3	.75	46	2.5	1.9
31	1.7	---	2.7	3.1	---	2.6	---	2.1	---	5.0	2.5	---
TOTAL	52.0	67.8	83.0	87.0	1933.1	77.3	166.4	75.5	34.54	167.15	64.87	388.3
MEAN	1.68	2.26	2.68	2.81	66.7	2.49	5.55	2.44	1.15	5.39	2.09	12.9
MAX	1.9	5.0	3.4	3.6	715	2.9	50	6.2	2.0	46	7.0	220
MIN	1.5	1.7	2.3	2.5	1.8	2.2	2.4	2.0	.56	.60	.81	1.9
AC-FT	103	134	165	173	3830	153	330	150	69	332	129	770

CAL YR 1975 TOTAL 813.90 MEAN 2.23 MAX 40 MIN 1.2 AC-FT 1610
WTR YR 1976 TOTAL 3196.96 MEAN 8.73 MAX 715 MIN .56 AC-FT 6340

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2- 5	1700	5.72	1,680	8-29	unknown	4.1	630
2- 9	1130	6.97	2,710	9- 6	unknown	3.4	300
7-30	1500	4.17	665	9-25	0230	4.32	752

NOTE.--No gage-height record Aug. 10 to Sept. 22.

BILL WILLIAMS RIVER BASIN

09424900. SANTA MARIA RIVER NEAR BAGDAD, ARIZ.

LOCATION.--Lat 34°18'21", long 113°20'47", in SE¼ sec.12, T.11 N., R.11 W., Mohave County, on right bank 4.0 mi (6.4 km) east of Palmerita Ranch, 12 mi (19 km) upstream from confluence with Big Sandy River, and 21 mi (34 km) southwest of Bagdad.

DRAINAGE AREA.--1,210 mi² (3,130 km²), approximately.

PERIOD OF RECORD.--April 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,360 ft (415 m), from topographic map.

AVERAGE DISCHARGE.--10 years, 41.2 ft³/s (1.167 m³/s), 29,850 acre-ft/yr (36.8 hm³/yr); median of yearly mean discharges, 21 ft³/s (0.59 m³/s), 15,200 acre-ft/yr (19 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 11,800 ft³/s (334 m³/s) Feb. 9 (gage height, 5.41 ft or 1.649 m, from high-water mark in gage well), from rating curve extended as explained below; no flow for many days.

Period of record: Maximum discharge, 13,500 ft³/s (382 m³/s) Dec. 7, 1966 (gage height, 5.50 ft or 1.676 m), from rating curve extended above 5,000 ft³/s (140 m³/s) on basis of step-backwater computations and slope-area measurement at gage height 5.50 ft (1.676 m); no flow for most of time.

REMARKS.--Records poor. Diversions above station for irrigation of about 5,300 acres (21.4 km²), most of which is by pumping from ground water.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0	0	0	.50				
2					0	0	0	.50				
3					0	0	0	0				
4					0	0	0	0				
5					686	0	0	0				
6					5380	0	0	0				
7					1380	0	0	0				
8					289	0	0	0				
9					8000	0	0	0				
10					3500	8.3	0	12				
11					800	56	0	22				
12					200	7.5	0	1.2				
13					203	0	0	0				
14					109	40	0	0				
15					118	56	0	0				
16					114	56	1050	0				
17					88	50	1830	0				
18					81	28	934	0				
19					56	6.0	647	0				
20					29	0	491	0				
21					24	0	355	0				
22					28	0	225	0				
23					36	0	148	0				
24					43	0	156	0				
25					24	0	139	0				
26					12	0	72	0				
27					2.4	0	56	0				
28					0	0	15	0				
29					0	0	2.5	0				
30					---	0	2.5	0				
31		---			---	0	---	0	---			---
TOTAL	0	0	0	0	21202.4	307.8	6123.0	36.20	0	0	0	0
MEAN	0	0	0	0	731	9.93	204	1.17	0	0	0	0
MAX	0	0	0	0	8000	56	1830	22	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	42050	611	12140	72	0	0	0	0
CAL YR 1975	TOTAL	259.00	MEAN	.71	MAX	192	MIN	0	AC-FT	514		
WTR YR 1976	TOTAL	27669.40	MEAN	75.6	MAX	8000	MIN	0	AC-FT	54880		

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-6	0215	4.56	8,460	4-17	0500	3.72	3,180
2-9	Unknown	*5.41	11,800				

* From high-water mark in gage well.

09426000. BILL WILLIAMS RIVER BELOW ALAMO DAM, ARIZ.

LOCATION.--Lat 34°13'51", long 113°36'29", in SE¼SE¼ sec.4, T.10 N., R.13 W., Yuma County, on left bank 0.6 mi (1.0 km) downstream from Alamo Dam, 3.7 mi (6.0 km) downstream from Bullard Wash, and 8 mi (13 km) downstream from confluence of Santa Maria and Big Sandy Rivers.

DRAINAGE AREA.--4,730 mi² (12,250 km²), approximately, of which 400 mi² (1,040 km²) is below confluence of Santa Maria and Big Sandy Rivers.

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for some periods, published in WSP 1313. Prior to October 1943, published as Williams River near Alamo. October 1943 to September 1967, published as Bill Williams River near Alamo.

GAGE.--Water-stage recorder. Altitude of gage is 967 ft (294.7 m), from construction data. Prior to Apr. 9, 1968, at site 1.7 mi (2.7 km) upstream at datum 1,002.95 ft (305.699 m) above mean sea level.

AVERAGE DISCHARGE (adjusted for storage in Alamo Lake).--37 years, 85.2 ft³/s (2.413 m³/s), 61,730 acre-ft/yr (76.1 hm³/yr); median of yearly mean discharges, 43 ft³/s (1.22 m³/s), 31,200 acre-ft/yr (38 hm³/yr).

EXTREMES.--Current year: Maximum daily discharge, 418 ft³/s (11.8 m³/s) Feb. 19, 20; no flow Oct. 1 to Dec. 3.

Period of record: Maximum discharge, 65,100 ft³/s (1,840 m³/s) Aug. 29, 1951 (gage height, 30.8 ft or 9.39 m, site and datum then in use); no flow at times in each year since 1969.

The history of floods that occurred prior to October 1939 is published in WSP 1683. The peak discharges have been correlated with those for Bill Williams River at Planet. The peak discharge for February 1937 has been determined as 105,000 ft³/s (2,970 m³/s) at a stage of 46 ft (14 m)—site and datum then in use—from rating curve extended above 50,000 ft³/s (1,400 m³/s) on basis of slope-area measurement for flood of Sept. 6, 1939, at a stage of 39.6 ft (12.07 m), discharge of 86,000 ft³/s (2,440 m³/s) and known stable high-water control.

REMARKS.--Records good above 100 cfs and fair below. Diversions above station for irrigation of about 9,100 acres (36.8 km²), mostly by pumping from ground water. Flow regulated by Alamo Lake, beginning Mar. 28, 1969. Temporary storage and slight regulation of releases through uncontrolled rectangular conduit through Alamo Dam June 23, 1968, to Mar. 27, 1969. Alamo Lake is formed by an earthfill and rockfill dam, completed in 1968. Total capacity of lake is 1,043,000 acre-ft (1,290 hm³). See table below for monthend contents. Maximum contents during year was 84,340 acre-ft (104 hm³) Feb. 12.

REVISIONS (WATER YEARS).--WSP 1213: 1939(M). 1941(P).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0	2.7	2.2	326	240	.61	.30	50	50	50
2			0	2.7	2.2	330	240	.68	.20	50	49	51
3			0	2.7	2.2	322	240	.75	.20	51	49	50
4			1.0	2.7	1.9	318	240	.61	.20	51	50	48
5			2.7	2.7	1.9	318	240	.40	.20	51	50	49
6			2.7	2.9	1.5	318	293	.40	.30	52	50	49
7			2.7	2.9	189	318	342	.30	.30	53	50	48
8			2.7	2.9	322	318	342	.30	.30	50	50	49
9			2.7	2.9	330	318	342	.30	.30	50	50	49
10			2.7	2.9	366	314	338	.30	.30	50	50	48
11			2.7	2.7	418	314	338	.30	.30	52	50	49
12			2.7	2.7	410	310	338	.30	.30	52	50	49
13			2.7	2.7	394	310	334	.30	.30	51	50	50
14			2.7	2.7	394	306	330	.30	.30	51	50	50
15			2.7	2.5	394	302	330	.30	7.1	51	50	49
16			2.7	2.5	402	302	334	.30	30	51	50	49
17			2.7	2.5	410	302	334	.30	50	50	51	49
18			2.7	2.5	414	282	334	.30	50	50	50	49
19			2.7	2.5	418	330	338	1.5	50	50	50	48
20			2.7	2.5	418	236	342	.30	50	50	50	48
21			2.7	2.4	414	160	342	.30	50	49	50	48
22			2.7	2.4	414	161	342	.30	50	49	50	48
23			2.7	2.4	410	161	168	.30	50	48	50	47
24			2.7	2.4	410	222	1.5	.30	50	47	50	49
25			2.7	2.4	410	267	1.1	.20	50	45	50	47
26			2.7	2.4	410	264	.96	.20	50	46	50	48
27			2.7	2.4	334	111	.82	.20	50	48	50	47
28			2.7	2.3	292	4.0	.75	.20	50	49	50	48
29			2.7	2.3	326	3.8	.68	.20	50	49	50	48
30			2.7	2.3	---	145	.61	.20	50	49	50	48
31		---	2.7	2.3	---	240	---	.30	---	49	50	---
TOTAL	0	0	73.9	79.8	8724.4	7932.8	7067.42	11.55	740.90	1544	1549	1459
MEAN	0	0	2.38	2.57	301	256	236	.37	24.7	49.8	50.0	48.6
MAX	0	0	2.7	2.9	418	330	342	1.5	50	53	51	51
MIN	0	0	0	2.3	1.9	3.8	.61	.20	.20	45	49	47
AC-FT	0	0	147	158	17300	15730	14020	23	1470	3060	3070	2890
(†)	9620	9790	9930	10100	72850	57220	54400	53970	51370	47340	43280	43970
CAL YR 1975	TOTAL	642.41	MEAN	1.76	MAX	27	MIN	0	AC-FT	1270	†	+70
WTR YR 1976	TOTAL	25182.77	MEAN	79.7	MAX	418	MIN	0	AC-FT	57880	†	+34320

† Monthend contents, in acre-feet, in Alamo Lake, furnished by Corps of Engineers.

‡ Change in contents, in acre-feet.

BILL WILLIAMS RIVER BASIN

09426600. BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, ARIZ.
(National stream-quality accounting network and pesticide station)

LOCATION.--Lat 34°15'43", long 114°01'40", in SE¼SW¼ sec.27, T.11 N., R.17 W., on boundary between Mohave and Yuma Counties, at ford 0.8 mi (1.3 km) downstream from Mineral Wash, 3.6 mi (5.8 km) upstream from Havasu Lake National Wildlife Refuge, 4.1 mi (6.6 km) west of Planet Ranch, 5.2 mi (8.4 km) upstream from waterline of Havasu Lake at elevation 450 ft (137.2 m) above mean sea level, and approximately 30 mi (50 km) downstream from Alamo Dam.

DRAINAGE AREA.--5,140 mi² (13,310 km²) approximately, of which approximately 410 mi² (1,060 km²) is below Alamo Dam.

PERIOD OF RECORD.--Chemical analyses: January 1970 to January 1972 (partial-record station), October 1974 to current year.

EXTREMES.--Current year:

Specific conductance: Maximum daily, 1,080 micromhos Sept. 25; minimum daily, 429 micromhos Feb. 25.

Water temperatures: Maximum, 35.0°C July 3, 6; minimum 9.0°C Mar. 26.

Period of record:

Specific conductance: Maximum daily, 1,080 micromhos Sept. 25, 1976; minimum daily, 429 micromhos Feb. 25, 1976.

Water temperatures: Maximum, 35.0°C July 3, 6, 1976; minimum, 9.0°C Mar. 26, 1976.

REMARKS.--Streamflow ungaged. No flow for many days of most years.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)
JAN 12...	1100	1.2	970	8.1	13.5	2	350	290	240	1
FEB 09...	1115	--	--	--	16.5	--	860000	8100000	--	--
17...	1050	39	448	7.9	13.0	3000	4500	3600	120	0
MAR 08...	0945	46	498	8.2	9.5	34	8330	81600	120	0
APR 12...	1125	86	534	8.1	18.0	300	400	1000	130	0
MAY 10...	1040	8.6	935	8.1	27.5	20	8160	170	230	3
JUN 07...	1115	6.1	905	8.0	26.0	2	87	160	220	18
JUL 12...	1035	4.4	900	8.3	28.0	6	270	310	190	0
AUG 09...	1200	4.2	906	8.1	28.5	10	460	1200	220	16
SEP 13...	1145	6.6	899	8.1	26.5	15	570	780	200	0

DATE	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED PHOSPHORUS (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)
JAN 12...	63	19	120	3.4	7.9	286	0	98	110
FEB 09...	--	--	--	--	--	--	--	--	--
17...	30	9.9	45	1.8	5.7	157	0	40	40
MAR 08...	33	9.7	54	2.1	5.7	159	0	48	44
APR 12...	34	10	59	2.3	5.7	172	0	54	47
MAY 10...	60	20	110	3.1	7.6	280	0	93	100
JUN 07...	57	19	110	3.2	6.8	247	0	84	110
JUL 12...	47	17	110	3.5	6.8	252	0	87	79
AUG 09...	57	19	110	3.2	7.2	250	0	92	99
SEP 13...	49	18	110	3.4	7.3	239	0	94	110

B Results based on non-ideal colony count.

BILL WILLIAMS RIVER BASIN

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09426600. BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS-SOLVED FLUO- RIDE (F) (MG/L)	DIS-SOLVED SILICA (SIO2) (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)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
JAN 12...	1.5	30	580	594	.79	.64	.02	250	40
FEB 09...	--	--	--	--	--	--	--	--	--
17...	.5	11	282	264	.38	.89	.10	170	60
MAR 08...	.8	21	301	300	.41	1.1	.11	170	70
APR 12...	.8	19	331	317	.45	.67	.09	180	20
MAY 10...	1.5	32	562	569	.76	1.5	.03	600	10
JUN 07...	1.4	35	538	551	.73	1.3	.01	240	0
JUL 12...	1.4	32	509	510	.69	1.2	.04	250	30
AUG 09...	1.4	32	544	546	.74	1.1	.04	260	10
SEP 13...	1.4	31	533	544	.72	1.1	.04	260	10

DATE	TIME	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL- NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)
JAN 12...	1100	.63	.01	.69	.64	.14	.83	3.7	.01	.02
FEB 17...	1050	.88	.01	.90	.89	4.5	5.4	24	5.3	.10
MAR 08...	0945	--	.03	1.1	1.1	3.9	5.0	22	1.5	.11
APR 12...	1125	.66	.01	.78	.67	2.4	3.2	14	1.1	.09
MAY 10...	1040	--	.01	1.5	1.5	.20	1.7	7.5	.12	.03
JUN 07...	1115	--	.01	1.3	1.3	.22	1.5	6.7	.04	.01
JUL 12...	1035	--	.01	1.1	1.2	.29	1.4	6.2	.01	.04
AUG 09...	1200	1.1	.01	1.1	1.1	.18	1.3	5.7	.06	.04
SEP 13...	1145	--	.03	1.1	1.1	.17	1.3	5.6	.04	.04

BILL WILLIAMS RIVER BASIN

09426600. BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)
FEB 17...	1050	190	8	170	10	1	10	0
MAY 10...	1040	12	9	600	<10	0	0	0
AUG 09...	1200	6	4	260	<10	0	0	0

DATE	TOTAL COBALT (CO) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)
FEB 17...	150	4	440	8	120000	60	300	6	6900
MAY 10...	<50	0	20	0	2000	10	<100	0	60
AUG 09...	<50	2	10	1	990	10	<100	2	40

DATE	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
FEB 17...	0	.5	.0	1	0	650	0	81
MAY 10...	20	.0	.0	0	0	110	0	5.2
AUG 09...	10	.0	.0	0	0	10	0	2.4

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)
MAY 10...	1200	ND	ND	ND	ND	ND	ND	.00	ND	ND

DATE	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METH- OXY- CHLOR (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)
MAY 10...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

ND--Material specifically analyzed for but not detected.

09426600. BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ATRA- ZINE (UG/L)	ATRA- ZINE IN BOTTOM MATERI- AL (UG/ KG DRY SOLIDS)	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDE (UG/L)
FEB 17...	1050	ND	--	ND	--	ND	--	ND	--	ND
MAY 10...	1030	--	--	--	ND	--	--	--	--	--
11...	1030	--	ND	--	--	--	ND	--	ND	--
AUG 09...	1200	ND	--	ND	--	ND	--	ND	--	ND

DATE	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDT (UG/L)	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- AZINON (UG/L)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- ELDRIN (UG/L)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ETHION (UG/L)
FEB 17...	--	ND	--	ND	--	ND	--	ND	--	ND
MAY 10...	--	--	--	--	--	--	--	--	--	--
11...	ND	--	ND	--	ND	--	ND	--	ND	--
AUG 09...	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	ETHION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL METH- OXY- CHLOR (UG/L)
FEB 17...	--	ND	--	ND	--	ND	--	ND	--	ND
MAY 10...	--	--	--	--	--	--	--	--	--	--
11...	ND	--	ND	--	ND	--	ND	--	ND	--
AUG 09...	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	METHOX- YCHLOR IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL METHYL PARA- THION (UG/L)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL METHYL TRI- THION (UG/L)	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL PARA- THION (UG/L)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG)	SIMA- ZINE TOTAL (UG/L)	SIMA- ZINE IN BOTTOM MATERI- AL (UG/ KG DRY SOLIDS)	TOTAL TOX- APHENE (UG/L)
FEB 17...	--	ND	--	ND	--	ND	--	--	--	ND
MAY 10...	--	--	--	--	--	--	--	--	ND	--
11...	ND	--	ND	--	ND	--	ND	--	--	--
AUG 09...	--	ND	--	ND	--	ND	--	ND	--	ND

DATE	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL 2,4-D (UG/L)	2,4-D IN BOTTOM MA- TERIAL (UG/KG)	TOTAL 2,4,5-T (UG/L)	2,4,5-T IN BOTTOM MA- TERIAL (UG/KG)	TOTAL SILVEX (UG/L)	SILVEX IN BOTTOM MA- TERIAL (UG/KG)
FEB 17...	--	ND	--	ND	--	ND	--	ND	--
MAY 10...	--	--	--	--	ND	--	ND	--	ND
11...	ND	--	ND	--	--	--	--	--	--
AUG 09...	--	ND	--	ND	--	ND	--	ND	--

ND Material specifically analyzed for but not detected.

BILL WILLIAMS RIVER BASIN

09426600. BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, ARIZ.--CONTINUED

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	---	947	878	937	949	975				
2		---	936	959	925	934	944	---				
3		---	938	961	938	---	942	---				
4		917	---	950	920	932	953	---				
5		876	970	949	909	954	972	---				
6		880	979	925	914	949	---	---				
7		882	974	961	971	931	924	---				
8		959	957	945	941	967	946	---				
9		945	950	930	---	925	946	---				
10		866	963	954	943	---	930	---				
11		864	948	958	911	945	934	---				
12		---	953	955	936	922	---	---				
13		862	947	929	947	954	940	971				
14		872	949	926	927	961	---	---				
15		---	---	966	962	---	939	---				
16		868	967	965	---	---	959	---				
17		958	950	908	---	915	951	---				
18		949	966	928	929	963	---	---				
19		956	947	907	925	958	---	---				
20		868	954	932	941	950	921	---				
21		942	952	---	942	---	943	---				
22		957	949	926	---	933	960	---				
23		952	966	931	972	888	959	---				
24		870	965	960	964	948	---	---				
25		---	---	889	953	962	960	---				
26		882	951	897	973	940	960	---				
27		911	956	959	---	938	959	---				
28		869	963	884	---	948	---	---				
29		925	965	883	---	914	---	---				
30		910	956	916	---	---	---	---				
31		---	954	931	---	927	---	---				
MEAN		906	956	934	937	940	---	---				

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				---	948	500	906	934	906	919	875	874
2				---	938	535	748	940	748	868	918	927
3				---	936	474	630	946	630	831	894	939
4				950	958	493	600	944	600	860	874	930
5				959	959	509	592	944	592	897	908	820
6				977	966	525	580	944	580	833	875	930
7				951	958	510	540	939	540	871	875	928
8				947	950	529	536	947	536	900	885	925
9				975	939	526	554	939	554	842	865	918
10				974	922	520	533	937	533	921	842	947
11				968	725	515	---	939	---	897	885	908
12				963	505	523	542	919	542	850	926	---
13				967	574	520	536	926	536	897	863	891
14				962	564	541	520	908	520	901	925	883
15				971	549	516	530	936	530	879	904	867
16				967	495	516	541	916	541	841	881	911
17				958	505	512	551	898	551	915	878	861
18				946	492	507	568	913	568	917	885	926
19				952	485	571	567	902	567	858	853	850
20				928	480	532	556	904	556	918	924	882
21				---	463	726	552	897	552	886	917	863
22				923	461	763	553	905	553	886	926	915
23				911	461	768	551	897	551	835	883	928
24				---	448	786	937	882	937	865	921	941
25				933	429	545	940	877	940	873	923	1080
26				957	437	528	932	902	932	871	923	1050
27				934	437	521	941	868	941	919	895	998
28				958	732	906	939	892	939	877	871	985
29				936	476	918	932	895	932	904	821	963
30				925	---	906	945	902	945	919	929	949
31				959	---	901	---	927	---	833	909	---
MEAN				952	662	601	667	917	667	880	892	924

BILL WILLIAMS RIVER BASIN

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09426600. BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, ARIZ.--CONTINUED

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	---	21.0	21.0	21.5	20.0	27.0				
2		---	22.0	18.5	19.5	22.0	21.0	---				
3		---	22.0	20.5	11.5	---	19.5	---				
4		20.0	---	21.5	19.0	22.0	21.0	---				
5		25.0	21.0	22.0	22.0	21.0	15.0	---				
6		24.0	16.5	20.0	20.5	19.5	---	---				
7		24.0	17.0	13.5	13.0	21.0	19.5	---				
8		16.0	21.0	20.0	19.5	16.5	19.5	---				
9		21.0	17.5	19.0	---	23.0	18.0	---				
10		24.0	17.5	16.0	18.5	---	22.0	---				
11		23.0	19.5	14.5	22.0	20.0	21.0	---				
12		---	20.0	18.0	20.5	23.0	---	---				
13		22.0	19.0	19.0	17.0	19.5	24.0	19.5				
14		22.0	17.0	19.5	19.5	16.0	---	---				
15		---	---	13.5	18.5	---	23.5	---				
16		22.0	16.0	14.0	---	---	19.0	---				
17		15.0	20.5	20.5	---	21.5	18.0	---				
18		20.0	14.5	19.0	19.0	14.5	---	---				
19		14.0	20.0	21.0	21.0	20.0	---	---				
20		23.0	18.5	20.0	19.0	19.0	25.5	---				
21		17.0	20.0	---	17.0	---	24.5	---				
22		15.0	18.5	18.0	---	20.0	20.0	---				
23		16.0	14.5	16.5	13.0	23.0	20.0	---				
24		21.0	13.5	13.5	17.0	21.0	---	---				
25		---	---	22.0	17.5	19.0	21.0	---				
26		21.0	19.5	20.5	14.0	19.0	18.0	---				
27		16.0	19.5	17.0	---	19.0	18.0	---				
28		21.0	16.5	20.0	---	18.5	---	---				
29		19.0	16.5	19.0	---	20.0	---	---				
30		20.0	18.0	16.0	---	---	---	---				
31		---	15.0	17.0	---	22.0	---	---				
MEAN		20.0	18.0	18.5	18.0	20.0	---	---				

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	16.5	---	27.0	24.0	32.0	29.0
2						---	27.0	---	29.0	29.0	24.0	25.0
3						---	15.0	---	28.0	35.0	26.0	25.0
4						---	18.5	---	30.0	30.0	30.0	24.0
5						---	13.0	---	26.0	25.0	24.0	28.0
6						---	14.0	---	33.0	35.0	31.0	26.0
7						---	18.5	---	33.0	29.0	29.0	24.0
8						---	18.0	---	29.0	26.0	30.0	25.0
9						10.0	23.5	---	26.0	33.0	33.0	25.0
10						12.0	19.5	---	25.0	24.0	24.0	24.0
11						13.0	---	24.0	26.0	26.0	32.0	30.0
12						10.0	21.5	24.0	33.0	33.0	24.0	---
13						15.0	16.5	31.0	33.0	27.0	32.0	26.5
14						20.0	13.0	34.0	24.0	26.0	23.0	29.5
15						10.0	14.5	23.0	30.0	29.0	26.0	28.0
16						16.0	12.0	31.0	24.0	31.0	30.0	22.5
17						12.0	11.5	27.0	24.0	24.0	29.0	28.0
18						11.0	24.5	26.0	34.0	26.0	30.0	21.5
19						14.0	25.0	29.0	29.0	33.0	23.0	28.0
20						18.5	14.5	28.0	34.0	26.0	24.0	23.5
21						12.5	18.0	32.0	24.0	28.0	25.0	26.5
22						23.5	20.5	25.0	25.0	28.0	25.0	21.5
23						15.5	26.0	27.0	31.0	34.0	31.0	22.0
24						17.5	28.5	30.0	23.0	31.0	25.0	21.5
25						14.0	24.5	32.0	34.0	31.0	25.0	20.0
26						9.0	10.5	25.0	23.0	34.0	25.0	24.5
27						11.5	---	33.0	34.0	26.0	30.0	22.5
28						23.5	---	28.0	28.0	32.0	34.0	24.0
29						23.0	---	27.0	30.0	27.0	28.0	21.5
30						18.0	---	30.0	33.0	25.0	24.0	24.5
31						23.5	---	23.0	---	---	25.0	---
MEAN						---	18.5	---	28.5	29.0	27.5	25.0

BILL WILLIAMS RIVER BASIN

09426600. BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll a	Chlorophyll b	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight	(mg/m ²)	(mg/m ²)		
May 10	28	53.5	46.5	109	28.1	64	Polyethylene strip
Aug. 9	28	27.6	22.3	13.3	1.56	400	Polyethylene strip

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

OCT. 8, 1974
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

940 CELLS/ML

__ORGANISM__NAME__	__COMMON__NAME__	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...SCENEDESMACEAE				
....SCENEDESMUS				
	TOTALS	<u>77</u> 77	<u>8</u> 8	0.000=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		58	6	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
....ACHNANTHES		39	4	
...DIATOMACEAE				
....DIATOMA		39	4	
...FRAGILARIACEAE				
....SYNEDRA		19	2	
...GOMPHONEMACEAE				
D)GOMPHONEMA		150	16	
...NAVICULACEAE	NAVICULOID			
....NAVICULA		130	14	
...NITZSCHIACEAE				
D)NITZSCHIA		<u>270</u> 710	<u>29</u> 75	2.352=DIVERSITY
	TOTALS			
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
D)AGMENELLUM		<u>150</u> 150	<u>16</u> 16	0.000=DIVERSITY
	TOTALS			

NOTE: D = DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:PHYL/DIV 1.028
CLASS 1.028
ORDER 1.335
FAMILY 2.804
GENERA 2.804

09426600. BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

NOV. 4, 1974
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,300 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHRYSOPHYTA				
.BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCEAE				
....CYCLOTELLA		22	2	
....MELOSIRA		43	3	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
DACHNANTHES		560	44	
....CUCONEIS		22	2	
...DIATOMACEAE				
....DIATOMA		22	2	
...FRAGILARIACEAE				
....FRAGILARIA		65	5	
....SYNEDRA		43	3	
...GOMPHONEMACEAE				
....GOMPHONEMA		86	7	
...NAVICULACEAE	NAVICULOID			
....GYROSIGMA		22	2	
DNAVICULA		220	17	
....STAURONEIS		86	7	
...NITZSCHIACEAE				
....NITZSCHIA		86	7	
	TOTALS	1,300	101	2.693=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
ORDER 0.290
FAMILY 2.165
GENERA 2.693

DEC. 2, 1974
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

860 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHRYSOPHYTA				
.BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCEAE				
....CYCLOTELLA		17	2	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
....ACHNANTHES		8	1	
....COCONEIS		25	3	
...FRAGILARIACEAE				
....SYNEDRA		66	8	
...GOMPHONEMACEAE				
....GOMPHONEMA		41	5	
...NAVICULACEAE	NAVICULOID			
....NAVICULA		17	2	
...NITZSCHIACEAE				
DNITZSCHIA		690	80	
	TOTALS	860	101	1.186=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
ORDER 0.137
FAMILY 1.155
GENERA 1.186

BILL WILLIAMS RIVER BASIN

09426600. BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JAN. 6, 1975
1120 HOURS

IDENTIFICATION OF PHYTOPLANKTON

510 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...ACHNANTHACEAE				
D ...ACHNANTHES		80	16	
D ...COCCONEIS		80	16	
...GOMPHONEMATACEAE				
...GOMPHONEMA		16	3	
...NAVICULACEAE	NAVICULOID			
...GYROSIGMA		16	3	
D ...NAVICULA		190	37	
...NITZSCHIAEAE				
...DENTICULA		64	12	
...NITZSCHIA		48	9	
...TABELLARIAEAE				
....TABELLARIA		16	3	
	TOTALS	510	99	2.531=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
FAMILY 1.844
GENERA 2.531

FEB. 10, 1975
1130 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,600 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..ZYGNEATALES				
...ZYGNEATAEAE				
....MOUGEOTIA		120	8	
	TOTALS	120	8	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
...MELOSIRA		210	14	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		61	4	
D ...COCCONEIS		400	25	
...CYMBELLACEAE				
...CYMBELLA		31	2	
...FRAGILARIAEAE				
...SYNDRA		120	8	
...GOMPHONEMATAEAF				
...GOMPHONEMA		61	4	
...NAVICULACEAE	NAVICULOID			
D ...NAVICULA		550	35	
	TOTALS	1,400	92	2.261=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.397
CLASS 0.397
ORDER 0.956
FAMILY 2.313
GENERA 2.480

09426600. BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAR. 10, 1975
1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,400 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...ZYGNEATALES				
...ZYGNEATACEAE				
DZYGNEMA				
	TOTALS	670	28	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...BIDDULPHIACEAE				
...RIDDULPHIA		120	5	
...COSCONODISCACEAE				
...CYCLOTELLA		61	3	
...PENNALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		120	5	
DCOCCONEIS		800	33	
...DIATOMACEAE				
...DIATOMA		61	3	
...GOMPHONEMACEAE				
...GOMPHONEMA		310	13	
...NAVICULACEAE	NAVICULOID			
...GYROSIGMA		61	3	
...NAVICULA		180	8	
	TOTALS	1,700	73	2.362=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:PHYL/DIV 0.858
CLASS 0.858
ORDER 1.211
FAMILY 2.253
GENERA 2.554APR. 7, 1975
1115 HOURS

IDENTIFICATION OF PHYTOPLANKTON

920 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...ZYGNEATALES				
...ZYGNEATACEAE				
DZYGNEMA				
	TOTALS	250	27	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCONODISCACEAE				
...CYCLOTELLA		100	11	
...PENNALES	PENNATE			
...ACHNANTHACEAE				
DACHNANTHES		290	31	
...COCCONEIS		100	11	
...FRAGILARIACEAE				
...SYNEDRA		20	2	
...GOMPHONEMACEAE				
...GOMPHONEMA		41	4	
...NAVICULACEAE	NAVICULOID			
...NAVICULA		41	4	
...NITZSCHACEAE				
...NITZSCHIA		82	9	
	TOTALS	670	72	2.362=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:PHYL/DIV 0.837
CLASS 0.837
ORDER 1.287
FAMILY 2.218
GENERA 2.569

09426600. BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAY 5, 1975

1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,600 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...ACHNANTHACEAE				
....ACHNANTHES		170	10	
....COCCONEIS		19	1	
...GOMPHONEMACEAE				
....GOMPHONEMA		19	1	
...NAVICULACEAE	NAVICULOID			
....NAVICULA		130	8	
...NITZSCHIA				
....NITZSCHIA				
	TOTALS	<u>130</u> 460	<u>8</u> 28	1.931=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIA				
DOSCILLATORIA		<u>1,100</u> 1,100	<u>71</u> 71	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.865
CLASS 0.865
ORDER 0.865
FAMILY 1.366
GENERA 1.420

JAN. 12, 1976

1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

400 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		43	11	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
DCOCCONEIS		110	26	
...CYMBELLACEAE				
LAMPHORA			0	
..FRAGILARIACEAE				
LSYNEDRA			0	
...GOMPHONEMACEAE				
....GOMPHONEMA		21	5	
...NAVICULACEAE	NAVICULOID			
DNAVICULA		64	16	
...NITZSCHIA				
DNITZSCHIA		170	42	
...SURIPELLACEAE				
LSURIPELLA				
	TOTALS	<u>400</u> 400	<u>0</u> 100	2.018=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

ORDER 0.485
FAMILY 2.018
GENERA 2.018

09426600. BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JAN. 17, 1976
1050 HOURS

IDENTIFICATION OF PHYTOPLANKTON

5,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNALLES	PENNATE		
...ACHNANTHACEAE			
L ...COCCONEIS			0
...FRAGILARIACEAE			
...SYNEDRA		460	9
...GOMPHONEMACEAE			
D ...GOMPHONEMA		910	18
...NAVICULACEAE	NAVICULOID		
D ...NAVICULA		1,800	36
...NITZSCHACEAE			
...DENTICULA		460	9
D ...NITZSCHIA		<u>1,400</u>	<u>27</u>
	TOTALS	5,000	99
			2.118=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 FAMILY 1.823
 GENERA 2.118

MAR. 8, 1976
0945 HOURS

IDENTIFICATION OF PHYTOPLANKTON

8,900 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAF	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
...CYCLOTELLA		180	2
..PENNALLES	PENNATE		
...CYMBELLACEAE			
L ...EPITHEMIA			0
...FRAGILARIACEAE			
D ...FRAGILARIA		6,900	78
...SYNEDRA		180	2
...GOMPHONEMACEAE			
...GOMPHONEMA		350	4
...NITZSCHACEAE			
...NITZSCHIA		<u>1,200</u>	<u>14</u>
	TOTALS	8,900	100
			1.088=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 ORDER 0.141
 FAMILY 0.953
 GENERA 1.088

BILL WILLIAMS RIVER BASIN

09426600. BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

APR. 12, 1976
1125 HOURS

IDENTIFICATION OF PHYTOPLANKTON

7,100 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCONODISCACEAE			
LMELOSIRA			0
..PENNALES	PENNATE		
...ACHNANTHACEAE			
LCOCCONEIS			0
...CYMBELLACEAE			
LCYMBELLA			0
LRHOPALODIA			0
...FRAGILARIACEAE			
...FRAGILARIA		640	9
LSYNEDRA			0
...GOMPHONEMACEAE			
...GOMPHONEMA		640	9
...NAVICULACEAE	NAVICULOID		
DNAVICULA		2,300	32
...NITZSCHACEAE			
LDENTICULA			0
DNITZSCHIA		3,200	45
...SURIPELLACEAE			
...SURIPELLA			
	TOTALS	<u>7,100</u>	<u>100</u>
			1.874=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 FAMILY 1.874
 GENERA 1.874

MAY 10, 1976
1040 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,700 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..VOLVOCALES			
...CHLAMYDOMONADACEAE			
....CHLAMYDOMONAS			
	TOTALS	<u>88</u>	<u>3</u>
		88	3
			0.000=DIVERSITY
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCONODISCACEAE			
DMELOSIRA		530	19
..PENNALES	PENNATE		
...ACHNANTHACEAE			
...COCCONEIS		88	3
...FRAGILARIACEAE			
...SYNEDRA		88	3
...GOMPHONEMACEAE			
...GOMPHONEMA		88	3
...NAVICULACEAE	NAVICULOID		
...NAVICULA		350	13
...NITZSCHACEAE			
...DENTICULA		180	6
DNITZSCHIA		<u>1,300</u>	<u>48</u>
	TOTALS	<u>2,700</u>	<u>95</u>
			2.103=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.206
 CLASS 0.206
 ORDER 0.904
 FAMILY 1.954
 GENERA 2.241

BILL WILLIAMS RIVER BASIN

175

09426600. BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JUNE 7, 1976

1115 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,200 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
....COSCINODISCACEAE				
....CYCLOTELLA		33	2	
....MELOSIRA		67	3	
..PENNIALES	PENNATE			
...ACHNANTHACEAE				
....ACHNANTHES		33	2	
....COCCONEIS		33	2	
...CYMBELLACEAE				
....CYMBELLA		67	3	
...FRAGILARIACEAE				
....FRAGILARIA		33	2	
...GOMPHONEMATACEAE				
....GOMPHONEMA		130	6	
...NAVICULACEAE	NAVICULOID			
DNAVICULA		600	27	
...NITZSCHIACEAE				
....NITZSCHIA		200	9	
	TOTALS	1,200	56	2.321=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...CHROOCOCCALES	COCCOID			
....CHROOCOCCACEAE				
DAGMENELLUM		530	24	
...OSCILLATORIALES	FILAMENTOUS			
....OSCILLATORIACEAE				
DOSCILLATORIA		470	21	
	TOTALS	1,000	45	0.997=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER • 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.994
 CLASS 0.994
 ORDER 1.673
 FAMILY 2.641
 GENERA 2.713

09426600. BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JULY 12, 1976
1035 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS				
	TOTALS	22	2	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCEAE				
D ...CYCLOTELLA		160	16	
...PENNALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		130	13	
...COCCONEIS		45	4	
...RHOICOSPHENIA		45	4	
...CYMBELLACEAE				
...CYMBELLA		22	2	
...GOMPHONEMACEAE				
...GOMPHONEMA		89	9	
...NAVICULACEAE	NAVICULOID			
...DIPLONEIS		45	4	
D ...NAVICULA		270	27	
...NITZSCHIACEAE				
....NITZSCHIA				
	TOTALS	130	13	2.828=DIVERSITY
		940	92	
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...NOSTOCACEAE				
L ...APHANIZOMENON			0	
...OSCILLATORIACEAE				
...SPIRULINA				
	TOTALS	22	2	0.000=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
....EUGLENA				
	TOTALS	22	2	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 1% MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.459

CLASS 0.459

ORDER 1.066

FAMILY 2.610

GENERA 3.099

BILL WILLIAMS RIVER BASIN

177

09426600. BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

AUG. 9, 1976
1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,500 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
D ...CYCLOTELLA		230	15	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		85	6	
...COCCONEIS		37	2	
...RHOICOSPHEA		12	1	
...CYMBELLACEAE				
...AMPHORA		37	2	
...FRAGILARIACEAE				
...SYNEDRA		61	4	
...GOMPHONEMACEAE				
...GOMPHONEMA		73	5	
...NAVICULACEAE	NAVICULOID			
...DIPLOEIS		24	2	
D ...NAVICULA		410	27	
...NITZSCHACEAE				
...NITZSCHIA				
	TOTALS	97	6	
		1,100	70	2.642=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
D ...AGMENELLUM		390	25	
..OSCILLATORIALES	FILAMENTOUS			
...NOSTOCACEAE				
...ANABAENA		61	4	
...OSCILLATORIA				
L ...OSCILLATORIA				
	TOTALS	450	0	
			29	0.571=DIVERSITY
EUGLENOPHYTA	EUGLENIDS			
..CRYPTOPHYCEAE	CRYPTOMONADS			
..CRYPTOMONIDAE				
...CRYPTOCHRYSIDACEAE				
...CHROOMONAS				
	TOTALS	12	1	
		12	1	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.936
CLASS 0.936
ORDER 1.630
FAMILY 2.752
GENERA 2.949

BILL WILLIAMS RIVER BASIN

09426600. BILL WILLIAMS RIVER BELOW MINERAL WASH NEAR PLANET, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

SEP. 13, 1976

1145 HOURS

IDENTIFICATION OF PHYTOPLANKTON

520 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS		17	3	
..ZYGNEMATALES				
...DESMIDIACEAE	PLACODERM DESMIDS			
....COSMARTIUM				
	TOTALS	<u>17</u> 34	<u>3</u> 6	1.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCEAE				
...CYCLOTELLA		51	10	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
....COCCONEIS		34	6	
...CYMBELLACEAE				
....CYMBELLA		17	3	
...DIATOMACEAE				
....DIATOMA		17	3	
...GOMPHONEMACEAE				
....GOMPHONEMA		17	3	
...NAVICULACEAE	NAVICULOID			
...GYROSIGMA		34	6	
D ...NAVICULA		140	26	
D ...NITZSCHACEAE				
D ...NITZSCHIA				
	TOTALS	<u>170</u> 470	<u>32</u> 89	2.451=DIVERSITY
..CHRYSTOPHYCEAE	YELLOW-BROWN ALGAE			
...CHRYSOMONADALES				
...MALLOMONADACEAE				
....MALLOMONAS				
	TOTALS	<u>17</u> 17	<u>3</u> 3	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.345
 CLASS 0.548
 ORDER 1.056
 FAMILY 2.593
 GENERA 2.826

09427500. LAKE HAVASU 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, in California, San Bernardino County, at intake pumping plant for Colorado River aqueduct of Metropolitan Water District of Southern California, 1.8 mi (2.9 km) upstream from Parker Dam on Colorado River, and 149 mi (240 km), downstream from Hoover Dam.

DRAINAGE AREA (REVISED)--182,700 mi² (473,200 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming, which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--July 1938 to current year. Published as Parker Reservoir near Parker Dam 1938.

GAGE.--Water-stage recorder. Datum of gage is 400.54 ft (122.085 m) above mean sea level. Gage readings have been reduced to elevations above mean sea level.

EXTREMES.--Current year: Maximum contents, 623,400 acre-ft (769 hm³) May 8 (elevation, 450.74 ft or 137.386 m); minimum, 529,000 acre-ft (652 hm³) Feb. 24 (elevation, 445.78 ft or 135.874 m).

Period of record: Maximum contents, 693,000 acre-ft (854 hm³), by temporary use of flashboards, Apr. 18, 1943, June 4, 1953; maximum elevation, 450.77 ft (137.395 m) June 26, 1958; minimum contents, 71,400 acre-ft (88.0 hm³) June 25, 1942 (elevation, 412.09 ft or 125.605 m).

REMARKS.--Lake is formed by concrete-arch dam; dam was completed and storage began July 1, 1938. Usable capacity—based on April 1957 re-survey by Bureau of Reclamation between elevations 430.54 ft (131.229 m) and 450.54 ft (137.325 m)—619,400 acre-ft (764 hm³) between elevations 400.54 ft (122.085 m), sill of regulating gates, and 450.54 ft (137.325 m), top of regulating gates. Prior to Oct. 1, 1956, different capacity table used. Dead storage, 28,600 acre-ft (35.3 hm³) below elevation 400.54 ft (122.085 m), based on original survey. About 0.07 ft (0.021 m) fall indicated between gage and Parker Dam under normal operating conditions. Drawdown below elevation 440.54 ft (134.277 m) not legally permissible except by consent of the Metropolitan Water District of Southern California or in an emergency affecting the safety of the dam. Lake is used for flood control, power development, re-regulation of river for irrigation demand, and as a basin from which water is pumped by Metropolitan Water District of Southern California to Colorado River aqueduct. Figures given herein represent usable contents. For record of diversion to Colorado River aqueduct, see record for Colorado River aqueduct near Parker Dam elsewhere in this report.

REVISIONS.--WRD Ariz. 1975: 1974 (elevation).

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	575100	558800	554100	545000	546800	536800	567600	598400	616200	606000	569700	562500
2	576800	556400	554400	545600	539100	532600	572600	599400	614800	603000	564600	569000
3	575200	553700	552200	547700	537800	533300	576000	595400	615200	600200	563100	570300
4	573200	555000	550300	549400	544100	539300	576200	595000	613000	599600	564200	569600
5	571400	558400	549900	547400	550300	544700	570100	599600	612400	597000	566500	569200
6	565800	561600	549500	546300	560000	549200	572000	608400	610800	599400	565400	573000
7	568000	560700	551000	548100	563300	552800	575600	620800	607600	601600	563700	574300
8	568600	560000	547200	550600	563800	549000	580400	615600	608000	605000	560300	574100
9	568800	558400	546500	549900	565200	548500	580800	600400	609800	599800	557900	575800
10	567100	558600	546800	549000	568600	551000	582700	595000	611000	593800	557900	586600
11	561800	560000	549200	547200	569600	554100	583200	601800	610200	589700	558600	593800
12	556000	560900	551200	545400	570500	552800	575400	610200	609800	585700	560000	590100
13	550800	560300	551700	545200	566700	550800	583600	613400	610400	585900	558800	582500
14	548100	556500	552100	545400	565600	550300	598800	608800	608600	584800	558800	577000
15	549700	553500	546700	545800	565400	543400	602400	606400	606000	584200	558100	572000
16	550600	551000	545400	543200	566100	542500	597200	601400	606000	579600	554100	572000
17	548100	545600	545400	543200	565600	544300	582500	594600	609400	575100	553500	569700
18	545400	545000	546100	544000	562900	545900	569200	595200	613400	572400	553900	569400
19	542900	545200	548100	539300	559800	545800	555400	603800	613800	567100	555800	568200
20	540700	549000	549900	541800	551700	548600	555200	607400	611400	567300	555600	563300
21	541600	548800	554400	547000	547400	551300	559000	605400	608400	567500	556500	562900
22	546300	549200	560500	548600	544500	545200	564200	604400	606800	568600	557900	563800
23	548500	552100	557700	548100	534200	536900	567600	607400	607400	569700	555000	576200
24	550600	552200	553900	546700	529400	539600	570500	594600	611000	570300	555200	579400
25	554800	552600	552100	546300	530500	545600	574500	601800	610400	568600	556700	587200
26	559400	551200	548100	541100	537700	541100	568600	613000	609400	565900	559400	583800
27	561800	552100	548100	540900	541300	545000	570100	616200	608200	569600	559600	583800
28	560300	553500	550300	542300	541100	547700	576800	610800	603200	569600	560000	583400
29	558600	553900	551300	546300	540900	546100	585300	610200	599400	569700	561100	583800
30	558800	554600	548500	548100	---	550400	592400	611800	599800	570700	558400	584400
31	559200	---	545600	548600	---	558400	---	612000	---	571300	560000	---
MAX	576800	561600	560500	550600	570500	558400	602400	620800	616200	606000	569700	593800
MIN	540700	545000	545400	539300	529400	532600	555200	594600	599400	565900	553500	562500
(‡)	-14200	-4600	-9000	+3000	-7700	+17500	+34000	+19600	-12200	-28500	-11300	+24400

CAL YR 1975 MAX 619200 MIN 528100 ‡ +12,300
WTR YR 1976 MAX 620800 MIN 529400 ‡ +11,000

‡ Change in contents, in acre-feet.

ELEVATION, IN FEET ABOVE MEAN SEA LEVEL, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	448.28	447.42	447.17	446.67	446.77	446.21	447.89	449.49	450.38	449.87	448.00	447.62
2	448.37	447.29	447.19	446.70	446.34	445.98	448.15	449.54	450.31	449.72	447.73	447.96
3	448.29	447.15	447.07	446.82	446.27	446.02	448.33	449.34	450.33	449.58	447.65	448.03
4	448.18	447.22	446.96	446.91	446.62	446.35	448.34	449.32	450.22	449.55	447.71	447.99
5	448.09	447.40	446.94	446.80	446.96	446.65	448.02	449.55	450.19	449.42	447.83	447.97
6	447.75	447.27	446.92	446.74	447.48	446.90	448.12	449.99	450.11	449.54	447.77	448.17
7	447.91	447.22	447.00	446.84	447.66	447.10	448.31	450.61	449.95	449.65	447.68	448.24
8	447.94	447.48	446.79	446.98	447.69	446.89	448.56	450.35	449.97	449.82	447.50	448.23
9	447.90	447.40	446.75	446.94	447.76	446.86	448.58	449.59	450.06	449.56	447.37	448.32
10	447.86	447.41	446.77	446.99	447.94	447.00	448.68	449.32	450.12	449.26	447.37	448.89
11	447.58	447.48	446.90	446.79	447.99	447.17	448.71	449.66	450.08	449.05	447.41	449.26
12	447.27	447.53	447.01	446.69	448.09	447.10	448.30	450.08	450.06	448.84	447.48	449.07
13	446.90	447.20	447.04	446.68	447.84	446.99	448.73	450.24	450.09	448.85	447.42	448.67
14	446.84	447.20	447.06	446.69	447.78	446.96	449.51	450.01	450.00	448.79	447.42	448.38
15	446.93	447.14	446.76	446.71	447.77	446.98	449.09	449.69	449.87	448.76	447.38	448.12
16	446.98	447.00	446.69	446.57	447.81	446.53	449.43	449.64	449.87	448.52	447.17	448.12
17	446.84	446.70	446.69	446.57	447.78	446.63	448.67	449.30	450.04	448.28	447.14	448.00
18	446.69	446.67	446.73	446.61	447.64	446.72	447.97	449.33	450.24	448.14	447.16	447.98
19	446.50	446.66	446.84	446.30	447.47	446.71	447.24	449.76	450.26	447.86	447.26	447.92
20	446.43	446.69	446.94	446.49	447.04	446.87	447.23	449.94	450.14	447.87	447.25	447.66
21	446.48	446.68	447.19	446.78	446.80	447.02	447.43	449.54	449.99	447.88	447.30	447.64
22	446.74	446.90	447.51	446.87	446.64	446.88	447.71	449.79	449.91	447.94	447.37	447.69
23	446.66	447.06	447.36	446.84	446.67	446.22	447.69	449.94	449.94	448.00	447.22	448.03
24	446.98	447.07	447.16	446.76	445.80	446.37	448.04	449.94	450.12	448.03	447.23	448.51
25	447.21	447.09	447.06	446.74	445.86	446.70	448.25	449.66	450.09	447.94	447.31	448.92
26	447.40	447.01	446.84	446.45	446.26	446.45	447.94	450.22	450.04	447.80	447.45	448.74
27	447.58	447.06	446.84	446.44	446.49	446.67	448.02	450.38	449.98	447.99	447.48	448.74
28	447.20	447.14	446.96	446.52	446.45	446.82	448.37	450.11	449.73	447.99	447.46	448.72
29	447.41	447.16	447.02	446.74	446.46	446.73	448.82	450.08	449.54	448.00	447.54	448.74
30	447.42	447.20	446.86	446.84	--	446.97	449.19	450.16	449.56	448.05	447.40	448.77
31	447.44	--	446.70	446.87	--	447.40	--	450.17	--	448.08	447.48	--
MEAN	447.38	447.18	446.96	446.72	447.09	446.72	448.34	449.83	450.04	448.67	447.45	448.31
MAX	448.37	447.57	447.51	446.99	448.04	447.40	449.69	450.61	450.38	449.87	448.00	449.26
MIN	446.43	446.67	446.59	446.35	445.80	445.98	447.23	449.30	449.54	447.80	447.14	447.65

CAL YR 1975	MEAN 446.06	MAX 450.53	MIN 445.73
WIR YR 1976	MEAN 447.89	MAX 450.61	MIN 445.80

09427520. COLORADO RIVER BELOW PARKER DAM, ARIZ.-CALIF.

LOCATION.--Lat 34°17'44", long 114°08'22", in NW¼ sec.3, T.2 N., R.27 E., San Bernardino meridian, in California, San Bernardino County, on north end of powerplant at Parker Dam, 13 mi (21 km) northeast of Parker, Ariz., and 14 mi (23 km) upstream from Headgate Rock Dam.

DRAINAGE AREA (REVISED).--182,700 mi² (473,200 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming, which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--February to September 1934 (gage heights and fragmentary discharge records), October 1934 to current year. Prior to October 1937, published as "near Parker, Ariz."

GAGE.--Water-stage recorder. Datum of gage is 300.54 ft (91.605 m) above mean sea level. Prior to Oct. 1, 1967, at site 3.8 mi (6.1 km) downstream at datum 346.23 ft (105.531 m) above mean sea level.

AVERAGE DISCHARGE.--42 years, 12,070 ft³/s (341.8 m³/s), 8,745,000 acre-ft/yr (10,800 hm³/yr), unadjusted.

EXTREMES.--Current year: Maximum discharge, 19,400 ft³/s (549 m³/s) Aug. 17 (gage height, 72.16 ft or 21.994 m); minimum daily, 1,740 ft³/s (49.3 m³/s) Dec. 22.

Period of record: Maximum discharge, 42,400 ft³/s (1,200 m³/s) Feb. 8, 1937; no flow at Parker Dam for parts of several days in 1942 when gates in dam were closed; minimum daily discharge, 1,220 ft³/s (34.6 m³/s) Jan. 16, 1974.

An unregulated discharge of probably less than 1,350 ft³/s (38.2 m³/s) occurred Aug. 18, 1934 (lowest unregulated discharge since 1917 and probably since a much earlier date).

REMARKS.--Records excellent. Flow regulated by Lake Mead since Feb. 1, 1935, Lake Mohave since Jan. 17, 1950, and by Lake Havasu since July 1, 1938. Many diversions above station. For record of diversion to Colorado River aqueduct and return flows, see record for Colorado River aqueduct near Parker Dam, elsewhere in this report. Records of chemical analyses and water temperatures for the current water year are published on following pages.

REVISIONS (WATER YEARS).--WSP 1313: 1941(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9310	5860	4750	6050	8380	12900	13500	13500	10500	11200	13300	11900
2	8840	5850	4800	5880	8750	13500	14400	14600	10700	12800	13400	10100
3	9610	7040	6290	4710	8700	12800	14000	14000	9670	13900	13500	11000
4	10700	7040	6110	4730	7840	11100	14700	13900	11600	13300	13000	11700
5	10400	5920	6590	5220	6160	11900	14600	12800	11400	13200	12800	11800
6	9990	5440	6380	5270	5070	11100	14100	11300	11900	12400	14300	7920
7	9190	6180	5970	4430	5950	11100	13600	8240	11500	12600	15000	7880
8	7990	6380	6090	3390	4710	11100	13400	10700	11500	12100	15300	7820
9	7730	6490	6010	4410	3230	11300	15000	10200	10400	14800	14800	7020
10	8420	5880	5470	4450	1990	10500	15100	10600	10700	15200	14400	3140
11	8510	5390	5020	4890	1940	10000	14700	11100	12100	15300	14400	2030
12	8460	5190	5220	4650	2070	12100	14700	11000	12200	14100	13500	3740
13	7790	4840	5920	4250	3020	12200	9550	10700	12600	13500	14600	5720
14	7560	6580	6070	3530	1960	12500	6910	11400	11700	12900	14300	6490
15	5900	6570	7280	3350	1960	13300	5680	12400	12200	12000	14500	6050
16	6010	6980	7410	5690	1970	13800	6640	12100	11700	14000	13700	5500
17	8060	6810	6790	5860	2490	13300	9670	12900	11800	14100	13600	7350
18	8680	6590	6400	6810	3480	12800	10700	12800	12000	13900	13200	7540
19	8760	6260	6900	7070	3970	14200	11000	10400	12800	13900	13000	8880
20	7660	5410	6290	6790	6090	14200	12100	10000	13000	12900	14100	9630
21	7270	6760	4310	6050	7240	14400	13700	12000	12900	12700	13900	9230
22	6260	6240	1740	5540	8240	14200	14000	11500	12900	12000	13500	8910
23	6000	5050	5140	6610	9460	14300	15400	10900	12200	12900	13200	5050
24	6480	4000	6070	7500	10700	14300	15700	9770	11700	13100	13300	4370
25	6830	3960	6070	7530	10800	14100	15000	9120	12400	12700	12700	2040
26	6810	4090	6550	7120	10900	14800	15200	8950	13000	11200	12200	3570
27	6850	3770	6290	7210	11700	15400	15100	10300	13300	10200	14000	3860
28	6720	4570	6350	7210	12600	15600	13800	11000	13600	10100	13700	3970
29	6340	4460	3950	6830	12400	14400	13000	10800	14100	9940	13600	3920
30	5450	4210	6660	7250	---	14800	13800	10500	13500	12400	13100	3520
31	5670	---	6350	7590	---	14000	---	10200	---	12700	13000	---
TOTAL	240250	169810	181240	177870	183770	406000	388750	349680	361570	398040	424900	201650
MEAN	7750	5660	5846	5738	6337	13100	12960	11280	12050	12840	13710	6722
MAX	10700	7040	7410	7590	12600	15600	15700	14600	14100	15300	15300	11900
MIN	5450	3770	1740	3350	1940	10000	5680	8240	9670	9940	12200	2030
AC-FT	476500	336800	359500	352800	364500	805300	771100	693600	717200	789500	842800	400000
CAL YR 1975 TOTAL	3635120			9959	MAX 16300	MIN 1740	AC-FT 7210000					
WTR YR 1976 TOTAL	3483530			9518	MAX 15700	MIN 1740	AC-FT 6910000					

COLORADO RIVER MAIN STEM

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, in California, San Bernardino County, at gaging station at Parker Dam, 13 mi (21 km) northeast of Parker, Ariz., and 14 mi (23 km) upstream from Headgate Rock Dam.

DRAINAGE AREA (REVISED).--182,700 mi² (473,400 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming which is noncontributing (previously considered part of the Missouri River basin).

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	HARDNESS (CA, MG) (MG/L)
OCT										
06...	0915	13300	1090	7.9	--	--	--	--	--	320
14...	0900	--	1090	--	--	--	--	--	--	--
20...	0800	--	1100	--	--	--	--	--	--	--
28...	0945	--	1100	--	--	--	--	--	--	--
NOV										
03...	0815	4710	1090	7.9	--	--	--	--	--	330
10...	0830	--	1110	--	--	--	--	--	--	--
17...	0815	--	1100	--	--	--	--	--	--	--
24...	0930	--	1110	--	--	--	--	--	--	--
DEC										
01...	0800	4430	1100	7.9	--	--	--	--	--	330
08...	0800	--	1100	--	--	--	--	--	--	--
15...	1000	--	1110	--	--	--	--	--	--	--
21...	1600	--	1110	--	--	--	--	--	--	--
29...	0930	--	1110	--	--	--	--	--	--	--
JAN										
05...	0730	--	1110	--	--	--	--	--	--	--
12...	0730	--	1120	--	--	--	--	--	--	--
15...	1130	3680	1110	8.1	10.5	1	10.4	22	81	300
19...	0730	--	1110	--	--	--	--	--	--	--
26...	0730	--	1110	--	--	--	--	--	--	--
FEB										
02...	0730	--	1110	--	--	--	--	--	--	--
09...	0800	--	1110	--	--	--	--	--	--	--
12...	1115	1740	1100	8.2	12.5	3	10.2	--	81	330
17...	0800	--	1100	--	--	--	--	--	--	--
23...	0720	--	1100	--	--	--	--	--	--	--
MAR										
01...	0730	--	1100	--	--	--	--	--	--	--
08...	0730	--	1100	--	--	--	--	--	--	--
11...	0950	13200	1090	8.3	13.5	4	9.6	--	81	330
15...	0730	--	1120	--	--	--	--	--	--	--
29...	0715	--	1090	--	--	--	--	--	--	--
APR										
05...	0730	--	1090	--	--	--	--	--	--	--
12...	0730	--	1100	--	--	--	--	--	--	--
15...	1040	9330	1090	8.3	16.0	1	9.6	14	81	350
19...	0730	--	1100	--	--	--	--	--	--	--
26...	0730	--	1090	--	--	--	--	--	--	--
MAY										
03...	0730	--	1090	--	--	--	--	--	--	--
10...	0730	--	1090	--	--	--	--	--	--	--
13...	1040	8950	1100	8.2	22.0	2	8.8	12	81	330
17...	0730	--	1090	--	--	--	--	--	--	--
24...	0730	--	1090	--	--	--	--	--	--	--
JUN										
01...	0830	--	1090	--	--	--	--	--	--	--
07...	0730	--	1090	--	--	--	--	--	--	--
10...	1035	11400	1090	7.9	21.5	1	7.6	18	81	350
14...	0730	--	1090	--	--	--	--	--	--	--
21...	0730	--	1090	--	--	--	--	--	--	--
28...	0730	--	1100	--	--	--	--	--	--	--
JUL										
06...	0700	--	1080	--	--	--	--	--	--	--
12...	0730	--	1080	--	--	--	--	--	--	--
15...	1050	14360	1080	7.8	24.0	1	6.9	--	--	350
19...	0800	--	1080	--	--	--	--	--	--	--
26...	0730	--	1080	--	--	--	--	--	--	--
AUG										
02...	0730	--	1080	--	--	--	--	--	--	--
09...	0730	--	1070	--	--	--	--	--	--	--
12...	1040	18610	1080	7.8	24.5	1	6.8	--	82	330
16...	0930	--	1080	--	21.0	--	--	--	--	--
23...	0930	--	1080	--	24.0	--	--	--	--	--
30...	0730	--	1080	--	--	--	--	--	--	--
SEP										
07...	0730	--	1070	--	--	--	--	--	--	--
13...	0730	--	1080	--	--	--	--	--	--	--
16...	1045	4630	1070	7.7	24.5	1	6.9	--	81	320
20...	0930	--	1070	--	--	--	--	--	--	--
27...	0730	--	1060	--	--	--	--	--	--	--

B Results based on non-ideal colony count.

PERIOD OF RECORD.--Chemical analyses: October 1963 to current year.
Water temperatures: February 1954 to August 1970.
Prior to October 1968, published as 09428000.

DATE	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)
OCT										
06...	200	77	30	110	2.7	5.5	140	0	310	92
14...	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
NOV										
03...	200	83	29	110	2.6	5.2	160	0	300	93
10...	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--
DEC										
01...	210	84	30	110	2.6	4.9	152	0	300	95
08...	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
JAN										
05...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
15...	170	73	28	110	2.8	5.4	153	0	310	90
19...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
FEB										
02...	--	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--	--
12...	200	84	29	100	2.4	4.8	160	0	300	90
17...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
MAR										
01...	--	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--	--
11...	190	83	29	100	2.4	5.0	166	0	300	86
15...	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--
APR										
05...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
15...	220	86	34	100	2.3	5.0	165	0	300	92
19...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
MAY										
03...	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--
13...	190	82	30	100	2.4	5.0	167	0	300	89
17...	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--
JUN										
01...	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--
10...	220	88	31	110	2.6	4.6	160	0	310	91
14...	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--
JUL										
06...	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--
15...	220	88	31	100	2.3	5.0	159	0	290	90
19...	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--
AUG										
02...	--	--	--	--	--					

COLORADO RIVER MAIN STEM

09427520. COLORADO RIVER BELOW PARKER DAM, ARIZ.-CALIF.--CONTINUED

WATER QUALITY DATA. WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT									
06...	.3	6.8	690	701	.94	.12	--	140	10
14...	--	--	696	--	.95	--	--	--	--
20...	--	--	704	--	.96	--	--	--	--
28...	--	--	696	--	.95	--	--	--	--
NOV									
03...	.4	7.7	692	708	.94	.14	--	140	20
10...	--	--	710	--	.97	--	--	--	--
17...	--	--	704	--	.96	--	--	--	--
24...	--	--	712	--	.97	--	--	--	--
DEC									
01...	.4	8.1	698	709	.95	.26	--	140	50
08...	--	--	696	--	.95	--	--	--	--
15...	--	--	706	--	.96	--	--	--	--
21...	--	--	700	--	.95	--	--	--	--
29...	--	--	704	--	.96	--	--	--	--
JAN									
05...	--	--	702	--	.95	--	--	--	--
12...	--	--	716	--	.97	--	--	--	--
15...	.4	7.8	735	701	1.00	.17	.00	130	30
19...	--	--	704	--	.96	--	--	--	--
26...	--	--	704	--	.96	--	--	--	--
FEB									
02...	--	--	706	--	.96	--	--	--	--
09...	--	--	704	--	.96	--	--	--	--
12...	.4	7.5	749	695	1.02	.16	.00	120	0
17...	--	--	704	--	.96	--	--	--	--
23...	--	--	704	--	.96	--	--	--	--
MAR									
01...	--	--	698	--	.95	--	--	--	--
08...	--	--	700	--	.95	--	--	--	--
11...	.4	8.3	731	695	.99	.20	.01	130	10
15...	--	--	716	--	.97	--	--	--	--
29...	--	--	692	--	.94	--	--	--	--
APR									
05...	--	--	698	--	.95	--	--	--	--
12...	--	--	700	--	.95	--	--	--	--
15...	.4	6.3	719	706	.98	.20	.00	130	10
19...	--	--	698	--	.95	--	--	--	--
26...	--	--	690	--	.94	--	--	--	--
MAY									
03...	--	--	688	--	.94	--	--	--	--
10...	--	--	684	--	.93	--	--	--	--
13...	.4	4.8	728	694	.99	.15	.01	130	0
17...	--	--	678	--	.92	--	--	--	--
24...	--	--	678	--	.92	--	--	--	--
JUN									
01...	--	--	686	--	.93	--	--	--	--
07...	--	--	694	--	.94	--	--	--	--
10...	.4	7.8	732	722	1.00	--	--	120	10
14...	--	--	680	--	.92	--	--	--	--
21...	--	--	702	--	.95	--	--	--	--
28...	--	--	696	--	.95	--	--	--	--
JUL									
06...	--	--	676	--	.92	--	--	--	--
12...	--	--	676	--	.92	--	--	--	--
15...	.4	8.3	719	692	.98	.11	.00	130	10
19...	--	--	676	--	.92	--	--	--	--
26...	--	--	676	--	.92	--	--	--	--
AUG									
02...	--	--	674	--	.92	--	--	--	--
09...	--	--	682	--	.93	--	--	--	--
12...	.3	8.5	703	696	.96	.07	.01	140	10
16...	--	--	688	--	.94	--	--	--	--
23...	--	--	684	--	.93	--	--	--	--
30...	--	--	674	--	.92	--	--	--	--
SEP									
07...	--	--	682	--	.93	--	--	--	--
13...	--	--	682	--	.93	--	--	--	--
16...	.3	8.5	701	688	.95	.15	.00	130	10
20...	--	--	676	--	.92	--	--	--	--
27...	--	--	662	--	.90	--	--	--	--

COLORADO RIVER MAIN STEM

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09427520. COLORADO RIVER BELOW PARKER DAM, ARIZ.-CALIF.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)
JAN 15...	1130	.17	.00	.19	.17	.56	.75	3.3	.00	.00
FEB 12...	1115	--	--	.16	.16	.46	.62	2.7	.03	.00
MAR 11...	0950	--	--	.20	.20	.51	.71	3.1	.01	.01
APR 15...	1040	--	--	.19	.20	.20	.39	1.7	.09	.00
MAY 13...	1040	--	--	.21	.15	.27	.48	2.1	.01	.01
JUN 10...	1035	--	--	.18	--	.35	.53	2.3	.02	--
JUL 15...	1050	--	--	.11	.11	.24	.35	1.6	.01	.00
AUG 12...	1040	--	--	.11	.07	.22	.33	1.5	.02	.01
SEP 16...	1045	--	--	.15	.15	.60	.75	3.3	.00	.00

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL BARIUM (BA) (UG/L)	TOTAL BORON (B) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	HEXA- VALENT CHRO- MIUM (CR6) (UG/L)
JAN 15...	1130	--	4	--	--	130	--	0	--	1
FEB 12...	1115	3	--	0	180	120	<10	0	0	--
MAR 11...	0950	2	--	0	170	130	<10	1	0	--
APR 15...	1040	2	--	100	180	130	<10	1	0	--
MAY 13...	1040	3	--	200	160	130	<10	0	0	--
JUN 10...	1035	3	--	300	190	120	<10	0	10	--
JUL 15...	1050	4	--	100	200	130	<10	0	10	--
AUG 12...	1040	2	--	0	170	140	<10	--	0	--
SEP 16...	1045	3	--	100	180	130	<10	--	0	--

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

COLORADO RIVER MAIN STEM

09427520. COLORADO RIVER BELOW PARKER DAM, ARIZ.-CALIF.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)
JAN									
15...	--	0	--	30	--	0	--	0	--
FEB									
12...	<10	--	100	0	<100	--	20	0	.0
MAR									
11...	20	--	210	10	<100	--	40	10	.0
APR									
15...	10	--	120	10	<100	--	10	10	.0
MAY									
13...	10	--	40	0	<100	--	10	0	.0
JUN									
10...	<10	--	50	10	<100	--	20	0	.2
JUL									
15...	10	--	100	10	100	--	30	20	.0
AUG									
12...	10	--	160	10	<100	--	20	10	.0
SEP									
16...	10	--	30	10	<100	--	20	10	.0

DATE	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)
JAN									
15...	.0	--	3	--	--	0	4.0	.00	1
FEB									
12...	--	2	--	<10	10	--	4.0	.00	2
MAR									
11...	--	4	--	<10	10	--	3.3	.00	2
APR									
15...	--	5	--	<10	10	--	3.8	.00	0
MAY									
13...	--	3	--	<10	0	--	3.0	.01	2
JUN									
10...	--	2	--	<10	20	--	6.3	.00	7
JUL									
15...	--	3	--	<10	20	--	6.9	.02	2
AUG									
12...	--	3	--	<10	10	--	1.9	.00	2
SEP									
16...	--	3	--	<10	10	--	2.8	.01	3

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

09428500. COLORADO RIVER INDIAN RESERVATION MAIN CANAL NEAR PARKER, ARIZ.

LOCATION.--Two gages, lat 34°10'04", long 114°16'33", in SE¼NW¼ sec.31, T.10 N., R.19 W., Gila and Salt River meridian, Yuma County. Forebay gage, on left wall of canal intake, 90 ft (30 m) upstream from diversion gates at Arizona end of Headgate Rock Dam. Tailrace gage, on right bank of canal 250 ft (80 m) downstream from gates. Both gages are on Colorado River Indian Reservation 1.7 mi (2.7 km) northeast of Parker and 14 mi (23 km) downstream from Parker Dam.

PERIOD OF RECORD.--January 1915 to current year (prior to January 1937, fiscal year diversions only; January 1937 to September 1954, monthly diversions only).

GAGE.--Water-stage recorders above and below intake gates to record head and recorder to show gate openings (since Oct. 1, 1972), with supplementary tape gages read daily and at time of each gate change (prior to Oct. 1, 1972, tape gages only). Datum of gages is 350.00 ft (106.680 m) above mean sea level, datum in use locally, or 350.51 ft (106.835 m) above mean sea level, datum of 1929. Normal operating level of forebay is 364.3 ft (111.04 m); prior to July 9, 1962, normal operating level of forebay was 362.9 ft (110.61 m), datum in use locally. Prior to October 1954, discharge computed by various methods as described in WSP 1313.

EXTREMES.--Period of record: Maximum daily diversion, 1,520 ft³/s (43.0 m³/s) Sept. 9, 1976; no diversion at times in most years.

REMARKS.--Records excellent above 700 ft³/s (19.8 m³/s) and good below. Daily diversions computed on basis of head on intake gates and gate openings. Records show water diverted to project and surface return flows to Colorado River through two wasteways and two drains; three of these are equipped with water-stage recorders. Water used for irrigation of 67,708 acres (274 km²) during 1975 calendar year on east side of Colorado River between Parker and Ehrenberg.

COOPERATION.--Log of canal intake gate opening (supplementary record) furnished by Bureau of Indian Affairs.

REVISIONS (WATER YEARS).--WSP 1513: 1915-36.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	754	510	377	863	1080	889	1200	1140	982	1430	1040	1250
2	747	509	472	493	1060	968	1160	1180	1080	1360	1090	86
3	746	540	547	0	1050	978	1110	1130	1270	1120	1150	82
4	744	490	509	0	932	912	1090	1120	1390	934	1190	830
5	779	493	461	0	854	946	993	1120	1360	1060	1270	802
6	795	515	401	0	807	980	1050	1130	1320	1220	1300	832
7	793	513	379	0	723	978	1120	1210	1350	1240	1300	1190
8	793	485	379	0	750	1020	1100	1080	1240	1230	1190	1510
9	770	466	379	0	588	978	1130	1050	1230	1320	1170	1520
10	768	479	403	0	318	1030	1110	1030	1240	1430	1230	1280
11	762	481	474	0	317	1070	1020	1000	1250	1430	1320	1120
12	792	479	553	0	320	970	1020	1020	1230	1390	1350	1180
13	811	479	579	0	272	830	1050	1050	1140	1250	1350	1140
14	767	451	457	0	178	912	845	1040	1040	1310	1370	1130
15	739	438	379	0	160	960	404	959	1070	1350	1250	1160
16	734	435	500	0	161	912	371	921	1170	1310	1100	1020
17	734	464	488	0	200	1030	370	901	1290	1230	1040	903
18	731	477	526	0	325	1050	367	930	1300	1160	1060	843
19	670	478	550	0	336	1040	544	1050	1260	1150	1120	881
20	628	478	617	0	337	1060	814	1040	1210	1140	1120	878
21	679	477	640	0	337	1070	872	981	1270	1160	1250	882
22	702	472	637	0	337	1170	879	986	1380	1180	1180	986
23	653	419	592	195	449	1220	976	1000	1350	982	1170	840
24	609	387	530	376	594	1270	1080	1010	1250	996	1150	372
25	604	448	439	314	645	1240	1220	896	1120	872	1170	0
26	563	477	497	484	639	1290	1270	910	1200	805	1130	0
27	471	509	620	558	723	1330	1380	1110	1260	879	1060	0
28	482	465	656	658	455	1210	1120	1110	1410	1050	1120	0
29	512	389	674	852	666	1170	1110	1110	1480	1130	1150	0
30	510	367	797	889	---	1200	1030	1050	1490	1160	1190	107
31	510	---	860	983	---	1170	---	939	---	1150	1190	---
TOTAL	21352	14070	16372	6665	15613	32853	28805	32203	37632	36428	36770	22824
MEAN	689	469	528	215	538	1060	960	1039	1254	1175	1186	761
MAX	811	540	860	983	1080	1330	1380	1210	1490	1430	1370	1520
MIN	471	367	377	0	160	830	367	896	982	805	1040	0
AC-FT	42350	27910	32470	13220	30970	65160	57130	63870	74640	72250	72930	45270
(f)	27090	23370	21070	16710	19100	22760	24890	27530	26560	29860	29880	27720
CAL YR 1975 TOTAL	320560			MEAN 878	MAX 1510	MIN 0	AC-FT 635800	† 318,100				
WTR YR 1976 TOTAL	301587			MEAN 824	MAX 1520	MIN 0	AC-FT 598200	† 296,500				

† Return surface flow, in acre-feet, to Colorado River.

DIVERSIONS AND RETURN FLOWS BETWEEN PARKER DAM AND PALO VERDE DAM

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, at gaging station at Arizona end of Headgate Rock Dam, on Colorado River Indian Reservation, 1.7 mi (2.7 km) northeast of Parker, and 14 mi (23 km) downstream from Parker Dam.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)
OCT												
06...	1000	785	1100	8.1	22.0	330	210	82	30	110	2.6	5.5
14...	1000	--	1190	--	20.0	--	--	--	--	--	--	--
20...	1000	--	1120	--	20.5	--	--	--	--	--	--	--
28...	0935	--	1430	--	18.0	--	--	--	--	--	--	--
NOV												
03...	1000	569	1120	8.1	18.5	330	200	83	30	110	2.6	5.3
10...	0945	--	1120	--	15.0	--	--	--	--	--	--	--
17...	1145	--	1150	--	16.0	--	--	--	--	--	--	--
24...	1000	--	1120	--	15.0	--	--	--	--	--	--	--
DEC												
01...	0950	372	1110	8.0	12.0	340	210	85	30	110	2.6	4.9
08...	1000	--	1110	--	11.5	--	--	--	--	--	--	--
15...	1030	--	1170	--	11.5	--	--	--	--	--	--	--
22...	1000	--	1110	--	11.0	--	--	--	--	--	--	--
29...	1000	--	1110	--	11.5	--	--	--	--	--	--	--
JAN												
06...	1215	100	1120	8.1	11.5	340	210	86	31	100	2.4	4.8
12...	1000	--	1160	--	10.5	--	--	--	--	--	--	--
19...	1330	--	1110	--	12.0	--	--	--	--	--	--	--
26...	1015	--	1140	--	12.0	--	--	--	--	--	--	--
FEB												
03...	1030	1070	1100	8.2	11.5	350	220	90	30	100	2.3	4.7
09...	1000	--	1100	--	13.0	--	--	--	--	--	--	--
17...	1400	--	1100	--	13.5	--	--	--	--	--	--	--
23...	1330	--	1100	--	13.5	--	--	--	--	--	--	--
MAR												
01...	1230	938	1100	8.1	12.0	330	200	85	29	100	2.4	5.1
08...	1325	--	1130	--	13.5	--	--	--	--	--	--	--
15...	1330	--	1100	--	13.5	--	--	--	--	--	--	--
29...	1030	--	1110	--	14.0	--	--	--	--	--	--	--
APR												
05...	1015	993	1110	8.2	15.5	340	200	83	31	100	2.4	5.4
12...	1300	--	1120	--	16.5	--	--	--	--	--	--	--
19...	1010	--	1100	--	16.5	--	--	--	--	--	--	--
26...	1000	--	1090	--	20.5	--	--	--	--	--	--	--
MAY												
03...	1245	1100	1100	8.3	19.0	330	190	81	30	110	2.7	4.9
10...	1320	--	1100	--	20.0	--	--	--	--	--	--	--
18...	1120	--	1120	--	22.0	--	--	--	--	--	--	--
24...	1325	--	1130	--	21.0	--	--	--	--	--	--	--
JUN												
01...	0915	1030	1090	8.1	21.5	330	200	86	29	110	2.6	4.9
07...	1320	--	1150	--	21.5	--	--	--	--	--	--	--
14...	1330	--	1100	--	21.0	--	--	--	--	--	--	--
21...	1300	--	1090	--	26.0	--	--	--	--	--	--	--
28...	1330	--	1100	--	25.0	--	--	--	--	--	--	--
JUL												
06...	1100	1320	1090	8.1	26.0	330	200	82	31	110	2.6	5.5
12...	0940	--	1080	--	24.5	--	--	--	--	--	--	--
19...	1045	--	1080	--	25.5	--	--	--	--	--	--	--
26...	1010	--	1090	--	26.5	--	--	--	--	--	--	--
AUG												
02...	0830	930	1080	7.9	23.5	320	190	85	26	110	2.7	5.1
09...	0935	--	1110	--	24.5	--	--	--	--	--	--	--
16...	1000	--	1090	--	23.0	--	--	--	--	--	--	--
23...	1000	--	1090	--	--	--	--	--	--	--	--	--
30...	1045	--	1080	--	25.5	--	--	--	--	--	--	--
SEP												
07...	0900	1137	1080	7.9	24.5	320	200	81	29	100	2.4	4.9
13...	0950	--	1110	--	24.0	--	--	--	--	--	--	--
20...	1020	--	1090	--	24.0	--	--	--	--	--	--	--
27...	1000	--	1070	--	23.0	--	--	--	--	--	--	--

DIVERSIONS AND RETURN FLOWS BETWEEN PARKER DAM AND PALO VERDE DAM

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09428500. COLORADO RIVER INDIAN RESERVATION MAIN CANAL NEAR PARKER, ARIZ.--CONTINUED

PERIOD OF RECORD.--Chemical analyses: October 1969 to current year.

REMARKS.--No flow Jan. 3-22, Sept. 25-29.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	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)	DIS- SOLVED SILICA (SiO2) (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)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT												
06...	147	0	300	96	.3	7.0	700	704	.95	.11	140	0
14...	--	--	--	--	--	--	778	--	1.06	--	--	--
20...	--	--	--	--	--	--	708	--	.96	--	--	--
28...	--	--	--	--	--	--	928	--	1.26	--	--	--
NOV												
03...	158	0	320	96	.4	7.8	708	732	.96	.23	140	0
10...	--	--	--	--	--	--	720	--	.98	--	--	--
17...	--	--	--	--	--	--	754	--	1.03	--	--	--
24...	--	--	--	--	--	--	720	--	.98	--	--	--
DEC												
01...	154	0	300	91	.4	8.1	704	706	.96	.17	130	0
08...	--	--	--	--	--	--	708	--	.96	--	--	--
15...	--	--	--	--	--	--	740	--	1.01	--	--	--
22...	--	--	--	--	--	--	704	--	.96	--	--	--
29...	--	--	--	--	--	--	704	--	.96	--	--	--
JAN												
06...	158	0	300	93	.4	7.8	706	703	.96	.33	130	10
12...	--	--	--	--	--	--	744	--	1.01	--	--	--
19...	--	--	--	--	--	--	708	--	.96	--	--	--
26...	--	--	--	--	--	--	730	--	.99	--	--	--
FEB												
03...	162	0	300	92	.4	7.7	702	706	.95	.33	130	30
09...	--	--	--	--	--	--	696	--	.95	--	--	--
17...	--	--	--	--	--	--	700	--	.95	--	--	--
23...	--	--	--	--	--	--	698	--	.95	--	--	--
MAR												
01...	162	0	290	90	.4	8.1	702	689	.95	.21	140	0
08...	--	--	--	--	--	--	714	--	.97	--	--	--
15...	--	--	--	--	--	--	704	--	.96	--	--	--
29...	--	--	--	--	--	--	704	--	.96	--	--	--
APR												
05...	167	0	280	89	.3	7.8	708	680	.96	.28	190	20
12...	--	--	--	--	--	--	712	--	.97	--	--	--
19...	--	--	--	--	--	--	696	--	.95	--	--	--
26...	--	--	--	--	--	--	692	--	.94	--	--	--
MAY												
03...	163	0	300	90	.2	4.7	698	702	.95	.16	140	10
10...	--	--	--	--	--	--	688	--	.94	--	--	--
18...	--	--	--	--	--	--	708	--	.96	--	--	--
24...	--	--	--	--	--	--	710	--	.97	--	--	--
JUN												
01...	163	0	300	87	.3	6.4	688	706	.94	.46	130	10
07...	--	--	--	--	--	--	730	--	.99	--	--	--
14...	--	--	--	--	--	--	688	--	.94	--	--	--
21...	--	--	--	--	--	--	698	--	.95	--	--	--
28...	--	--	--	--	--	--	692	--	.94	--	--	--
JUL												
06...	158	0	300	94	.3	8.3	686	710	.93	.19	130	10
12...	--	--	--	--	--	--	676	--	.92	--	--	--
19...	--	--	--	--	--	--	672	--	.91	--	--	--
26...	--	--	--	--	--	--	680	--	.92	--	--	--
AUG												
02...	154	0	290	91	.3	7.9	676	692	.92	.24	130	10
09...	--	--	--	--	--	--	696	--	.95	--	--	--
16...	--	--	--	--	--	--	696	--	.95	--	--	--
23...	--	--	--	--	--	--	688	--	.94	--	--	--
30...	--	--	--	--	--	--	676	--	.92	--	--	--
SEP												
07...	152	0	300	91	.4	8.3	688	691	.94	.23	140	0
13...	--	--	--	--	--	--	702	--	.95	--	--	--
20...	--	--	--	--	--	--	688	--	.94	--	--	--
27...	--	--	--	--	--	--	674	--	.92	--	--	--

DIVERSIONS AND RETURN FLOWS BETWEEN PARKER DAM AND PALO VERDE DAM

09428510. COLORADO RIVER INDIAN RESERVATION 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 mi (1.3 km) upstream from mouth, 2.5 mi (4.0 km) west of Poston, and 14 mi (23 km) southwest of Parker.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
OCT												
06...	0830	1720	7.7	20.5	470	270	120	42	190	3.8	6.1	244
14...	0830	1400	--	19.5	--	--	--	--	--	--	--	--
20...	1045	1710	--	18.5	--	--	--	--	--	--	--	--
28...	1030	1750	--	16.5	--	--	--	--	--	--	--	--
NOV												
03...	0830	1830	7.9	17.0	560	320	150	45	180	3.3	5.7	292
10...	0830	1840	--	15.5	--	--	--	--	--	--	--	--
17...	1020	1820	--	15.5	--	--	--	--	--	--	--	--
24...	0830	1730	--	15.5	--	--	--	--	--	--	--	--
DEC												
01...	0830	1770	7.8	10.5	540	320	140	47	200	3.7	5.5	268
08...	0830	1650	--	12.0	--	--	--	--	--	--	--	--
15...	0900	1590	--	10.5	--	--	--	--	--	--	--	--
22...	0900	1690	--	11.5	--	--	--	--	--	--	--	--
29...	0855	1950	--	11.0	--	--	--	--	--	--	--	--
JAN												
06...	1010	1560	8.0	11.0	460	270	120	40	160	3.2	5.2	233
12...	0850	2060	--	10.0	--	--	--	--	--	--	--	--
19...	1255	2130	--	13.0	--	--	--	--	--	--	--	--
26...	0800	1170	--	10.5	--	--	--	--	--	--	--	--
FEB												
03...	0845	1500	8.1	11.0	450	270	120	36	160	3.3	4.8	220
09...	0840	1240	--	11.5	--	--	--	--	--	--	--	--
17...	1300	1940	--	13.0	--	--	--	--	--	--	--	--
23...	1200	1760	--	12.0	--	--	--	--	--	--	--	--
MAR												
01...	1130	1910	7.9	12.0	580	340	150	49	210	3.8	6.4	291
08...	1210	1750	--	13.0	--	--	--	--	--	--	--	--
15...	1255	1610	--	13.0	--	--	--	--	--	--	--	--
29...	0840	1710	--	14.5	--	--	--	--	--	--	--	--
APR												
05...	0845	1530	8.1	16.5	460	270	120	38	170	3.5	5.6	231
12...	1130	1680	--	18.0	--	--	--	--	--	--	--	--
19...	0900	1920	--	19.0	--	--	--	--	--	--	--	--
26...	0855	1670	--	20.0	--	--	--	--	--	--	--	--
MAY												
03...	1300	1810	8.0	20.5	550	320	140	48	200	3.7	5.7	275
10...	1230	1690	--	21.0	--	--	--	--	--	--	--	--
18...	1010	1820	--	21.0	--	--	--	--	--	--	--	--
24...	1215	1750	--	20.5	--	--	--	--	--	--	--	--
JUN												
01...	0810	1840	8.0	23.0	540	310	140	46	210	3.9	5.8	278
07...	1155	1800	--	20.5	--	--	--	--	--	--	--	--
14...	1230	1640	--	22.0	--	--	--	--	--	--	--	--
21...	1125	1860	--	24.5	--	--	--	--	--	--	--	--
28...	1245	1500	--	25.5	--	--	--	--	--	--	--	--
JUL												
06...	0830	1770	8.0	25.0	540	310	140	45	200	3.8	5.7	271
12...	0815	1370	--	24.5	--	--	--	--	--	--	--	--
19...	0900	1520	--	25.0	--	--	--	--	--	--	--	--
26...	0835	1740	--	26.5	--	--	--	--	--	--	--	--
AUG												
02...	1000	1870	8.0	25.0	560	330	150	46	210	3.8	6.0	290
09...	0810	1690	--	24.5	--	--	--	--	--	--	--	--
16...	0840	1490	--	22.0	--	--	--	--	--	--	--	--
23...	0850	1680	--	25.5	--	--	--	--	--	--	--	--
30...	0930	1630	--	25.0	--	--	--	--	--	--	--	--
SEP												
07...	0815	1840	7.9	23.5	560	320	140	50	200	3.7	5.5	288
13...	0825	1520	--	23.5	--	--	--	--	--	--	--	--
20...	0825	1550	--	22.0	--	--	--	--	--	--	--	--
27...	0840	1950	--	23.0	--	--	--	--	--	--	--	--

DIVERSIONS AND RETURN FLOWS BETWEEN PARKER DAM AND PALO VERDE DAM

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09428510. COLORADO RIVER INDIAN RESERVATION POSTON WASTEWAY NEAR POSTON, ARIZ.--CONTINUED

PERIOD OF RECORD.--Chemical analyses: October 1968 to current year.

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1965-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

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 SILICA (SI02) (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)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT											
06...	0	470	160	.4	14	1100	1120	1.50	.19	260	10
14...	--	--	--	--	--	934	--	1.27	--	--	--
20...	--	--	--	--	--	1140	--	1.55	--	--	--
28...	--	--	--	--	--	1180	--	1.60	--	--	--
NOV											
03...	0	490	170	.5	17	1230	1200	1.67	.23	250	10
10...	--	--	--	--	--	1200	--	1.63	--	--	--
17...	--	--	--	--	--	1200	--	1.63	--	--	--
24...	--	--	--	--	--	1150	--	1.56	--	--	--
DEC											
01...	0	480	160	.5	17	1190	1180	1.62	.33	240	20
08...	--	--	--	--	--	1120	--	1.52	--	--	--
15...	--	--	--	--	--	1050	--	1.43	--	--	--
22...	--	--	--	--	--	1120	--	1.52	--	--	--
29...	--	--	--	--	--	1280	--	1.74	--	--	--
JAN											
06...	0	430	140	.4	13	988	1030	1.34	.45	180	10
12...	--	--	--	--	--	1370	--	1.86	--	--	--
19...	--	--	--	--	--	1430	--	1.94	--	--	--
26...	--	--	--	--	--	766	--	1.04	--	--	--
FEB											
03...	0	400	140	.4	12	978	984	1.33	.38	180	0
09...	--	--	--	--	--	806	--	1.10	--	--	--
17...	--	--	--	--	--	1300	--	1.77	--	--	--
23...	--	--	--	--	--	1170	--	1.59	--	--	--
MAR											
01...	0	510	180	.5	19	1280	1270	1.74	.44	250	0
08...	--	--	--	--	--	1180	--	1.60	--	--	--
15...	--	--	--	--	--	1070	--	1.46	--	--	--
29...	--	--	--	--	--	1150	--	1.56	--	--	--
APR											
05...	0	440	140	.5	13	1010	1040	1.37	.30	210	20
12...	--	--	--	--	--	1140	--	1.55	--	--	--
19...	--	--	--	--	--	1300	--	1.77	--	--	--
26...	--	--	--	--	--	1120	--	1.52	--	--	--
MAY											
03...	0	510	180	.4	17	1220	1240	1.66	.28	260	10
10...	--	--	--	--	--	1130	--	1.54	--	--	--
18...	--	--	--	--	--	1210	--	1.65	--	--	--
24...	--	--	--	--	--	1180	--	1.60	--	--	--
JUN											
01...	0	520	170	.5	16	1260	1250	1.71	.25	240	20
07...	--	--	--	--	--	1220	--	1.66	--	--	--
14...	--	--	--	--	--	1110	--	1.51	--	--	--
21...	--	--	--	--	--	1230	--	1.67	--	--	--
28...	--	--	--	--	--	982	--	1.34	--	--	--
JUL											
06...	0	490	170	.5	17	1190	1200	1.62	.20	230	20
12...	--	--	--	--	--	888	--	1.21	--	--	--
19...	--	--	--	--	--	998	--	1.36	--	--	--
26...	--	--	--	--	--	1180	--	1.60	--	--	--
AUG											
02...	0	520	190	.5	18	1250	1290	1.70	.35	240	20
09...	--	--	--	--	--	1140	--	1.55	--	--	--
16...	--	--	--	--	--	980	--	1.33	--	--	--
23...	--	--	--	--	--	1100	--	1.50	--	--	--
30...	--	--	--	--	--	1080	--	1.47	--	--	--
SEP											
07...	0	490	170	.5	20	1270	1220	1.73	.36	250	0
13...	--	--	--	--	--	982	--	1.34	--	--	--
20...	--	--	--	--	--	1010	--	1.37	--	--	--
27...	--	--	--	--	--	1330	--	1.81	--	--	--

DIVERSIONS AND RETURN FLOWS BETWEEN PARKER DAM AND PALO VERDE DAM

09429000. PALO VERDE CANAL NEAR BLYTHE, CALIF.

LOCATION.--Lat 33°43'55", long 114°30'40", in NW¼NE¼ sec.19, T.5 S., R.24 E., San Bernardino meridian, Riverside County, at canal intake structure on west side of Palo Verde Diversion Dam, 10 mi (16 km) northeast of Blythe and 44 mi (71 km) downstream from Headgate Rock Dam.

PERIOD OF RECORD.--January 1922 to December 1923, January 1925 to current year (prior to October 1950, monthly discharge only).

GAGE.--Recording gages above and below intakes to record head. Since May 18, 1964, recorder to show gate openings. Datum of gage is: Forebay gage, at mean sea level; tailrace gage, 274.13 ft (83.555 m) above mean sea level. Aug. 7, 1950, to Nov. 30, 1952, water-stage recorder on tailrace and auxiliary recorder 0.5 mi (0.8 km) downstream and Dec. 1, 1952, to Oct. 28, 1957, recording gage above and below former intake structure 0.2 mi (0.3 km) upstream, at different datums.

AVERAGE DISCHARGE.--26 years (1950-76), 1,205 ft³/s (34.13 m³/s), 873,000 acre-ft/yr (1,080 hm³/yr).

EXTREMES.--Period of record: Maximum daily discharge, 2,180 ft³/s (61.7 m³/s) Aug. 7, 1962; no flow at times.

REMARKS.--Records good. Daily diversions computed on basis of head on intake gates and gate openings. Records published herein represent flow diverted from Colorado River for irrigation of 91,784 acres (371 km²) during the 1975 calendar year. Return flows to Colorado River are measured by 11 wasteways and drains extending throughout the project; 5 of these are equipped with water-stage recorder and Parshall flume, 3 are equipped with Sparling flowmeters. Return flows have not been subtracted; combined monthly return flows are given in table below. Records of chemical analyses for the current year are published on following pages.

REVISIONS (WATER YEARS).--WSP 1213: 1946-48.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1580	932	697	870	913	1240	1850	1780	1340	1850	1900	1560
2	1290	837	655	1070	1030	1290	1880	1740	1510	1830	1870	1570
3	1340	1060	606	1070	1060	1420	1660	1980	1620	1880	1820	1670
4	1290	946	597	317	1050	1420	1570	1980	1590	1860	1850	1520
5	1180	993	623	0	975	1320	1630	2020	1580	1880	1890	1100
6	1250	1120	637	0	795	1070	1590	1940	1500	1990	1960	950
7	1090	1110	565	0	702	986	1570	1780	1310	1920	1970	1150
8	1180	1050	708	0	722	1150	1720	1650	1560	1900	1910	1300
9	1220	958	732	0	484	1250	1790	1540	1600	1980	1970	1330
10	1160	977	713	0	517	1320	1790	1460	1650	1860	2010	1050
11	1090	894	692	0	467	1300	1630	1420	1640	1820	2070	994
12	1020	897	681	0	493	1370	1830	1540	1670	1910	1980	1070
13	1140	944	683	0	420	1340	1800	1800	1340	1940	1860	1160
14	1080	973	622	0	378	1210	1180	1980	1580	1920	1870	1130
15	1070	948	514	0	345	1550	761	1800	1660	2000	1650	1400
16	1100	836	679	0	366	1620	685	1820	1760	1970	1760	1400
17	1120	958	774	262	395	1790	660	1860	1840	1960	1780	1310
18	1070	958	908	509	449	1700	615	1810	1860	1760	1810	1310
19	882	900	896	1010	423	1740	1080	1830	1790	1850	1680	1200
20	987	912	796	1330	571	1480	1280	1720	1770	1890	1590	1080
21	1030	852	799	1350	563	1420	1470	1680	1890	1830	1550	1250
22	962	838	866	1410	606	1510	1780	1550	1850	1870	1390	1240
23	942	655	793	1290	668	1480	1820	1370	1880	1790	1610	985
24	970	757	622	1150	777	1600	1770	1340	1870	1690	1600	743
25	946	640	529	1140	958	1670	1660	1400	1930	1470	1660	524
26	805	672	821	1070	1080	1620	1700	1550	1930	1570	1750	508
27	989	594	827	1100	1300	1450	1650	1620	1920	1590	1790	491
28	1080	688	832	1120	1390	1170	1750	1600	1820	1780	1730	548
29	1060	712	999	1260	1120	1440	1930	1510	1800	1880	1600	490
30	1030	636	1020	1250	---	1540	1890	1420	1840	1990	1620	482
31	1050	---	978	1090	---	1790	---	1270	---	1930	1610	---
TOTAL	34003	26287	22864	19668	21017	44256	45991	51760	50900	57360	55110	32515
MEAN	1097	876	738	634	725	1428	1533	1670	1697	1850	1778	1084
MAX	1580	1120	1020	1410	1390	1790	1930	2020	1930	2000	2070	1670
MIN	805	594	514	0	345	986	615	1270	1310	1470	1390	482
AC-FT	67440	52140	45350	39010	41690	87780	91220	102700	101000	113800	109300	64490
(†)	44220	38740	38110	29650	33230	36010	41840	44300	43270	47040	49130	54140
CAL YR 1975 TOTAL	470816			MEAN 1290	MAX 1940	MIN 514		AC-FT 933900		† 484,400		
WTR YR 1976 TOTAL	461731			MEAN 1262	MAX 2070	MIN 0		AC-FT 915800		† 449,700		

† Return flows, in acre-feet, to Colorado River.

DIVERSIONS AND RETURN FLOWS BETWEEN PARKER DAM AND PALO VERDE DAM

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09429000. PALO VERDE CANAL NEAR BLYTHE, CALIF.

LOCATION.--Lat 33°43'55", long 114°30'40", in NW¼ 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 mi (16 km) northeast of Blythe, and 44 mi (71 km) downstream from Headgate Rock Dam.

PERIOD OF RECORD.--Chemical analyses: March 1970 to current year.

REMARKS.--No flow Jan. 5-16.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTMBER 1976

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT												
06...	0745	1330	1130	8.0	24.0	330	210	82	31	110	2.6	5.5
14...	0810	--	1220	--	19.5	--	--	--	--	--	--	--
20...	0745	--	1240	--	21.5	--	--	--	--	--	--	--
28...	0740	--	1230	--	18.0	--	--	--	--	--	--	--
NOV												
03...	0730	1140	1160	8.1	18.0	350	210	88	31	110	2.6	7.7
10...	0730	--	1200	--	15.0	--	--	--	--	--	--	--
17...	0930	--	1320	--	15.0	--	--	--	--	--	--	--
DEC												
01...	0745	752	1180	8.0	10.5	360	220	91	32	110	2.5	5.3
08...	0730	--	1190	--	11.5	--	--	--	--	--	--	--
15...	0800	--	1150	--	10.0	--	--	--	--	--	--	--
22...	0800	--	1160	--	11.0	--	--	--	--	--	--	--
29...	0745	--	1130	--	10.5	--	--	--	--	--	--	--
JAN												
06...	0910	.00	1150	8.0	10.0	350	210	86	34	110	2.5	4.9
12...	0740	--	1220	--	9.5	--	--	--	--	--	--	--
19...	1145	--	1260	--	12.0	--	--	--	--	--	--	--
26...	0730	--	1140	--	9.5	--	--	--	--	--	--	--
FEB												
03...	0750	1090	1120	8.2	11.5	340	210	85	31	100	2.4	4.7
09...	0730	--	1120	--	11.0	--	--	--	--	--	--	--
17...	0800	--	1210	--	12.0	--	--	--	--	--	--	--
23...	1045	--	1120	--	13.0	--	--	--	--	--	--	--
MAR												
01...	1045	1250	1120	8.1	11.5	330	190	84	28	110	2.7	5.2
08...	1100	--	1110	--	12.0	--	--	--	--	--	--	--
15...	1150	--	1110	--	14.0	--	--	--	--	--	--	--
29...	0745	--	1140	--	15.5	--	--	--	--	--	--	--
APR												
05...	0730	1710	1120	8.1	16.0	340	200	83	31	110	2.6	5.5
12...	1030	--	1120	--	18.0	--	--	--	--	--	--	--
19...	0745	--	1130	--	16.5	--	--	--	--	--	--	--
26...	0800	--	1110	--	19.0	--	--	--	--	--	--	--
MAY												
03...	1400	2100	1100	8.2	19.0	330	190	81	31	110	2.6	4.9
10...	1100	--	1110	--	21.0	--	--	--	--	--	--	--
18...	0900	--	1100	--	21.5	--	--	--	--	--	--	--
24...	1115	--	1150	--	21.0	--	--	--	--	--	--	--
JUN												
01...	0720	1290	1110	8.0	23.5	340	200	85	30	110	2.6	5.1
07...	1100	--	1210	--	22.0	--	--	--	--	--	--	--
14...	1130	--	1110	--	23.5	--	--	--	--	--	--	--
21...	1030	--	1100	--	25.5	--	--	--	--	--	--	--
28...	1150	--	1110	--	25.5	--	--	--	--	--	--	--
JUL												
06...	0745	2010	1110	8.1	25.5	340	200	82	32	110	2.6	5.2
12...	0730	--	1100	--	25.5	--	--	--	--	--	--	--
19...	0810	--	1100	--	26.0	--	--	--	--	--	--	--
26...	0740	--	1090	--	25.0	--	--	--	--	--	--	--
AUG												
02...	1045	1980	1090	8.1	25.0	330	200	83	29	110	2.6	5.0
09...	0725	--	1140	--	25.5	--	--	--	--	--	--	--
16...	0750	--	1110	--	24.0	--	--	--	--	--	--	--
23...	0800	--	1090	--	24.0	--	--	--	--	--	--	--
30...	0850	--	1090	--	25.5	--	--	--	--	--	--	--
SEP												
07...	0720	985	1110	8.0	25.0	330	210	82	31	110	2.6	5.0
13...	0730	--	1300	--	24.5	--	--	--	--	--	--	--
20...	0730	--	1130	--	24.0	--	--	--	--	--	--	--
27...	0730	--	1060	--	24.0	--	--	--	--	--	--	--

DIVERSIONS AND RETURN FLOWS BETWEEN PARKER DAM AND PALO VERDE DAM

09429000. PALO VERDE CANAL NEAR BLYTHE, CALIF.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLORIDE (CL) (MG/L)	DIS- SOLVED FLUORIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRATE PLUS NITRITE (N) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT												
06...	147	0	290	98	.3	7.2	714	698	.97	.25	140	10
14...	--	--	--	--	--	--	788	--	1.07	--	--	--
20...	--	--	--	--	--	--	786	--	1.07	--	--	--
28...	--	--	--	--	--	--	790	--	1.07	--	--	--
NOV												
03...	167	0	310	100	.3	8.1	732	738	1.00	.11	150	0
10...	--	--	--	--	--	--	756	--	1.03	--	--	--
17...	--	--	--	--	--	--	834	--	1.13	--	--	--
DEC												
01...	167	0	310	100	.4	8.7	746	741	1.01	.18	140	10
08...	--	--	--	--	--	--	762	--	1.04	--	--	--
15...	--	--	--	--	--	--	728	--	.99	--	--	--
22...	--	--	--	--	--	--	734	--	1.00	--	--	--
29...	--	--	--	--	--	--	712	--	.97	--	--	--
JAN												
06...	173	0	300	97	.3	9.3	730	729	.99	.46	130	0
12...	--	--	--	--	--	--	778	--	1.06	--	--	--
19...	--	--	--	--	--	--	806	--	1.10	--	--	--
26...	--	--	--	--	--	--	724	--	.98	--	--	--
FEB												
03...	161	0	300	91	.4	7.8	712	701	.97	.25	130	0
09...	--	--	--	--	--	--	708	--	.96	--	--	--
17...	--	--	--	--	--	--	768	--	1.04	--	--	--
23...	--	--	--	--	--	--	714	--	.97	--	--	--
MAR												
01...	163	0	280	89	.3	8.2	712	686	.97	.19	130	0
08...	--	--	--	--	--	--	706	--	.96	--	--	--
15...	--	--	--	--	--	--	710	--	.97	--	--	--
29...	--	--	--	--	--	--	720	--	.98	--	--	--
APR												
05...	166	0	300	92	.3	7.7	712	713	.97	.27	230	10
12...	--	--	--	--	--	--	712	--	.97	--	--	--
19...	--	--	--	--	--	--	716	--	.97	--	--	--
26...	--	--	--	--	--	--	704	--	.96	--	--	--
MAY												
03...	166	0	300	91	.4	5.0	696	715	.95	2.1	140	0
10...	--	--	--	--	--	--	698	--	.95	--	--	--
18...	--	--	--	--	--	--	686	--	.93	--	--	--
24...	--	--	--	--	--	--	728	--	.99	--	--	--
JUN												
01...	164	0	300	89	.4	6.3	702	708	.95	.18	130	20
07...	--	--	--	--	--	--	768	--	1.04	--	--	--
14...	--	--	--	--	--	--	696	--	.95	--	--	--
21...	--	--	--	--	--	--	682	--	.93	--	--	--
28...	--	--	--	--	--	--	708	--	.96	--	--	--
JUL												
06...	161	0	310	97	.3	8.3	706	725	.96	.17	130	10
12...	--	--	--	--	--	--	686	--	.93	--	--	--
19...	--	--	--	--	--	--	684	--	.93	--	--	--
26...	--	--	--	--	--	--	694	--	.94	--	--	--
AUG												
02...	156	0	300	92	.3	7.8	680	705	.92	.24	130	20
09...	--	--	--	--	--	--	718	--	.98	--	--	--
16...	--	--	--	--	--	--	708	--	.96	--	--	--
23...	--	--	--	--	--	--	694	--	.94	--	--	--
30...	--	--	--	--	--	--	686	--	.93	--	--	--
SEP												
07...	155	0	300	93	.4	8.6	704	707	.96	.20	150	10
13...	--	--	--	--	--	--	852	--	1.16	--	--	--
20...	--	--	--	--	--	--	716	--	.97	--	--	--
27...	--	--	--	--	--	--	640	--	.87	--	--	--

09429010. COLORADO RIVER AT PALO VERDE DAM, ARIZ.-CALIF.

LOCATION.--Lat 33°43'55", long 114°30'40", in NW¼NE¼ sec.19, T.5 S., R.24 E., San Bernardino meridian, in California, Riverside County, on west side of Palo Verde Diversion Dam, 10 mi (16 km) northeast of Blythe, Calif., and 44 mi (71 km) downstream from Headgate Rock Dam.

DRAINAGE AREA (REVISED).--186,200 mi² (482,300 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming, which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--April 1969 to current year. If records (available in files of Tucson District office) for the two Colorado River Indian Reservation drains entering below Palo Verde Dam are added to records for this station, records equivalent to those published 1956-69 as Colorado River below Palo Verde Dam can be obtained.

GAGE.--Two water-stage recorders, one above and one below dam, to record head on gates, and water-stage recorder to record gate opening. Supplementary water-stage recorder above dam operated by Geological Survey and supplementary water-stage recorder below dam operated by Palo Verde Irrigation District. Datum of gages is at mean sea level.

AVERAGE DISCHARGE.--7 years, 7,355 ft³/s (208.3 m³/s), 5,329,000 acre-ft/yr (6,570 hm³/yr).

EXTREMES.--Current year: Maximum daily discharge, 12,900 ft³/s (365 m³/s) Mar. 28; minimum daily, 1,350 ft³/s (38.2 m³/s) Sept. 12. Period of record: Maximum daily discharge, 13,200 ft³/s (374 m³/s) Apr. 8, 1970; minimum daily, 1,060 ft³/s (30.0 m³/s) Nov. 24, 1972.

REMARKS.--Records good. Record does not include diversion to Palo Verde Canal. (See elsewhere in this report.) Daily discharge computed from relation between discharge, head, and gate openings. Many diversions above station for irrigation, municipal, and industrial uses. Flow regulated by Lake Mead, Lake Mohave, and Lake Havasu.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8140	4470	3570	5390	6490	10200	10400	10700	7630	9070	9540	9670
2	7160	4650	3890	5110	6690	10700	10500	10900	7810	8080	10000	9540
3	6820	4680	3970	4920	7580	10900	11200	10900	7870	10100	10000	8700
4	7710	5600	5200	5580	7000	9850	11400	10400	7040	10000	9660	9400
5	8460	5670	5200	5110	6650	9320	12200	9800	8110	10000	9340	9400
6	8180	4300	5670	5460	5340	9630	11300	9240	8070	9610	9480	8860
7	7650	4120	5560	5360	4260	9160	11500	8520	8860	9100	11300	5740
8	6860	4890	5000	4700	5080	8890	10700	8830	8480	9130	11300	5420
9	6230	5180	5350	3840	4400	8990	10300	6630	8100	9680	11300	5860
10	5980	5330	4920	4530	2570	9020	12300	7490	6980	11500	10400	5080
11	6560	4770	4410	4780	1720	8000	11800	8260	7530	11700	10400	1830
12	6660	4320	4400	4920	1520	7640	11500	8440	8790	10700	10200	1350
13	6640	4150	3930	4780	2030	9680	11000	8860	8930	10600	10000	2390
14	6070	3840	4800	4220	2360	9900	7380	7920	9100	10000	10800	3460
15	5880	5420	5710	3940	1810	10100	5550	8400	8880	9240	10700	3490
16	4440	5700	5980	3630	1720	10700	4960	8720	8270	9360	10900	3660
17	4620	5800	6040	4980	1900	10800	5770	8900	8030	10600	10200	4120
18	6270	5480	5580	5190	2010	10300	8630	10100	8150	11000	10100	5230
19	7030	5430	5180	5210	2830	10500	9010	9150	8450	10800	9790	5430
20	7180	5100	5350	4960	3510	11700	8850	7590	9370	10100	10300	6940
21	6130	4540	4810	4880	4980	11800	10100	7900	9480	9920	10700	7100
22	5700	5710	2680	4400	5980	11600	10800	9260	9180	9480	10600	6970
23	4790	5460	1760	4430	7080	11900	11300	9250	9250	9530	10100	7500
24	4740	4240	4500	5000	8590	11300	12700	8420	8500	10100	9920	4500
25	5130	3190	5460	5710	8650	12000	11600	7360	8170	10700	9730	5450
26	5680	3200	5370	5890	8950	11100	10900	7300	8690	10200	9160	2770
27	5540	3350	5760	5420	8880	12600	12400	6380	9320	8740	9130	3610
28	5500	3230	5580	5380	9380	12900	11900	7680	9540	7250	10400	3620
29	5400	3580	4860	5370	10600	12200	10000	8600	9750	6630	10300	3920
30	5120	3530	3480	4910	---	12200	10500	8660	10100	7010	10100	3290
31	4170	---	5020	5750	---	11700	---	8240	---	9220	9660	---
TOTAL	192440	139010	148990	153750	150560	327280	308450	266800	256430	299150	315510	164300
MEAN	6208	4634	4806	4960	5192	10560	10280	8606	8548	9650	10180	5477
MAX	8460	5800	6040	5890	10600	12900	12700	10900	10100	11700	11300	9670
MIN	4170	3190	1760	3630	1520	7640	4960	6380	6980	6630	9130	1350
AC-FT	381700	275700	295500	305000	298600	649200	611800	529200	508600	593400	625800	325900
CAL YR 1975 TOTAL	2822150			7732	MAX 12200	MIN 1760	AC-FT 5598000					
WTR YR 1976 TOTAL	2722670			7439	MAX 12900	MIN 1350	AC-FT 5400000					

DIVERSIONS AND RETURN FLOWS BETWEEN PALO VERDE DAM AND IMPERIAL DAM

09429030. COLORADO RIVER INDIAN RESERVATION LEVEE DRAIN NEAR PARKER, ARIZ.

LOCATION.--Lat 33°45'25", long 114°29'48", in NE¼ sec.24, T.5 N., R.22 W., Yuma County, at bridge, 0.5 mi (0.8 km) above mouth, 0.5 mi (0.8 km) northeast of Palo Verde Dam, 9 mi (14 km) north of Ehrenberg, and 31 mi (50 km) southwest of Parker.

WATER QUALITY DATA. WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)
OCT												
06...	0800	35	1980	7.8	21.0	600	380	160	48	220	3.9	5.2
14...	0755	--	2030	--	18.0	--	--	--	--	--	--	--
20...	0825	--	1970	--	19.0	--	--	--	--	--	--	--
28...	0755	--	2000	--	17.0	--	--	--	--	--	--	--
NOV												
03...	0745	35	1960	7.8	18.5	580	360	150	50	210	3.8	7.6
10...	0800	--	2070	--	14.5	--	--	--	--	--	--	--
17...	0955	--	2010	--	15.0	--	--	--	--	--	--	--
24...	0800	--	1870	--	15.0	--	--	--	--	--	--	--
DEC												
01...	0800	35	1890	7.8	11.5	600	390	160	48	200	3.6	4.7
08...	0755	--	1870	--	13.0	--	--	--	--	--	--	--
15...	0815	--	1860	--	11.0	--	--	--	--	--	--	--
22...	0820	--	1860	--	12.0	--	--	--	--	--	--	--
29...	0800	--	1770	--	12.0	--	--	--	--	--	--	--
JAN												
06...	0945	33	1910	8.0	10.5	580	360	150	49	200	3.6	4.7
12...	0810	--	2000	--	10.0	--	--	--	--	--	--	--
19...	1200	--	1830	--	14.5	--	--	--	--	--	--	--
26...	0750	--	1820	--	13.0	--	--	--	--	--	--	--
FEB												
03...	0800	31	1850	8.0	10.5	560	350	150	44	190	3.5	4.6
09...	0750	--	1770	--	12.0	--	--	--	--	--	--	--
17...	1220	--	1890	--	13.0	--	--	--	--	--	--	--
23...	1110	--	1890	--	11.5	--	--	--	--	--	--	--
MAR												
01...	1055	36	1850	8.0	13.5	560	350	150	45	190	3.5	4.9
08...	1115	--	1860	--	12.0	--	--	--	--	--	--	--
15...	1200	--	1860	--	14.5	--	--	--	--	--	--	--
29...	0755	--	1920	--	17.0	--	--	--	--	--	--	--
APR												
05...	0750	51	1950	7.9	14.5	600	380	160	48	210	3.7	5.2
12...	1040	--	1930	--	17.0	--	--	--	--	--	--	--
19...	0800	--	1920	--	18.0	--	--	--	--	--	--	--
26...	0815	--	1970	--	19.5	--	--	--	--	--	--	--
MAY												
03...	1330	53	1990	8.1	21.0	580	360	150	50	220	4.0	5.0
10...	1130	--	1950	--	20.5	--	--	--	--	--	--	--
18...	0920	--	1920	--	20.5	--	--	--	--	--	--	--
24...	1135	--	1880	--	21.5	--	--	--	--	--	--	--
JUN												
01...	0745	52	1890	8.1	21.0	560	350	150	45	210	3.9	4.9
07...	1120	--	1810	--	21.0	--	--	--	--	--	--	--
14...	1145	--	1880	--	21.0	--	--	--	--	--	--	--
21...	1050	--	1860	--	24.5	--	--	--	--	--	--	--
28...	1210	--	1840	--	24.5	--	--	--	--	--	--	--
JUL												
06...	0800	50	1830	8.1	26.0	570	360	150	47	200	3.7	4.9
12...	0740	--	1910	--	24.5	--	--	--	--	--	--	--
19...	0820	--	1940	--	25.5	--	--	--	--	--	--	--
26...	0800	--	1900	--	26.0	--	--	--	--	--	--	--
AUG												
02...	1020	54	1930	8.1	25.0	590	380	160	47	210	3.8	5.1
09...	0735	--	1920	--	24.5	--	--	--	--	--	--	--
16...	0805	--	1800	--	22.0	--	--	--	--	--	--	--
23...	0815	--	1800	--	25.0	--	--	--	--	--	--	--
30...	0905	--	1910	--	24.5	--	--	--	--	--	--	--
SEP												
07...	0745	44	1980	7.9	23.0	610	400	160	52	210	3.7	5.2
13...	0745	--	1850	--	23.5	--	--	--	--	--	--	--
20...	0745	--	1810	--	21.5	--	--	--	--	--	--	--
27...	0750	--	1800	--	22.0	--	--	--	--	--	--	--

DIVERSIONS AND RETURN FLOWS BETWEEN PALO VERDE DAM AND IMPERIAL DAM

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09429030. COLORADO RIVER INDIAN RESERVATION LEVEE DRAIN NEAR PARKER, ARIZ.--CONTINUED

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

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1962-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA. WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
OCT												
06...	265	0	550	210	.3	20	1320	1340	1.80	.10	210	0
14...	--	--	--	--	--	--	1360	--	1.85	--	--	--
20...	--	--	--	--	--	--	1340	--	1.82	--	--	--
28...	--	--	--	--	--	--	1330	--	1.81	--	--	--
NOV												
03...	269	0	530	210	.4	21	1310	1310	1.78	.10	200	0
10...	--	--	--	--	--	--	1390	--	1.89	--	--	--
17...	--	--	--	--	--	--	1340	--	1.82	--	--	--
24...	--	--	--	--	--	--	1270	--	1.73	--	--	--
DEC												
01...	255	0	490	210	.4	21	1270	1260	1.73	.35	190	30
08...	--	--	--	--	--	--	1250	--	1.70	--	--	--
15...	--	--	--	--	--	--	1240	--	1.69	--	--	--
22...	--	--	--	--	--	--	1260	--	1.71	--	--	--
29...	--	--	--	--	--	--	1200	--	1.63	--	--	--
JAN												
06...	259	0	520	210	.3	20	1230	1280	1.67	.43	200	0
12...	--	--	--	--	--	--	1310	--	1.78	--	--	--
19...	--	--	--	--	--	--	1230	--	1.67	--	--	--
26...	--	--	--	--	--	--	1200	--	1.63	--	--	--
FEB												
03...	256	0	500	200	.4	21	1240	1240	1.69	.50	190	10
09...	--	--	--	--	--	--	1200	--	1.63	--	--	--
17...	--	--	--	--	--	--	1290	--	1.75	--	--	--
23...	--	--	--	--	--	--	1290	--	1.75	--	--	--
MAR												
01...	252	0	470	200	.4	21	1270	1210	1.73	.45	210	10
08...	--	--	--	--	--	--	1280	--	1.74	--	--	--
15...	--	--	--	--	--	--	1270	--	1.73	--	--	--
29...	--	--	--	--	--	--	1320	--	1.80	--	--	--
APR												
05...	263	0	540	210	.3	20	1340	1320	1.82	.33	200	60
12...	--	--	--	--	--	--	1320	--	1.80	--	--	--
19...	--	--	--	--	--	--	1320	--	1.80	--	--	--
26...	--	--	--	--	--	--	1350	--	1.84	--	--	--
MAY												
03...	270	0	530	200	.2	21	1370	1310	1.86	.32	210	0
10...	--	--	--	--	--	--	1340	--	1.82	--	--	--
18...	--	--	--	--	--	--	1320	--	1.80	--	--	--
24...	--	--	--	--	--	--	1280	--	1.74	--	--	--
JUN												
01...	255	0	530	200	.4	19	1310	1290	1.78	.13	200	10
07...	--	--	--	--	--	--	1240	--	1.69	--	--	--
14...	--	--	--	--	--	--	1300	--	1.77	--	--	--
21...	--	--	--	--	--	--	1260	--	1.71	--	--	--
28...	--	--	--	--	--	--	1230	--	1.67	--	--	--
JUL												
06...	252	0	510	200	.4	20	1250	1260	1.70	.14	190	20
12...	--	--	--	--	--	--	1320	--	1.80	--	--	--
19...	--	--	--	--	--	--	1330	--	1.81	--	--	--
26...	--	--	--	--	--	--	1290	--	1.75	--	--	--
AUG												
02...	257	0	530	220	.4	19	1320	1320	1.80	.15	190	10
09...	--	--	--	--	--	--	1320	--	1.80	--	--	--
16...	--	--	--	--	--	--	1200	--	1.63	--	--	--
23...	--	--	--	--	--	--	1200	--	1.63	--	--	--
30...	--	--	--	--	--	--	1290	--	1.75	--	--	--
SEP												
07...	265	0	520	210	.4	21	1360	1310	1.85	.25	210	0
13...	--	--	--	--	--	--	1250	--	1.70	--	--	--
20...	--	--	--	--	--	--	1210	--	1.65	--	--	--
27...	--	--	--	--	--	--	1220	--	1.66	--	--	--

DIVERSIONS AND RETURN FLOWS BETWEEN PALO VERDE DAM AND IMPERIAL DAM

09429060. COLORADO RIVER INDIAN RESERVATION 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 mi (4.5 km) above outlet to Colorado River, and 31 mi (50 km) south of Parker.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED PHOSPHATE (K) (MG/L)
OCT												
06...	0755	193	2920	7.9	21.5	740	490	190	64	380	6.1	7.8
14...	0800	--	2670	--	19.0	--	--	--	--	--	--	--
20...	0835	--	2460	--	20.5	--	--	--	--	--	--	--
28...	0805	--	2320	--	18.0	--	--	--	--	--	--	--
NOV												
03...	0755	180	2680	7.7	17.0	700	460	180	60	350	5.8	8.5
10...	0750	--	2230	--	15.5	--	--	--	--	--	--	--
17...	0945	--	2250	--	15.5	--	--	--	--	--	--	--
24...	0810	--	2510	--	15.5	--	--	--	--	--	--	--
DEC												
01...	0810	156	2450	7.8	12.0	630	400	160	55	300	5.2	6.4
08...	0745	--	2720	--	14.0	--	--	--	--	--	--	--
15...	0825	--	2410	--	11.5	--	--	--	--	--	--	--
22...	0830	--	2120	--	13.0	--	--	--	--	--	--	--
29...	0810	--	2440	--	13.0	--	--	--	--	--	--	--
JAN												
06...	0930	166	2370	8.0	11.0	630	410	160	55	280	4.9	6.4
12...	0800	--	2830	--	10.5	--	--	--	--	--	--	--
19...	1210	--	3160	--	15.0	--	--	--	--	--	--	--
26...	0800	--	3250	--	13.5	--	--	--	--	--	--	--
FEB												
03...	0810	138	2600	7.9	12.0	660	440	170	58	320	5.4	6.8
09...	0800	--	1960	--	13.5	--	--	--	--	--	--	--
17...	1230	--	2610	--	13.5	--	--	--	--	--	--	--
23...	1100	--	2540	--	13.5	--	--	--	--	--	--	--
MAR												
01...	1105	168	3060	7.9	14.0	780	510	200	68	380	5.9	7.5
08...	1125	--	2410	--	13.0	--	--	--	--	--	--	--
15...	1215	--	2220	--	14.5	--	--	--	--	--	--	--
29...	0805	--	2200	--	18.5	--	--	--	--	--	--	--
APR												
05...	0800	229	2370	8.0	15.5	600	370	150	55	280	5.0	6.7
12...	1050	--	2330	--	18.5	--	--	--	--	--	--	--
19...	0810	--	2430	--	18.5	--	--	--	--	--	--	--
26...	0825	--	2940	--	20.0	--	--	--	--	--	--	--
MAY												
03...	1345	238	2110	7.8	20.5	570	370	140	53	260	4.7	6.2
10...	1115	--	1870	--	21.5	--	--	--	--	--	--	--
18...	0930	--	2600	--	21.0	--	--	--	--	--	--	--
24...	1145	--	2300	--	23.0	--	--	--	--	--	--	--
JUN												
01...	0735	222	2430	8.0	22.0	610	380	160	51	300	5.3	6.6
07...	1135	--	2510	--	22.0	--	--	--	--	--	--	--
14...	1200	--	2420	--	23.0	--	--	--	--	--	--	--
21...	1100	--	2570	--	25.5	--	--	--	--	--	--	--
28...	1220	--	2690	--	26.0	--	--	--	--	--	--	--
JUL												
06...	0810	244	2090	8.0	25.5	550	340	140	48	260	4.8	6.5
12...	0750	--	2090	--	25.0	--	--	--	--	--	--	--
19...	0830	--	2270	--	26.0	--	--	--	--	--	--	--
26...	0810	--	2090	--	26.5	--	--	--	--	--	--	--
AUG												
02...	1030	220	2480	8.1	25.5	650	420	170	54	300	5.1	6.8
09...	0745	--	2260	--	25.5	--	--	--	--	--	--	--
16...	0815	--	2130	--	23.5	--	--	--	--	--	--	--
23...	0825	--	2400	--	24.5	--	--	--	--	--	--	--
30...	0900	--	2220	--	26.0	--	--	--	--	--	--	--
SEP												
07...	0735	166	2990	8.0	24.0	780	550	200	69	390	6.1	7.2
13...	0755	--	2250	--	24.0	--	--	--	--	--	--	--
20...	0755	--	2080	--	23.5	--	--	--	--	--	--	--
27...	0800	--	2800	--	23.0	--	--	--	--	--	--	--

DIVERSIONS AND RETURN FLOWS BETWEEN PALO VERDE DAM AND IMPERIAL DAM

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09429060. COLORADO RIVER INDIAN RESERVATION LOWER MAIN DRAIN NEAR PARKER, ARIZ.--CONTINUED

PERIOD OF RECORD.--Chemical analyses: October 1968 to current year.

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1962-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	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)	DIS- SOLVED SILICA (SiO2) (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)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT												
06...	300	0	680	430	.7	18	1950	1920	2.65	.45	480	10
14...	--	--	--	--	--	--	1820	--	2.48	--	--	--
20...	--	--	--	--	--	--	1660	--	2.26	--	--	--
28...	--	--	--	--	--	--	1560	--	2.12	--	--	--
NOV												
03...	289	0	660	390	.6	17	1810	1810	2.46	.72	430	0
10...	--	--	--	--	--	--	1460	--	1.99	--	--	--
17...	--	--	--	--	--	--	1460	--	1.99	--	--	--
24...	--	--	--	--	--	--	1660	--	2.26	--	--	--
DEC												
01...	272	0	570	340	.6	17	1610	1590	2.19	.47	370	0
08...	--	--	--	--	--	--	1820	--	2.48	--	--	--
15...	--	--	--	--	--	--	1590	--	2.16	--	--	--
22...	--	--	--	--	--	--	1400	--	1.90	--	--	--
29...	--	--	--	--	--	--	1620	--	2.20	--	--	--
JAN												
06...	263	0	580	330	.6	15	1520	1560	2.07	.67	340	20
12...	--	--	--	--	--	--	1930	--	2.62	--	--	--
19...	--	--	--	--	--	--	2130	--	2.90	--	--	--
26...	--	--	--	--	--	--	2150	--	2.92	--	--	--
FEB												
03...	275	0	620	380	.7	16	1750	1710	2.38	1.1	390	0
09...	--	--	--	--	--	--	1280	--	1.74	--	--	--
17...	--	--	--	--	--	--	1760	--	2.39	--	--	--
23...	--	--	--	--	--	--	1700	--	2.31	--	--	--
MAR												
01...	324	0	720	450	.8	20	2040	2010	2.77	.66	470	10
08...	--	--	--	--	--	--	1640	--	2.23	--	--	--
15...	--	--	--	--	--	--	1500	--	2.04	--	--	--
29...	--	--	--	--	--	--	1480	--	2.01	--	--	--
APR												
05...	276	0	520	320	.5	16	1600	1490	2.18	1.0	320	20
12...	--	--	--	--	--	--	1580	--	2.15	--	--	--
19...	--	--	--	--	--	--	1620	--	2.20	--	--	--
26...	--	--	--	--	--	--	1990	--	2.71	--	--	--
MAY												
03...	240	0	520	270	.4	13	1420	1390	1.93	.93	290	0
10...	--	--	--	--	--	--	1240	--	1.69	--	--	--
18...	--	--	--	--	--	--	1770	--	2.41	--	--	--
24...	--	--	--	--	--	--	1530	--	2.08	--	--	--
JUN												
01...	277	0	600	330	.6	15	1650	1600	2.24	.37	340	10
07...	--	--	--	--	--	--	1710	--	2.33	--	--	--
14...	--	--	--	--	--	--	1640	--	2.23	--	--	--
21...	--	--	--	--	--	--	1760	--	2.39	--	--	--
28...	--	--	--	--	--	--	1840	--	2.50	--	--	--
JUL												
06...	258	0	530	270	.5	16	1380	1400	1.88	.76	270	20
12...	--	--	--	--	--	--	1400	--	1.90	--	--	--
19...	--	--	--	--	--	--	1520	--	2.07	--	--	--
26...	--	--	--	--	--	--	1400	--	1.90	--	--	--
AUG												
02...	282	0	590	350	.6	17	1670	1630	2.27	.48	360	10
09...	--	--	--	--	--	--	1500	--	2.04	--	--	--
16...	--	--	--	--	--	--	1400	--	1.90	--	--	--
23...	--	--	--	--	--	--	1610	--	2.19	--	--	--
30...	--	--	--	--	--	--	1470	--	2.00	--	--	--
SEP												
07...	282	0	680	440	.7	20	2020	1950	2.75	.72	410	0
13...	--	--	--	--	--	--	1500	--	2.04	--	--	--
20...	--	--	--	--	--	--	1380	--	1.88	--	--	--
27...	--	--	--	--	--	--	1890	--	2.57	--	--	--

DIVERSIONS AND RETURN FLOWS BETWEEN PALO VERDE DAM AND IMPERIAL DAM

09429130. PALO VERDE IRRIGATION DISTRICT OLIVE LAKE DRAIN NEAR BLYTHE, CALIF.

LOCATION.--Lat 33°40'36", long 114°32'09", in SW¼SW¼ sec.1, T.6 S., R.23 E., San Bernardino meridian, Riverside County, 0.3 mi (0.5 km) upstream from mouth, and 5 mi (8 km) northeast of Blythe.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1970 (partial-record station), October 1970 to current year.

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1962-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT 03...	0910	9.0	1390	7.7	22.5	450	250	120	37	140	2.9	5.9
NOV 03...	0930	10	1480	7.8	17.0	450	240	120	37	140	2.9	6.1
DEC 01...	1100	6.0	1630	7.9	15.0	540	290	150	41	160	3.0	6.7
JAN 02...	0915	4.0	1600	7.8	8.0	530	280	150	38	150	2.8	7.0
FEB 02...	1100	4.0	1660	8.0	14.0	540	360	150	39	150	2.8	6.6
MAR 02...	0900	3.6	1310	8.1	15.0	410	240	110	33	120	2.6	4.8
APR 01...	1545	9.0	1640	8.0	23.5	530	270	140	43	150	2.8	6.8
MAY 03...	0920	9.0	1580	7.9	20.0	520	270	140	42	150	2.9	6.6
JUN 01...	0940	10	1570	7.8	21.0	540	290	150	39	150	2.8	6.3
JUL 01...	0855	18	1620	7.7	22.0	520	270	140	42	160	3.0	6.1
AUG 02...	0945	15	1580	7.6	23.0	560	320	150	44	150	2.8	5.9
SEP 01...	0820	18	1640	7.8	23.0	520	260	140	41	160	3.1	6.2

DIVERSIONS AND RETURN FLOWS BETWEEN PALO VERDE DAM AND IMPERIAL DAM

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09429130. PALO VERDE IRRIGATION DISTRICT OLIVE LAKE DRAIN NEAR BLYTHE, CALIF.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
OCT												
03...	242	0	370	120	.3	13	944	927	1.28	.35	180	0
NOV												
03...	264	0	380	120	.3	14	998	949	1.36	.19	170	50
DEC												
01...	307	0	450	130	.4	18	1080	1110	1.47	.31	190	160
JAN												
02...	303	0	440	120	.3	16	972	1070	1.32	.18	170	10
FEB												
02...	212	0	450	140	.4	16	1040	1060	1.41	.24	180	70
MAR												
02...	211	0	350	110	.5	11	852	844	1.16	.17	160	10
APR												
01...	307	0	390	130	.4	17	1070	1030	1.46	.14	180	10
MAY												
03...	305	0	440	140	.4	16	1000	1090	1.36	.19	160	20
JUN												
01...	297	0	420	130	.3	16	1050	1060	1.43	.35	170	10
JUL												
01...	305	0	410	150	.4	17	1070	1080	1.46	.21	180	20
AUG												
02...	287	0	420	140	.4	17	1060	1070	1.44	.25	180	10
SEP												
01...	313	0	410	140	.4	18	1090	1070	1.48	.31	190	20

09429188. COLORADO RIVER AT TAYLOR FERRY, NEAR BLYTHE, 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 mi (4.0 km) upstream from Cibola Bridge, 12 mi (19 km) south of Blythe, Calif., 28 mi (45 km) downstream from Palo Verde Dam, and 62 mi (100 km) upstream from Imperial Dam.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT												
06...	1220	8450	1220	8.1	23.5	350	220	90	30	130	3.0	5.4
14...	1200	--	1250	--	17.0	--	--	--	--	--	--	--
20...	1200	--	1220	--	21.0	--	--	--	--	--	--	--
28...	1145	--	1240	--	19.0	--	--	--	--	--	--	--
NOV												
03...	1200	4850	1250	8.0	18.0	370	220	93	33	120	2.7	7.7
10...	1130	--	1250	--	--	--	--	--	--	--	--	--
17...	0700	--	1200	--	14.5	--	--	--	--	--	--	--
24...	1145	--	1210	--	15.5	--	--	--	--	--	--	--
DEC												
01...	1140	3970	1250	7.9	10.5	380	240	98	33	120	2.7	5.2
08...	1130	--	1200	--	12.0	--	--	--	--	--	--	--
15...	1200	--	1220	--	12.0	--	--	--	--	--	--	--
22...	1200	--	1230	--	12.0	--	--	--	--	--	--	--
29...	1200	--	1200	--	11.5	--	--	--	--	--	--	--
JAN												
06...	1100	5690	1210	8.1	9.5	370	230	95	32	120	2.7	5.0
12...	1200	--	1220	--	10.0	--	--	--	--	--	--	--
19...	0745	--	1200	--	11.0	--	--	--	--	--	--	--
26...	1210	--	1180	--	11.0	--	--	--	--	--	--	--
FEB												
03...	1210	6180	1160	8.2	11.0	350	220	88	32	110	2.6	4.6
09...	1200	--	1180	--	13.0	--	--	--	--	--	--	--
17...	0800	--	1400	--	12.0	--	--	--	--	--	--	--
23...	0745	--	1180	--	13.0	--	--	--	--	--	--	--
MAR												
01...	0750	10100	1150	8.1	13.0	340	210	88	30	110	2.6	5.3
08...	0745	--	1160	--	11.0	--	--	--	--	--	--	--
15...	0900	--	1190	--	13.5	--	--	--	--	--	--	--
29...	1145	--	1140	--	14.5	--	--	--	--	--	--	--
APR												
05...	1200	11700	1160	8.2	14.5	340	200	84	32	110	2.6	5.4
12...	0730	--	1160	--	14.5	--	--	--	--	--	--	--
19...	1215	--	1170	--	18.0	--	--	--	--	--	--	--
26...	1200	--	1140	--	19.5	--	--	--	--	--	--	--
MAY												
03...	0800	10200	1160	8.2	19.5	350	210	86	32	110	2.6	5.0
18...	0810	--	1190	--	19.5	--	--	--	--	--	--	--
24...	0800	--	1180	--	20.5	--	--	--	--	--	--	--
JUN												
01...	0800	6760	1170	8.1	23.5	350	210	90	31	120	2.8	5.1
07...	0745	--	1200	--	18.5	--	--	--	--	--	--	--
14...	0800	--	1170	--	21.0	--	--	--	--	--	--	--
21...	0720	--	1180	--	23.5	--	--	--	--	--	--	--
28...	0800	--	1180	--	25.0	--	--	--	--	--	--	--
JUL												
06...	1245	10070	1170	8.2	25.0	330	190	82	31	120	2.9	5.3
12...	1100	--	1150	--	26.5	--	--	--	--	--	--	--
19...	1200	--	1150	--	25.5	--	--	--	--	--	--	--
26...	1200	--	1150	--	25.5	--	--	--	--	--	--	--
AUG												
02...	0735	10940	1160	8.1	25.0	340	200	90	28	120	2.8	5.2
09...	1110	--	1180	--	27.0	--	--	--	--	--	--	--
16...	1140	--	1160	--	24.5	--	--	--	--	--	--	--
23...	1145	--	1160	--	25.0	--	--	--	--	--	--	--
30...	0740	--	1170	--	21.0	--	--	--	--	--	--	--
SEP												
07...	0730	6920	1150	8.0	23.5	340	210	86	31	110	2.6	5.0
13...	1230	--	1570	--	24.5	--	--	--	--	--	--	--
20...	0710	--	1180	--	25.0	--	--	--	--	--	--	--
27...	1220	--	1210	--	23.0	--	--	--	--	--	--	--

09429188. COLORADO RIVER AT TAYLOR FERRY, NEAR BLYTHE, CALIF.--CONTINUED

DRAINAGE AREA (REVISED)--187,700 mi² (486,100 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--Chemical analyses: April 1970 to current year.

REMARKS.--Gaging station operated by Bureau of Reclamation.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	BICARBONATE (HCO ₃) (MG/L)	CARBONATE (CO ₃) (MG/L)	DIS-SOLVED SULFATE (SO ₄) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO ₂) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
OCT												
06...	161	0	340	110	.3	7.9	780	794	1.06	.24	160	0
14...	--	--	--	--	--	--	802	--	1.09	--	--	--
20...	--	--	--	--	--	--	778	--	1.06	--	--	--
28...	--	--	--	--	--	--	792	--	1.08	--	--	--
NOV												
03...	179	0	340	120	.3	8.8	802	813	1.09	.35	160	0
10...	--	--	--	--	--	--	810	--	1.10	--	--	--
17...	--	--	--	--	--	--	756	--	1.03	--	--	--
24...	--	--	--	--	--	--	774	--	1.05	--	--	--
DEC												
01...	176	0	330	110	.4	9.3	788	794	1.07	.23	140	0
08...	--	--	--	--	--	--	770	--	1.05	--	--	--
15...	--	--	--	--	--	--	776	--	1.06	--	--	--
22...	--	--	--	--	--	--	782	--	1.06	--	--	--
29...	--	--	--	--	--	--	760	--	1.03	--	--	--
JAN												
06...	169	0	320	110	.4	8.0	764	775	1.04	.22	140	10
12...	--	--	--	--	--	--	792	--	1.08	--	--	--
19...	--	--	--	--	--	--	774	--	1.05	--	--	--
26...	--	--	--	--	--	--	768	--	1.04	--	--	--
FEB												
03...	166	0	320	100	.4	8.3	740	747	1.01	.28	140	10
09...	--	--	--	--	--	--	758	--	1.03	--	--	--
17...	--	--	--	--	--	--	902	--	1.23	--	--	--
23...	--	--	--	--	--	--	750	--	1.02	--	--	--
MAR												
01...	167	0	290	97	.4	8.6	728	713	.99	.24	140	0
08...	--	--	--	--	--	--	742	--	1.01	--	--	--
15...	--	--	--	--	--	--	752	--	1.02	--	--	--
29...	--	--	--	--	--	--	722	--	.98	--	--	--
APR												
05...	174	0	300	96	.3	7.9	736	723	1.00	.27	200	0
12...	--	--	--	--	--	--	736	--	1.00	--	--	--
19...	--	--	--	--	--	--	744	--	1.01	--	--	--
26...	--	--	--	--	--	--	724	--	.98	--	--	--
MAY												
03...	168	0	310	98	.3	5.3	732	730	1.00	.18	150	0
18...	--	--	--	--	--	--	754	--	1.03	--	--	--
24...	--	--	--	--	--	--	746	--	1.01	--	--	--
JUN												
01...	173	0	320	96	.3	6.9	746	756	1.01	.18	140	20
07...	--	--	--	--	--	--	764	--	1.04	--	--	--
14...	--	--	--	--	--	--	744	--	1.01	--	--	--
21...	--	--	--	--	--	--	744	--	1.01	--	--	--
28...	--	--	--	--	--	--	744	--	1.01	--	--	--
JUL												
06...	170	0	320	110	.4	8.8	740	762	1.01	.18	140	30
12...	--	--	--	--	--	--	724	--	.98	--	--	--
19...	--	--	--	--	--	--	718	--	.98	--	--	--
26...	--	--	--	--	--	--	720	--	.98	--	--	--
AUG												
02...	165	0	330	100	.3	8.5	728	764	.99	.19	140	20
09...	--	--	--	--	--	--	762	--	1.04	--	--	--
16...	--	--	--	--	--	--	742	--	1.01	--	--	--
23...	--	--	--	--	--	--	746	--	1.01	--	--	--
30...	--	--	--	--	--	--	734	--	1.00	--	--	--
SEP												
07...	161	0	310	98	.4	8.8	724	730	.98	.19	150	10
13...	--	--	--	--	--	--	1010	--	1.37	--	--	--
20...	--	--	--	--	--	--	764	--	1.04	--	--	--
27...	--	--	--	--	--	--	768	--	1.04	--	--	--

DIVERSIONS AND RETURN FLOWS BETWEEN PALO VERDE DAM AND IMPERIAL DAM

09429220. PALO VERDE IRRIGATION DISTRICT OUTFALL DRAIN NEAR PALO VERDE, CALIF.

LOCATION.--Lat 33°21'41", long 114°43'20", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.26, T.9 S., R.21 E., San Bernardino meridian, Imperial County, at gaging station, at State Highway 78 bridge, 3.3 mi (5.3 km) upstream from mouth, and 5 mi (8 km) south of Palo Verde.

WATER QUALITY DATA. WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT												
06...	1350	745	2470	8.1	24.0	500	260	130	43	360	7.0	6.5
14...	1330	--	2690	--	20.5	--	--	--	--	--	--	--
20...	1335	--	2590	--	21.5	--	--	--	--	--	--	--
28...	1330	--	2510	--	20.0	--	--	--	--	--	--	--
NOV												
03...	1320	514	2780	8.0	20.0	530	250	140	43	430	8.2	8.2
10...	1345	--	2520	--	18.5	--	--	--	--	--	--	--
17...	0830	--	2660	--	16.5	--	--	--	--	--	--	--
24...	1320	--	2580	--	17.0	--	--	--	--	--	--	--
DEC												
01...	1315	504	2770	7.9	13.0	530	270	140	44	430	8.1	6.4
08...	1335	--	2790	--	15.0	--	--	--	--	--	--	--
15...	1400	--	2710	--	13.0	--	--	--	--	--	--	--
22...	1330	--	2920	--	13.0	--	--	--	--	--	--	--
29...	1400	--	2510	--	13.5	--	--	--	--	--	--	--
JAN												
06...	1400	412	3190	7.9	10.0	570	290	150	48	500	9.1	6.8
12...	1400	--	3200	--	12.0	--	--	--	--	--	--	--
19...	0915	--	3240	--	16.0	--	--	--	--	--	--	--
26...	1400	--	2920	--	14.0	--	--	--	--	--	--	--
FEB												
03...	1400	465	2750	8.1	14.5	520	300	140	42	390	7.4	6.8
09...	1345	--	2650	--	14.5	--	--	--	--	--	--	--
17...	1030	--	2720	--	14.5	--	--	--	--	--	--	--
23...	0940	--	2500	--	14.0	--	--	--	--	--	--	--
MAR												
01...	0930	468	2570	8.0	13.5	490	250	130	41	380	7.4	6.8
08...	0930	--	2570	--	13.0	--	--	--	--	--	--	--
15...	1040	--	2740	--	15.5	--	--	--	--	--	--	--
29...	1320	--	2860	--	20.5	--	--	--	--	--	--	--
APR												
05...	1330	608	2600	8.1	19.0	500	250	130	43	370	7.2	7.0
12...	0910	--	2710	--	20.0	--	--	--	--	--	--	--
19...	1340	--	2690	--	20.5	--	--	--	--	--	--	--
26...	1400	--	2660	--	23.0	--	--	--	--	--	--	--
MAY												
03...	0945	664	2630	7.9	21.0	500	250	130	43	400	7.8	6.7
10...	0945	--	2570	--	22.0	--	--	--	--	--	--	--
18...	1030	--	2870	--	26.0	--	--	--	--	--	--	--
24...	1000	--	2680	--	21.5	--	--	--	--	--	--	--
JUN												
01...	0930	650	2670	8.0	24.5	510	250	130	44	410	7.9	6.6
07...	0930	--	2850	--	22.0	--	--	--	--	--	--	--
14...	0920	--	2650	--	24.5	--	--	--	--	--	--	--
21...	0855	--	2600	--	25.0	--	--	--	--	--	--	--
28...	1000	--	2470	--	26.5	--	--	--	--	--	--	--
JUL												
06...	1400	692	2610	8.2	27.0	500	240	130	43	390	7.6	6.6
12...	1215	--	2390	--	28.0	--	--	--	--	--	--	--
19...	1330	--	2500	--	27.0	--	--	--	--	--	--	--
26...	1330	--	2600	--	27.0	--	--	--	--	--	--	--
AUG												
02...	0930	730	2550	8.1	29.0	490	240	130	40	380	7.5	6.7
09...	1310	--	2690	--	29.0	--	--	--	--	--	--	--
16...	1320	--	2500	--	25.5	--	--	--	--	--	--	--
23...	1340	--	2800	--	28.0	--	--	--	--	--	--	--
30...	0935	--	2560	--	21.0	--	--	--	--	--	--	--
SEP												
07...	0930	909	2360	7.9	24.0	490	250	130	40	340	6.7	6.8
13...	1400	--	2600	--	25.0	--	--	--	--	--	--	--
20...	1025	--	2400	--	24.5	--	--	--	--	--	--	--
27...	1405	--	2390	--	26.0	--	--	--	--	--	--	--

DIVERSIONS AND RETURN FLOWS BETWEEN PALO VERDE DAM AND IMPERIAL DAM

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09429220. PALO VERDE IRRIGATION DISTRICT OUTFALL DRAIN NEAR PALO VERDE, CALIF.--CONTINUED

PERIOD OF RECORD.--Chemical analyses: October 1968 to current year.

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1962-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	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)	DIS- SOLVED SILICA (SiO2) (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)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT												
06...	290	0	580	340	1.0	17	1590	1620	2.16	.20	500	0
14...	--	--	--	--	--	--	1740	--	2.37	--	--	--
20...	--	--	--	--	--	--	1690	--	2.30	--	--	--
28...	--	--	--	--	--	--	1640	--	2.23	--	--	--
NOV												
03...	332	0	630	410	1.2	20	1770	1850	2.41	.41	610	0
10...	--	--	--	--	--	--	1610	--	2.19	--	--	--
17...	--	--	--	--	--	--	1720	--	2.34	--	--	--
24...	--	--	--	--	--	--	1690	--	2.30	--	--	--
DEC												
01...	316	0	580	410	1.2	20	1780	1790	2.42	.53	570	10
08...	--	--	--	--	--	--	1810	--	2.46	--	--	--
15...	--	--	--	--	--	--	1780	--	2.42	--	--	--
22...	--	--	--	--	--	--	1870	--	2.54	--	--	--
29...	--	--	--	--	--	--	1600	--	2.18	--	--	--
JAN												
06...	344	0	650	510	1.2	21	2060	2060	2.80	.81	700	20
12...	--	--	--	--	--	--	2040	--	2.77	--	--	--
19...	--	--	--	--	--	--	2120	--	2.88	--	--	--
26...	--	--	--	--	--	--	1890	--	2.57	--	--	--
FEB												
03...	275	0	560	400	1.2	19	1790	1700	2.43	.62	560	10
09...	--	--	--	--	--	--	1740	--	2.37	--	--	--
17...	--	--	--	--	--	--	1800	--	2.45	--	--	--
23...	--	--	--	--	--	--	1650	--	2.24	--	--	--
MAR												
01...	296	0	530	360	1.1	19	1680	1620	2.28	.89	500	20
08...	--	--	--	--	--	--	1660	--	2.26	--	--	--
15...	--	--	--	--	--	--	1800	--	2.45	--	--	--
29...	--	--	--	--	--	--	1860	--	2.53	--	--	--
APR												
05...	309	0	520	380	1.1	18	1690	1630	2.30	.75	540	10
12...	--	--	--	--	--	--	1770	--	2.41	--	--	--
19...	--	--	--	--	--	--	1750	--	2.38	--	--	--
26...	--	--	--	--	--	--	1730	--	2.35	--	--	--
MAY												
03...	308	0	570	370	.8	18	1700	1700	2.31	2.2	530	10
10...	--	--	--	--	--	--	1680	--	2.28	--	--	--
18...	--	--	--	--	--	--	1880	--	2.56	--	--	--
24...	--	--	--	--	--	--	1740	--	2.37	--	--	--
JUN												
01...	314	0	590	370	1.1	19	1730	1730	2.35	.33	550	10
07...	--	--	--	--	--	--	1850	--	2.52	--	--	--
14...	--	--	--	--	--	--	1720	--	2.34	--	--	--
21...	--	--	--	--	--	--	1710	--	2.33	--	--	--
28...	--	--	--	--	--	--	1570	--	2.14	--	--	--
JUL												
06...	317	0	590	380	1.1	20	1690	1720	2.30	.30	520	20
12...	--	--	--	--	--	--	1540	--	2.09	--	--	--
19...	--	--	--	--	--	--	1620	--	2.20	--	--	--
26...	--	--	--	--	--	--	1640	--	2.23	--	--	--
AUG												
02...	310	0	570	370	1.1	19	1640	1670	2.23	.53	500	20
09...	--	--	--	--	--	--	1710	--	2.33	--	--	--
16...	--	--	--	--	--	--	1620	--	2.20	--	--	--
23...	--	--	--	--	--	--	1810	--	2.46	--	--	--
30...	--	--	--	--	--	--	1620	--	2.20	--	--	--
SEP												
07...	292	0	490	320	1.1	18	1530	1490	2.08	.65	460	0
13...	--	--	--	--	--	--	1660	--	2.26	--	--	--
20...	--	--	--	--	--	--	1540	--	2.09	--	--	--
27...	--	--	--	--	--	--	1530	--	2.08	--	--	--

DIVERSIONS AND RETURN FLOWS BETWEEN PALO VERDE DAM AND IMPERIAL DAM

09429225. PALO VERDE IRRIGATION DISTRICT 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 mi (0.2 km) upstream from pump into Outfall drain, and 5.5 mi (8.8 km) south of Palo Verde.

PERIOD OF RECORD.--Chemical analyses: Water year 1969 (partial-record station), October 1969 to current year.

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1966-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		INSTAN- TANEOUS DIS- CHARGE	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
DATE	TIME	(CFS)		(UNITS)								
OCT 01...	1430	2.2	3080	7.9	25.0	420	0	100	42	570	12	5.6
NOV 03...	1055	2.2	3100	8.1	19.5	270	0	59	29	630	17	4.8
DEC 01...	1300	2.3	3700	8.0	14.0	430	0	96	47	650	14	7.6
JAN 02...	1200	.00	2910	8.0	16.0	200	0	47	20	600	18	4.4
FEB 02...	1435	1.2	2540	7.9	20.5	250	0	59	26	470	13	5.1
MAR 01...	1505	.56	2760	7.9	19.0	210	0	48	22	520	16	4.7
APR 01...	1555	1.6	2730	7.9	23.0	210	0	47	23	530	16	4.3
MAY 03...	1105	.42	2720	7.9	22.0	230	0	49	25	510	15	4.3
JUN 01...	1430	1.4	2780	8.0	--	280	0	63	30	510	13	7.6
JUL 01...	1040	2.0	1450	7.5	29.0	260	200	52	31	190	5.2	9.9
AUG 02...	1345	1.2	2710	7.4	29.0	330	0	77	34	530	13	7.6
SEP 01...	1530	.00	3500	7.8	32.0	560	22	120	63	600	11	16
		BICAR- BONATE (HCO3)	DIS- SOLVED SULFATE (SO4)	DIS- SOLVED CHLO- RIDE (CL)	DIS- SOLVED FLUO- RIDE (F)	DIS- SOLVED SILICA (SiO2)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
DATE		(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)			
OCT 01...	548	0	700	340	1.3	22	2030	2050	2.76	.07	840	20
NOV 03...	534	0	660	360	2.0	23	2020	2030	2.75	.08	970	150
DEC 01...	551	0	720	460	1.3	22	2430	2280	3.30	.42	890	20
JAN 02...	519	0	580	310	1.5	22	1850	1840	2.52	.22	930	210
FEB 02...	478	0	550	250	1.7	21	1640	1620	2.23	.08	750	160
MAR 01...	524	0	550	260	2.1	23	1760	1690	2.39	.06	840	140
APR 01...	515	0	530	260	2.0	23	1710	1670	2.33	.06	820	220
MAY 03...	521	0	580	260	1.9	22	1720	1710	2.34	.03	680	360
JUN 01...	552	0	570	290	1.6	23	1770	1770	2.41	1.4	800	140
JUL 01...	75	0	350	140	.6	15	946	897	1.29	16	260	100
AUG 02...	592	0	550	270	1.4	28	1780	1800	2.42	1.9	790	300
SEP 01...	655	0	710	430	1.0	30	2340	2310	3.18	2.5	870	80

COLORADO RIVER MAIN STEM

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09429300. COLORADO RIVER BELOW CIBOLA VALLEY, ARIZ.

LOCATION.--Lat 33°13'16", long 114°40'18", in NE¼ sec.30, T.2 S., R.23 W., Gila and Salt River meridian, Yuma County, on left bank 6.7 mi (10.8 km) south of Cibola, 38 mi (61 km) upstream from Imperial Dam, 39.7 mi (63.9 km) downstream from Ehrenberg, Ariz., 52.1 mi (83.2 km) downstream from Palo Verde diversion dam near Blythe, Calif., and at mile 620 (998 km) on Colorado River Profile Survey map.

DRAINAGE AREA (REVISED).--187,800 mi² (486,400 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--April 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 200.00 ft (60.960 m) above mean sea level.

AVERAGE DISCHARGE.--20 years, 8,865 ft³/s (251.1 m³/s), 6,423,000 acre-ft/yr (7,920 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 15,200 ft³/s (430 m³/s) Sept. 25 (gage height, 10.7 ft or 3.26 m); minimum daily, 2,920 ft³/s (82.7 m³/s) Feb. 19.

Period of record: Maximum discharge, 21,800 ft³/s (617 m³/s) Apr. 8, 1958; maximum gage height, 13.60 ft (4.145 m) May 6, 1958; minimum daily discharge, 1,900 ft³/s (53.8 m³/s) Jan. 18, 1974; minimum gage height, about 4.1 ft (1.25 m), Jan. 18, 1974, based on minimum observed gage height of 4.25 ft (1.295 m) Jan. 14, 1974.

REMARKS.--Records excellent. Flow regulated by Lakes Mead, Mohave, and Havasu. Many diversions above station for irrigation, municipal, and industrial uses. See sta 09429000 for return flows from Palo Verde Irrigation District, which enter between sta 09429010 and this station. A portion of the return flows from Colorado River Indian Reservation also enters between these two stations.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8900	5230	4490	5380	5970	11100	12400	11600	8970	11100	9930	10700
2	8900	5420	4470	5910	6670	10700	11600	11800	8900	9930	10500	10500
3	8110	5560	4720	5820	7190	11200	11800	12000	9010	9310	10700	9880
4	7770	5580	4870	5680	7460	11400	12200	11900	8830	10800	10900	9310
5	8620	6320	5970	6560	7150	10300	12400	11600	8160	11000	10700	9930
6	9240	6410	6080	6100	6820	10000	13000	11000	9370	10900	10400	10800
7	9010	5480	6520	6150	5670	10100	12300	10400	9580	10400	10600	9840
8	8570	5140	6500	5910	4740	9860	12300	9910	9810	9980	12100	7500
9	7800	5710	6030	5410	5650	9520	11700	8660	9720	9740	12400	6560
10	7260	5970	6300	4780	5020	9470	11700	8210	9280	10500	12300	6970
11	7150	6140	5970	5090	3770	9280	13100	8800	8370	11800	11600	6080
12	7480	5610	5440	5190	3330	8540	12800	9350	9010	12300	11600	4300
13	7640	5230	5250	5420	3180	8380	12600	9330	10000	11500	11300	4230
14	7530	5120	4890	5310	3310	10000	12200	9260	10300	11400	11100	4350
15	6950	4890	5650	4630	3570	10300	9630	8920	10400	10500	11700	4780
16	6730	6240	6520	4560	3150	10400	7770	9330	10300	9960	11800	4960
17	5580	6600	6910	4540	3100	11000	7300	9840	9630	10300	11800	4940
18	5770	6690	6950	5320	3060	11100	7950	9860	9400	11300	11200	5310
19	7080	6450	6600	5730	2920	10700	10000	10800	9560	11600	11100	6260
20	7770	6370	6320	6050	3380	10900	10200	9930	9910	11500	10900	6580
21	7860	6100	6470	6100	3910	11700	10100	8780	10500	11100	11300	7860
22	7020	5630	5890	5760	5280	12000	11000	9100	10400	10700	11500	7950
23	6540	6470	4120	5080	6560	11800	11700	10100	10300	10400	11500	7910
24	5830	6410	3510	5130	7420	12000	12200	10200	10200	10600	11100	8830
25	5730	5350	5310	5750	8690	11800	13500	9370	9510	11100	10900	12000
26	6010	4360	6280	6570	8940	12300	12800	8340	9470	11600	10700	7890
27	6470	4320	6120	6670	9310	11800	13000	8300	10100	11000	10200	5000
28	6390	4420	6350	6220	9330	12800	13400	7680	10500	9770	10300	5080
29	6370	4280	6200	6180	10100	13300	13000	8690	10700	8390	11300	5010
30	6220	4500	5400	6060	---	12700	11300	9220	10900	8250	11300	5150
31	5910	---	4420	5580	---	12700	---	9280	---	8300	11200	---
TOTAL	224210	168000	176520	174640	164650	339150	346950	301560	291090	327030	345930	216460
MEAN	7233	5600	5694	5634	5678	10940	11570	9728	9703	10550	11160	7215
MAX	9240	6690	6950	6670	10100	13300	13500	12000	10900	12300	12400	12000
MIN	5580	4280	3510	4540	2920	8380	7300	7680	8160	8250	9930	4230
AC-FT	444700	333200	350100	346400	326600	672700	688200	598100	577400	648700	686200	429300
CAL YR 1975	TOTAL	3114920	MEAN	8534	MAX	12700	MIN	3510	AC-FT	6178000		
WTR YR 1976	TOTAL	3076190	MEAN	8405	MAX	13500	MIN	2920	AC-FT	6102000		

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 mi (10.8 km) south of Cibola, 38 mi (61 km) upstream from Imperial Dam, and 52.1 mi (83.2 km) downstream from Palo Verde Dam.

			SOL- CIFIC CON- DUCT- ANCE	PH	TEMPER- ATURE (DEG C)	HARD- NESS (CA/MG)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
DATE	TIME	INSTAN- TANOUS DIS- CHARGE (CFS)	(MICRO- MHOS)	(UNITS)								
OCT												
06...	1320	8990	1360	8.1	--	350	200	87	31	150	3.5	5.4
14...	1250	--	1370	--	--	--	--	--	--	--	--	--
20...	1300	--	1380	--	--	--	--	--	--	--	--	--
28...	1250	--	1430	--	--	--	--	--	--	--	--	--
NOV												
03...	1230	5610	1440	8.1	19.0	390	230	100	33	160	3.5	5.5
10...	1300	--	1430	--	--	--	--	--	--	--	--	--
17...	0800	--	1360	--	--	--	--	--	--	--	--	--
24...	1245	--	1350	--	--	--	--	--	--	--	--	--
DEC												
08...	1230	6930	1330	8.0	--	360	220	92	32	150	3.4	5.2
15...	1315	--	1350	--	--	--	--	--	--	--	--	--
22...	1245	--	1360	--	--	--	--	--	--	--	--	--
29...	1330	--	1380	--	--	--	--	--	--	--	--	--
JAN												
06...	1300	6010	1370	8.1	--	390	240	97	35	150	3.3	4.9
12...	1320	--	1380	--	--	--	--	--	--	--	--	--
19...	0830	--	1380	--	--	--	--	--	--	--	--	--
26...	1330	--	1350	--	--	--	--	--	--	--	--	--
FEB												
03...	1315	7150	1330	8.2	--	360	210	94	31	140	3.2	4.8
09...	1310	--	1370	--	--	--	--	--	--	--	--	--
17...	0930	--	1730	--	--	--	--	--	--	--	--	--
23...	0850	--	1290	--	--	--	--	--	--	--	--	--
MAR												
01...	0915	11500	1210	8.1	--	340	200	87	29	120	2.8	5.2
08...	0845	--	1260	--	--	--	--	--	--	--	--	--
15...	1000	--	1290	--	--	--	--	--	--	--	--	--
29...	1225	--	1220	--	--	--	--	--	--	--	--	--
APR												
05...	1300	11900	1220	8.2	--	350	210	89	32	120	2.8	5.2
12...	0830	--	1220	--	--	--	--	--	--	--	--	--
19...	1100	--	1260	--	--	--	--	--	--	--	--	--
26...	1330	--	1250	--	--	--	--	--	--	--	--	--
MAY												
03...	0900	12400	1200	8.3	--	340	200	85	30	130	3.1	5.1
17...	0850	--	1240	--	--	--	--	--	--	--	--	--
24...	0900	--	1340	--	--	--	--	--	--	--	--	--
JUNE												
01...	1330	7840	1320	8.2	--	360	220	91	33	140	3.2	5.3
07...	0840	--	1270	--	--	--	--	--	--	--	--	--
14...	0835	--	1260	--	--	--	--	--	--	--	--	--
21...	0820	--	1270	--	--	--	--	--	--	--	--	--
28...	0900	--	1310	--	--	--	--	--	--	--	--	--
JUL												
06...	1330	10960	1340	8.3	--	360						

09429300. COLORADO RIVER BELOW CIBOLA VALLEY, ARIZ.--CONTINUED

DRAINAGE AREA (REVISED).--187,800 mi² (486,400 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--Chemical analyses: January 1969 to current year.

Water temperatures: March 1956 to December 1966.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	BICARBONATE (HCO ₃) (MG/L)	CARBONATE (CO ₃) (MG/L)	DISSOLVED SULFATE (SO ₄) (MG/L)	DISSOLVED CHLORIDE RIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO ₂) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED NITRATE PLUS NITRITE (N) (MG/L)	DISSOLVED AMMONIA (R) (UG/L)	DISSOLVED IRON (FE) (UG/L)
OCT												
06...	176	0	330	140	.4	9.3	897	841	1.22	.14	200	0
14...	--	--	--	--	--	--	880	--	1.20	--	--	--
20...	--	--	--	--	--	--	884	--	1.20	--	--	--
24...	--	--	--	--	--	--	908	--	1.23	--	--	--
NOV												
03...	193	0	380	150	.4	9.5	938	934	1.28	.08	220	0
10...	--	--	--	--	--	--	908	--	1.23	--	--	--
17...	--	--	--	--	--	--	872	--	1.19	--	--	--
24...	--	--	--	--	--	--	870	--	1.18	--	--	--
DEC												
08...	175	0	330	130	.4	9.3	856	836	1.16	.15	180	0
15...	--	--	--	--	--	--	858	--	1.17	--	--	--
22...	--	--	--	--	--	--	864	--	1.18	--	--	--
29...	--	--	--	--	--	--	872	--	1.19	--	--	--
JAN												
06...	184	0	350	140	.4	8.9	882	878	1.20	.26	170	10
12...	--	--	--	--	--	--	882	--	1.20	--	--	--
19...	--	--	--	--	--	--	880	--	1.20	--	--	--
26...	--	--	--	--	--	--	866	--	1.18	--	--	--
FEB												
03...	181	0	340	130	.4	8.9	846	840	1.15	.26	180	20
09...	--	--	--	--	--	--	880	--	1.20	--	--	--
17...	--	--	--	--	--	--	1120	--	1.52	--	--	--
23...	--	--	--	--	--	--	830	--	1.13	--	--	--
MAR												
01...	170	0	300	110	.4	8.6	774	745	1.05	.20	160	0
08...	--	--	--	--	--	--	800	--	1.09	--	--	--
15...	--	--	--	--	--	--	814	--	1.11	--	--	--
20...	--	--	--	--	--	--	780	--	1.06	--	--	--
APR												
05...	178	0	290	110	.4	8.3	772	744	1.05	.29	160	10
12...	--	--	--	--	--	--	774	--	1.05	--	--	--
19...	--	--	--	--	--	--	794	--	1.08	--	--	--
26...	--	--	--	--	--	--	794	--	1.08	--	--	--
MAY												
03...	170	0	320	110	.3	4.8	768	770	1.04	.17	160	10
17...	--	--	--	--	--	--	780	--	1.06	--	--	--
24...	--	--	--	--	--	--	858	--	1.17	--	--	--
JUN												
01...	180	0	350	130	.4	7.7	842	847	1.15	.13	180	20
07...	--	--	--	--	--	--	800	--	1.09	--	--	--
14...	--	--	--	--	--	--	810	--	1.10	--	--	--
21...	--	--	--	--	--	--	800	--	1.09	--	--	--
28...	--	--	--	--	--	--	828	--	1.13	--	--	--
JUL												
06...	185	0	340	140	.5	--	862	--	1.17	.15	180	0
12...	--	--	--	--	--	--	770	--	1.05	--	--	--
19...	--	--	--	--	--	--	784	--	1.07	--	--	--
26...	--	--	--	--	--	--	806	--	1.10	--	--	--
AUG												
02...	169	0	330	120	.4	8.9	819	814	1.11	1.0	160	20
09...	--	--	--	--	--	--	766	--	1.04	--	--	--
16...	--	--	--	--	--	--	818	--	1.11	--	--	--
23...	--	--	--	--	--	--	800	--	1.09	--	--	--
30...	--	--	--	--	--	--	766	--	1.04	--	--	--
SEP												
07...	163	0	310	120	.4	9.0	774	770	1.05	.28	170	0
13...	--	--	--	--	--	--	1100	--	1.50	--	--	--
20...	--	--	--	--	--	--	822	--	1.12	--	--	--
27...	--	--	--	--	--	--	782	--	1.06	--	--	--

COLORADO RIVER MAIN STEM

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.

LOCATION.--Lat 32°52'59", long 114°27'55", at Imperial Dam. The Arizona end of the dam is in SW¼NW¼ sec.30, T.6 S., R.21 W., Gila and Salt River meridian; the California end is in NW¼SW¼ sec.9, T.15 S., R.24 E., San Bernardino meridian. Imperial Dam is 5 mi (8 km) upstream from Laguna Dam, 15 mi (24 km) northeast of Yuma, Ariz., 90 mi (145 km) downstream from Palo Verde Dam, and 147 mi (237 km) downstream from Parker Dam.

DRAINAGE AREA (REVISED).--188,500 mi² (488,200 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming, which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--1903-34 (yearly discharge only, published in WSP 1313), July 1934 to current year (monthly discharge only since October 1942). Prior to October 1942 published as "near Picacho, Calif." October 1942 to September 1971 published as "at Imperial Dam" (monthly discharge shown as "flow reaching Imperial Dam," listed as supplement to "flow passing Imperial Dam").

GAGE.--None. This record is synthesized from records of several other stations (see REMARKS). July 13, 1934, to Sept. 30, 1942, water-stage recorder at site 14.5 mi (23.3 km) upstream at datum 167.38 ft (51.017 m) above mean sea level.

AVERAGE DISCHARGE.--42 years (1934-76), 11,110 ft³/s (314.6 m³/s), 8,049,000 acre-ft/yr (9,920 hm³/yr).

EXTREMES.--1934-76: Maximum discharge, 40,800 ft³/s (1,160 m³/s) Sept. 5, 1939; minimum, 538 ft³/s (15.2 m³/s) Aug. 3, 1934; minimum daily since regulation of Hoover Dam began, 1,450 ft³/s (41.1 m³/s) Feb. 17, 1935.

REMARKS.--Records show flow of Colorado River reaching Imperial Dam, and are based on combined monthly total flow of Colorado River below Imperial Dam (sta 09429500), All-American Canal near Imperial Dam (sta 09523000), Gila Gravity Main Canal at Imperial Dam (sta 09522500), and diversions to Mittry Lake. Records for 1903-34 and for October 1942 to September 1960 were computed as combined flow of Colorado River at Yuma (sta 09521000) and the canals diverting at Imperial and Laguna Dams, less the flow of Gila River near Dome (sta 09520500); for some of these periods drainage and waste return flows and channel losses between the gaging stations and Imperial Dam were considered, and for other periods they were neglected. Records for July 1934 to September 1942 show daily discharge of Colorado River at gaging station near Picacho, Calif.

Natural flow of Colorado River at this point affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals, and diversions for irrigation, municipal, and industrial uses, and return flows from irrigated areas. Diversions to Mittry Lake, which began June 23, 1970, are included in river records in table on following page. Additional regulation, beginning Jan. 31, 1966, to equalize supplies for downstream water users, is provided by pumped storage in reservoir on Senator Wash, about 2 mi (3 km) upstream from Imperial Dam. Monthend contents of Senator Wash Reservoir—capacity, 13,840 acre-ft (17.1 hm³)—is given in table on following page. Records of chemical analyses for the current water year are given on following pages.

COOPERATION.--Records of Sparling meter readings of diversion to Mittry Lake and contents of Senator Wash Reservoir furnished by Bureau of Reclamation.

COLORADO RIVER MAIN STEM

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09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--Continued

COLORADO RIVER ABOVE IMPERIAL DAM, DIVERSIONS TO MITTRY LAKE, AND MONTHEND CONTENTS OF SENATOR WASH RESERVOIR,
WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

Month	Discharge of Colorado River		Diversions to Mittry Lake (acre-feet)*	Monthend contents, Senator Wash Reservoir (acre-feet)
	Mean (cubic feet per second)	Runoff in acre-feet		
October	7,314	449,700	395	5,970
November	5,606	333,600	348	6,140
December	5,669	348,600	429	3,800
CAL YR 1975	8,510	6,161,000	6,830	-
January	5,549	341,200	479	7,860
February	5,696	327,600	564	1,600
March	10,700	658,100	631	8,570
April	11,410	678,800	626	3,730
May	9,624	591,800	700	7,240
June	9,354	556,600	593	6,540
July	10,530	647,400	634	9,750
August	10,890	669,900	617	7,720
September	7,555	449,500	543	13,750
WTR YR 1976	8,338	6,053,000	6,560	-

* Included in first two columns of table.

NOTE.--Discharge of Colorado River, in first two columns of table above, is combined discharge of Colorado River below Imperial Dam (sta 09429500) and diversions to All-American Canal, Gila Gravity Main Canal, and Mittry Lake.

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.

(National stream-quality accounting network, pesticide, radiochemical, and tritium network station)

LOCATION.--Lat 32°52'59", long 114°27'55", in NW¼SW¼ sec.9, T.15 S., R.24 E., San Bernardino meridian, Imperial County, Calif., above trash racks at All-American Canal headworks at west end of Imperial Dam, 5 mi (8 km) upstream from Laguna Dam, 15 mi (24 km) northeast of Yuma, 90 mi (145 km) downstream from Palo Verde Dam, and 147 mi (237 km) downstream from Parker Dam.

DRAINAGE AREA (REVISED).--188,500 mi² (488,200 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--Chemical analyses: August 1969 to current year.

Water temperatures: October 1974 to current year.

Prior to October 1971, published as sta 09429500, Colorado River at Imperial Dam, Ariz.-Calif.

WATER QUALITY DATA: WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS- CHARGE (CFS)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	DIS- SOLVED OXYGEN (MG/L)	CHEM- ICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	FECAL COLI- FORM (COL. PER 100 ML)
OCT										
06...	--	8575	--	1300	8.1	--	2	--	--	--
07...	1400	--	--	--	--	--	--	--	--	--
07...	1420	--	8860	1340	7.6	23.5	--	8.6	14	42
13...	--	7258	--	1330	8.1	--	4	--	--	--
20...	--	6760	--	1360	8.2	--	3	--	--	--
21...	1045	--	7053	--	--	21.5	--	--	11	--
27...	--	6620	--	1380	8.2	--	2	--	--	--
NOV										
03...	--	8890	--	1410	8.2	--	1	--	--	--
10...	--	5280	--	1400	8.1	--	2	--	--	--
11...	1330	--	5770	1360	8.2	25.5	--	8.0	9	28
17...	--	6000	--	1370	8.2	--	2	--	--	--
24...	--	6060	--	1360	8.2	--	3	--	--	--
24...	1100	--	6110	--	--	13.0	--	--	12	--
DEC										
01...	--	4460	--	1460	8.1	--	4	--	--	--
08...	--	5940	--	1340	8.1	--	4	--	--	--
09...	1330	--	6130	1390	8.3	14.5	--	9.3	8	--
15...	--	6010	--	1400	8.2	--	5	--	--	--
22...	--	6640	--	1310	8.1	--	2	--	--	--
23...	1210	--	6310	--	--	13.5	--	--	33	--
29...	--	6610	--	1330	8.2	--	6	--	--	--
JAN										
05...	--	5020	--	1340	8.2	--	2	--	--	--
12...	--	5070	--	1410	8.3	--	3	--	--	--
14...	0930	--	5660	1360	8.3	10.0	--	9.4	15	84
19...	--	5710	--	1390	8.2	--	2	--	--	--
26...	--	5860	--	1330	8.1	--	6	--	--	--
27...	1100	--	6140	--	--	11.0	--	--	15	--
FEB										
02...	--	6440	--	1330	8.2	--	3	--	--	--
09...	--	4120	--	1350	8.1	--	4	--	--	--
11...	0915	--	4580	1340	8.2	15.0	--	8.6	9	70
16...	--	2950	--	1570	8.1	--	4	--	--	--
23...	--	6330	--	1380	8.2	--	4	--	--	--
24...	1100	--	7510	--	--	14.0	--	--	8	--
MAR										
01...	--	9910	--	1220	8.3	--	4	--	--	--
08...	--	9400	--	1240	8.2	--	8	--	--	--
10...	1110	--	9570	1310	8.2	16.0	--	9.5	15	812
15...	--	9730	--	1240	8.2	--	6	--	--	--
22...	--	11300	--	1220	8.2	--	6	--	--	--
23...	1130	--	11900	--	--	14.0	--	--	2	--
29...	--	12700	--	1220	8.1	--	4	--	--	--
APR										
05...	--	12060	--	1240	8.2	--	4	--	--	--
12...	--	12200	--	1230	8.2	--	8	--	--	--
14...	0855	--	9470	1260	7.9	17.0	--	9.0	5	36
19...	--	8380	--	1360	8.2	--	5	--	--	--
26...	--	12800	--	1220	8.2	--	3	--	--	--
27...	1035	--	13300	--	--	20.5	--	--	14	--
MAY										
03...	--	11500	--	1250	8.3	--	3	--	--	--
10...	--	8500	--	1320	8.2	--	11	--	--	--
12...	0920	--	9088	1300	8.2	25.0	--	7.9	2	38
17...	--	5340	--	1290	8.3	--	4	--	--	--
24...	--	9140	--	1260	8.3	--	2	--	--	--
25...	1030	--	9420	--	--	23.0	--	--	9	--
31...	--	8830	--	1290	8.1	--	3	--	--	--
JUN										
07...	--	8810	--	1270	8.3	--	2	--	--	--
09...	0845	--	9320	1290	8.1	24.5	--	8.1	16	20
14...	--	9430	--	1260	8.3	--	3	--	--	--
21...	--	9460	--	1280	8.3	--	2	--	--	--
28...	--	9530	--	1260	8.3	--	2	--	--	--
JUL										
05...	--	9720	--	1240	8.1	--	3	--	--	--
12...	--	10500	--	1220	8.3	--	5	--	--	--
14...	0915	--	11860	1280	8.1	27.5	--	7.6	3	--
19...	--	10700	--	1230	8.2	--	2	--	--	--
26...	--	10400	--	1220	8.2	--	3	--	--	--
27...	1010	--	9960	--	--	28.5	--	--	11	--
AUG										
02...	--	9810	--	1270	8.3	--	3	--	--	--
09...	--	11200	--	1230	8.1	--	3	--	--	--
11...	0930	--	11660	1200	8.0	27.5	--	7.7	21	860
16...	--	11200	--	1240	8.3	--	2	--	--	--
23...	--	11500	--	1230	8.3	--	3	--	--	--
24...	1045	--	11690	--	--	28.0	--	--	19	--
30...	--	10500	--	1230	8.3	--	3	--	--	--

B Results based on non-ideal colony count.

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EXTREMES.--Current year:

Specific conductance: Maximum daily, 1,650 micromhos Feb. 19; minimum daily, 939 micromhos Sept. 26.

Water temperatures: Maximum daily, 31.0°C July 29, 31, Aug. 1; minimum daily, 9.0°C Jan. 4.

Period of record:

Specific conductance: Maximum daily, 1,880 micromhos Nov. 21, 1969; minimum daily, 939 micromhos Sept. 26, 1976.

Water temperatures: Maximum daily, 31.0°C Aug. 5, 1975, July 29, 31, Aug. 1, 1976; minimum daily, 9.0°C Dec. 26, 1974, Jan. 4, 1976.

REMARKS.--Stream discharges reported with analyses represent total flow reaching Imperial Dam. Daily temperature and specific-conductance record furnished by Bureau of Reclamation. Since January 1971, daily specific-conductance measurements have been made using a composite of four water samples taken at 6-hour intervals. Composites of four water samples per day are analyzed for major chemical constituents. Tritium analyses available from U.S. Geological Survey, Water Resources Division, Reston, Virginia.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	STREP- TOCOCCI (COL- ONIES PER 100 ML)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	TOTAL CAL- CIUM (CA) (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	TOTAL SODIUM (NA) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)
OCT									
06...	--	360	219	--	88	--	34	--	140
07...	--	350	210	--	89	--	32	--	140
07...	32	--	--	--	--	--	--	--	--
13...	--	365	222	--	94	--	32	--	145
20...	--	375	229	--	100	--	31	--	145
21...	--	--	--	--	--	--	--	--	--
27...	--	380	231	--	102	--	31	--	150
NOV									
03...	--	385	232	--	99	--	34	--	155
10...	--	380	231	--	102	--	31	--	155
11...	60	--	--	88	--	31	--	140	--
17...	--	375	224	--	98	--	32	--	150
24...	--	375	226	--	103	--	29	--	145
24...	--	--	--	--	--	--	--	--	--
DEC									
01...	--	395	236	--	106	--	32	--	160
08...	--	370	224	--	102	--	28	--	145
09...	--	330	180	--	79	--	32	--	150
15...	--	380	228	--	103	--	30	--	155
22...	--	365	224	--	94	--	32	--	140
23...	--	--	--	--	--	--	--	--	--
29...	--	365	219	--	100	--	28	--	145
JAN									
05...	--	370	224	--	101	--	29	--	145
12...	--	385	231	--	101	--	32	--	155
14...	22	370	220	--	95	--	33	--	150
19...	--	380	230	--	99	--	32	--	155
26...	--	365	220	--	95	--	31	--	145
27...	--	--	--	--	--	--	--	--	--
FEB									
02...	--	365	219	--	95	--	31	--	145
09...	--	375	226	--	96	--	33	--	145
11...	120	360	210	120	91	31	31	140	140
16...	--	420	252	--	111	--	35	--	180
23...	--	380	229	--	98	--	33	--	150
24...	--	--	--	--	--	--	--	--	--
MAR									
01...	--	355	216	--	91	--	31	--	125
08...	--	355	212	--	90	--	32	--	130
10...	810	370	230	--	95	--	33	--	130
15...	--	355	212	--	89	--	32	--	130
22...	--	355	212	--	90	--	32	--	125
23...	--	--	--	--	--	--	--	--	--
29...	--	355	210	--	90	--	32	--	125
APR									
05...	--	355	209	--	91	--	31	--	130
12...	--	355	212	--	90	--	32	--	125
14...	41	--	--	--	--	--	--	--	--
19...	--	375	218	--	98	--	32	--	150
26...	--	355	212	--	90	--	32	--	125
27...	--	--	--	--	--	--	--	--	--
MAY									
03...	--	360	212	--	91	--	32	--	130
10...	--	365	214	--	95	--	31	--	145
12...	26	--	--	93	--	32	--	130	--
17...	--	360	209	--	90	--	33	--	140
24...	--	365	216	--	92	--	33	--	130
25...	--	--	--	--	--	--	--	--	--
31...	--	360	211	--	90	--	33	--	140
JUN									
07...	--	365	214	--	91	--	34	--	135
09...	36	--	--	--	--	--	--	--	--
14...	--	365	216	--	91	--	34	--	130
21...	--	365	216	--	92	--	33	--	135
28...	--	360	214	--	90	--	33	--	130
JUL									
05...	--	355	212	--	90	--	32	--	130
12...	--	355	214	--	86	--	34	--	125
14...	--	--	--	--	--	--	--	--	--
19...	--	355	214	--	90	--	32	--	125
26...	--	355	212	--	87	--	34	--	125
27...	--	--	--	--	--	--	--	--	--
AUG									
02...	--	355	212	--	90	--	32	--	135
09...	--	355	216	--	88	--	33	--	125
11...	58	--	--	82	--	30	--	130	--
16...	--	355	214	--	87	--	34	--	130
23...	--	355	216	--	86	--	34	--	125
24...	--	--	--	--	--	--	--	--	--
30...	--	355	216	--	86	--	34	--	125

B Results based on non-ideal colony count.

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	SODIUM AU- SORP- TION RATIO	TOTAL PO- TAS- SIUM (K) (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)	DIS- SOLVED SILICA (SiO2) (MG/L)
OCT									
06...	3.2	--	5.9	172	0	345	118	.5	10
07...	3.2	--	5.3	172	--	340	130	.3	8.8
07...	--	--	--	--	--	--	--	--	--
13...	3.3	--	5.6	174	0	350	125	.5	9.0
20...	3.2	--	6.3	178	0	355	130	.5	8.0
21...	--	--	--	--	--	--	--	--	--
27...	3.3	--	5.6	182	0	360	132	.6	10
NOV									
03...	3.4	--	5.6	186	0	365	139	.6	11
10...	3.4	--	5.6	182	0	365	135	.5	9.0
11...	--	4.7	--	--	--	--	--	--	--
17...	3.4	--	5.2	184	0	355	130	.5	10
24...	3.3	--	5.4	182	0	350	132	.5	10
24...	--	--	--	--	--	--	--	--	--
DEC									
01...	3.5	--	5.2	194	0	380	140	.5	9.0
08...	3.3	--	5.0	178	0	350	128	.5	10
09...	3.6	--	5.3	178	--	340	130	.4	9.2
15...	3.5	--	5.4	186	0	365	135	.5	10
22...	3.2	--	5.2	172	0	345	122	.5	10
23...	--	--	--	--	--	--	--	--	--
29...	3.3	--	5.2	178	0	345	125	.5	10
JAN									
05...	3.3	--	5.4	178	0	350	128	.4	8.0
12...	3.4	--	5.4	188	0	365	140	.5	7.0
14...	3.4	--	5.3	181	--	360	140	.4	8.9
19...	3.5	--	5.6	186	0	360	135	.5	9.0
26...	3.3	--	5.6	176	0	345	128	.4	9.0
27...	--	--	--	--	--	--	--	--	--
FEB									
02...	3.3	--	5.2	178	0	345	126	.4	10
09...	3.3	--	5.0	182	0	350	131	.4	9.0
11...	3.2	4.8	5.0	181	--	340	130	.4	8.8
16...	3.8	--	5.4	204	0	390	170	.5	10
23...	3.3	--	5.0	184	0	360	132	.6	8.9
24...	--	--	--	--	--	--	--	--	--
MAR									
01...	2.9	--	5.2	170	0	330	105	.4	10
08...	3.0	--	5.0	174	0	330	108	.5	8.0
10...	2.9	--	5.2	179	--	330	120	.4	8.9
15...	3.0	--	5.4	174	0	330	109	.5	8.8
22...	2.9	--	5.4	174	0	330	102	.5	9.1
23...	--	--	--	--	--	--	--	--	--
29...	2.9	--	5.2	176	0	330	102	.5	8.6
APR									
05...	3.0	--	5.2	178	0	330	108	.5	8.2
12...	2.9	--	5.6	174	0	330	105	.5	6.8
14...	--	--	--	--	--	--	--	--	--
19...	3.4	--	5.6	192	0	350	131	.5	6.8
26...	2.9	--	5.2	174	0	330	102	.4	6.0
27...	--	--	--	--	--	--	--	--	--
MAY									
03...	3.0	--	4.8	180	0	335	110	.4	6.2
10...	3.3	--	5.0	184	0	345	124	.5	6.5
12...	--	5.8	--	--	--	--	--	--	--
17...	3.2	--	5.6	184	0	340	118	.6	5.5
24...	3.0	--	5.5	182	0	335	112	.5	7.2
25...	--	--	--	--	--	--	--	--	--
31...	3.2	--	5.3	182	0	340	118	.5	7.5
JUN									
07...	3.1	--	5.6	184	0	335	114	.5	7.2
09...	--	--	--	--	--	--	--	--	--
14...	3.0	--	5.4	182	0	335	112	.5	7.5
21...	3.1	--	5.0	182	0	340	114	.4	9.0
28...	3.0	--	5.4	178	0	335	112	.5	8.8
JUL									
05...	3.0	--	5.7	174	0	330	110	.5	7.5
12...	2.9	--	5.7	172	0	330	105	.5	7.5
14...	--	--	5.4	--	--	--	--	--	--
19...	2.9	--	5.7	172	0	330	108	.4	8.0
26...	2.9	--	5.8	174	0	330	105	.4	8.0
27...	--	--	--	--	--	--	--	--	--
AUG									
02...	3.1	--	5.6	174	0	335	115	.5	9.5
09...	2.9	--	5.6	170	0	330	109	.4	9.0
11...	--	4.6	--	--	--	--	--	--	--
16...	3.0	--	6.0	172	0	330	111	.4	8.0
23...	2.9	--	5.7	170	0	330	109	.5	8.0
24...	--	--	--	--	--	--	--	--	--
30...	2.9	--	5.3	170	0	330	108	.5	9.5

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WATER QUALITY DATA: WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	TOTAL FILT- RABLE RESIDUE (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT									
06...	832	--	827	1.13	--	.07	--	--	--
07...	--	--	831	1.13	--	--	--	180	0
07...	--	--	--	--	0	--	.00	170	--
13...	846	--	848	1.15	--	.11	--	--	--
20...	878	--	864	1.19	--	--	--	--	--
21...	--	--	--	--	24	--	--	--	--
27...	886	--	881	1.20	--	--	--	--	--
NOV									
03...	900	--	901	1.22	--	.14	--	--	--
10...	892	--	893	1.21	--	--	--	--	--
11...	--	--	--	--	3	--	.00	190	0
17...	872	--	873	1.19	--	.34	--	--	--
24...	880	--	867	1.20	--	.38	--	--	--
24...	--	--	--	--	11	.21	.03	190	--
DEC									
01...	940	--	930	1.28	--	.23	--	--	--
08...	860	--	858	1.17	--	.25	--	--	--
09...	--	--	835	1.14	10	--	.01	160	0
15...	906	--	897	1.23	--	.29	--	--	--
22...	846	--	834	1.15	--	.09	--	--	--
23...	--	--	--	--	13	.17	.01	190	--
29...	852	--	848	1.16	--	.29	--	--	--
JAN									
05...	868	--	857	1.18	--	.41	--	--	--
12...	934	--	900	1.27	--	.18	--	--	--
14...	--	970	883	1.20	5	.16	.01	200	0
19...	898	--	890	1.22	--	.41	--	--	--
26...	864	--	848	1.18	--	.34	--	--	--
27...	--	--	--	--	12	--	--	--	--
FEB									
02...	844	--	846	1.15	--	.18	--	--	--
09...	864	--	860	1.18	--	.20	--	--	--
11...	--	--	837	1.14	14	--	.01	160	10
16...	1010	--	1000	1.37	--	.29	--	--	--
23...	906	--	879	1.23	--	.11	--	--	--
24...	--	--	--	--	7	--	--	--	--
MAR									
01...	780	--	782	1.06	--	.14	--	--	--
08...	788	--	791	1.07	--	.34	--	--	--
10...	--	--	812	1.10	27	.24	.01	160	10
15...	796	--	791	1.08	--	.16	--	--	--
22...	778	--	781	1.06	--	.23	--	--	--
23...	--	--	--	--	24	--	--	--	--
29...	782	--	782	1.06	--	.32	--	--	--
APR									
05...	794	--	793	1.08	--	.23	--	--	--
12...	780	--	783	1.06	--	.41	--	--	--
14...	--	--	--	--	16	--	.00	170	--
19...	870	--	870	1.18	--	.25	--	--	--
26...	778	--	777	1.06	--	.16	--	--	--
27...	--	--	--	--	25	--	--	--	--
MAY									
03...	796	--	799	1.08	--	.18	--	--	--
10...	838	--	844	1.14	--	.29	--	--	--
12...	--	--	--	--	22	--	.00	170	0
17...	822	--	824	1.12	--	.11	--	--	--
24...	806	--	806	1.10	--	.25	--	--	--
25...	--	--	--	--	23	--	--	--	--
31...	828	--	825	1.13	--	.11	--	--	--
JUN									
07...	810	--	814	1.10	--	.20	--	--	--
09...	--	--	--	--	17	--	.00	160	--
14...	802	--	806	1.09	--	.23	--	--	--
21...	824	--	819	1.12	--	.18	--	--	--
28...	804	--	803	1.09	--	.14	--	--	--
JUL									
05...	790	--	792	1.07	--	.14	--	--	--
12...	786	--	779	1.07	--	.11	--	--	--
14...	--	840	--	--	3	--	.00	170	--
19...	784	--	785	1.07	--	.11	--	--	--
26...	782	--	782	1.06	--	.09	--	--	--
27...	--	--	--	--	14	--	--	--	--
AUG									
02...	808	--	809	1.10	--	.09	--	--	--
09...	790	--	784	1.07	--	.11	--	--	--
11...	--	--	--	--	4	.13	.01	170	10
16...	790	--	792	1.07	--	.09	--	--	--
23...	780	--	783	1.06	--	.11	--	--	--
24...	--	--	--	--	13	--	--	--	--
30...	784	--	783	1.07	--	.09	--	--	--

COLORADO RIVER MAIN STEM

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WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS- CHARGE (CFS)	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	DIS- SOLVED OXYGEN (MG/L)	CHEM- ICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	FECAL COLI- FORM (COL. PER 100 ML)	STREP- TOCOCCI (COL- ONIES PER 100 ML)
SFP											
06...	--	8840	--	1250	8.3	--	5	--	--	--	--
13...	--	3930	--	1400	8.3	--	5	--	--	--	--
15...	1030	--	4490	1580	8.1	27.5	--	8.0	9	31	79
20...	--	6420	--	1380	8.3	--	24	--	--	--	--
27...	--	10130	--	1070	8.1	--	120	--	--	--	--
28...	1015	--	5590	--	--	26.5	--	--	9	--	--

DATE	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	CAR- BONATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)
SFP										
06...	360	219	90	33	130	3.0	5.2	172	0	335
13...	370	214	92	34	160	3.6	5.2	190	0	360
15...	--	--	--	--	--	--	--	--	--	--
20...	375	219	94	34	155	3.5	5.8	190	0	355
27...	298	164	85	21	112	2.8	6.7	164	0	255
28...	--	--	--	--	--	--	--	--	--	--

DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED BORON (B) (UG/L)
SEP										
06...	110	.5	8.5	800	798	1.09	--	.11	--	--
13...	135	.4	9.0	890	891	1.21	--	.23	--	--
15...	--	--	--	--	--	--	0	--	.01	240
20...	135	.5	9.8	882	885	1.20	--	.34	--	--
27...	105	.4	8.0	676	678	.92	--	.79	--	--
28...	--	--	--	--	--	--	265	--	--	--

DATE	TIME	TOTAL NITRATE (N) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)
SFP											
17...	--	--	.79	--	--	--	--	--	--	--	--
28...	1015	.98	--	.02	1.0	.04	1.2	1.2	2.2	9.7	.36

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL NITRATE (N) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)
OCT								
06...	--	--	.07	--	--	--	--	--
07...	1420	.10	--	.00	.00	.10	.10	.03
13...	--	--	.11	--	--	--	--	--
21...	1045	.09	--	.01	--	.10	--	.01
NOV								
03...	--	--	.14	--	--	--	--	--
11...	1330	.15	--	.01	.01	.16	.16	.04
17...	--	--	.34	--	--	--	--	--
24...	--	--	.38	--	--	--	--	--
24...	1100	.21	.21	.01	.01	.22	.22	.02
DEC								
01...	--	--	.23	--	--	--	--	--
08...	--	--	.25	--	--	--	--	--
09...	1330	.18	--	.01	.01	.19	.19	.04
15...	--	--	.29	--	--	--	--	--
22...	--	--	.09	--	--	--	--	--
23...	1210	.17	.17	.00	.00	.17	.17	.03
29...	--	--	.29	--	--	--	--	--
JAN								
05...	--	--	.41	--	--	--	--	--
12...	--	--	.18	--	--	--	--	--
14...	0930	.18	.16	.00	.01	.18	.15	.01
19...	--	--	.41	--	--	--	--	--
26...	--	--	.34	--	--	--	--	--
27...	1100	.20	--	.01	--	.21	--	.02
FEB								
02...	--	--	.18	--	--	--	--	--
09...	--	--	.20	--	--	--	--	--
11...	0915	.26	--	.01	.01	.27	.26	.01
16...	--	--	.29	--	--	--	--	--
23...	--	--	.11	--	--	--	--	--
24...	1100	.19	--	.01	--	.20	--	.01
MAR								
01...	--	--	.14	--	--	--	--	--
08...	--	--	.34	--	--	--	--	--
10...	1110	.23	.24	.01	.00	.24	4.6	.02
15...	--	--	.16	--	--	--	--	--
22...	--	--	.23	--	--	--	--	--
23...	1130	.27	--	.01	--	.28	--	.02
29...	--	--	.32	--	--	--	--	--
APR								
05...	--	--	.23	--	--	--	--	--
12...	--	--	.41	--	--	--	--	--
14...	0855	.24	--	.00	.01	.24	.25	.00
19...	--	--	.25	--	--	--	--	--
26...	--	--	.16	--	--	--	--	--
27...	1035	.13	--	.01	--	.14	--	.03
MAY								
03...	--	--	.18	--	--	--	--	--
10...	--	--	.29	--	--	--	--	--
12...	0920	.22	--	.00	.01	.22	.22	.02
17...	--	--	.11	--	--	--	--	--
24...	--	--	.25	--	--	--	--	--
25...	1030	.11	--	.01	--	.12	--	.00
31...	--	--	.11	--	--	--	--	--
JUN								
07...	--	--	.20	--	--	--	--	--
09...	0845	.15	--	.01	.01	.16	.16	.01
14...	--	--	.23	--	--	--	--	--
21...	--	--	.18	--	--	--	--	--
28...	--	--	.14	--	--	--	--	--
JUL								
05...	--	--	.14	--	--	--	--	--
12...	--	--	.11	--	--	--	--	--
14...	0915	.11	--	.00	.00	.11	.10	.01
19...	--	--	.11	--	--	--	--	--
26...	--	--	.09	--	--	--	--	--
27...	1010	.13	--	.00	--	.13	--	.00
AUG								
02...	--	--	.09	--	--	--	--	--
09...	--	--	.11	--	--	--	--	--
11...	0930	.14	.13	.01	.00	.15	.13	.00
16...	--	--	.09	--	--	--	--	--
23...	--	--	.11	--	--	--	--	--
24...	1045	.07	--	.00	--	.07	--	.00
30...	--	--	.09	--	--	--	--	--
SEP								
06...	--	--	.11	--	--	--	--	--
13...	--	--	.23	--	--	--	--	--
15...	1030	.06	--	.00	.00	.06	.08	.00
20...	--	--	.34	--	--	--	--	--

COLORADO RIVER MAIN STEM

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

WATER QUALITY DATA WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJFL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOL- VED- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHOPHOS- PHORUS (P) (MG/L)
OCT							
06...	--	--	--	--	--	--	--
07...	.27	.30	.40	1.8	.02	--	.00
13...	--	--	--	--	--	--	--
21...	.44	.45	.55	2.4	.00	--	--
NOV							
03...	--	--	--	--	--	--	--
11...	.26	.30	.46	2.0	.01	.00	.00
17...	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--
24...	.46	.48	.70	3.1	.00	--	.03
DEC							
01...	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--
09...	.28	.32	.51	2.3	.00	--	.01
15...	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--
23...	.14	.17	.34	1.5	.02	--	.01
29...	--	--	--	--	--	--	--
JAN							
05...	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--
14...	.57	.58	.76	3.4	.00	--	.01
19...	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--
27...	.45	.47	.68	3.0	.00	--	--
FEB							
02...	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--
11...	.52	.53	.80	3.5	.03	.00	.01
16...	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--
24...	.20	.21	.41	1.8	.02	--	--
MAR							
01...	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--
10...	.45	.47	.71	3.1	.03	--	.01
15...	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--
23...	.45	.47	.75	3.3	.05	--	--
29...	--	--	--	--	--	--	--
APR							
05...	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--
14...	.33	.33	.57	2.5	.17	--	.00
19...	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--
27...	.39	.42	.56	2.5	.05	--	--
MAY							
03...	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--
12...	.31	.33	.55	2.4	.05	.02	.00
17...	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--
25...	.40	.40	.52	2.3	.01	--	--
31...	--	--	--	--	--	--	--
JUN							
07...	--	--	--	--	--	--	--
09...	.63	.64	.80	3.5	.13	--	.00
14...	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--
JUL							
05...	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--
14...	.02	.03	.14	.62	.03	--	.00
19...	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--
27...	.41	.41	.54	2.4	.03	--	--
AUG							
02...	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--
11...	.24	.24	.39	1.7	.02	.01	.01
16...	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--
24...	.64	.64	.71	3.1	.02	--	--
30...	--	--	--	--	--	--	--
SEP							
06...	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--
15...	.51	.51	.57	2.5	.01	--	.01
20...	--	--	--	--	--	--	--

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)
OCT								
07...	1420	--	--	170	--	--	--	--
21...	1045	--	--	--	--	--	--	--
NOV								
11...	1330	2	2	190	10	2	6	0
24...	1100	--	--	190	--	--	--	--
DEC								
09...	1330	--	--	160	--	--	--	--
23...	1210	--	--	190	--	--	--	--
JAN								
14...	0930	--	--	200	--	--	--	--
27...	1100	--	--	--	--	--	--	--
FEB								
11...	0915	3	3	160	<10	0	0	0
24...	1100	--	--	--	--	--	--	--
MAR								
10...	1110	--	--	160	--	--	--	--
23...	1130	--	--	--	--	--	--	--
APR								
14...	0855	--	--	170	--	--	--	--
27...	1035	--	--	--	--	--	--	--
MAY								
12...	0920	4	3	170	<10	0	0	0
25...	1030	--	--	--	--	--	--	--
JUN								
09...	0845	--	--	160	--	--	--	--
JUL								
14...	0915	--	--	170	--	--	--	--
27...	1010	--	--	--	--	--	--	--
AUG								
11...	0930	2	2	170	<10	0	10	0
24...	1045	--	--	--	--	--	--	--
SEP								
15...	1030	--	--	240	--	--	--	--
28...	1015	--	--	--	--	--	--	--

DATE	TOTAL COBALT (CO) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)
OCT									
07...	--	--	--	--	240	--	--	--	--
21...	--	--	--	--	230	--	--	--	--
NOV									
11...	<50	0	10	9	200	0	200	8	40
24...	--	--	--	--	210	--	--	--	--
DEC									
09...	--	--	--	--	180	0	--	--	--
23...	--	--	--	--	360	--	--	--	--
JAN									
14...	--	--	--	--	210	0	--	--	--
27...	--	--	--	--	250	--	--	--	--
FEB									
11...	<50	1	10	1	250	10	<100	1	40
24...	--	--	--	--	360	--	--	--	--
MAR									
10...	--	--	--	--	540	10	--	--	--
23...	--	--	--	--	830	--	--	--	--
APR									
14...	--	--	--	--	330	--	--	--	--
27...	--	--	--	--	450	--	--	--	--
MAY									
12...	<50	0	10	2	620	0	<100	0	80
25...	--	--	--	--	450	--	--	--	--
JUN									
09...	--	--	--	--	320	--	--	--	--
JUL									
14...	--	--	--	--	250	--	--	--	--
27...	--	--	--	--	620	--	--	--	--
AUG									
11...	<50	0	10	0	330	10	<100	1	40
24...	--	--	--	--	230	--	--	--	--
SEP									
15...	--	--	--	--	220	--	--	--	--
28...	--	--	--	--	6200	--	--	--	--

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

COLORADO RIVER MAIN STEM

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

*WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE		DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT									
07...		--	--	--	--	--	--	--	3.1
21...		--	--	--	--	--	--	--	4.4
NOV									
11...		10	.1	.0	2	4	40	10	6.5
24...		--	--	--	--	--	--	--	--
DEC									
09...		--	--	--	--	--	--	--	3.7
23...		--	--	--	--	--	--	--	3.6
JAN									
14...		--	--	--	--	--	--	--	4.3
27...		--	--	--	--	--	--	--	4.2
FEB									
11...		10	.1	.0	2	2	10	0	3.7
24...		--	--	--	--	--	--	--	7.0
MAR									
10...		--	--	--	--	--	--	--	3.7
23...		--	--	--	--	--	--	--	3.8
APR									
14...		--	--	--	--	--	--	--	3.9
27...		--	--	--	--	--	--	--	4.3
MAY									
12...		0	.0	.0	3	3	80	10	3.8
25...		--	--	--	--	--	--	--	4.0
JUN									
09...		--	--	--	--	--	--	--	2.2
JUL									
14...		--	--	--	--	--	--	--	21
27...		--	--	--	--	--	--	--	4.2
AUG									
11...		0	.0	.0	3	3	20	0	3.9
24...		--	--	--	--	--	--	--	3.4
SEP									
15...		--	--	--	--	--	--	--	38
28...		--	--	--	--	--	--	--	8.0
DATE	TIME	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 URANIUM (DIRECT FLUORO- METRIC) (PC/L)
JAN									
14...	0930	53	<.4	27	1.3	22	1.2	.17	4.1
JUL									
14...	0915	25	<.4	9.6	<.4	7.6	<.4	13	4.0

< Actual value is known to be greater than the value shown.

COLORADO RIVER MAIN STEM

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09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL CHLOR-DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DDT (UG/L)	TOTAL DI-AZINON (UG/L)	TOTAL DI-ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA-CHLOR (UG/L)	TOTAL HEPTA-CHLOR EPOXIDE (UG/L)
OCT 07...	1420	.00	.0	.00	.00	.00	.00	.00	.00	.00	.00	.00
NOV 11...	1330	.00	.0	.00	.00	.00	.00	.00	.00	.00	.00	.00
DEC 09...	1330	.00	.0	.00	.00	.00	.00	.00	.00	.00	.00	.00
JAN 14...	0930	.00	.0	.00	.00	.00	.00	.00	.00	.00	.00	.00
FEB 11...	0915	.00	.0	.00	.00	.00	.00	.00	.00	.00	.00	.00
MAR 10...	1110	.00	.0	.00	.00	.00	.00	.00	.00	.00	.00	.00
APR 14...	0855	.00	.0	.00	.00	.00	.00	.00	.00	.00	.00	.00
MAY 12...	0920	.00	.0	.00	.00	.00	.00	.00	.00	.00	.00	.00
JUN 09...	0845	.00	.0	.00	.00	.00	.00	.00	.00	.00	.00	.00
JUL 14...	0915	--	--	--	--	--	.00	--	--	.00	--	--
AUG 11...	0930	.00	.0	.00	.00	.00	.00	.00	.00	.00	.00	.00
SEP 15...	1030	.00	.0	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	TOTAL LINDANE (UG/L)	TOTAL MALATHION (UG/L)	TOTAL METHYL PARA-THION (UG/L)	TOTAL METHYL TRI-THION (UG/L)	TOTAL PARA-THION (UG/L)	TOTAL TOXAPHENE (UG/L)	TOTAL TRI-THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)	TOTAL PCB (UG/L)
OCT 07...	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.0
NOV 11...	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.0
DEC 09...	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.0
JAN 14...	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.0
FEB 11...	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.0
MAR 10...	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.0
APR 14...	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.0
MAY 12...	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.0
JUN 09...	.00	--	.00	.00	.00	0	.00	.00	.00	.00	.0
JUL 14...	--	.00	.00	.00	.00	--	.00	.08	.01	.00	--
AUG 11...	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.0
SEP 15...	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.0

COLORADO RIVER MAIN STEM

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 1230

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.5	20.0	12.0	11.0	15.0	16.5	18.5	22.0	26.0	30.0	31.0	30.0
2	26.5	20.0	13.5	9.5	15.0	16.5	18.5	23.5	26.5	29.0	30.0	29.0
3	26.5	20.0	13.5	9.5	14.5	15.5	19.0	23.5	26.5	29.0	29.0	29.0
4	26.5	20.0	14.5	9.0	14.5	15.0	19.0	23.0	26.5	29.0	29.0	29.5
5	26.5	20.0	15.0	10.0	15.0	14.5	18.5	23.5	26.5	29.0	29.0	29.5
6	26.5	20.0	15.0	11.0	15.0	15.0	18.5	22.0	26.5	30.0	29.0	29.0
7	25.0	20.0	15.0	11.0	15.0	15.0	19.0	22.0	26.5	30.0	29.5	28.5
8	24.0	20.0	15.0	11.0	16.0	15.5	19.5	22.0	26.5	30.5	29.5	29.0
9	24.0	19.5	15.0	11.0	16.5	16.0	19.5	23.5	26.5	30.5	29.5	28.5
10	24.0	19.0	14.5	10.5	16.5	16.5	20.0	24.5	25.5	30.0	29.5	28.0
11	24.5	18.5	15.0	11.5	15.5	16.5	20.0	24.5	25.5	30.0	30.0	27.0
12	23.5	17.0	15.0	12.0	16.0	16.0	20.0	25.5	25.5	29.5	29.5	28.0
13	23.0	16.5	15.0	11.5	16.0	15.5	20.0	26.0	26.5	30.5	29.0	28.5
14	22.0	16.0	14.0	12.0	16.5	16.5	19.5	26.5	26.5	29.5	26.5	29.0
15	21.5	16.0	12.0	11.5	16.5	16.5	18.5	26.5	26.5	29.5	27.0	29.0
16	21.5	16.5	11.5	13.0	16.5	16.5	17.0	26.5	26.5	29.5	26.5	28.0
17	21.5	16.5	11.5	13.5	17.0	17.0	16.5	26.5	26.5	29.0	28.0	28.0
18	23.0	16.5	13.5	14.0	17.0	16.5	18.0	26.5	27.0	29.0	27.0	28.0
19	23.0	15.0	12.0	14.5	18.5	16.5	18.5	26.5	28.5	29.0	27.0	28.0
20	23.0	15.5	11.5	13.5	16.5	16.5	20.5	26.0	29.5	29.5	27.0	27.0
21	23.0	15.0	13.0	13.5	15.5	16.0	21.0	26.0	29.5	29.5	28.0	27.0
22	23.5	15.0	13.5	13.5	15.0	16.5	20.5	26.0	29.0	29.0	29.0	27.0
23	21.0	15.0	14.5	13.5	15.0	18.0	21.0	26.0	28.0	29.5	29.5	27.0
24	20.0	14.5	14.0	14.0	15.0	18.5	21.5	25.5	27.0	30.0	30.5	25.5
25	19.0	15.0	14.5	14.0	16.0	18.5	21.5	25.0	28.0	30.0	30.0	25.5
26	18.0	14.5	13.5	14.0	16.0	18.5	21.5	25.5	28.5	30.5	30.0	25.0
27	18.5	14.5	13.5	13.0	16.5	18.0	22.0	26.0	29.5	30.5	30.0	26.0
28	20.0	14.5	13.0	13.0	16.5	18.0	21.5	26.0	30.0	30.5	30.5	27.0
29	21.0	13.0	12.0	13.0	17.0	18.0	21.5	25.5	30.5	31.0	30.5	27.0
30	21.0	13.0	13.0	12.0	---	18.0	22.0	26.5	30.0	30.0	30.5	27.0
31	20.0	---	11.0	14.0	---	18.0	---	25.5	---	31.0	30.5	---
MONTH	23.0	17.0	13.5	12.0	16.0	16.5	20.0	25.0	27.5	30.0	29.0	28.0
YEAR	MAX	31.0	MIN	9.0	MEAN	21.5						

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1280	1360	1490	1420	1330	1220	1250	1280	1290	1260	1280	1220
2	1290	1400	1470	1380	1320	1220	1240	1240	1290	1250	1270	1240
3	1310	1410	1450	1350	1300	1230	1250	1250	1290	1270	1240	1260
4	1310	1350	1450	1320	1280	1200	1230	1240	1310	1270	1240	1260
5	1330	1400	1430	1340	1280	1220	1230	1240	1300	1240	1240	1260
6	1300	1370	1370	1310	1300	1250	1230	1240	1310	1240	1260	1240
7	1290	1340	1360	1320	1300	1230	1210	1270	1280	1250	1270	1210
8	1290	1380	1330	1350	1340	1250	1250	1280	1270	1250	1260	1230
9	1300	1430	1240	1360	1360	1250	1250	1290	1280	1260	1230	1300
10	1330	1400	1220	1390	1340	1250	1260	1310	1280	1290	1220	1370
11	1340	1380	1280	1420	1360	1250	1250	1330	1300	1250	1230	1350
12	1350	1370	1350	1410	1390	1270	1230	1290	1330	1220	1230	1350
13	1330	1370	1360	1410	1520	1280	1250	1270	1290	1230	1240	1420
14	1330	1420	1390	1380	1580	1280	1230	1290	1250	1240	1240	1540
15	1330	1430	1410	1390	1630	1240	1250	1310	1250	1230	1240	1630
16	1360	1420	1370	1410	1550	1250	1330	1300	1260	1260	1240	1510
17	1370	1370	1320	1440	1550	1230	1360	1280	1250	1270	1240	1460
18	1390	1340	1310	1440	1610	1230	1390	1280	1290	1250	1230	1450
19	1420	1330	1320	1370	1650	1240	1340	1280	1290	1230	1240	1470
20	1360	1390	1330	1340	1590	1250	1280	1240	1280	1230	1240	1370
21	1320	1370	1320	1340	1570	1220	1280	1270	1270	1230	1240	1340
22	1310	1360	1310	1320	1480	1220	1290	1300	1250	1240	1230	1280
23	1350	1400	1340	1330	1340	1220	1260	1290	1240	1240	1230	1280
24	1370	1360	1440	1360	1310	1220	1240	1260	1240	1240	1240	1150
25	1380	1350	1580	1380	1260	1210	1230	1270	1230	1230	1250	1040
26	1400	1400	1500	1340	1240	1220	1230	1290	1290	1220	1250	935
27	1380	1410	1340	1310	1260	1220	1260	1310	1270	1220	1280	1120
28	1360	1450	1350	1310	1230	1230	1230	1320	1250	1220	1270	1230
29	1360	1490	1340	1340	1240	1220	1230	1320	1250	1250	1240	1320
30	1350	1490	1350	1320	---	1230	1250	1310	1230	1280	1230	1380
31	1350	---	1380	1310	---	1240	---	1290	---	1280	1220	---
MONTH	1340	1350	1370	1360	1400	1240	1260	1280	1270	1250	1240	1310
YEAR	MAX	1650	MIN	935	MEAN	1310						

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll a (mg/m ²)	Chlorophyll b (mg/m ²)	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight				
Nov. 11	35	2.20	1.40	21.0	6.80	38	Polyethylene strip
Feb. 11	28	11.0	8.20	8.70	.000	320	Polyethylene strip
May 12	28	4.39	.923	2.05	.000	1700	Polyethylene strip
Sept. 15	35	3.08	1.15	2.70	.000	710	Polyethylene strip

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

OCT. 9, 1974
1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

8,800 CELLS/ML

__ORGANISM__ NAME	__COMMON__ NAME	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...SCENEDESMACEAE				
....CRUCIGENIA		180	2	
....SCENEDESMUS		88	1	
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS				
	TOTALS	<u>180</u> 440	<u>2</u> 5	1.522=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCAEAE				
...CYCLOTELLA		1,100	13	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
LACHNANTHES			0	
....COCCONEIS		88	1	
...FRAGILARIACEAE				
....FRAGILARIA		350	4	
...NITZSCHACEAE				
....NITZSCHIA		<u>350</u> 2,000	<u>4</u> 22	1.665=DIVERSITY
..CHRYSTOPHYCEAE	YELLOW-BROWN ALGAE			
..CHRYSOMONADALES				
...MALLONADACEAE				
LMALLONAS			0	
	TOTALS	<u>44</u> 44	<u>0</u> 0	0.000=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...NOSTOCACEAE				
....ANABAENA		440	5	
...OSCILLATORIAEAE				
DLYNGBYA		<u>5,900</u> 6,400	<u>67</u> 72	0.362=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.042

CLASS 1.077

ORDER 1.345

FAMILY 1.745

GENERA 1.786

COLORADO RIVER MAIN STEM

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

NOV. 5, 1974

1330 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,900 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS		40	2	
....CLOSTERIOPSIS		40	2	
	TOTALS	79	4	1.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
DCYCLOTELLA		560	29	
DMELOSIRA		600	31	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...COCCONEIS		79	4	
...FRAGILARIACEAE				
...SYNEDRA		79	4	
...NAVICULACEAE	NAVICULOID			
...NAVICULA		79	4	
...NITZSCHACEAE				
DNITZSCHIA		360	19	
...SURIRELLACEAE				
....CYMATOPLEURA		40	2	
	TOTALS	1,800	93	2.238=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
....EUGLENA		40	2	
	TOTALS	40	2	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.395

CLASS 0.395

ORDER 1.275

FAMILY 1.889

GENERA 2.534

COLORADO RIVER MAIN STEM

225

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

DEC. 3, 1974
1300 HOURS

IDENTIFICATION OF PHYTOPLANKTON

970 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
....CHLORELLA		80	8	
...SCENEDESMACEAE				
....ACTINASTRUM		27	3	
....TETRASTRUM		36	4	
..VOLVOCEAE				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS		44	5	
TOTALS		190	20	1.874=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCAEAE				
DCYCLOTELLA		280	29	
DMELOSIRA		230	24	
..PENNALES	PENNATE			
...FRAGILARIACEAE				
DSYNEDRA		160	17	
...NAVICULACEAE	NAVICULOID			
....NAVICULA		18	2	
...NITZSCHIAEAE				
....NITZSCHIA		71	7	
TOTALS		760	79	1.970=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
....SPIRULINA		9	1	
TOTALS		9	1	0.000=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
....EUGLENA		9	1	
TOTALS		9	1	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.852
CLASS 0.852
ORDER 1.723
FAMILY 2.175
GENERA 2.767

COLORADO RIVER MAIN STEM

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JAN. 7, 1975

1330 HOURS

IDENTIFICATION OF PHYTOPLANKTON

180 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...SCENEDESMACEAE				
....SCENEDESMUS		16	9	
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS		4	2	
	TOTALS	20	11	0.722=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCAEAE				
DCYCLOTELLA		53	29	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...COCCONEIS		20	11	
...NAVICULACEAE	NAVICULOID			
....AMPHIPRORA		8	4	
....GYROSIGMA		4	2	
DNAVICULA		41	22	
...NITZSCHIACEAE				
DNITZSCHIA		29	16	
	TOTALS	160	84	2.233=DIVERSITY
..CHRYSOPHYCEAE	YELLOW-BROWN ALGAE			
...CHRYSOMONADALES				
...OCHROMONADACEAE				
....DINOBRYON		4	2	
	TOTALS	4	2	0.000=DIVERSITY
PYRRHOPHYTA	FIRE ALGAE			
..DINOPHYCEAE	DINOFLAGELLATES			
..PERIDINIALES				
...GLENODINIACEAE				
....GLENODINIUM		4	2	
	TOTALS	4	2	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.653
 CLASS 0.802
 ORDER 1.665
 FAMILY 2.481
 GENERA 2.768

COLORADO RIVER MAIN STEM

227

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

FEB. 11, 1975

1345 HOURS

IDENTIFICATION OF PHYTOPLANKTON

4,400 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....CHLORELLA		40	1	
...SCENEDESMACEAE				
....SCENEDESMUS				
	TOTALS	<u>320</u> 360	<u>7</u> 8	0.503=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		160	4	
...PENNALES	PENNATE			
...DIATOMACEAE				
....DIATOMA		40	1	
...FRAGILARIACEAE				
....SYNEDRA		160	4	
...NITZSCHACEAE				
....NITZSCHIA		<u>81</u> 440	<u>2</u> 11	1.823=DIVERSITY
	TOTALS			
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIA				
DOSCILLATORIA		<u>3,600</u> 3,600	<u>82</u> 82	0.000=DIVERSITY
	TOTALS			

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.865
 CLASS 0.865
 ORDER 0.959
 FAMILY 1.088
 GENERA 1.088

COLORADO RIVER MAIN STEM

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAR. 11, 1975
1235 HOURS

IDENTIFICATION OF PHYTOPLANKTON

9,500 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS		50	1	
...SCENEDESMACEAE				
....SCENEDESMUS				
	TOTALS	<u>300</u> 350	<u>3</u> 4	0.592=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		910	10	
....MELOSIRA		750	8	
..PENNALES	PENNATE			
...NAVICULACEAE	NAVICULOID			
....FRUSTULIA		50	1	
....NAVICULA		200	2	
...NITZSCHIACEAE				
....NITZSCHIA		<u>200</u>	<u>2</u>	
	TOTALS	<u>2,100</u>	<u>23</u>	1.829=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIA				
....LYNGBYA		250	3	
DOSCILLATORIA		<u>6,700</u>	<u>71</u>	
	TOTALS	<u>7,000</u>	<u>74</u>	0.224=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
...EUGLENALES				
....EUGLENACEAE				
....TRACHELOMONAS		<u>50</u>	<u>1</u>	
	TOTALS	<u>50</u>	<u>1</u>	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.024
CLASS 1.024
ORDER 1.191
FAMILY 1.260
GENERA 1.617

COLORADO RIVER MAIN STEM

229

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

APR. 8, 1975
1400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,700 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS		100	4	
...SCENEDESMACEAE				
....SCENEDESMUS		210	8	
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS				
	TOTALS	<u>52</u> 360	<u>2</u> 14	1.379=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCEAE				
DCYCLOTELLA		880	33	
DMELOSIRA		940	35	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
....ACHNANTHES		52	2	
...FRAGILARIACEAE				
....FRAGILARIA		100	4	
...NAVICULACEAE	NAVICULOID			
....NAVICULA		100	4	
...NITZSCHACEAE				
....NITZSCHIA		<u>260</u> 2,300	<u>10</u> 88	1.933=DIVERSITY

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.570
CLASS 0.570
ORDER 1.311
FAMILY 1.756
GENERA 2.428

COLORADO RIVER MAIN STEM

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAY 6, 1975
1345 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2.300 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHRYSOPHYTA				
.BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCEAE				
DCYCLOTELLA		1,200	53	
....MELOSIRA		66	3	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...COCCONEIS		66	3	
...CYMBELLACEAE				
....CYMBELLA		130	6	
...DIATOMACEAE				
....DIATOMA		66	3	
...FRAGILARIACEAE				
....FRAGILARIA		200	9	
...GOMPHONEMACEAE				
....GOMPHONEMA		66	3	
...NAVICULACEAE	NAVICULOID			
....NAVICULA		200	9	
...NITZSCHIACEAE				
....NITZSCHIA		200	9	
	TOTALS	2,200	98	2.277=DIVERSITY
.CHRYSOPHYCEAE	YELLOW-BROWN ALGAE			
..CHRYSOMONADALES				
...OCHROMONADACEAE				
....DINORRYON		66	3	
	TOTALS	66	3	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
CLASS 0.191
ORDER 1.146
FAMILY 2.235
GENERA 2.401

COLORADO RIVER MAIN STEM

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09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JUNE 10, 1975
1335 HOURS

IDENTIFICATION OF PHYTOPLANKTON

410 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...CHARACIACEAE				
....SCHROEDERIA		15	4	
...SCENEDESMACEAE				
....SCENEDESMUS		45	11	
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS				
	TOTALS	<u>15</u> 75	<u>4</u> 19	1.371=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCEACEAE				
....CYCLOTELLA		30	7	
..PENNALES	PENNATE			
...DIATOMACEAE				
....DIATOMA		15	4	
...FRAGILARIACEAE				
....SYNEDRA		30	7	
...NAVICULACEAE	NAVICULOID			
....MASTOGLOIA		45	11	
DNAVICULA		120	30	
...NITZSCHACEAE				
DNITZSCHIA		<u>90</u> 330	<u>22</u> 81	2.266=DIVERSITY
	TOTALS			

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.691
CLASS 0.691
ORDER 1.183
FAMILY 2.447
GENERA 2.791

COLORADO RIVER MAIN STEM

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

OCT. 7, 1975

1420 HOURS

IDENTIFICATION OF PHYTOPLANKTON

3,300 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS		46	1	
....CLOSTERIOPSIS		23	1	
....DICTYOSPHAERIUM		91	3	
....KIRCHNERIELLA		23	1	
...SCENEDESMACEAE				
....CRUCIGENIA		91	3	
....SCENEDESMUS		91	3	
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS		91	3	
..ZYGNEMATALES				
...DESMIDIACEAE	PLACODERM DESMIDS			
LSTAUSTRUM				
	TOTALS	460	15	2.622=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...ANAUACEAE				
!TERPSINOE			0	
...COSCINODISCACEAE				
....CYCLOTELLA		460	14	
....MELOSIRA		110	3	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...COCCONEIS		91	3	
...RHODOSPHENIA		23	1	
...FRAGILARIACEAE				
....FRAGILARIA		180	5	
....SYNEDRA		23	1	
...NAVICULACEAE	NAVICULOID			
I.GYROSIGMA			0	
....NAVICULA		180	5	
...NITZSCHACEAE				
....NITZSCHIA		370	11	
	TOTALS	1,400	43	2.516=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
DAGMENELLUM		1,000	30	
....ANACYSTIS		320	10	
...OSCILLATORIALES	FILAMENTOUS			
...NOSTOCACEAE				
....APHANIZOMENON		110	3	
	TOTALS	1,400	43	1.134=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.439
 CLASS 1.439
 ORDER 2.129
 FAMILY 2.727
 GENERA 3.374

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

NOV. 11, 1975

1330 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,100 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...SCENEDESMACEAE				
I.SCENEDESMUS			0	
I.TETRASTRUM			0	
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS				
	TOTALS	29	3	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
D.CYCLOTELLA		220	20	
....MELOSIRA		120	11	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		73	7	
...COCONEIS		29	3	
...CYMBELLACEAE				
....CYMBELLA		15	1	
...DIATOMACEAE				
L.DIATOMA			0	
...EUNOTIACEAE				
....EUNOTIA		15	1	
...NAVICULACEAE	NAVICULOID			
....NAVICULA		58	5	
...NITZSCHACEAE				
D.NITZSCHIA		370	33	
	TOTALS	890	81	2.319=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...NOSTOCACEAE				
....CYLINDROSPERMUM		120	11	
...OSCILLATORIA				
....OSCILLATORIA		73	7	
L.SPIRULINA			0	
	TOTALS	190	18	0.961=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
L.EUGLENA			0	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.828

CLASS 0.828

ORDER 1.596

FAMILY 2.493

GENERA 2.854

COLORADO RIVER MAIN STEM

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

DEC. 9, 1975

1330 HOURS

IDENTIFICATION OF PHYTOPLANKTON

820 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
...ANKISTRODESMUS		26	3	
...TETRAEDRON		13	2	
...SCENEDESMACEAE				
...SCENEDESMUS				
	TOTALS	26 65	3 8	1.522=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCAEAE				
...CYCLOTELLA		78	10	
..PENNATES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		78	10	
...COCONEIS		65	8	
...CYMBELLACEAE				
...CYMBELLA		52	6	
...GOMPHONEMACEAE				
...GOMPHONEMA		13	2	
...NAVICULACEAE	NAVICULOID			
D ...NAVICULA		210	25	
L ...NEIDIUM			0	
...PINNULARIA		13	2	
...NITZSCHACEAE				
D ...NITZSCHIA		210	25	
...SURIPELLACEAE				
...SURIPELLA				
	TOTALS	13 730	2 90	2.618=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
L ...SPIRULINA			0	
EUGLENOPHYTA	EUGLENOIDS			
..CRYPTOPHYCEAE	CRYPTOMONADS			
..CRYPTOMONIDALES				
...CRYPTOMONODACEAE				
L ...CRYPTOMONAS			0	
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
...EUGLENA				
	TOTALS	26 26	3 3	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.599

CLASS 0.599

ORDER 1.036

FAMILY 2.742

GENERA 3.047

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JAN. 14, 1976
0930 HOURS

IDENTIFICATION OF PHYTOPLANKTON

780 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
L ...CYCLOTELLA			0	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		31	4	
...COCONEIS		62	8	
...CYMBELLACEAE				
L ...AMPHORA			0	
...CYMBELLA		31	4	
..DIATOMACEAE				
I ...DIATOMA			0	
...FRAGILARIACEAE				
D ...FRAGILARIA		250	32	
...GOMPHONEMATACEAE				
...GOMPHONEMA		31	4	
...NAVICULACEAE	NAVICULOID			
D ...NAVICULA		280	36	
...NITZSCHACEAE				
...NITZSCHIA		62	8	
...SURIPELLACEAE				
...SURIPELLA		31	4	
	TOTALS	780	100	2.383=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORACEAE				
L ...SPIRULINA			0	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

FAMILY 2.272

GENERA 2.383

COLORADO RIVER MAIN STEM

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

FEB. 11, 1976
0915 HOURS

IDENTIFICATION OF PHYTOPLANKTON

710 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
..SCENEDESMACEAE				
DSCENEDESMUS				
	TOTALS	260	36	0.000=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
..COSCINODISCACEAE				
....CYCLOTELLA		43	6	
LMELOSIRA			0	
..PENNALES	PENNATE			
....ACHNANTHACEAE				
....ACHNANTHES		86	12	
....COCONEIS		64	9	
IRHOICOSPHENIA			0	
....CYMBELLACEAE				
LAMPHORA			0	
....CYMBELLA		21	3	
....DIATOMACEAE				
LDIATOMA			0	
....FRAGILARIACEAE				
....FRAGILARIA		21	3	
....GOMPHONEMATACEAE				
....GOMPHONEMA		21	3	
....NAVICULACEAE	NAVICULOID			
LAMPHIPLEURA			0	
LAMPHIPRORA			0	
ICALONEIS			0	
IGYROSIGMA			0	
DNAVICULA		150	21	
ITROPIDONEIS			0	
....NITZSCHACEAE				
LHANTZSCHIA			0	
....NITZSCHIA		43	6	
	TOTALS	450	63	2.659=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
..OSCILLATORIACEAE				
ISPIRULINA			0	
EUGLENOPHYTA	EUGLENOIDS			
..CRYPTOPHYCEAE	CRYPTOMONADS			
..CRYPTOMONIDALES				
..CRYPTOMONODACEAE				
LCRYPTOMONAS			0	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.946
 CLASS 0.946
 ORDER 1.234
 FAMILY 2.429
 GENERA 2.638

COLORADO RIVER MAIN STEM

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09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAR. 10, 1976
1110 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,800 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
..OOCYSTACEAE				
....ANKISTRODESMUS		29	2	
....KIRCHNERIELLA		57	3	
....OOCYSTIS		110	6	
I.TETRAEDRON			0	
..SCENEDESMACEAE				
D.SCENEDESMUS				
	TOTALS	740 950	42 53	1.038=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
..COSCINODISCEACEAE				
D.CYCLOTELLA		290	16	
..PENNALES	PENNATE			
....ACHNANTHACEAE				
....ACHNANTHES		29	2	
....COCconeis		29	2	
....RHOICOSPHEA		29	2	
..CYMBELLACEAE				
I.AMPHORA			0	
I.CYMRELLA			0	
..DIATOMACEAE				
I.DIATOMA			0	
..FRAGILARIACEAE				
I.SYNEDRA			0	
..GOMPHONEMACEAE				
I.GOMPHONEMA			0	
..NAVICULACEAE	NAVICULOID			
....AMPHIPRORA		29	2	
I.GYROSIGMA			0	
D.NAVICULA		260	15	
..NITZSCHACEAE				
....NITZSCHIA		170	10	
..SURIRELLACEAE				
I.SURIRELLA			0	
	TOTALS	830	49	2.194=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
..EUGLENACEAE				
I.EUGLENA			0	

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%
 L - LESS THEN 1%: MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.997
 CLASS 0.997
 ORDER 1.432
 FAMILY 2.268
 GENERA 2.576

COLORADO RIVER MAIN STEM

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

APR. 14, 1976
0855 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1.200 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
...ANKISTRODESMUS		13	1	
...SCENEDESMACEAE				
...ACTINASTRUM		27	2	
...SCENEDESMUS		54	4	
	TOTALS	94	7	1.379=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCAEAE				
...MELOSIRA		120	10	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
I.COCCONEIS			0	
L.RHOICOSPHENIA			0	
...CYMBELLACEAE				
...CYMBELLA		54	4	
...DIATOMACEAE				
...DIATOMA		27	2	
...FRAGILARIACEAE				
D.FRAGILARIA		630	53	
...GOMPHONEMACEAE				
L.GOMPHONEMA			0	
...NAVICULACEAE	NAVICULOID			
...CALONEIS		27	2	
...NAVICULA		67	6	
...PINNULARIA		13	1	
...NITZSCHIACEAE				
...NITZSCHIA		120	10	
	TOTALS	1,100	88	1.978=DIVERSITY
..CHRYSTOPHYCEAE	YELLOW-BROWN ALGAE			
...CHRYSOMONADALES				
...OCHROMONADACEAE				
....DINOBRYON		40	3	
	TOTALS	40	3	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.397
 CLASS 0.606
 ORDER 1.060
 FAMILY 2.292
 GENERA 2.470

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

APR. 14, 1976
0915 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,900 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...SCENEDESMACEAE				
...SCENEDESMUS		86	3	
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
...CHLAMYDOMONAS		86	3	
TOTALS		170	6	1.000=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
D ...CYCLOTELLA		740	26	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		29	1	
...CYMBELLACEAE				
...AMPHORA		57	2	
...CYMBELLA		29	1	
...FRAGILARIACEAE				
...SYNEDRA		57	2	
...GOMPHONEMACEAE				
...GOMPHONEMA		29	1	
...NAVICULACEAE	NAVICULOID			
L ...CALONEIS			0	
...NAVICULA		110	4	
...NITZSCHIACEAE				
...NITZSCHIA		170	6	
TOTALS		1,200	43	1.944=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
...ANACYSTIS		340	12	
...COCCOCHLORIS		57	2	
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIACEAE				
D ...OSCILLATORIA		1,100	37	
TOTALS		1,500	51	1.010=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
L ...EUGLENA			0	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.263

CLASS 1.263

ORDER 2.171

FAMILY 2.563

GENERA 2.674

COLORADO RIVER MAIN STEM

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAY 12, 1976
0920 HOURS

IDENTIFICATION OF PHYTOPLANKTON

3,500 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...SCENEDESMACEAE				
D ...SCENEDESMUS		710	20	
...TETRASTRUM		180	5	
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
...CHLAMYDOMONAS				
	TOTALS	<u>180</u> 1,100	<u>5</u> 30	1.252=DIVERSITY
CHRYSTOPHYTA	DIATOMS			
..BACILLARIOPHYCEAE	CENTRIC			
...CENTRALES				
...COSCINODISCEACEAE				
D ...CYCLOTELLA		620	18	
D ...MELOSIRA		570	16	
...PENNALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		44	1	
...CYMBELLACEAE				
...CYMBELLA		130	4	
...FRAGILARIACEAE				
...FRAGILARIA		180	5	
...NAVICULACEAE	NAVICULOID			
...NAVICULA		270	8	
...NITZSCHACEAE				
D ...NITZSCHIA		530	15	
...SURIRELLACEAE				
...SURIRELLA		<u>44</u>	<u>1</u>	
	TOTALS	2,400	68	2.557=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..CRYPTOPHYCEAE	CRYPTOMONADS			
...CRYPTOMONIDALES				
...CRYPTOCHRYSIDACEAE				
...CHROOMONAS		<u>44</u>	<u>1</u>	
	TOTALS	44	1	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.977
 CLASS 0.977
 ORDER 1.858
 FAMILY 2.581
 GENERA 3.105

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JUNE 9, 1976

0845 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,400 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...COELASTRACEAE				
D ...COELASTRUM		450	19	
...OOCYSTACEAE				
...ANKISTRODESMUS		23	1	
...SCENEDESMACEAE				
D ...SCENEDESMUS		440	18	
...TETRASTRUM		46	2	
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
...CHLAMYDOMONAS		23	1	
TOTALS		990	41	1.497=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCAEAE				
...CYCLOTELLA		350	14	
...MELOSIRA		200	8	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
L ...COCCONEIS			0	
...CYMBELLACEAE				
...AMPHORA		23	1	
L ...CYMBELLA			0	
...DIATOMACEAE				
...DIATOMA		58	2	
...FRAGILARIACEAE				
L ...SYNEDRA			0	
...GOMPHONEMACEAE				
L ...GOMPHONEMA			0	
...NAVICULACEAE	NAVICULOID			
...NAVICULA		93	4	
...NITZSCHIAEAE				
...NITZSCHIA		300	13	
TOTALS		1,100	42	2.370=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
...AGMENELLUM		160	7	
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
...OSCILLATORIA		93	4	
TOTALS		260	11	0.946=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..CRYPTOPHYCEAE	CRYPTOMONADS			
...CRYPTOMONIDALES				
...CRYPTOMONODACEAE				
...CRYPTOMONAS		81	3	
TOTALS		81	3	0.000=DIVERSITY
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
...TRACHELOMONAS		23	1	
TOTALS		23	1	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.589
 CLASS 1.622
 ORDER 2.228
 FAMILY 3.060
 GENERA 3.379

COLORADO RIVER MAIN STEM

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

AUG. 11, 1976
0930 HOURS

IDENTIFICATION OF PHYTOPLANKTON

6,400 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
...ANKISTRODESMUS		120	2	
...SCENEDESMACEAE				
...CRUCIGENIA		470	7	
D ...SCENEDESMUS		1,000	16	
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
L ...CHLAMYDOMONAS				
	TOTALS	1,600	25	1.327=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCAEAE				
...CYCLOTELLA		89	1	
..PENNALES	PENNATE			
...FRAGILARIACEAE				
...SYNEDRA		360	6	
...NAVICULACEAE	NAVICULOID			
...NAVICULA		89	1	
...NITZSCHIAEAE				
...NITZSCHIA		300	5	
	TOTALS	830	13	1.745=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
...AGMENELLUM		470	7	
..OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIACEAE				
D ...OSCILLATORIA		3,400	53	
L ...SPIRULINA			0	
	TOTALS	3,900	60	0.599=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..CRYPTOPHYCEAE	CRYPTOMONADS			
...CRYPTOMONIDAE				
...CRYPTOMONODACEAE				
...CRYPTOMONAS		59	1	
	TOTALS	59	1	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.385

CLASS 1.385

ORDER 1.807

FAMILY 2.064

GENERA 2.312

09429490. COLORADO RIVER ABOVE IMPERIAL DAM, ARIZ.-CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

SEP. 15, 1976
1030 HOURS

IDENTIFICATION OF PHYTOPLANKTON

15,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
....CHLORELLA		80	1	
....DICTYOSPHAERIUM		1,100	7	
LKIRCHNERIELLA			0	
....TETRAEDRON		160	1	
...SCENEDESMACEAE				
....CRUCIGENIA		320	2	
DSCENEDESMUS		4,200	27	
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CARTEIA		80	1	
...POLYBLEPHARIDACEAE				
....SPERMATOZOOPSIS		160	1	
..VOLVOCEAE				
LPANDORINA			0	
..ZYGEMATALES				
...DESMIDIACEAE	PLACODERM DESMIDS			
LSTAUSTRUM				
	TOTALS	6,100	40	1.488=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		400	3	
....MELOSIRA		1,400	9	
..PENNALES	PENNATE			
...CYMBELLACEAE				
....AMPHORA		80	1	
...NAVICULACEAE	NAVICULOID			
LGYROSIGMA			0	
...NITZSCHACEAE				
....NITZSCHIA		480	3	
	TOTALS	2,400	16	1.501=DIVERSITY
..CHRYSTOPHYCEAE	YELLOW-BROWN ALGAE			
..CHRYSMONADALES				
...OCHROMONADACEAE				
....OCHROMONAS		80	1	
	TOTALS	80	1	0.000=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
....ANACYSTIS		2,000	13	
...OSCILLATORIALES	FILAMENTOUS			
..NOSTOCACEAE				
LAPHANIZOMENON			0	
....CYLINDROSPERMUM		960	6	
...OSCILLATORIAEAE				
....LYNGRYA		640	4	
DOSCILLATORIA		2,900	19	
	TOTALS	6,500	42	1.781=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..CRYPTOPHYCEAE	CRYPTOMONADS			
...CRYPTOMONIDALES				
....CRYPTOCHRYSIDACEAE				
....CHROOMONAS		80	1	
...CRYPTOMONODACEAE				
....CRYPTOMONAS		80	1	
	TOTALS	160	2	1.000=DIVERSITY
PYRRHOPHYTA	FIRE ALGAE			
..DINOPHYCEAE	DINOFLAGELLATES			
...PERIDINIALES				
....PERIDINIACEAE				
LPERIDINIUM			0	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.549
 CLASS 1.583
 ORDER 2.182
 FAMILY 2.751
 GENERA 3.185

COLORADO RIVER MAIN STEM

09429500. COLORADO RIVER BELOW IMPERIAL DAM, ARIZ.-CALIF.

LOCATION.--Forebay gage: Lat 32°52'59", long 114°27'57", in NW¼SW¼ sec.9, T.15 S., R.24 E., San Bernardino meridian, in California, Imperial County, near All-American Canal headworks at west end of Imperial Dam, 5 mi (8 km) upstream from Laguna Dam, 15 mi (24 km) northeast of Yuma, 90 mi (145 km) downstream from Palo Verde Dam, and 147 mi (237 km) downstream from Parker Dam.

DRAINAGE AREA (REVISED).--188,500 mi² (488,200 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming, which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--October 1960 to current year. Prior to October 1971 published as "at Imperial Dam." Records of flow reaching Imperial Dam, formerly published with this station, are now published separately as sta 09429490, Colorado River above Imperial Dam.

GAGE.--Water-stage recorder in forebay, 12 calibrated gates on California sluiceway, 8 calibrated gates on Gila sluiceway, and calibrated manometer on each discharge pipe from desilting basin. Datum of forebay gage is 162.00 ft (49.378 m) above mean sea level (Bureau of Reclamation bench mark).

EXTREMES.--Current year: Maximum daily discharge, 3,680 ft³/s (104 m³/s) Sept. 26; minimum daily, 214 ft³/s (6.06 m³/s) Nov. 24-30. Period of record: Maximum daily discharge, 5,040 ft³/s (143 m³/s) Mar. 3, 1970; minimum daily, 27 ft³/s (0.76 m³/s) Dec. 15-18, 1969.

REMARKS.--Records good. Records of daily discharge show flow of Colorado River passing Imperial Dam, and include water released to river through California and Gila sluiceways, sludge from desilting basins returned to river, and leakage through dam. For records of flow reaching Imperial Dam see sta 09429490

Flow of Colorado river regulated by many reservoirs, principally Lake Mead, since 1935. Many diversions from Colorado River and tributaries above station. Diversion to Mitty Lake and monthend contents of Senator Wash Reservoir also are now published with sta 09429490.

COOPERATION.--Records of gate openings furnished by Bureau of Reclamation. Records of sludge return flow from desilting basins furnished by Imperial Irrigation District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	436	224	219	219	219	289	346	346	832	326	335	625
2	793	224	219	219	219	339	346	346	729	722	335	931
3	611	224	219	219	219	339	346	346	525	494	335	845
4	415	224	219	219	219	339	346	346	564	494	335	845
5	416	224	219	219	219	339	346	538	740	495	335	845
6	293	224	219	219	219	339	346	346	832	410	335	986
7	225	224	219	219	219	339	346	537	1020	326	335	1390
8	225	224	219	219	234	339	346	722	1020	326	335	1370
9	225	224	219	219	268	339	538	1060	837	376	335	845
10	481	224	219	219	261	339	346	967	837	326	335	1380
11	414	224	219	219	267	339	346	948	743	326	525	1700
12	415	224	219	219	242	339	346	948	460	326	526	1540
13	416	373	219	219	224	339	532	950	721	496	430	745
14	683	445	219	219	224	339	883	911	837	661	335	524
15	415	442	219	219	245	339	1240	894	1020	422	335	630
16	401	442	219	219	271	422	1210	896	1020	336	335	628
17	225	444	219	219	271	339	1140	494	830	336	335	628
18	225	447	219	219	243	339	1000	346	826	336	525	628
19	288	448	219	219	229	434	346	346	609	336	429	625
20	522	449	219	219	234	339	346	346	834	336	335	660
21	598	448	219	219	234	339	346	637	837	431	335	713
22	598	448	219	219	234	339	346	474	834	621	335	722
23	637	363	219	219	234	531	346	754	834	526	335	987
24	625	214	219	219	234	339	346	1010	553	448	335	1900
25	225	214	219	219	239	339	346	837	529	336	335	2360
26	225	214	219	219	239	339	346	837	407	336	335	3680
27	225	214	219	219	239	339	346	830	326	336	335	905
28	225	214	219	219	239	339	346	826	326	336	335	830
29	225	214	219	219	239	721	440	826	326	336	335	822
30	225	214	219	219	---	530	820	830	326	336	335	475
31	225	---	219	219	---	434	---	832	---	336	467	---
TOTAL	12157	8935	6789	6789	6877	11497	15069	21326	21134	12534	11277	31764
MEAN	392	298	219	219	237	371	502	688	704	404	364	1059
MAX	793	449	219	219	271	721	1240	1060	1020	722	526	3680
MIN	225	214	219	219	219	289	346	346	326	326	335	475
AC-FT	24110	17720	13470	13470	13640	22800	29890	42300	41920	24860	22370	63040
CAL YR 1975	TOTAL	168849	MEAN	463	MAX	2240	MIN	214	AC-FT	334900		
WTR YR 1976	TOTAL	166168	MEAN	454	MAX	3680	MIN	214	AC-FT	329600		

COLORADO RIVER MAIN STEM

245

09429600. COLORADO RIVER BELOW LAGUNA DAM, ARIZ.-CALIF.

LOCATION.--Lat 32°48'44", long 114°30'51", in SE¼NE¼ sec.35, T.15 S., R.23 E., San Bernardino meridian, in California, Imperial County, on right bank 1.4 mi (2.3 km) downstream from Laguna Dam, 2.8 mi (4.5 km) northeast of Bard, Calif., and 10 mi (16 km) northeast of Yuma, Ariz.

DRAINAGE AREA (REVISED)--188,600 mi² (488,500 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming, which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--December 1971 to current year.

GAGE.--Water-stage recorder. Datum of gage is 120.84 ft (36.832 m) above mean sea level (Bureau of Reclamation bench mark).

EXTREMES.--Current year: Maximum discharge, 4,050 ft³/s (115 m³/s) Sept. 26 (gage height, 12.4 ft or 3.78 m, from high-water mark on gage well); minimum daily, 156 ft³/s (4.42 m³/s) Feb. 7.

Period of record: Maximum discharge, 4,050 ft³/s (115 m³/s) Sept. 26, 1976 (gage height, 12.4 ft or 3.78 m, from high-water mark on gage well); minimum daily, 71 ft³/s (2.01 m³/s) May 29, 1973.

REMARKS.--Records good. Natural flow of Colorado River at this point is affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation, municipal and industrial uses, and return flows from irrigated areas. Flow past station consists mainly of water released through Imperial Dam, sludge from the desilting basins at Imperial Dam, seepage through Imperial Dam, and seepage from the All-American Canal and the Gila Gravity Main Canal. Records of chemical analyses for the current year are published on following pages.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	452	258	269	427	258	347	293	325	917	340	552	643
2	468	463	269	302	274	395	296	325	921	427	400	732
3	508	412	258	293	520	405	325	447	847	578	357	839
4	520	445	232	288	502	395	463	526	742	363	367	852
5	480	485	235	288	477	372	606	514	777	354	377	862
6	432	405	235	215	271	362	564	523	938	371	372	866
7	407	304	213	169	156	242	420	511	882	343	372	1190
8	385	307	225	171	162	225	367	707	858	423	370	1440
9	397	299	232	178	171	337	329	1080	868	656	354	1010
10	402	288	240	180	160	342	310	1060	868	580	344	1160
11	425	288	242	169	184	377	317	1060	896	419	337	1680
12	417	279	248	173	266	410	325	1060	823	364	334	1630
13	420	235	263	180	245	412	332	1060	739	346	349	952
14	432	237	255	187	245	405	494	1050	784	333	354	747
15	440	240	250	182	250	407	1150	959	837	333	354	716
16	440	237	250	175	285	344	1200	935	851	299	347	686
17	425	242	250	198	290	344	1120	907	872	331	344	744
18	407	245	250	237	266	354	1050	613	851	504	405	697
19	477	240	250	242	227	367	770	394	844	657	564	682
20	606	248	255	242	387	347	690	376	819	549	543	746
21	656	250	261	242	505	352	644	334	861	382	523	764
22	697	250	269	248	417	352	541	448	861	370	500	756
23	694	255	274	250	315	359	418	728	861	357	430	708
24	505	255	266	253	312	410	382	875	865	349	380	1300
25	250	255	477	253	315	558	373	875	809	359	385	1870
26	250	242	494	250	334	435	364	886	550	354	380	3300
27	250	225	253	250	332	370	361	938	385	349	372	1320
28	250	237	253	250	302	367	361	938	367	334	375	977
29	250	269	255	250	282	344	337	935	358	317	302	982
30	250	269	422	253	---	347	346	924	349	452	215	679
31	250	---	485	258	---	327	---	921	---	621	397	---
TOTAL	13242	8664	8630	7253	8710	11410	15548	23234	23200	12814	12055	31530
MEAN	427	289	278	234	300	368	518	749	773	413	389	1051
MAX	697	485	494	427	520	558	1200	1080	938	657	564	3300
MIN	250	225	213	169	156	225	293	325	349	299	215	643
AC-FT	26270	17190	17120	14390	17280	22630	30840	46080	46020	25420	23910	62540
CAL YR 1975	TOTAL	177202	MEAN 485	MAX 2070	MIN 213	AC-FT 351500						
WTR YR 1976	TOTAL	176290	MEAN 482	MAX 3300	MIN 156	AC-FT 349700						

COLORADO RIVER MAIN STEM

09429600. COLORADO RIVER BELOW LAGUNA DAM, ARIZ.-CALIF.

LOCATION.--Lat 32°48'44", long 114°30'51", in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.35, T.15 S., R.23 E., San Bernardino meridian, in California, Imperial County, at gaging station on right bank, 1.4 mi (2.3 km) downstream from Laguna Dam, 2.8 mi (4.5 km) northeast of Bard, Calif., and 19 mi (16 km) northeast of Yuma, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO
OCT											
06...	0110	450	1390	8.0	26.0	375	228	95	34	150	3.4
13...	0140	420	1410	8.1	21.0	375	224	96	33	155	3.5
20...	0330	624	1450	8.2	--	380	224	102	31	160	3.6
27...	0055	285	1470	8.1	19.0	385	231	102	32	165	3.7
NOV											
03...	0140	432	1420	8.2	19.0	375	222	98	32	160	3.6
10...	0230	295	1530	8.1	20.5	385	224	100	33	180	4.0
17...	0100	242	1510	8.1	16.5	385	222	106	29	175	3.9
24...	0135	262	1440	8.0	13.5	380	222	103	30	160	3.6
DEC											
01...	0230	275	1550	8.1	--	390	224	103	32	185	4.1
08...	0150	228	1520	8.0	15.5	390	226	106	31	175	3.8
15...	0135	255	1480	8.0	13.0	385	226	100	33	170	3.8
22...	0100	262	1440	7.8	14.0	375	219	100	31	165	3.7
29...	0135	255	1550	8.1	13.0	400	232	103	35	180	3.9
JAN											
05...	0140	290	1520	8.0	10.0	390	228	104	32	175	3.8
12...	0100	175	1490	8.0	12.0	385	226	101	32	170	3.8
19...	0100	245	1460	8.2	16.0	385	228	105	30	165	3.7
26...	0135	258	1440	8.1	11.0	375	219	100	31	165	3.7
FEB											
02...	0120	265	1440	8.0	14.0	375	218	103	29	165	3.7
09...	0150	145	1450	8.0	17.0	380	221	105	29	165	3.7
16...	0220	282	1490	8.2	16.5	385	224	103	31	170	3.8
23...	0115	322	1700	8.0	19.0	415	234	110	34	210	4.5
MAR											
01...	0135	290	1480	7.9	18.5	385	226	99	34	170	3.8
08...	0130	159	1430	7.9	15.5	380	221	103	30	160	3.6
15...	0115	393	1490	8.0	16.0	385	226	105	30	170	3.8
22...	0100	350	1330	8.0	15.5	365	214	97	30	145	3.3
29...	0135	366	1390	8.2	17.0	380	226	95	35	150	3.3
APR											
05...	0410	636	1300	8.2	19.5	360	209	95	30	140	3.2
12...	0105	322	1340	7.9	20.0	370	216	97	31	145	3.3
19...	0145	996	1390	8.1	18.0	385	224	102	32	150	3.3
26...	0330	372	1420	8.2	21.5	375	218	99	31	160	3.6
MAY											
03...	0115	335	1330	8.0	24.0	370	218	98	31	145	3.3
10...	0200	1010	1320	8.2	23.5	365	212	98	29	145	3.3
17...	0245	901	1310	8.3	25.5	365	212	95	31	140	3.2
24...	0300	824	1310	8.0	25.0	365	211	96	31	140	3.2
31...	0125	915	1310	8.1	25.0	365	212	98	29	140	3.2
JUN											
07...	0325	926	1350	8.2	26.5	370	216	102	28	145	3.3
14...	0135	770	1330	8.1	26.0	365	211	99	29	145	3.3
21...	0135	842	1310	8.1	29.0	360	209	96	29	140	3.2
28...	0305	408	1420	8.1	27.0	380	220	100	32	160	3.6
JUL											
05...	0105	381	1340	8.1	28.5	370	218	98	31	145	3.3
12...	0125	366	1370	8.0	28.5	375	221	98	32	150	3.4
19...	0410	696	1290	8.1	28.0	355	209	93	30	140	3.2
26...	0125	370	1310	8.1	29.5	365	216	93	32	140	3.2
AUG											
02...	0130	454	1400	8.1	29.0	375	219	98	32	155	3.5
09...	0355	365	1340	8.1	27.0	365	218	96	31	145	3.3
16...	0100	272	1350	8.2	--	370	218	94	33	145	3.3
23...	0125	475	1390	8.1	28.5	370	224	97	31	155	3.5
30...	0200	218	1450	8.0	27.0	380	224	100	32	165	3.7
SEP											
06...	--	956	1300	8.3	29.0	360	216	92	32	140	3.2
13...	0130	1505	1350	8.2	26.5	370	219	99	30	145	3.3
20...	0355	655	1510	8.1	27.0	395	230	104	33	170	3.7
27...	0050	2000	972	7.9	25.0	252	139	74	16	105	2.9

09429600. COLORADO RIVER BELOW LAGUNA DAM, ARIZ.-CALIF.--CONTINUED

DRAINAGE AREA (REVISED)--188,600 mi² (488,500 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming which is noncontributing (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--Chemical analyses: July 1972 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO ₃) (MG/L)	CAR- BONATE (CO ₃) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLOR- IDE (CL) (MG/L)	DIS- SOLVED FLUOR- IDE (F) (MG/L)	DIS- SOLVED SILICA (SiO ₂) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRATE (N) (MG/L)
OCT											
06...	6.1	180	0	360	135	.5	12	890	882	1.21	.07
13...	5.8	184	0	360	138	.6	12	912	892	1.24	.11
20...	6.3	190	0	365	145	.5	12	948	916	1.29	--
27...	5.6	188	0	370	152	.6	12	936	932	1.27	--
NOV											
03...	5.6	186	0	365	141	.6	11	904	905	1.23	--
10...	5.6	196	0	380	162	.6	12	968	970	1.32	--
17...	5.4	198	0	375	155	.6	12	968	958	1.32	.38
24...	5.6	192	0	365	142	.6	11	920	914	1.25	.38
DEC											
01...	5.4	202	0	380	166	.6	12	994	985	1.35	.23
08...	5.4	200	0	375	160	.6	12	968	965	1.32	.23
15...	5.6	194	0	370	155	.5	11	964	942	1.31	.29
22...	5.4	190	0	355	148	.5	11	968	911	1.32	.16
29...	5.4	204	0	375	170	.5	11	1000	981	1.36	.23
JAN											
05...	5.6	198	0	375	160	.5	11	964	963	1.31	.41
12...	5.6	194	0	370	155	.5	12	942	943	1.28	.18
19...	5.8	192	0	365	152	.6	10	926	930	1.26	.32
26...	5.9	190	0	360	148	.5	10	918	916	1.25	.29
FEB											
02...	5.4	192	0	360	148	.5	10	916	916	1.25	.14
09...	5.2	194	0	360	150	.5	11	952	922	1.29	.14
16...	5.2	196	0	365	158	.5	11	948	942	1.29	.29
23...	5.4	220	0	400	200	.6	12	1080	1080	1.47	.11
MAR											
01...	5.6	194	0	360	162	.6	11	954	939	1.30	.23
08...	5.6	194	0	355	148	.5	11	912	911	1.24	.34
15...	5.6	194	0	360	162	.6	11	942	941	1.28	.14
22...	5.6	184	0	340	125	.6	9.8	848	845	1.15	.23
29...	5.6	188	0	345	142	.5	9.2	886	877	1.20	.32
APR											
05...	5.2	184	0	335	120	.5	8.5	826	826	1.12	.23
12...	6.1	188	0	340	128	.5	9.9	860	852	1.17	.34
19...	5.7	196	0	350	135	.5	9.0	890	882	1.21	.25
26...	5.4	192	0	355	145	.5	8.2	904	900	1.23	.16
MAY											
03...	5.0	186	0	340	127	.5	7.2	842	846	1.15	.18
10...	5.0	186	0	340	124	.5	6.9	840	841	1.14	.18
17...	5.5	186	0	340	120	.6	6.7	826	831	1.12	.11
24...	5.5	188	0	340	120	.5	8.0	836	835	1.14	.23
31...	5.3	186	0	340	120	.6	7.5	830	833	1.13	.09
JUN											
07...	5.6	188	0	345	128	.5	9.0	862	857	1.17	.20
14...	5.4	188	0	340	125	.5	9.1	842	847	1.15	.25
21...	5.0	184	0	340	120	.4	9.0	840	831	1.14	.18
28...	5.5	196	0	355	145	.5	9.8	904	905	1.23	.14
JUL											
05...	5.8	186	0	340	128	.5	8.8	856	850	1.16	.11
12...	6.0	188	0	345	135	.5	9.2	881	869	1.20	.11
19...	5.7	178	0	335	118	.5	10	816	821	1.11	.11
26...	6.0	182	0	335	125	.5	11	842	833	1.15	.09
AUG											
02...	6.0	190	0	350	142	.5	12	886	890	1.20	.11
09...	5.8	180	0	340	130	.5	10	854	848	1.16	.11
16...	6.2	186	0	345	130	.5	8.8	852	855	1.16	.09
23...	5.8	178	0	350	142	.5	11	884	881	1.20	.14
30...	5.6	190	0	355	155	.5	11	918	919	1.25	.14
SEP											
06...	5.6	176	0	340	121	.6	9.5	828	828	1.13	.09
13...	5.6	184	0	350	125	.5	9.5	856	857	1.16	.34
20...	6.1	202	0	375	155	.5	11	950	956	1.29	.23
27...	6.4	138	0	230	94	.4	7.8	606	605	.82	.81

09429690. COLORADO RIVER ABOVE GILA RIVER, NEAR YUMA, ARIZ.

LOCATION.--Lat 32°43'22", long 114°32'46", in SE¼ sec.19, T.8 S., R.22 W., Yuma County, on left bank, 0.6 mi (1.0 km) upstream from Gila River, 5 mi (8 km) east of Yuma, 9 mi (14 km) downstream from Laguna Dam, 12 mi (19 km) upstream from northerly international boundary, and 14 mi (22 km) downstream from Imperial Dam.

DRAINAGE AREA (REVISED)--188,700 mi² (488,700 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming which is noncontributing (previously considered part of the Missouri River basin).

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
OCT												
06...	1330	1550	8.0	25.5	430	250	110	37	170	3.6	5.5	210
14...	1515	1530	8.0	23.0	410	240	100	38	170	3.7	5.5	203
20...	1400	1550	8.1	22.0	410	240	100	38	180	3.9	5.5	205
28...	1425	1690	8.0	20.5	420	230	110	36	200	4.2	5.8	234
NOV												
03...	1440	1580	8.0	20.5	400	220	100	37	180	3.9	6.1	217
10...	1335	1680	8.0	18.5	420	230	110	36	200	4.2	7.9	231
17...	1310	1720	8.0	16.5	430	230	110	37	210	4.4	6.0	245
24...	1400	1650	8.0	15.5	430	240	110	38	190	4.0	5.7	232
DEC												
01...	1315	1730	7.9	14.5	440	240	110	40	200	4.2	6.1	240
08...	1415	1740	7.9	16.0	450	250	120	36	200	4.1	5.9	242
15...	1425	1670	8.0	13.5	450	260	120	36	180	3.7	5.7	224
22...	1415	1630	7.8	15.0	450	270	120	37	190	3.9	5.6	225
29...	1310	1720	8.0	14.0	450	250	120	36	210	4.3	6.0	244
JAN												
05...	1415	1680	8.0	12.0	450	260	120	37	200	4.1	5.9	231
12...	1430	1700	8.0	14.5	460	260	120	38	200	4.1	5.7	238
19...	1100	1620	8.0	14.0	430	250	110	38	190	4.0	5.2	223
26...	1355	1630	7.9	15.0	420	230	110	35	190	4.0	5.4	225
FEB												
02...	1320	1620	8.0	15.5	430	240	110	37	190	4.0	5.6	224
10...	1145	1650	8.0	16.0	450	260	120	37	190	3.9	5.7	230
17...	1400	1700	8.1	18.0	420	220	110	35	200	4.3	6.1	237
23...	0920	1870	8.1	15.0	460	260	120	39	230	4.7	6.0	250
MAR												
01...	1355	1610	8.1	18.0	420	240	110	35	180	3.8	4.9	218
08...	1345	1710	8.0	18.5	460	260	120	39	190	3.9	5.8	242
15...	1100	1610	8.0	16.5	420	240	110	35	180	3.8	5.6	217
22...	1335	1480	8.1	19.0	420	250	110	35	160	3.4	5.6	212
29...	1345	1550	8.0	19.0	420	240	110	36	170	3.6	5.8	219
APR												
05...	1415	1360	8.2	19.0	380	220	98	34	150	3.3	5.4	195
12...	1410	1500	8.1	21.0	390	220	100	35	160	3.5	6.1	218
19...	1515	1490	8.1	20.0	390	220	100	35	170	3.7	6.3	217
26...	1115	1560	8.1	20.5	410	240	110	34	180	3.8	5.8	219
MAY												
03...	1345	1500	8.1	24.5	400	220	100	37	170	3.7	6.0	217
10...	1340	1360	8.3	24.5	380	220	95	34	150	3.4	5.3	196
17...	1445	1380	8.3	27.0	380	220	98	34	150	3.3	5.3	195
24...	1355	1370	8.3	24.0	380	230	97	34	150	3.3	5.3	189
JUN												
01...	1325	1370	8.3	26.0	380	230	99	33	150	3.3	5.4	192
07...	1140	1410	8.3	25.5	380	220	98	34	150	3.3	5.5	196
14...	1420	1420	8.3	26.0	380	220	100	32	160	3.6	5.3	201
21...	1105	1380	8.2	27.0	380	220	96	33	160	3.6	5.4	193
28...	0945	1530	8.1	27.0	400	220	100	36	180	3.9	5.6	217
JUL												
06...	1210	1470	8.2	29.5	430	250	110	37	170	3.6	5.4	211
12...	1200	1520	8.2	28.5	430	250	110	38	180	3.8	5.6	215
19...	1340	1370	8.3	29.5	390	230	100	33	150	3.3	5.5	193
26...	0830	1490	8.0	28.5	430	250	110	37	170	3.6	5.8	210
AUG												
02...	1345	1530	8.2	29.0	420	250	110	35	180	3.8	5.8	211
09...	1335	1490	8.0	29.5	420	260	110	35	170	3.6	5.5	198
16...	1115	1500	8.1	26.0	420	250	110	35	170	3.6	5.8	207
23...	1400	1500	8.2	29.5	420	250	110	35	170	3.6	5.6	202
30...	1130	1710	8.1	29.5	460	260	120	39	200	4.1	5.7	239
SEP												
07...	1430	1340	8.2	27.0	370	220	92	33	140	3.2	5.7	182
14...	1410	1670	8.2	28.0	430	240	110	37	200	4.2	6.0	226
20...	1340	1590	8.2	26.5	400	220	100	37	180	3.9	5.6	217
30...	1430	1450	8.1	--	360	200	96	30	170	3.9	7.7	197

COLORADO RIVER MAIN STEM

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09429690. COLORADO RIVER ABOVE GILA RIVER, NEAR YUMA, ARIZ.--CONTINUED

PERIOD OF RECORD.--Chemical analyses: October 1968 to current year.

REMARKS.--Unpublished chemical analyses (continuing record) for water years 1961-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

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 SILICA (SIO2) (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)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT											
06...	0	410	160	.4	12	1000	1010	1.36	.08	240	0
14...	0	380	160	.5	12	978	967	1.33	.11	230	10
20...	0	400	170	.5	13	988	1010	1.34	.09	250	20
28...	0	390	190	.5	14	1080	1060	1.47	.10	260	0
NOV											
03...	0	390	170	.5	13	1030	1000	1.40	.11	250	30
10...	0	420	190	.6	14	1090	1090	1.48	.11	270	30
17...	0	440	190	.6	14	1120	1130	1.52	.16	270	0
24...	0	420	180	.5	14	1070	1070	1.46	.20	250	20
DEC											
01...	0	400	190	--	--	1140	--	1.55	--	250	10
08...	0	380	190	.6	15	1160	1070	1.58	.20	270	0
15...	0	380	180	.4	13	1070	1030	1.46	.26	250	20
22...	0	420	170	.5	14	1040	1070	1.41	.16	220	0
29...	0	390	210	.5	14	1110	1110	1.51	.17	250	20
JAN											
05...	0	400	180	.6	14	1090	1070	1.48	.17	260	10
12...	0	450	190	.8	14	1090	1140	1.48	.21	270	0
19...	0	390	180	.5	12	1050	1040	1.43	.15	240	20
26...	0	410	180	.6	12	1070	1050	1.46	.15	260	0
FEB											
02...	0	420	170	.6	12	1030	1060	1.40	.53	220	10
10...	0	430	190	.7	13	1090	1100	1.48	.20	240	0
17...	0	420	190	.6	13	1110	1090	1.51	.18	240	0
23...	0	420	230	.8	15	1210	1190	1.65	.21	300	10
MAR											
01...	0	360	190	.6	13	1060	1000	1.44	.19	240	0
08...	0	430	190	.5	15	1140	1110	1.55	.19	240	0
15...	0	380	180	.6	12	1040	1010	1.41	.19	260	20
22...	0	360	150	.6	12	940	939	1.28	.22	220	0
29...	0	340	170	.6	12	998	954	1.36	.22	230	10
APR											
05...	0	380	130	.5	10	872	905	1.19	.15	190	0
12...	0	330	150	.5	11	--	901	1.23	.19	220	20
19...	0	360	150	.5	9.5	958	939	1.30	.21	260	0
26...	0	380	170	.5	9.8	1010	999	1.37	.15	210	160
MAY											
03...	0	390	150	.5	8.7	942	970	1.28	.13	220	20
10...	0	360	130	.4	7.0	876	879	1.19	.13	180	10
17...	0	370	130	.4	7.6	896	892	1.22	.06	190	0
24...	0	340	140	.4	7.8	880	868	1.20	.06	200	10
JUN											
01...	0	370	140	.4	8.4	882	901	1.20	.06	190	0
07...	0	370	140	.5	9.2	908	905	1.23	.10	200	60
14...	0	350	140	.5	9.8	920	897	1.25	.13	190	0
21...	0	360	140	.5	9.4	878	900	1.19	.09	190	80
28...	0	380	160	.7	13	996	983	1.35	.11	190	20
JUL											
06...	0	400	160	.5	12	966	1000	1.31	.11	200	0
12...	0	390	170	.6	13	1000	1010	1.36	.15	220	10
19...	0	380	130	.4	11	872	906	1.19	.06	190	10
26...	0	420	160	.6	13	956	1020	1.30	.09	210	10
AUG											
02...	0	430	160	.6	14	992	1040	1.35	.11	230	10
09...	0	410	160	.6	13	946	1000	1.29	.15	220	80
16...	0	370	160	.6	13	968	967	1.32	.13	210	20
23...	0	350	160	.7	13	962	947	1.31	.58	230	10
30...	0	450	200	.5	15	1120	1150	1.52	.10	250	10
SEP											
07...	0	350	130	.5	10	850	852	1.16	.19	190	30
16...	0	390	180	.6	14	1070	1050	1.46	.10	260	20
20...	0	380	170	.6	13	1040	994	1.41	.15	250	0
30...	0	350	160	.5	13	914	928	1.24	.83	220	20

GILA RIVER BASIN

09430500. GILA RIVER NEAR GILA, N. MEX.

LOCATION.--Lat 33°03'40", long 108°32'12", in NE¼ sec.30, T.14 S., R.16 W., Grant County, on left bank at Hooker damsite, 1.6 mi (2.6 km) upstream from Mogollon Creek, 7 mi (11 km) northeast of Gila, and at mile 572.5 (921.2 km).

DRAINAGE AREA.--1,864 mi² (4,828 km²).

PERIOD OF RECORD.--April to December 1914, December 1927 to current year. Monthly discharge only December 1927 to September 1930, published in WSP 1313.

GAGE.--Water-stage recorder. Datum of gage is 4,655.8 ft (1,419.09 m) above mean sea level from river-profile survey. Prior to Dec. 31, 1928, at site 5 mi (8 km) upstream at different datum. Dec. 31, 1928, to Jan. 7, 1942, at site 200 ft (61 m) upstream at same datum.

AVERAGE DISCHARGE.--49 years (1927-76), 134 ft³/s (3.795 m³/s) 97,080 acre-ft/yr (120 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 2,460 ft³/s (69.7 m³/s) Feb. 10 (gage height, 4.80 ft or 1.463 m); minimum, 28 ft³/s (0.79 m³/s) July 8.

Period of record: Maximum discharge, 25,400 ft³/s (719 m³/s) Sept. 29, 1941 (gage height, 17.2 ft or 5.24 m, from floodmark), from rating curve extended above 3,900 ft³/s (110 m³/s) on basis of velocity-area studies; minimum, 14 ft³/s (0.40 m³/s) July 15, 1971.

Other major floods occurred in November 1905, December 1906, and January 1916.

REMARKS.--Records good except those above 500 ft³/s (14 m³/s), which are fair. Diversions for irrigation of about 500 acres (2.0 km²) above station.

REVISIONS (WATER YEARS).--WSP 1283: Drainage area. WSP 1313: 1944(M), 1949(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	136	85	120	80	69	151	136	157	74	40	114	42
2	128	85	108	77	69	151	133	154	70	44	111	44
3	128	85	104	75	69	154	130	151	67	40	144	42
4	116	85	100	72	70	160	133	151	64	37	167	38
5	112	85	97	74	86	157	138	154	60	36	116	40
6	104	85	100	76	122	151	144	154	60	34	88	49
7	104	85	97	76	157	144	151	151	64	31	70	51
8	104	85	99	76	160	138	151	144	62	30	60	45
9	100	82	94	74	160	136	147	138	60	30	55	45
10	100	82	94	74	1550	130	147	130	57	34	54	51
11	97	82	94	74	1780	130	147	124	54	34	69	54
12	97	79	94	72	1320	127	151	122	49	40	69	49
13	97	79	94	72	1100	124	151	119	48	42	60	44
14	94	76	94	72	1050	122	154	122	48	52	58	95
15	94	76	94	70	940	119	157	124	45	54	52	185
16	94	76	91	70	752	116	164	119	45	55	47	104
17	94	76	88	70	608	116	167	122	44	47	42	78
18	91	79	85	70	502	116	151	124	41	40	40	70
19	91	82	85	70	412	119	141	130	41	38	42	62
20	91	82	82	70	360	124	133	130	38	52	45	52
21	120	79	88	70	305	130	130	124	38	54	47	49
22	156	79	95	70	260	130	130	122	37	88	41	48
23	136	76	100	70	228	127	136	114	37	72	42	45
24	116	76	112	70	200	127	147	109	34	58	44	48
25	108	73	112	70	189	127	151	104	34	67	58	49
26	100	73	100	70	170	127	160	99	34	78	51	52
27	97	73	91	70	164	133	167	94	34	88	52	52
28	94	76	88	70	157	136	174	88	32	111	51	49
29	91	140	85	69	157	147	170	82	32	99	51	47
30	88	152	82	69	---	157	167	78	35	141	44	45
31	88	---	76	69	---	144	---	74	---	133	40	---
TOTAL	3266	2528	2943	2231	12966	4170	4458	3808	1438	1799	2024	1724
MEAN	105	84.3	94.9	72.0	447	135	149	123	47.9	58.0	65.3	57.5
MAX	156	152	120	80	1780	160	174	157	74	141	167	185
MIN	88	73	76	69	69	116	130	74	32	30	40	38
AC-FT	6480	5010	5840	4430	25720	8270	8840	7550	2850	3570	4010	3420

CAL YR 1975 TOTAL 83964 MEAN 230 MAX 2850 MIN 40 AC-FT 166500
WTR YR 1976 TOTAL 43355 MEAN 118 MAX 1780 MIN 30 AC-FT 85990

PEAK DISCHARGE (BASE, 600 CFS).--Feb. 10 (2100) 2,460 cfs (4.80 ft).

GILA RIVER BASIN

251

09431500. GILA RIVER NEAR REDROCK, N. MEX.

LOCATION.--Lat 32°43'37", long 108°40'30", in W¹/₂ sec.23, T.18 S., R.18 W., Grant County, on left bank 0.2 mi (0.3 km) downstream from Copper Canyon, 0.2 mi (0.3 km) upstream from lower end of box canyon, 4.7 mi (7.6 km) northeast of Redrock, 14 mi (23 km) downstream from Mangas Creek, and at mile 539.2 (867.6 km).

DRAINAGE AREA.--2,829 mi² (7,327 km²).

PERIOD OF RECORD.--September 1904 to February 1905 (gage heights only). May 1905 to December 1906, January to December 1907 and July to October 1908 (gage heights only). November 1908 to December 1910, January 1911 to January 1912 and May to June 1912 (gage heights only). August 1912 to September 1955, October 1962 to current year. Monthly or annual discharge only for some periods, published in WSP 1313. Published as "near Cliff" 1904-7.

GAGE.--Water-stage recorder. Altitude of gage is 4,090 ft (1,247 m) from plane table survey. Prior to Dec. 31, 1907, nonrecording gage at site 13.5 mi (21.7 km) upstream at different datum. May 14, 1908, to July 16, 1909, nonrecording gage at site 0.2 mi (0.3 km) downstream at different datum.

AVERAGE DISCHARGE.--60 years (1905-6, 1908-10, 1912-55, 1962-76), 197 ft³/s (5.579 m³/s), 142,700 acre-ft/yr (176 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 6,180 ft³/s (175 m³/s) Sept. 15 (gage height, 13.91 ft or 4.240 m); minimum, 8.9 ft³/s (0.25 m³/s) July 11.

Period of record: Maximum discharge, 40,000 ft³/s (1,130 m³/s) Sept. 29, 1941 (gage height, 31 ft or 9.4 m, from floodmarks), computed on basis of known peak flow for station below Blue Creek; minimum, 2.2 ft³/s (0.062 m³/s) Aug. 5, 1947.

REMARKS.--Records fair. Diversions for irrigation of about 5,000 acres (20 km²) above station.

REVISIONS (WATER YEARS).--WSP 1213: 1906, 1911-15, 1931, 1936-37, 1939, 1941, 1944, 1945(P), 1946(M), 1947. WSP 1283: Drainage area. WSP 1926: 1955.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	171	106	129	87	80	185	146	171	67	36	150	116
2	169	103	122	89	80	180	128	158	66	39	111	73
3	162	106	117	91	80	175	128	158	65	35	124	62
4	155	106	117	90	86	169	120	156	63	24	172	57
5	155	109	115	87	97	168	127	172	68	19	163	64
6	149	108	99	88	102	161	130	185	60	15	118	76
7	153	108	97	89	148	159	138	179	52	13	86	62
8	147	104	99	92	174	160	134	168	46	12	75	55
9	146	100	96	91	163	154	133	168	43	12	64	45
10	131	99	106	93	627	151	120	150	42	12	60	42
11	125	100	108	90	2730	144	112	130	38	9.6	78	39
12	112	101	99	88	1440	139	119	124	35	16	73	37
13	115	100	98	87	1130	137	135	118	34	74	60	36
14	111	103	102	92	1040	133	140	115	32	99	45	39
15	108	101	102	94	1010	130	146	105	28	52	38	1380
16	106	100	107	92	889	126	182	103	26	36	31	400
17	111	104	101	86	773	120	191	103	26	33	30	284
18	106	100	88	80	661	112	182	108	35	24	29	180
19	105	98	88	80	563	111	167	108	41	35	28	110
20	107	95	92	80	493	111	151	122	27	36	27	80
21	113	95	101	83	432	111	149	105	54	89	26	70
22	143	99	111	82	381	112	142	101	39	41	24	62
23	162	99	112	85	330	114	126	92	38	78	25	58
24	144	103	102	83	299	112	153	87	33	49	70	127
25	128	99	106	87	270	114	146	85	35	68	40	58
26	108	93	111	85	240	114	175	94	37	157	37	74
27	106	92	110	83	220	113	191	82	36	108	34	66
28	105	94	106	82	200	112	190	80	33	139	89	66
29	110	115	108	83	195	118	188	77	34	175	70	55
30	108	137	111	88	---	148	184	71	39	498	45	46
31	109	---	103	89	---	158	---	68	---	270	41	---
TOTAL	3980	3077	3263	2696	14933	4251	4473	3743	1272	2303.6	2063	3919
MEAN	128	103	105	87.0	515	137	149	121	42.4	74.3	66.5	131
MAX	171	137	129	94	2730	185	191	185	68	498	172	1380
MIN	105	92	88	80	80	111	112	68	26	9.6	24	36
AC-FT	7890	6100	6470	5350	29620	8430	8870	7420	2520	4570	4090	7770

CAL YR 1975 TOTAL 103330.0 MEAN 283 MAX 4670 MIN 23 AC-FT 205000
WTR YR 1976 TOTAL 49973.6 MEAN 137 MAX 2730 MIN 9.6 AC-FT 99120

PEAK DISCHARGE (BASE, 3,000 CFS).--Feb. 11 (0415) 3,810 cfs (12.03 ft); Sept. 15 (0230) 6,180 cfs (13.91 ft).

GILA RIVER BASIN

09432000. GILA RIVER BELOW BLUE CREEK, NEAR VIRDEN, N. MEX.

LOCATION.--Lat 32°38'53", long 108°50'43", in SE¼SW¼ sec.18, T.19 S., R.19 W., Grant County, on left bank at head of canyon, 1.4 mi (2.3 km) downstream from Blue Creek, 10 mi (16 km) east of Virden, and 16 mi (26 km) upstream from New Mexico-Arizona State line.

DRAINAGE AREA.--3,203 mi² (8,296 km²), excluding Animas River basin.

PERIOD OF RECORD.--May to November 1914, March to September 1915, July 1927 to current year. July 1927 to May 1931 monthly discharge only, published in WSP 1313, computed as sum of flow at Virden Bridge, 9 mi (14 km) downstream, and in Sunset Canal. Published as Gila River near Duncan, Ariz., 1914-15 and as Gila River at Fuller's Ranch, near Duncan, Ariz., 1931-38.

GAGE.--Water-stage recorder. Altitude of gage is 3,875 ft (1,181.1 m) (from river-profile map). May 11, 1914, to Sept. 30, 1915, at site 6 mi (10 km) downstream, 1,000 ft (300 m) upstream from intake of Sunset Canal. June 1 to July 7, 1931, nonrecording gage at present site and datum.

AVERAGE DISCHARGE.--49 years (1927-76), 177 ft³/s (5,013 m³/s), 128,200 acre-ft/yr (158 hm³/yr); median of yearly mean discharges, 130 ft³/s (3.68 m³/s), 94,200 acre-ft/yr (120 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,700 ft³/s (105 m³/s) Sept. 15 (gage height, 10.90 ft or 3.322 m); minimum, 12 ft³/s (0.34 m³/s) July 11, 12.

Period of record: Maximum discharge, 41,700 ft³/s (1,180 m³/s) Sept. 29, 1941 (gage height, 25.78 ft or 7.858 m); minimum, 1 ft³/s (0.028 m³/s) July 14, 1934.

REMARKS.--Records good. Station is above all Duncan Valley diversions. Diversions for irrigation of about 6,200 acres (25.1 km²) above station.

REVISIONS (WATER YEARS).--WSP 1283: Drainage area. WSP 1313: 1929, 1931-32(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	190	116	132	103	95	192	161	179	62	24	141	44
2	183	116	129	96	91	192	143	165	60	24	114	39
3	174	116	125	97	88	192	139	163	61	24	125	30
4	170	111	125	96	95	183	138	157	59	22	129	27
5	166	110	125	94	99	183	136	165	61	19	134	26
6	161	110	114	94	103	181	139	166	51	17	102	32
7	161	106	108	94	113	168	143	163	48	15	76	25
8	152	106	111	94	147	166	150	152	41	14	60	23
9	150	103	108	96	148	165	150	145	39	13	52	26
10	148	99	110	95	203	161	159	139	38	13	46	28
11	145	97	116	96	2620	152	150	123	34	12	47	28
12	134	103	110	95	1640	147	148	118	32	12	41	26
13	127	102	106	95	1240	145	161	111	30	80	36	24
14	130	105	105	94	1120	138	170	110	29	83	32	24
15	123	111	105	99	1030	134	174	102	28	57	27	874
16	118	106	108	97	860	132	192	99	27	48	25	292
17	118	108	108	97	744	132	203	95	24	45	24	170
18	120	111	96	87	634	132	203	96	24	41	24	105
19	108	102	92	85	554	125	190	96	20	43	22	79
20	111	100	94	83	494	121	181	103	19	56	22	66
21	160	100	96	86	429	121	170	102	18	89	20	57
22	136	103	106	88	389	125	172	94	23	65	19	51
23	152	106	113	95	355	136	157	90	25	84	18	47
24	150	108	108	95	322	138	163	85	24	65	55	47
25	148	108	110	96	298	132	166	82	23	137	29	89
26	129	100	113	94	279	127	177	85	22	106	28	64
27	121	95	116	95	248	125	199	80	22	94	26	54
28	118	91	114	92	227	121	192	73	20	99	32	55
29	121	105	113	94	203	132	188	71	20	103	52	49
30	118	120	116	95	---	159	181	65	20	247	34	41
31	118	---	116	105	---	159	---	62	---	324	29	---
TOTAL	4360	3174	3448	2922	14868	4616	4995	3536	1004	2075	1621	2542
MEAN	141	106	111	94.3	513	149	167	114	33.5	66.9	52.3	84.7
MAX	190	120	132	105	2620	192	203	179	62	324	141	874
MIN	108	91	92	83	88	121	136	62	18	12	18	23
AC-FT	8650	6300	6840	5800	29490	9160	9910	7010	1990	4120	3220	5040

CAL YR 1975 TOTAL 112191.4 MEAN 307 MAX 6180 MIN 8.2 AC-FT 222500
WTR YR 1976 TOTAL 49161.0 MEAN 134 MAX 2620 MIN 12 AC-FT 97510

PEAK DISCHARGE (BASE, 1,900 CFS).--Feb. 11 (0730) 3,440 cfs (10.64 ft); Sept. 15 (0500) 3,700 cfs (10.90 ft).

09432500. DIVERSIONS FROM GILA RIVER IN DUNCAN VALLEY, N. MEX.-ARIZ.

LOCATION.--Duncan Valley lies along Gila River in Hidalgo County, N. Mex., and Greenlee County, Ariz. The part in New Mexico is also known as Virden Valley. The valley extends from a point about 8 mi (13 km) east of State line to vicinity of Guthrie, Ariz. Ten canals, listed in the following table in downstream order, and several pumps have rights to divert water from Gila River for irrigation in the valley. The first three canals listed divert in New Mexico and the others divert in Arizona. Intake of Sunset Canal, at eastern end of valley, is 6 mi (10 km) downstream from station on Gila River below Blue Creek, near Virden, N. Mex. (09432000). Intake of York Canal, at western end, is about 14 mi (23 km) upstream from station on Gila River near Clifton, Ariz. (09442000).

PERIOD OF RECORD.--January 1936 to current year (combined monthly diversions and annual diversions by each canal). See WSP 1313 for summary of records of each canal (some since 1914) prior to 1951. Records of daily discharge for Sunset and New Model Canals have been published in reports of Geological Survey. Records of daily discharge since 1936 published in reports of Gila Water Commissioner.

GAGE.--Water-stage recorders and Parshall flumes.

REMARKS.--Record shows total diversions, unadjusted for return flows. Water obtained by pumping from ground water for irrigation in the valley is not included in these records. Decreed area for irrigation for the valley is 8,061 acres (32.6 km²). Water was issued for 6,300 acres (25.5 km²) during calendar year 1975.

COOPERATION.--Records furnished by Gila Water Commissioner.

ANNUAL DIVERSIONS, IN ACRE-FEET, TO EACH CANAL DURING CALENDAR YEAR 1975 AND WATER YEAR 1976

Canal	Calendar year 1975	Water year 1976
09433000. Sunset	8,920	9,800
09436000. New Model	4,020	3,000
09437500. Valley	3,480	2,030
09439000. Duncan	0	0
09439500. Black-McCleskey	0	0
09440000. Colmenero	0	0
09440100. Albert	0	0
09440200. Sexton	0	0
09440300. R. Sexton	0	0
09440500. York	0	0
Direct pumping	0	0
Total	16,420	14,830

COMBINED MONTHLY DISCHARGE OF CANALS DIVERTING FROM GILA RIVER IN DUNCAN VALLEY, N. MEX.-ARIZ.,
DURING WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

Month	Discharge, in cubic feet per second			Diversions in acre-feet
	Maximum	Minimum	Mean	
October	0	0	0	0
November	0	0	0	0
December	0	0	0	0
CAL YR 1975	75	0	22.7	16,420
January	22	14	14.7	905
February	72	27	60.0	3,450
March	72	24	45.7	2,810
April	73	10	28.3	1,680
May	47	12	20.4	1,260
June	43	11	23.0	1,370
July	63	3.8	19.2	1,180
August	57	8.4	17.1	1,050
September	34	13	18.8	1,120
WTR YR 1976	73	0	20.4	14,830

GILA RIVER BASIN

09442000. GILA RIVER NEAR CLIFTON, ARIZ.

LOCATION.--Lat 32°57'55", long 109°18'25", in NE¼SE¼ sec.25, T.5 S., R.29 E., Greenlee County, on right bank 60 ft (18 m) upstream from bridge on county road, 6 mi (10 km) upstream from San Francisco River, and 6 mi (10 km) south of Clifton.

DRAINAGE AREA.--4,010 mi² (10,386 km²).

PERIOD OF RECORD.--November 1910 to July 1918 (published as "at Guthrie"), October 1927 to current year. Monthly discharge only for some periods, published in WSP 1313.

GAGE.--Water-stage recorder. Datum of gage is 3,336.38 ft (1,016.929 m) above mean sea level (adjusted). Nov. 6, 1910, to July 11, 1918, non-recording gage or water-stage recorder at two sites about 6 mi (10 km) upstream at Guthrie at different datums. March 1928 to June 1948 water-stage recorder at present site at datum 0.91 ft (0.277 m) lower. June 1948 to Oct. 17, 1967, water-stage recorder at site 0.2 mi (0.3 km) upstream at datum 3.12 ft (0.951 m) higher. Oct. 18, 1967, to June 23, 1974, at site 500 ft (150 m) downstream at datum 0.44 ft (0.134 m) higher.

AVERAGE DISCHARGE.--55 years (1911-17, 1927-76), 185 ft³/s (5.239 m³/s), 134,400 acre-ft/yr (166 hm³/yr); median of yearly mean discharges, 130 ft³/s (3.68 m³/s), 94,200 acre-ft/yr (120 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 2,390 ft³/s (67.7 m³/s) Feb. 11 (gage height, 7.80 ft or 2.377 m); minimum daily, 17 ft³/s (0.48 m³/s) June 23.

Period of record: Maximum discharge, 33,000 ft³/s (935 m³/s) Oct. 21, 1972 (gage height, 18.7 ft or 5.70 m, from high-water mark in gage well, at site and datum then in use, 20.0 ft or 6.10 m, from profile past gage at present site and datum); minimum daily, 5 ft³/s (0.14 m³/s) Aug. 24, 1962.

REMARKS.--Records good. Diversions for irrigation of about 14,300 acres (57.9 km²) above station. Station is below all Duncan Valley diversions.

REVISIONS (WATER YEARS).--WSP 1059: 1911-12, 1915, 1917. WSP 1179: 1929(M), 1934(M). WSP 1283: Drainage area.

DISCHARGE* IN CUBIC FEET PER SECOND* WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	156	87	108	122	69	148	111	81	22	20	194	60
2	142	87	124	111	69	139	105	63	23	25	80	56
3	134	84	124	102	64	141	92	82	23	20	50	59
4	125	84	124	104	54	144	80	96	25	19	40	45
5	119	84	122	105	47	136	76	116	26	20	40	36
6	116	82	121	99	53	141	71	106	26	22	30	96
7	114	81	114	93	54	134	76	108	25	22	30	241
8	104	80	108	84	55	124	76	105	58	21	30	70
9	96	80	105	82	75	124	79	94	22	22	20	60
10	90	76	104	88	105	117	73	87	20	22	75	60
11	90	73	105	82	1110	117	74	86	20	45	69	50
12	90	67	110	86	1500	114	76	74	20	41	42	40
13	80	68	105	87	1070	104	75	64	20	198	70	40
14	80	69	100	81	905	96	77	57	20	110	35	30
15	80	71	98	81	815	93	85	53	20	92	28	300
16	70	76	102	82	706	82	105	47	21	68	26	345
17	69	76	104	81	614	81	114	46	21	50	25	200
18	63	75	104	87	534	81	108	41	21	30	25	100
19	68	76	96	82	472	84	106	43	20	25	24	70
20	63	73	87	73	410	90	94	43	19	23	24	46
21	114	75	90	64	365	84	86	40	18	33	24	38
22	146	73	94	65	332	80	82	35	18	66	24	33
23	124	75	113	69	302	80	100	31	17	80	58	29
24	127	82	124	75	279	82	88	29	18	68	129	30
25	124	88	116	76	252	86	86	29	18	136	43	33
26	122	92	113	70	230	81	87	28	18	190	43	36
27	106	92	116	70	206	81	81	27	18	69	84	38
28	98	84	119	71	186	81	88	25	19	48	39	28
29	90	94	116	70	164	81	92	24	21	72	31	26
30	87	93	116	71	---	81	90	22	21	108	39	24
31	90	---	122	71	---	104	---	22	---	225	40	---
TOTAL	3177	2397	3404	2584	11097	3211	2633	1804	658	1990	1511	2319
MEAN	102	79.9	110	83.4	383	104	87.8	58.2	21.9	64.2	48.7	77.3
MAX	156	94	124	122	1500	148	114	116	58	225	194	345
MIN	63	67	87	64	47	80	71	22	17	19	20	24
AC-FT	6300	4750	6750	5130	22010	6370	5220	3580	1310	3950	3000	4600
CAL YR 1975 TOTAL	86381				4170			171300				
WTR YR 1976 TOTAL	36785				1500			72960				
MEAN 237												
MAX 101												
MIN 14												
AC-FT 171300												
MIN 17												
AC-FT 72960												

PEAK DISCHARGE (BASE, 2,500 CFS).--No peak above base.

09442000. GILA RIVER NEAR CLIFTON, ARIZ.

LOCATION.--Lat 32°57'55", long 109°18'25", in NE¼SE¼ sec.25, T.5 S., R.29 E., Greenlee County, at gaging station 60 ft (18 m) upstream from bridge on county road, 6 mi (10 km) upstream from San Francisco River, and 6 mi (10 km) south of Clifton.

DRAINAGE AREA.--4,010 mi² (10,386 km²).

PERIOD OF RECORD.--Chemical analyses: January 1976 to September 1976.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	HARDNESS (CA+MG) (MG/L)
JAN 21...	1230	68	615	--	10.0	10	--	--	--	150
FEB 20...	1500	400	340	8.0	12.0	100	--	--	865	110
MAR 16...	1145	80	580	8.6	18.0	23	--	--	1	160
APR 08...	1400	100	600	8.7	20.0	13	--	6	10	150
MAY 11...	0930	96	520	7.4	20.0	62	--	16	8150	150
JUN 15...	1500	17	590	8.5	31.0	15	6.7	20	50	110
JUL 08...	1400	20	600	8.5	34.0	10	7.4	2	34	98
AUG 11...	1330	58	685	8.2	30.5	1000	6.4	--	84500	160
SEP 21...	1400	40	600	8.4	27.0	55	6.6	--	120	140

B Results based on non-ideal colony count.

DATE	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
JAN 21...	0	45	9.3	78	2.8	3.5	234	--	86	35
FEB 20...	0	32	6.8	31	1.3	2.4	141	0	42	13
MAR 16...	0	48	10	66	2.3	3.7	227	0	72	30
APR 08...	0	45	8.8	70	2.5	4.2	209	9	74	30
MAY 11...	0	45	9.9	67	2.4	3.8	209	0	71	31
JUN 15...	0	31	7.6	86	3.6	4.5	205	6	80	38
JUL 08...	0	27	7.5	89	3.9	4.6	183	5	82	39
AUG 11...	0	49	9.1	80	2.8	6.3	206	0	100	43
SEP 21...	0	41	7.9	81	3.0	5.2	218	0	85	36

DATE	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED NITRATE (N) (MG/L)	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)	DISSOLVED ORTHOPHOSPHORUS (P) (MG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED IRON (FE) (UG/L)
JAN 21...	1.8	36	411	413	.56	.63	.63	.05	130	20
FEB 20...	1.6	30	220	230	.30	.31	.32	.05	50	10
MAR 16...	1.9	37	378	384	.51	--	.62	.05	120	0
APR 08...	2.0	35	384	383	.52	--	.44	.04	130	10
MAY 11...	2.0	39	402	372	.55	--	--	--	100	350
JUN 15...	1.9	45	406	401	.55	--	--	--	130	60
JUL 08...	1.8	43	391	390	.53	--	.14	.05	160	70
AUG 11...	1.6	36	429	431	.58	--	1.0	.10	140	30
SEP 21...	1.9	40	386	408	.53	--	.56	.09	140	70

GILA RIVER BASIN

09442000. GILA RIVER NEAR CLIFTON, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	TOTAL BARIUM (BA) (UG/L)	TOTAL BORON (B) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
JAN 21...	1230	6	0	160	130	<10	0	0	10	380	20
FEB 20...	1500	12	100	130	50	10	0	10	40	11000	10
MAR 16...	1145	5	100	150	120	<10	0	20	10	3700	0
APR 08...	1400	4	100	170	130	<10	1	0	30	1400	10
MAY 11...	0930	4	300	550	100	<10	0	<10	15	9800	350
JUN 15...	1500	--	300	150	130	<10	0	20	11	2500	60
JUL 08...	1400	10	0	180	160	<10	10	0	10	1100	70
AUG 11...	1330	15	100	210	140	<10	--	100	320	87000	30
SEP 21...	1400	7	200	170	140	<10	--	0	10	5000	70

DATE	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)
JAN 21...	<100	50	0	.0	1	<10	20	--	--	--
FEB 20...	<100	420	10	.0	0	<10	80	18	.00	3
MAR 16...	<100	110	0	.0	0	<10	20	7.3	.00	2
APR 08...	<100	70	10	.0	1	<10	30	7.8	.00	5
MAY 11...	<100	180	40	--	0	<10	30	4.0	.00	13
JUN 15...	<100	60	10	.0	0	<10	30	3.9	.00	1
JUL 08...	<100	50	0	.0	0	<10	0	7.3	.00	56
AUG 11...	200	3200	0	.2	1	50	340	29	.00	2
SEP 21...	<100	170	10	.0	0	<10	30	3.0	.00	0

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

GILA RIVER BASIN

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09442000. GILA RIVER NEAR CLIFTON, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHOPHOS- PHORUS (P) (MG/L)
JAN 21...	1230	.63	.00	.64	.63	.22	.86	3.8	.06	.05
FEB 20...	1500	.31	.01	.32	.32	.58	.90	4.0	.54	.05
MAR 16...	1145	--	--	.62	.62	.13	.75	3.3	.15	.05
APR 08...	1400	--	--	.44	.44	.30	.74	3.3	.11	.04
MAY 11...	0930	--	--	.15	--	1.3	1.5	6.4	.59	--
JUN 15...	1500	--	--	.09	--	.22	.31	1.4	.12	--
JUL 08...	1400	--	--	.11	.14	.22	.33	1.5	.07	.05
AUG 11...	1330	--	--	1.3	1.0	3.7	5.0	22	4.3	.10
SEP 21...	1400	--	--	.65	.56	.14	.79	3.5	.20	.09

DATE	TIME	ALD- IN IN BOTTOM MA- TERIAL (UG/KG)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	DDE IN BOTTOM MA- TERIAL (UG/KG)	DDT IN BOTTOM MA- TERIAL (UG/KG)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG)	DI- ELDKIN IN BOTTOM MA- TERIAL (UG/KG)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	ETHION IN BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)
JUNE 15...	1400	.0	0	.0	.0	.0	.0	.0	.0	.0	.0

DATE	TIME	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG)	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG)	PCB IN BOTTOM MA- TERIAL (UG/KG)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG)	2,4-D IN BOTTOM MA- TERIAL (UG/KG)	2,4,5-T IN BOTTOM MA- TERIAL (UG/KG)	SILVEX IN BOTTOM MA- TERIAL (UG/KG)
JUNE 15...	.0	.0	.0	.0	.0	0	0	.0	0	0	0	0

GILA RIVER BASIN

09442000. GILA RIVER NEAR CLIFTON, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll _a	Chlorophyll _b	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight	(mg/m ²)	(mg/m ²)		
June 15	35	18.6	16.3	11.8	2.98	190	Polyethylene strip

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

JUNE 15, 1976
1500 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,300 CELLS/ML

__ORGANISM__NAME__	__COMMON__NAME__	CELLS/ML	PER_CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...OOCYSTACEAE			
LANKISTRODESMUS			0
CHRYSOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...ACHNANTHACEAE			
LCOCCONEIS			0
...CYMBELLACEAE			
LAMPHORA			0
...DIATOMACEAE			
LDIATOMA			0
...GOMPHONEMATACEAE		190	8
...GOMPHONEMA			
...NAVICULACEAE	NAVICULOID		
DNAVICULA		380	17
...NITZSCHACEAE			
DNITZSCHIA		1,700	75
...SURIRELLACEAE			
LSURIRELLA			0
	TOTALS	2,300	100
			1.041=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES: BASED ON ACTUAL COUNTS:
 FAMILY 1.041
 GENERA 1.041

GILA RIVER BASIN

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09442680. SAN FRANCISCO RIVER NEAR RESERVE, N. MEX.

LOCATION.--Lat 33°44'12", long 108°46'14", in NE¼NW¼SE¼ sec.35, T.6 S., R.19 W., Catron County, on left bank 1,300 ft (400 m) downstream from Rainbow Bridge Canyon, 1.7 mi (2.7 km) northwest of Reserve, and at mile 563.1 (906.0 km).

DRAINAGE AREA.--350 mi² (907 km²), approximately.

PERIOD OF RECORD.--March 1959 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,820 ft (1,774 m) from topographic map. Prior to Dec. 15, 1972, at site 1,800 ft (549 m) upstream at datum 21.3 ft (6.49 m) higher.

AVERAGE DISCHARGE.--17 years, 24.4 ft³/s (0.691 m³/s), 17,680 acre-ft/yr (21.8 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 1,200 ft³/s (34.0 m³/s) July 24 (gage height, 7.20 ft or 2.195 m); minimum, 2.4 ft³/s (0.068 m³/s) July 6.

Period of record: Maximum discharge, 11,900 ft³/s (337 m³/s) Oct. 20, 1972 (gage height, 7.47 ft or 2.277 m in gage well, 8.05 ft or 2.454 m, from outside floodmarks, site and datum then in use), from rating curve extended above 9,000 ft³/s (255 m³/s) on basis of velocity-area study; minimum, 1.0 ft³/s (0.028 m³/s) Mar. 16, 1959.

Maximum stage, about 15 ft (4.6 m), as determined in 1962 from old floodmarks. Major floods of Nov. 26, 1905, and Dec. 3, 1906, exceeded 20,000 ft³/s (566 m³/s) at Alma (downstream). See WSP 1313.

REMARKS.--Records good. Possible minor regulation by Luna Lake, 27 mi (43 km) upstream. Diversions for irrigation of about 500 acres (2.0 km²) above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	9.5	6.7	8.0	8.6	18	16	8.0	6.3	3.2	11	7.0
2	12	9.3	7.2	8.0	8.7	19	14	7.8	6.7	3.0	9.7	7.2
3	12	9.1	7.2	8.2	8.7	18	13	7.6	6.9	2.9	9.1	6.8
4	11	8.9	6.9	8.5	8.9	18	12	7.5	7.0	2.7	8.9	6.9
5	11	8.5	6.5	8.8	10	18	12	7.5	7.1	2.7	8.5	7.3
6	11	8.6	6.3	9.0	11	18	11	7.2	7.2	2.6	8.4	7.8
7	11	8.5	6.3	9.1	9.4	18	11	6.9	6.7	2.6	8.3	8.1
8	11	8.4	6.1	9.1	8.8	18	11	6.9	9.2	2.8	8.3	7.6
9	11	8.4	6.0	9.1	19	18	10	6.6	6.8	3.1	8.3	7.7
10	10	8.2	5.8	9.2	11.5	18	10	6.2	6.4	3.2	8.5	7.9
11	10	8.0	5.8	8.9	8.7	18	10	6.2	6.1	3.5	7.9	7.4
12	9.8	7.9	5.6	9.0	6.3	18	10	5.8	6.1	4.0	7.4	7.1
13	9.1	7.4	5.7	9.2	5.5	18	11	5.6	6.0	4.4	7.0	6.8
14	9.4	7.4	5.4	9.0	5.5	18	11	5.7	5.8	4.4	6.5	6.7
15	9.4	7.7	4.4	9.0	5.4	18	12	5.7	5.6	4.2	6.2	8.7
16	9.5	7.8	4.9	9.1	4.6	18	12	5.8	5.3	4.5	5.8	7.4
17	9.2	7.9	5.0	8.9	4.1	16	13	6.0	5.1	4.4	5.6	6.9
18	8.9	7.7	5.1	8.7	3.7	16	14	6.0	4.9	4.6	5.4	6.6
19	9.0	7.7	5.4	8.8	3.4	16	14	6.1	4.9	5.8	5.4	6.5
20	9.3	7.3	5.8	8.3	3.3	17	14	6.3	4.6	5.4	5.3	6.1
21	11	7.4	6.3	8.2	3.0	17	14	6.5	4.6	6.2	5.3	6.2
22	11	7.2	6.3	8.4	2.8	17	14	6.4	4.3	7.0	6.5	6.3
23	9.7	6.8	7.1	8.6	2.5	16	13	6.4	4.1	18	5.8	6.1
24	9.7	7.3	7.0	8.7	2.4	16	12	6.1	4.0	17	5.5	6.1
25	9.6	7.3	6.3	8.6	2.2	14	12	6.2	3.8	5.2	5.4	6.5
26	9.5	7.0	6.5	8.5	2.1	15	11	6.1	3.7	4.7	5.5	6.2
27	9.6	6.9	6.8	8.5	2.1	15	10	6.2	3.6	5.1	5.5	6.2
28	9.4	7.5	6.9	8.7	1.9	14	9.7	5.9	3.6	5.3	18	5.9
29	9.5	8.3	6.1	8.7	1.8	15	9.2	5.9	3.4	9.8	7.5	5.8
30	9.7	6.4	7.1	8.6	---	15	8.7	6.1	3.2	9.4	7.0	5.6
31	9.5	---	7.5	8.7	---	15	---	6.1	---	17	6.8	---
TOTAL	313.8	236.3	192.0	270.1	921.1	523	354.6	199.3	163.0	178.7	230.3	205.4
MEAN	10.1	7.88	6.19	8.71	31.8	16.9	11.8	6.43	5.43	5.76	7.43	6.85
MAX	12	9.5	7.5	9.2	11.5	19	16	8.0	9.2	18	18	8.7
MIN	8.9	6.4	4.4	8.0	8.6	14	8.7	5.6	3.2	2.6	5.3	5.6
AC-FT	622	469	381	536	1830	1040	703	395	323	354	457	407

CAL YR 1975 TOTAL 8220.3 MEAN 22.5 MAX 288 MIN 1.4 AC-FT 16300
WTR YR 1976 TOTAL 3787.6 MEAN 10.3 MAX 115 MIN 2.6 AC-FT 7510

PEAK DISCHARGE (BASE, 450 CFS).---July 24 (0015) 1,200 cfs (7.20 ft).

GILA RIVER BASIN

09443000. SAN FRANCISCO RIVER NEAR ALMA, N. MEX.

LOCATION.--Lat 33°22'05", long 108°54'35", in SW¼SE¼ sec.4, T.11 S., R.20 W., Catron County, on right bank 1.2 mi (1.9 km) downstream from Alma, 4 mi (6 km) northwest of Glenwood, 6 mi (10 km) upstream from Whitewater Creek, and at mile 523.5 (842.3 km).

DRAINAGE AREA.--1,546 mi² (4,004 km²).

PERIOD OF RECORD.--September 1904 to January 1914, fragmentary (see WSP 1313), January 1964 to current year. Prior to October 1911, published as "at Alma."

GAGE.--Water-stage recorder. Datum of gage is 4,841 ft (1,475.5 m) above mean sea level. Prior to Aug. 11, 1912, nonrecording gages at various sites, within 500 ft (150 m) of each other, 0.8 mi (1.3 km) upstream, at different datums. Aug. 11, 1912, to Feb. 2, 1914, nonrecording gage at approximately present site and datum. Jan 10, 1964, to Nov. 1, 1972, at datum 3.00 ft (0.91 m) higher.

AVERAGE DISCHARGE.--12 years (1964-76), 69.0 ft³/s (1.954 m³/s), 49,990 acre-ft/yr (61.6 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 10,600 ft³/s (300 m³/s) Sept. 14 (gage height, 9.17 ft or 2.795 m); minimum, 0.10 ft³/s (0.003 m³/s) Sept. 14.

Period of record: Maximum discharge, 30,600 ft³/s (867 m³/s) Oct. 20, 1972 (gage height, 18.16 ft or 5.535 m, present datum, from floodmarks in well), from rating curve extended above 3,500 ft³/s (99.1 m³/s) on basis of slope-area measurement of peak flow; no flow many days.

Major floods probably occurred Jan. 19 and Oct. 14, 1916, when discharges of 60,000 ft³/s (1,700 m³/s) or greater were computed at Clifton, Ariz.

REMARKS.--Records good. Diversions for irrigation of about 1,500 acres (6.1 km²) above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
PEAK VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	8.0	16	14	12	30	28	6.0	2.4	1.5	47	2.4
2	11	8.0	15	8.0	12	30	28	6.8	1.9	1.5	28	3.6
3	10	8.0	16	6.5	12	30	28	6.0	1.9	1.5	18	1.7
4	9.5	9.5	16	5.0	12	30	26	4.4	1.9	1.5	11	.78
5	9.5	14	15	10	15	30	26	4.6	2.0	1.7	6.4	.36
6	8.8	12	14	12	23	30	24	5.3	2.4	2.9	4.6	.36
7	6.5	8.8	12	14	34	30	24	5.7	2.4	1.3	3.9	1.7
8	5.0	4.6	12	14	27	28	22	6.8	2.9	1.2	2.6	.86
9	4.2	8.8	12	15	24	28	20	7.6	2.6	.94	1.3	.56
10	3.0	8.8	14	16	1150	26	16	7.2	3.4	1.1	1.2	.36
11	1.8	8.8	14	16	415	26	13	5.3	2.9	1.1	2.4	.24
12	1.8	8.8	14	15	220	26	12	2.4	2.6	11	1.0	.16
13	3.0	8.8	14	15	188	26	12	2.6	2.2	4.4	1.0	.11
14	1.0	8.8	15	15	256	26	11	2.9	1.7	2.9	.86	508
15	1.0	9.5	14	12	232	26	12	2.9	1.7	2.4	.86	19
16	2.2	9.5	10	12	174	24	16	2.9	1.7	2.2	.70	6.8
17	3.0	9.5	12	12	129	24	17	2.9	1.6	2.2	.70	5.3
18	3.4	9.5	12	12	102	24	16	2.6	1.5	2.2	.70	3.9
19	4.2	14	12	12	85	16	16	2.9	1.5	5.1	.62	2.9
20	4.6	14	14	12	76	9.2	16	2.9	1.5	8.7	.56	2.0
21	9.5	14	16	12	62	9.2	17	2.9	1.6	9.2	.56	1.9
22	19	12	17	11	54	11	15	2.6	1.6	7.6	.45	1.7
23	18	12	22	12	47	16	13	2.6	1.5	1.6	.45	1.6
24	15	12	24	14	39	18	11	2.6	1.3	84	.70	3.2
25	12	12	21	14	36	19	11	2.6	1.3	50	.78	6.8
26	12	13	18	12	33	20	9.2	2.6	1.2	12	.62	14
27	14	13	17	12	32	22	7.9	2.4	1.3	9.2	.40	8.7
28	9.5	15	16	12	30	22	7.2	2.4	1.5	9.2	.50	6.4
29	8.8	27	16	12	30	26	7.2	2.4	1.5	30	15	5.3
30	8.0	24	14	12	---	30	7.2	2.4	1.5	33	7.6	3.6
31	8.0	---	14	12	---	30	---	2.6	---	28	3.2	---
TOTAL	239.3	345.7	468	362.5	3569	742.4	488.7	118.8	57.0	331.14	163.66	614.29
MEAN	7.72	11.5	15.1	12.3	123	23.9	16.3	3.83	1.90	10.7	5.28	20.5
MAX	19	27	24	16	1150	30	28	7.6	3.4	84	47	508
MIN	1.0	4.6	10	5.0	12	9.2	7.2	2.4	1.2	.94	.40	.11
AC-FT	475	606	928	759	7080	1470	969	236	113	657	325	1220

CAL YR 1975 TOTAL 23399.00 MEAN 69.6 MAX 4270 MIN .65 AC-FT 50380
WTR YR 1976 TOTAL 1520.49 MEAN 20.5 MAX 1150 MIN .11 AC-FT 14920

PEAK DISCHARGE (BASE 1,000 CFS).--Feb. 10 (1400) 2,370 cfs (5.40 ft); Sept. 14 (1815) 10,600 cfs (9.17 ft).

09444000. SAN FRANCISCO RIVER NEAR GLENWOOD, N. MEX.

LOCATION.--Lat 33°14'48", long 108°52'47", in NE¼ sec.23, T.12 S., R.20 W., Catron County, on left bank 0.2 mi (0.3 km) upstream from hot springs, 5 mi (8 km) south of Glenwood, 6 mi (10 km) downstream from Whitewater Creek, and at mile 511.5 (823.0 km).

DRAINAGE AREA.--1,653 mi² (4,281 km²).

PERIOD OF RECORD.--October 1927 to current year. Monthly discharge only for some periods, published in WSP 1313.

GAGE.--Water-stage recorder. Datum of gage is 4,552.06 ft (1,387.468 m) above mean sea level; prior to Feb. 15, 1934, at site 4.5 mi (7.2 km) upstream at datum 98.82 ft (30.120 m) higher.

AVERAGE DISCHARGE.--49 years, 70.5 ft³/s (1.997 m³/s), 51,080 acre-ft/yr (63.0 km³/yr).

EXTREMES.--Current year: Maximum discharge, 5,240 ft³/s (148 m³/s) Sept. 14 (gage height, 8.74 ft or 2.664 m); minimum, 15 ft³/s (0.42 m³/s) Aug. 18, 20, 21.

Period of record: Maximum discharge, 34,100 ft³/s (966 m³/s) Oct. 20, 1972 (gage height, 16.61 ft or 5.063 m), from rating curve extended above 22,000 ft³/s (623 m³/s); minimum, 1.5 ft³/s (0.042 m³/s) Aug. 6, 1961.

Major floods probably occurred Jan. 19 and Oct. 14, 1916, when discharges of 60,000 ft³/s (1,700 m³/s) or greater were computed for station at Clifton, Ariz. On Nov. 26, 1905, a peak of 25,000 ft³/s (708 m³/s) was measured (by float-area method) at station at Alma (about 12 mi or 19 km upstream, drainage area, 1,560 mi² or 4,040 km²); a similar measurement of 21,000 ft³/s (595 m³/s) was made at the Alma station for peak of Dec. 3, 1906.

REMARKS.--Records good. Diversions for irrigation of about 2,000 acres (8.1 km²) above station.

REVISIONS (WATER YEARS).--WSP 1213: 1931, 1934, 1936-37, 1940-42, 1943-44(M), 1945-47. WSP 1283: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	31	32	27	27	59	49	29	29	25	64	21
2	33	30	29	25	27	56	45	30	31	22	50	21
3	31	30	30	22	27	60	42	32	32	24	43	20
4	29	27	29	21	28	61	43	34	33	20	34	19
5	30	27	30	21	29	61	42	38	33	20	30	19
6	29	27	29	22	34	58	41	41	29	21	25	20
7	28	28	29	24	39	56	39	39	27	20	21	24
8	27	27	29	24	40	54	39	43	29	19	19	22
9	26	26	29	25	39	53	37	46	28	20	18	20
10	25	25	29	25	940	51	35	44	25	18	18	21
11	24	26	29	25	685	50	33	40	26	18	19	21
12	23	25	29	26	294	50	33	37	26	25	17	21
13	21	24	30	25	202	49	33	35	25	31	16	20
14	23	25	30	26	281	49	33	34	32	25	16	360
15	23	25	29	26	277	43	33	35	31	24	17	103
16	22	23	28	26	211	41	35	34	26	24	18	32
17	23	25	27	26	167	42	38	37	25	23	17	28
18	22	25	28	26	135	44	38	38	25	20	15	24
19	25	27	29	26	117	41	37	55	26	20	16	21
20	25	27	29	26	106	30	35	49	26	25	16	20
21	28	29	32	26	97	28	32	45	28	27	16	20
22	33	26	33	27	88	30	33	44	28	29	17	19
23	36	25	35	27	79	31	34	41	27	31	18	21
24	38	28	38	27	75	37	31	38	24	108	18	18
25	35	27	38	27	70	38	29	37	24	132	18	23
26	35	26	35	27	67	41	30	36	26	67	17	23
27	34	26	33	27	63	45	28	32	25	49	18	43
28	32	27	32	27	61	46	28	30	23	41	18	28
29	31	33	30	27	59	47	28	30	23	52	26	25
30	31	34	29	27	---	50	28	33	23	52	31	23
31	31	---	29	27	---	49	---	33	---	47	21	---
TOTAL	886	809	947	790	4364	1450	1061	1169	815	1079	707	1100
MEAN	28.6	26.1	30.5	25.5	150	46.8	35.4	37.7	27.2	34.8	22.8	36.7
MAX	36	34	38	27	940	61	49	55	33	132	64	360
MIN	21	23	27	21	27	28	28	29	23	18	15	18
AC-FT	1760	1600	1880	1570	8660	2880	2100	2320	1620	2140	1400	2180

CAL YR 1975 TOTAL 34645 MEAN 94.9 MAX 4020 MIN 19 AC-FT 68720
WTR YR 1976 TOTAL 15177 MEAN 41.5 MAX 940 MIN 15 AC-FT 30100

PEAK DISCHARGE (BASE, 800 CFS).--Feb. 10 (1645) 2,000 cfs (6.21 ft); Sept. 14 (2045) 5,240 cfs (8.74 ft).

GILA RIVER BASIN

09444200. BLUE RIVER NEAR CLIFTON, ARIZ.

LOCATION.--Lat 33°17'27", long 109°11'44", in sec.6, T.2 S., R.31 E. (unsurveyed), Greenlee County, in Apache National Forest, on right bank 0.1 mi (0.2 km) downstream from county road crossing, 0.9 mi (1.4 km) upstream from Clear Creek, 8 mi (13 km) upstream from mouth, and 17 mi (27 km) northeast of Clifton.

DRAINAGE AREA.--506 mi² (1,311 km²).

PERIOD OF RECORD.--November 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,160 ft (1,268 m), from topographic map.

AVERAGE DISCHARGE.--8 years (1968-76), 55.4 ft³/s (1.569 m³/s), 40,160 acre-ft/yr (49.5 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 2,550 ft³/s (72.2 m³/s) Feb. 10 (gage height, 10.01 ft or 3.05 m), from rating curve extended above 960 ft³/s (27 m³/s) on basis of slope-area measurement at gage height 22.56 ft (6.876 m); minimum daily, 3.4 ft³/s (0.096 m³/s) July 9, 10.

Period of record: Maximum discharge, 30,000 ft³/s (850 m³/s) Oct. 20, 1972 (gage height, 22.56 ft or 6.876 m), from rating curve extended above 960 ft³/s (27 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 1.7 ft³/s (0.048 m³/s) July 11, 12, 1974.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	7.6	14	15	12	32	39	43	10	5.0	36	13
2	13	7.3	13	15	12	32	40	42	9.4	4.6	31	11
3	12	7.5	12	14	12	37	43	41	8.7	4.2	26	12
4	11	7.4	12	14	13	37	44	43	8.3	4.0	24	10
5	10	7.4	12	13	15	34	45	44	7.7	4.2	22	20
6	14	7.2	11	14	28	27	46	41	7.5	4.2	20	19
7	14	7.5	12	13	37	30	46	39	7.3	3.9	19	14
8	13	8.0	11	13	31	30	44	37	7.2	3.6	18	12
9	12	8.0	11	13	100	30	44	35	6.7	3.4	21	12
10	11	8.0	11	13	975	30	44	33	6.7	3.4	22	12
11	11	8.0	12	13	391	30	43	30	6.6	8.0	28	11
12	9.7	7.9	11	13	250	30	44	28	7.2	4.3	19	10
13	8.8	8.3	12	13	209	30	44	26	7.6	19	17	9.2
14	8.7	9.0	12	13	214	30	45	25	7.7	25	16	8.4
15	8.3	9.2	12	13	169	30	44	23	7.5	24	15	8.0
16	8.0	8.6	12	12	136	30	57	22	7.3	16	14	7.0
17	7.8	8.1	11	12	109	30	54	22	7.1	11	13	7.0
18	7.1	8.0	11	12	87	30	47	22	6.9	8.5	12	6.0
19	6.4	7.9	11	13	70	31	45	26	6.2	9.6	15	6.0
20	5.7	7.9	11	13	65	34	44	35	5.4	10	30	5.0
21	7.7	8.5	16	13	55	36	43	33	5.4	39	18	5.0
22	7.7	8.4	20	13	47	36	43	29	5.1	351	16	5.0
23	7.8	8.1	36	13	46	36	44	23	4.8	153	14	5.3
24	7.3	8.0	31	14	43	36	44	20	5.0	275	14	13
25	6.7	8.2	21	15	40	37	47	18	4.8	133	20	15
26	9.7	7.7	19	14	37	38	50	17	4.7	117	19	24
27	12	8.1	17	14	36	40	49	15	4.6	87	21	16
28	11	8.3	16	13	34	40	48	14	4.9	116	30	10
29	9.7	13	15	13	32	46	46	13	4.9	80	24	8.4
30	9.0	16	15	13	---	44	45	12	5.1	71	14	8.0
31	8.2	---	16	12	---	40	---	11	---	48	12	---
TOTAL	301.3	253.1	456	411	3305	1053	1361	862	198.3	1684.6	620	322.3
MEAN	9.72	8.44	14.7	13.3	114	34.0	45.4	27.8	6.61	54.3	20.0	10.7
MAX	14	16	36	15	975	46	57	44	10	351	36	24
MIN	5.7	7.2	11	12	12	27	39	11	4.6	3.4	12	5.0
AC-FT	598	502	904	815	6560	2090	2700	1710	393	3340	1230	639
CAL YR 1975 TOTAL	25321.1			MEAN 69.4	MAX 5080	MIN 3.5	AC-FT 50220					
WTR YR 1976 TOTAL	10827.6			MEAN 29.6	MAX 975	MIN 3.4	AC-FT 21480					

PEAK DISCHARGE (BASE, 800 CFS).--Feb. 10 (0030) 2,550 cfs (10.01 ft); July 22 (2000) 2,220 cfs (9.58 ft).

09444500. SAN FRANCISCO RIVER AT CLIFTON, ARIZ.

LOCATION.--Lat 33°02'58", long 109°17'43", in SW¼SE¼ sec.30, T.4 S., R.30 E., Greenlee County, on downstream side of right pier at Railroad Boulevard Bridge (U.S. Highway 666), at Clifton, 9.9 mi (15.9 km) upstream from mouth.

DRAINAGE AREA.--2,766 mi² (7,164 km²).

PERIOD OF RECORD.--October 1910 to March 1911, July 1911 to June 1912, September 1912, November 1912 to March 1913, May 1913 to July 1918, July 1927 to current year. Monthly discharge only for some periods, published in WSP 1313. Published as San Francisco River at dam above Clifton in 1911 and under both names in 1912.

GAGE.--Water-stage recorder. Datum of gage is 3,436.16 ft (1,047.342 m) above mean sea level. See WSP 1713 or 1733 for history of changes prior to Apr. 7, 1959. Apr. 7, 1959, to Mar. 23, 1961, at site 1,140 ft (347 m) downstream at datum 5.37 ft (1.637 m) lower.

AVERAGE DISCHARGE.--52 years (1913-15, 1916-17, 1927-76) 190 ft³/s (5.381 m³/s), 137,700 acre-ft/yr (170 hm³/yr); median of yearly mean discharge, 130 ft³/s (3.68 m³/s), 94,200 acre-ft/yr (120 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,100 ft³/s (87.8 m³/s) Feb. 10 (gage height, 5.45 ft or 1.66 m); minimum daily, 29 ft³/s (0.82 m³/s) July 10.

Period of record: Maximum discharge, 64,000 ft³/s (1,810 m³/s) Oct. 20, 1972 (gage height, 17.0 ft or 5.18 m, from high-water mark), from rating curve extended above 6,400 ft³/s (181 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 6.1 ft³/s (0.17 m³/s) June 21, 1971.

REMARKS.--Records good. Diversions for mining, municipal use, and for irrigation of about 2,700 acres (10.9 km²) above station.

REVISIONS (WATER YEARS).--WSP 1049: 1911, 1913-15, 1917. WSP 1283: Drainage area. WSP 1313: 1927-30(M), 1932(M), 1934(M). WRD Ariz. 1972: 1917(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	48	73	73	62	103	117	93	55	40	119	99
2	73	50	71	69	60	101	114	89	52	38	126	85
3	68	55	69	68	60	101	114	87	51	36	110	69
4	66	55	69	66	60	112	110	87	52	36	99	63
5	62	55	68	65	66	114	110	99	53	33	91	65
6	63	55	68	65	74	108	112	99	48	35	81	78
7	65	58	68	63	99	108	112	97	44	33	74	74
8	63	58	68	65	103	105	110	97	56	33	69	66
9	62	58	66	66	103	105	108	97	50	30	68	68
10	60	58	65	66	1430	105	99	95	44	29	73	68
11	58	58	65	66	1660	105	95	91	40	139	73	65
12	53	58	65	66	854	105	93	83	41	58	73	59
13	51	58	66	68	598	105	97	80	41	95	59	53
14	52	58	66	68	624	105	95	76	38	81	52	48
15	51	58	65	66	673	105	95	74	36	71	53	230
16	52	58	66	65	568	103	110	71	40	71	51	101
17	51	58	66	65	440	101	126	71	39	60	52	71
18	51	58	65	65	336	103	114	93	36	50	56	58
19	51	58	63	65	271	99	110	83	37	45	55	50
20	51	58	63	65	227	95	103	112	38	45	69	44
21	58	58	69	65	202	89	101	105	38	40	80	44
22	60	56	74	66	170	89	97	93	38	256	65	37
23	60	59	83	68	161	89	97	85	38	436	71	34
24	60	62	136	69	134	89	97	76	39	192	71	35
25	59	63	99	69	129	95	97	71	39	322	85	50
26	58	63	83	69	119	99	95	66	38	220	101	48
27	58	63	78	66	112	103	95	65	37	142	85	66
28	53	65	74	65	103	105	93	60	36	110	80	60
29	52	71	73	65	99	117	91	58	37	136	125	51
30	53	74	73	63	---	131	95	55	39	119	87	45
31	50	---	73	63	---	119	---	56	---	196	83	---
TOTAL	1803	1764	2250	2053	9597	3213	3102	2564	1270	3227	2436	1984
MEAN	58.2	58.8	72.6	66.2	331	104	103	82.7	42.3	104	78.6	66.1
MAX	79	74	136	73	1660	131	126	112	56	436	126	230
MIN	50	48	63	63	60	89	91	55	36	29	51	34
AC-FT	3580	3500	4460	4070	19040	6370	6150	5090	2520	6400	4830	3940
CAL YR 1975	TOTAL	75791	MEAN	208	MAX	11800	MIN	25	AC-FT	150300		
WTR YR 1976	TOTAL	35263	MEAN	96.3	MAX	1660	MIN	29	AC-FT	69940		

PEAK DISCHARGE (BASE, 2,000 CFS).--Feb. 10 (0430) 3,100 cfs (5.45 ft); July 11 (1600) 2,600 cfs (5.20 ft).

GILA RIVER BASIN

09444600. SAN FRANCISCO RIVER NEAR CLIFTON, ARIZ.

LOCATION.--Lat 33°01'33", long 109°18'06", in NE¼NW¼ sec.6, T.5 S., R.30 E., Greenlee County, 0.9 mi (1.4 km) downstream from Clifton sewage treatment facility, 1.2 mi (1.9 km) south of Clifton, and 7.7 mi (12.4 km) upstream from mouth.

DRAINAGE AREA.--2,770 mi² (7,170 km²), approximately.

PERIOD OF RECORD.--Chemical analyses: January 1976 to September 1976.

REMARKS.--Streamflow ungaged. Gaging station 09444500 San Francisco River at Clifton located 2.2 mi (3.5 km) upstream.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO- MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	HARDNESS (CA+MG) (MG/L)
JAN 21...	1130	52	1600	--	8.0	1	--	--	--	280
FEB 20...	1300	400	790	8.0	13.0	25	--	--	7	190
MAR 16...	1415	100	1200	8.5	17.0	3	--	--	1	230
APR 08...	1500	100	1160	8.5	19.0	3	--	3	1	230
MAY 11...	1130	83	1190	7.5	19.0	2	--	18	9	230
JUN 15...	1100	40	2050	8.4	24.0	10	8.2	30	29	360
JUL 08...	1100	30	2500	8.5	29.0	4	--	7	84	360
AUG 11...	1100	80	1540	7.6	30.0	80	6.2	--	290	270
SEP 21...	1600	50	2000	8.4	27.0	40	7.0	--	100	310

DATE	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED PO-TAS- SIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
JAN 21...	110	88	15	180	4.7	11	211	--	33	370
FEB 20...	31	55	12	80	2.5	4.9	190	0	27	140
MAR 16...	60	70	13	130	3.7	8.9	195	5	30	230
APR 08...	60	71	13	140	4.0	9.2	202	3	29	240
MAY 11...	72	69	13	150	4.3	10	187	0	33	260
JUN 15...	200	120	15	320	7.3	18	201	0	39	600
JUL 08...	200	120	15	330	7.6	21	187	6	36	670
AUG 11...	120	83	14	220	5.9	13	182	0	33	410
SEP 21...	140	100	15	260	6.4	18	212	0	33	500

B Results based on non-ideal colony count.

09444600. SAN FRANCISCO RIVER NEAR CLIFTON, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO ₂) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF TUEENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHO-PHOSPHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
JAN 21...	.8	34	899	836	1.22	.01	.01	.07	110	10
FEB 20...	.6	32	441	446	.60	.17	.18	.09	50	10
MAR 16...	.7	36	643	620	.87	--	.00	.06	60	0
APR 08...	.7	37	652	643	.89	--	.01	.08	80	20
MAY 11...	.7	38	702	666	.95	--	--	--	60	20
JUN 15...	1.0	42	1380	1250	1.88	--	--	--	120	40
JUL 08...	1.2	42	1420	1330	1.93	--	.00	.11	170	40
AUG 11...	.9	39	932	906	1.27	--	.10	.11	130	2500
SEP 21...	1.0	43	1120	1080	1.52	--	.07	.09	140	60

DATE	TIME	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	TOTAL NITRATE PLUS NITRITE (N) (MG/L)	DIS-SOLVED NITRATE PLUS NITRITE (N) (MG/L)	TOTAL KJEL-DAHL NITROGEN (N) (MG/L)	TOTAL NITROGEN (N) (MG/L)	TOTAL NITROGEN (NO ₃) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DIS-SOLVED ORTHO-PHOSPHORUS (P) (MG/L)
JAN 21...	1130	.01	.00	.02	.01	.14	.16	.71	.05	.07
FEB 20...	1300	.17	.01	.18	.18	.15	.33	1.5	.19	.09
MAR 16...	1415	--	--	.00	.00	.00	.00	.00	.08	.06
APR 08...	1500	--	--	.01	.01	.03	.04	.18	.09	.08
MAY 11...	1130	--	--	.01	--	.48	.49	2.2	.10	--
JUN 15...	1100	--	--	.00	--	.15	.15	.66	.12	--
JUL 08...	1100	--	--	.00	.00	.17	.17	.75	.08	.11
AUG 11...	1100	--	--	.22	.10	.61	.83	3.7	.39	.11
SEP 21...	1600	--	--	.11	.07	1.2	1.3	5.8	.17	.09

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	TOTAL BARIUM (BA) (UG/L)	TOTAL BORON (B) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	TOTAL CADMIUM (CD) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)
JAN 21...	1130	2	--	0	130	110	<10	3	0	10	30
FEB 20...	1300	2	--	0	200	50	<10	0	0	30	1400
MAR 16...	1415	3	--	100	110	60	<10	1	20	10	170
APR 08...	1500	2	4	100	120	80	<10	1	10	10	150
MAY 11...	1130	3	--	100	220	60	<10	0	<10	4	80
JUN 15...	1100	--	--	300	130	120	<10	0	20	10	810
JUL 08...	1100	--	--	100	180	170	<10	2	0	20	410
AUG 11...	1100	6	--	0	140	130	<10	--	10	30	6700
SEP 21...	1600	4	--	200	150	140	<10	--	0	20	2900

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

GILA RIVER BASIN

09444600. SAN FRANCISCO RIVER NEAR CLIFTON, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)
JAN 21...	10	<100	110	100	.0	0	<10	20	--	--	--
FEB 20...	10	<100	130	20	.0	0	<10	40	7.1	.00	10
MAR 16...	0	<100	50	60	.0	1	<10	10	1.8	.00	8
APR 08...	20	<100	60	30	.0	0	<10	20	1.5	.00	4
MAY 11...	20	<100	50	40	--	0	<10	10	2.4	.00	6
JUN 15...	40	<100	180	100	.0	0	<10	20	2.0	.00	1
JUL 08...	40	<100	160	60	.1	0	<10	0	2.7	.00	8
AUG 11...	2500	<100	370	50	.0	0	10	30	17	.00	2
SEP 21...	60	<100	190	70	.0	0	<10	20	2.8	.00	1

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

DATE	TIME	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	DDD IN BOTTOM MA- TERIAL (UG/KG)	DDE IN BOTTOM MA- TERIAL (UG/KG)	DDT IN BOTTOM MA- TERIAL (UG/KG)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	ETHION IN BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)
JUN 15...	1100	.0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0

DATE	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG)	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG)	2,4-D IN BOTTOM MA- TERIAL (UG/KG)	2,4,5-T IN BOTTOM MA- TERIAL (UG/KG)	SILVEX IN BOTTOM MA- TERIAL (UG/KG)	PCB IN BOTTOM MA- TERIAL (UG/KG)
JUN 15...	.0	.0	.0	.0	.0	0	.0	0	0	0	0

09444600. SAN FRANCISCO RIVER NEAR CLIFTON, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll ^a	Chlorophyll ^b	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight	(mg/m ²)	(mg/m ²)		
June 15	35	11.5	8.92	15.4	.696	170	Polyethylene strip

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

JUNE 15, 1976
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

740 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...SCENEDESMACEAE				
....SCENEDESMUS				
	TOTALS	<u>67</u> 67	<u>9</u> 9	0.000=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		50	7	
D ...COCCONEIS		120	16	
...CYMBELLACEAE				
...CYMBELLA		17	2	
...GOMPHONEMATACEAE				
...GOMPHONEMA		83	11	
...NAVICULACEAE	NAVICULOID			
...AMPHIPRORA		17	2	
D ...NAVICULA		170	24	
L ...NITZSCHACEAE				
L ...DENTICULA			0	
D ...NITZSCHIA			29	
	TOTALS	<u>220</u> 670	<u>91</u> 91	2.383=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.436
 CLASS 0.436
 ORDER 0.436
 FAMILY 2.297
 GENERA 2.605

09445000. WILLOW CREEK DIVERSION FROM BLACK RIVER, NEAR MORENCI, ARIZ.

LOCATION.--Lat 33°24'46", long 109°43'08", in SW¼ sec.23, T.1 N., R.25 E. (unsurveyed), Graham County, in San Carlos Indian Reservation, on left bank just downstream from end of diversion pipeline, 3.6 mi (5.8 km) northeast of Point of Pines, 5.0 mi (8.0 km) southeast of pumping plant on Black River, and 29 mi (47 km) northwest of Morenci.

PERIOD OF RECORD.--April 1945 to current year.

GAGE.--Water-stage recorder and steel-edged rectangular weir. Datum of gage is 5,957.16 ft (1,815.742 m) above mean sea level. Prior to June 26, 1946, at end of pipeline at that time, 3.5 mi (5.6 km) upstream at datum about 50 ft (15 m) higher.

AVERAGE DISCHARGE.--31 years, 10.1 ft³/s (0.286 m³/s), 7,320 acre-ft/yr (9.03 hm³/yr).

EXTRIMES.--Period of record: Maximum daily discharge, 28 ft³/s (0.79 m³/s) May 18, 19, 21-26, 1970; no flow at times in each year.

REMARKS.--Records good. The entire flow consists of Black River (head of Salt River) water which is pumped into headwaters of Willow Creek (tributary of Eagle Creek) for industrial and municipal supply in vicinity of Morenci.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	17	15	16	16	12	17	21	25	25	24	24
2	22	17	17	16	17	12	17	21	25	24	24	24
3	22	17	17	16	17	11	17	21	25	25	25	24
4	22	17	17	17	17	11	17	21	24	25	25	24
5	22	17	17	17	17	11	17	21	24	25	25	24
6	22	17	17	17	17	11	20	21	24	25	25	24
7	22	17	17	17	17	12	21	21	24	25	23	24
8	22	17	17	17	17	12	21	21	24	25	21	24
9	22	17	17	17	17	12	21	21	24	25	24	24
10	22	17	17	17	12	12	22	21	24	24	24	24
11	21	17	17	17	7.6	12	24	21	24	24	24	24
12	21	17	17	17	5.8	12	24	22	24	25	24	24
13	22	17	17	17	5.8	12	24	22	24	25	24	24
14	22	17	17	17	5.6	12	25	22	24	25	24	24
15	22	17	17	17	5.6	12	25	23	24	21	24	24
16	22	17	16	17	5.8	12	24	25	24	23	24	24
17	22	17	14	17	5.8	14	24	25	25	24	24	24
18	22	17	17	17	5.8	17	24	25	25	25	24	24
19	22	17	17	17	5.8	17	24	25	24	24	24	24
20	22	15	17	17	5.8	17	24	23	24	24	24	24
21	22	11	17	17	5.8	17	24	21	25	25	24	24
22	22	11	14	17	8.1	17	22	23	25	24	23	24
23	22	13	12	17	10	17	21	25	25	24	23	24
24	22	16	12	17	11	17	20	25	25	25	24	24
25	22	17	12	17	11	16	20	25	25	25	24	24
26	22	17	12	17	11	16	20	25	25	25	24	24
27	19	17	14	17	11	16	20	25	25	25	23	24
28	15	17	17	17	12	16	21	25	25	23	23	24
29	16	14	16	17	12	17	21	25	25	16	24	25
30	16	12	16	16	---	17	21	25	25	8.2	24	24
31	16	---	16	16	---	17	---	25	---	23	24	---
TOTAL	652	483	492	522	315.3	436	642	712	735	731.2	740	721
MEAN	21.0	16.1	15.9	16.8	10.9	14.1	21.4	23.0	24.5	23.6	23.9	24.0
MAX	22	17	17	17	17	17	25	25	25	25	25	25
MIN	15	11	12	16	5.6	11	17	21	24	8.2	21	24
AC-FT	1290	958	976	1040	625	865	1270	1410	1460	1450	1470	1430
CAL YR 1975	TOTAL	5544.40	MEAN 15.2	MAX 26	MIN 0	AC-FT 11000						
WTR YR 1976	TOTAL	7181.50	MEAN 19.6	MAX 25	MIN 5.6	AC-FT 14240						

09447000. EAGLE CREEK ABOVE PUMPING PLANT, NEAR MORENCI, ARIZ.

LOCATION.--Lat 33°04'12", long 109°27'05", in SE¼NE¼ sec.22, T.4 S., R.28 E., Greenlee County, on right bank 3 mi (5 km) upstream from Phelps Dodge Corp. pumping plant, 5 mi (8 km) west of Morenci, and 13 mi (21 km) upstream from mouth.

DRAINAGE AREA.--613 mi² (1,588 km²).

PERIOD OF RECORD.--April 1944 to current year.

GAGE.--Water-stage recorder, Parshall flume and weir. Datum of gage is 3,695 ft (1,126 m), unadjusted. Since Nov. 15, 1952, supplementary water-stage recorder 90 ft (27 m) upstream at datum of Parshall flume. Aug. 23, 1950, to Nov. 15, 1952, supplementary water-stage recorder at site 75 ft (23 m) downstream at different datum.

AVERAGE DISCHARGE (unadjusted).--32 years, 43.7 ft³/s (1.238 m³/s), 31,660 acre-ft/yr (39.0 hm³/yr); median of yearly mean discharges, 34 ft³/s (0.96 m³/s), 24,600 acre-ft/yr (30 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 2,250 ft³/s (63.7 m³/s) July 29 (gage height, 6.25 ft or 1.905 m, at supplementary gage); minimum daily, 23 ft³/s (0.65 m³/s) July 5-9.

Period of record: Maximum discharge, 21,000 ft³/s (595 m³/s) Dec. 30, 1965 (gage height, 12.8 ft or 3.90 m, at supplementary gage); minimum, 3.2 ft³/s (0.091 m³/s) July 1, 1946.

REMARKS.--Records good. Diversions above station for irrigation of about 500 acres (2.02 km²), mostly above Willow Creek. Water from Black River was pumped into Eagle Creek basin, 52 mi (84 km) upstream from this station, for 12 months (see sta 09445000) and water was pumped from wells into Eagle Creek near Double Circle Ranch below Willow Creek for 12 months. The monthly quantities pumped are shown in table below. Diversion by pumping for industrial and municipal use in and near Morenci and Clifton are made from Eagle Creek, 3 mi (5 km) downstream from this station and from San Francisco River near Clifton. Monthly quantities diverted are shown in the table below; 96 percent of the pumpage was from Eagle Creek.

REVISIONS.--WSP 1850-C: 1966.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	31	30	33	35	33	37	36	32	25	40	40
2	30	32	31	28	35	34	37	36	32	27	39	38
3	30	31	35	28	35	34	36	36	32	24	35	37
4	30	31	36	28	37	34	36	38	32	24	33	36
5	30	31	35	32	40	34	36	38	32	23	33	38
6	30	30	36	34	42	34	37	38	32	23	31	41
7	30	31	36	35	41	33	37	37	31	23	31	38
8	30	31	36	34	38	33	37	38	30	23	32	36
9	32	32	36	35	40	32	38	38	30	23	28	39
10	33	32	36	36	85	32	38	36	30	52	39	41
11	34	32	35	36	86	33	38	36	30	34	38	38
12	34	32	35	35	60	33	40	36	30	44	30	37
13	32	32	35	35	46	33	41	35	30	46	39	36
14	32	34	35	35	41	33	42	34	30	45	34	36
15	32	34	35	35	36	32	44	34	30	34	32	46
16	32	34	34	35	34	32	49	34	30	28	31	37
17	32	34	34	36	33	32	49	34	30	33	30	38
18	32	34	34	36	32	32	46	34	29	30	30	40
19	32	34	34	36	32	34	45	36	29	30	30	40
20	33	34	35	36	31	35	44	181	30	67	30	40
21	35	34	38	36	31	35	43	53	30	148	30	41
22	36	30	40	36	30	35	42	42	28	184	29	41
23	35	30	40	38	30	36	41	38	28	107	30	41
24	35	29	36	39	31	36	39	37	28	49	43	54
25	35	30	33	37	32	36	38	36	28	62	62	66
26	36	32	32	36	32	36	38	36	28	54	40	59
27	36	33	32	36	32	36	37	35	26	59	41	56
28	34	35	32	36	32	36	37	34	25	50	47	46
29	32	41	33	36	32	41	37	33	24	161	109	44
30	29	40	33	36	---	40	37	33	24	87	45	42
31	30	---	33	36	---	37	---	34	---	79	40	---
TOTAL	1003	980	1075	1080	1141	1066	1196	1276	880	1698	1181	1262
MEAN	32.4	32.7	34.7	34.8	39.3	34.4	39.9	41.2	29.3	54.8	38.1	42.1
MAX	36	41	40	39	86	41	49	181	32	184	109	66
MIN	29	29	30	28	30	32	36	33	24	23	28	36
AC-FT	1990	1940	2130	2140	2260	2110	2370	2530	1750	3370	2340	2500
(†)	489	513	565	537	473	417	465	469	275	203	423	550
(‡)	1550	1620	1710	1700	1550	1690	1720	1710	1600	1320	1800	1870

CAL YR 1975	TOTAL	13656.9	MEAN 37.4	MAX 721	MIN	8.2	AC-FT 27090	† 5000	‡ 17000
WTR YR 1976	TOTAL	13838	MEAN 37.8	MAX 184	MIN	23	AC-FT 27450	† 5380	‡ 19840

PEAK DISCHARGE (BASE, 800 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-21	2100	5.35	1,300	7-29	1900	6.25	2,250
7-22	2200	5.20	1,150				

† Pumpage, in acre-feet, into Eagle Creek, from Eagle Creek Wells.

‡ Pumpage, in acre-feet, to Clifton and Morenci, from San Francisco River and Eagle Creek.

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, on left bank 0.6 mi (1.0 km) downstream from intake of Brown Canal, 8 mi (13 km) northeast of Solomon, and 17 mi (27 km) downstream from San Francisco River. Records include flow of Brown Canal, which is measured 2,000 ft (610 m) downstream from intake.

DRAINAGE AREA.--7,896 mi² (20,451 km²).

PERIOD OF RECORD.--April 1914 to current year. Monthly discharge only for some periods, published in WSP 1313. Prior to October 1932 and October 1940 to September 1949 published as "near Solomonsville" and October 1932 to October 1933 and May 1935 to September 1940 as "below Bonita Creek near Solomonsville."

GAGE.--Water-stage recorder. Datum of gage is 3,064.88 ft (934.175 m) above mean sea level. See WSP 1713 or 1733 for history of changes prior to Jan. 1, 1941. Supplementary water-stage recorder and Parshall flume on Brown Canal.

AVERAGE DISCHARGE.--62 years, 440 ft³/s (12.46 m³/s), 318,800 acre-ft/yr (393 hm³/yr); median of yearly mean discharges, 310 ft³/s (8.8 m³/s), 225,000 acre-ft/yr (280 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,400 ft³/s (96.3 m³/s) Feb. 11 (gage height, 6.65 ft or 2.027 m); minimum daily, 47 ft³/s (1.33 m³/s) July 10.

Period of record: Maximum discharge, about 100,000 ft³/s (2,830 m³/s) Jan. 19, 1916 (gage height, 15.89 ft or 4.843 m, present datum), from rating curve extended above 35,000 ft³/s (990 m³/s) on basis of slope-area measurement at gage height 15.6 ft (4.75 m) and velocity-area study of peak flow; minimum, 11 ft³/s (0.31 m³/s) June 25, 1956.

REMARKS.--Records good. Records show water reaching head of Safford Valley. Diversions above station for mining, municipal use, and for irrigation of about 17,500 acres (70.8 km²), much of it by pumping from ground water.

COOPERATION.--Record for Brown Canal furnished by Gila Water Commissioner.

REVISIONS (WATER YEARS).--WSP 1059: 1914, 1916-17, 1923(M), 1924-25, 1927, 1929-31(M). WSP 1179: 1915, 1918-19(M). WSP 1313: 1934. WSP 1733: 1923.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	246	162	186	203	146	329	253	209	88	60	384	134
2	226	159	192	199	144	324	246	203	86	59	255	162
3	210	156	192	188	144	319	237	199	81	59	231	135
4	189	159	192	183	141	323	211	198	81	54	199	129
5	180	159	192	178	139	328	207	248	85	55	180	129
6	172	156	192	176	146	315	206	239	88	50	160	134
7	172	156	189	169	151	301	212	237	82	52	150	265
8	169	156	183	166	164	283	209	234	94	50	130	149
9	164	156	183	164	175	282	206	228	105	50	120	135
10	159	154	183	162	1230	268	201	212	82	47	97	133
11	156	151	180	162	2480	261	191	203	77	142	169	127
12	156	149	183	162	2350	261	190	183	70	205	132	126
13	151	149	183	159	1590	261	189	160	68	235	127	119
14	149	146	183	157	1580	251	195	145	65	239	126	111
15	149	146	183	154	1550	242	198	142	60	189	93	439
16	149	149	183	154	1420	231	232	133	59	175	86	1140
17	149	149	183	154	1300	212	270	123	62	156	80	338
18	144	146	183	157	1260	218	270	131	60	132	78	231
19	141	146	180	157	1140	209	251	151	59	146	77	166
20	146	146	175	154	1000	219	237	234	58	134	75	130
21	164	144	178	152	866	208	220	250	58	160	87	100
22	197	144	189	149	762	206	208	192	56	307	87	80
23	210	144	213	152	660	199	221	165	56	446	93	80
24	197	146	256	156	558	198	221	141	56	269	100	80
25	200	151	252	163	444	203	211	125	56	479	126	99
26	194	159	216	160	420	209	211	118	58	414	144	140
27	192	159	210	156	387	209	208	111	59	291	177	134
28	186	162	206	152	374	209	213	106	58	248	152	133
29	175	172	203	150	341	219	217	102	54	371	158	107
30	167	180	197	149	---	244	211	94	59	440	180	89
31	167	---	197	149	---	251	---	90	---	456	138	---
TOTAL	5426	4611	6017	5046	23062	7792	6552	5306	2080	6170	4391	5474
MEAN	175	154	194	163	795	251	218	171	69.3	199	142	182
MAX	246	180	256	203	2480	329	270	250	105	479	384	1140
MIN	141	144	175	149	139	198	189	90	54	47	75	80
AC-FT	10760	9150	11930	10010	45740	15460	13000	10520	4130	12240	8710	10860

CAL YR 1975 TOTAL 172370 MEAN 472 MAX 14900 MIN 47 AC-FT 341900
WTR YR 1976 TOTAL 21927 MEAN 224 MAX 2480 MIN 47 AC-FT 162500

PEAK DISCHARGE (BASE, 4,000 CFS).--No peak above base.

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 mi (1.0 km) downstream from intake of Brown Canal, 8 mi (13 km) northeast of Solomon, and 17 mi (27 km) downstream from San Francisco River.

DRAINAGE AREA.--7,896 mi² (20,451 km²).

PERIOD OF RECORD.--Chemical analyses: January 1976 to September 1976.

Specific conductance: January 1965 to September 1975.

Water temperatures: January 1965 to September 1975.

Sediment records: February 1965 to September 1975.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHMS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	COD IN BOTTOM MATERIAL (MG/KG)	FECAL COLIFORM (COL. PER 100 ML)	HARDNESS (CA+MG) (MG/L)
JAN											
20...	1500	104	1000	7.7	16.0	1	--	--	--	--	220
FEB											
20...	1000	1000	510	8.8	11.0	90	--	--	--	47	130
MAR											
15...	1000	220	930	8.1	25.0	13	--	22	--	3	210
APR											
07...	1100	40	1500	8.4	20.0	1	--	7	--	5	200
MAY											
10...	1330	200	780	8.4	25.0	39	--	19	--	17	190
JUN											
14...	1630	60	1480	8.4	27.5	30	7.1	26	27000	21	270
JUL											
07...	1400	50	1	8.6	33.0	7	7.0	9	--	58	310
AUG											
10...	1500	92	1130	8.5	31.0	75	7.0	--	--	200	260
SEP											
22...	1400	80	1270	8.2	27.0	50	7.6	--	--	93	240

DATE	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED PHOSPHORUS (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
JAN										
20...	39	66	13	130	3.8	7.0	219	0	68	190
FEB										
20...	7	39	8.6	48	1.8	3.3	153	0	36	59
MAR										
15...	33	63	12	96	2.9	6.0	212	0	54	140
APR										
07...	23	61	12	110	3.4	6.8	204	7	55	150
MAY										
10...	33	58	12	120	3.7	7.0	196	0	53	160
JUN										
14...	100	82	16	190	5.0	12	202	2	62	320
JUL										
07...	160	96	17	220	5.4	13	173	6	77	420
AUG										
10...	82	79	15	150	4.1	9.9	216	0	65	240
SEP										
22...	67	73	14	160	4.5	10	211	0	67	260

DATE	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DISSOLVED SOLIDS PER AC-FT	DISSOLVED NITRATE (N) (MG/L)	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)	DISSOLVED ORTHOPHOSPHORUS (P) (MG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED IRON (FE) (UG/L)
JAN										
20...	1.4	34	619	619	.84	.19	.19	.06	110	10
FEB										
20...	1.2	31	305	303	.41	--	.18	.06	50	10
MAR										
15...	1.1	37	526	515	.72	--	.27	.06	90	0
APR										
07...	1.3	37	544	541	.74	--	.11	.07	90	0
MAY										
10...	1.4	38	540	546	.73	--	--	--	90	90
JUN										
14...	1.5	43	868	828	1.18	--	--	--	100	40
JUL										
07...	1.6	41	975	977	1.33	--	.01	.09	160	60
AUG										
10...	1.4	43	704	711	.96	--	.20	.13	130	240
SEP										
22...	1.4	40	726	731	.99	--	.17	.21	140	60

GILA RIVER BASIN

09448500. GILA RIVER AT HEAD OF SAFFORD VALLEY, NEAR SOLOMON, ARIZ.--CONTINUED

WATER QUALITY DATA WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ARSENIC		TOTAL BARIUM		TOTAL BORON	DIS-SOLVED BORON	TOTAL CADMIUM	DIS-SOLVED CADMIUM	TOTAL CADMIUM		TOTAL CHROMIUM
		TOTAL (A)	IN BOTTOM MA-TERIAL (UG/G)	TOTAL (BA)	IN BOTTOM MA-TERIAL (UG/G)					TOTAL (CU)	IN BOTTOM MA-TERIAL (UG/G)	
JAN 20...	1500	3	--	0	--	140	110	<10	0	--	--	0
FEB 20...	1000	7	--	100	--	60	50	<10	1	--	--	10
MAR 15...	1000	3	--	0	--	140	90	<10	1	--	--	10
APR 07...	1100	3	--	100	--	120	90	<10	0	--	--	0
MAY 10...	1330	4	--	100	--	220	90	<10	2	--	--	20
JUN 14...	1630	--	3	500	500	130	100	<10	6	<10	--	20
JUL 07...	1400	--	--	0	--	180	160	10	0	--	--	0
AUG 10...	1500	8	--	0	--	140	130	<10	--	--	--	20
SEP 22...	1400	6	--	200	--	190	140	10	--	--	--	0

DATE	TOTAL CHROMIUM IN BOTTOM MA-TERIAL (UG/G)	TOTAL COPPER		TOTAL LEAD	DIS-SOLVED LEAD	TOTAL LEAD	TOTAL LEAD IN BOTTOM MA-TERIAL (UG/G)	TOTAL MANGANESE	DIS-SOLVED MANGANESE	TOTAL MERCURY	TOTAL MERCURY IN BOTTOM MA-TERIAL (UG/G)
		TOTAL (CU)	IN BOTTOM MA-TERIAL (UG/G)								
JAN 20...	--	10	--	190	10	<100	--	30	0	.0	--
FEB 20...	--	40	--	9300	10	<100	--	390	0	.1	--
MAR 15...	--	20	--	1400	0	<100	--	60	10	.0	--
APR 07...	--	10	--	690	0	<100	--	40	10	.0	--
MAY 10...	--	44	--	2500	90	<100	--	90	20	--	--
JUN 14...	<10	16	50	2200	40	<100	<10	100	10	.1	.0
JUL 07...	--	20	--	680	60	<100	--	60	10	.1	--
AUG 10...	--	40	--	1200	240	<100	--	230	20	.0	--
SEP 22...	--	20	--	4600	60	<100	--	150	20	.0	--

DATE	TOTAL SELENIUM (SE) (UG/L)	TOTAL SILVER		TOTAL ZINC	TOTAL ZINC IN BOTTOM MA-TERIAL (UG/G)	TOTAL ORGANIC CARBON (C) (MG/L)	CYANIDE (CN) (MG/L)	TOTAL CYANIDE IN BOTTOM MA-TERIAL (UG/G)	PHENOLS (UG/L)
		TOTAL (AG)	IN BOTTOM MA-TERIAL (UG/G)						
JAN 20...	1	--	<10	--	20	--	--	--	--
FEB 20...	0	--	<10	--	40	--	9.9	.00	--
MAR 15...	0	--	10	--	10	--	1.8	.00	--
APR 07...	1	--	<10	--	20	--	4.4	.00	--
MAY 10...	0	--	<10	--	10	--	4.8	.00	--
JUN 14...	0	0	<10	<10	40	40	2.6	.00	0
JUL 07...	0	--	<10	--	0	--	2.3	.00	--
AUG 10...	0	--	20	--	30	--	7.8	.00	--
SEP 22...	0	--	<10	--	20	--	8.0	.00	--

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

GILA RIVER BASIN

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09448500. GILA RIVER AT HEAD OF SAFFORD VALLEY, NEAR SOLOMON, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	TOTAL NITRATE PLUS NITRITE (N) (MG/L)	DIS-SOLVED NITRATE PLUS NITRITE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL KJEL- NITRO- GEN IN BOTTOM MAT. (MG/KG)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)
JAN 20...	1500	.19	.00	.21	.19	.22	--	.43	1.9	.05	.06
FEB 20...	1000	--	--	.19	.18	1.2	--	1.4	6.2	.49	.06
MAR 15...	1000	--	--	.24	.27	.29	--	.53	2.3	.15	.06
APR 07...	1100	--	--	.12	.11	.24	--	.36	1.6	.12	.07
MAY 10...	1330	--	--	.05	--	.26	--	.31	1.4	.19	--
JUN 14...	1630	--	--	.00	--	.22	90	.22	.97	.16	--
JUL 07...	1400	--	--	.00	.01	.09	--	.09	.40	.08	.09
AUG 10...	1500	--	--	.27	.20	.40	--	.67	3.0	.34	.13
SEP 22...	1400	--	--	.34	.17	.36	--	.70	3.1	.20	.21

DATE	TIME	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	DDD IN BOTTOM MA- TERIAL (UG/KG)	DDE IN BOTTOM MA- TERIAL (UG/KG)	DDT IN BOTTOM MA- TERIAL (UG/KG)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	ETHION IN BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)
JUN 14...	1630	.0	0	.0	.0	.0	.0	.0	.0	.0	.0	.0

DATE	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG)	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG)	2,4-D IN BOTTOM MA- TERIAL (UG/KG)	2,4,5-T IN BOTTOM MA- TERIAL (UG/KG)	SILVEX IN BOTTOM MA- TERIAL (UG/KG)	PCB IN BOTTOM MA- TERIAL (UG/KG)
JUN 14...	.0	.0	.0	.0	.0	0	.0	0	0	0	0

GILA RIVER BASIN

09448500. GILA RIVER AT HEAD OF SAFFORD VALLEY, NEAR SOLOMON, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll a	Chlorophyll b	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight	(mg/m ²)	(mg/m ²)		
June 14	35	114	109	37.4	4.29	130	Polyethylene strip

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

JUNE 14, 1976
1630 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,300 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
....ACHNANTHACEAE				
....ACHNANTHES		220	10	
DCOCCONEIS		370	16	
....FRAGILARIACEAE				
....SYNEDRA		74	3	
....NAVICULACEAE	NAVICULOID			
DNAVICULA		740	32	
....NITZSCHIA				
DNITZSCHIA				
	TOTALS	<u>890</u> 2,300	<u>39</u> 100	1.967=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 FAMILY 1.721
 GENERA 1.967

09449000. DIVERSIONS FROM GILA RIVER IN SAFFORD VALLEY, ARIZ.

LOCATION.--Safford Valley lies along Gila River in Graham County, extending from vicinity of Bonita Creek on the east to San Carlos Indian Reservation on the west. Twelve canals and one pump, listed in the following table in downstream order, divert water from Gila River for irrigation in the valley. Intake of Brown Canal, at upper end of the valley, is 0.6 mi (1.0 km) upstream from station on Gila River near Solomon (09448500). Intake of Colvin-Jones Canal, at the lower end, is 25.8 mi (41.5 km) upstream from station at Calva (09466500). Record of canals obtained below wasteways used for regulation.

PERIOD OF RECORD.--January 1936 to current year (records of combined monthly diversions and annual diversions by each canal); records of monthly diversion 1914-15 and records of monthly and daily diversion 1920-31 for all canals except Colvin-Jones; records for Brown Canal also for water year 1931-32. Tidwell Canal was published as Michelana Canal in records for 1914-15 and 1920-31. Brown Canal and Tidwell Canal combined as Consolidated Brown Canal after Mar. 1, 1976. Records of daily discharge since 1936 published in reports of Gila Water Commissioner.

GAGES.--Water-stage recorders and Parshall flumes.

REMARKS.--Record shows total diversions unadjusted for return flow. Decreed area for irrigation in Safford Valley is 32,512 acres (132 km²). Water was issued for 32,306 acres (131 km²) during calendar year 1975. Water obtained by pumping from ground water for irrigation in the valley is not included.

COOPERATION.--Records furnished by Gila Water Commissioner.

ANNUAL DIVERSIONS, IN ACRE-FEET, TO EACH CANAL DURING CALENDAR YEAR 1975 AND WATER YEAR 1976

Canal	Calendar year 1975	Water year 1976
09449500. Consolidated Brown (formerly Brown)*	2,730	*3,250
09451500. Tidwell*.....	833	(*)
09452000. Fourness	343	250
09452500. San Jose	16,530	11,840
09453000. Montezuma	17,790	12,860
09453500. Union	27,680	22,170
09458000. Graham	11,730	6,780
09459500. Smithville	8,220	6,760
09461500. Dodge-Nevada	7,710	5,560
09462500. Curtis	7,420	6,010
09463500. Fort Thomas	8,280	6,680
09464000. Colvin-Jones	0	0
09464500. T. D. Burton	88	138
Total	109,400	82,300

* Brown Canal and Tidwell Canal combined as Consolidated Brown Canal after Mar. 1, 1976.

COMBINED MONTHLY DISCHARGE OF CANALS DIVERTING FROM GILA RIVER IN SAFFORD VALLEY, ARIZ.,
DURING WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

Month	Discharge, in cubic feet per second			Diversions in acre-feet
	Maximum	Minimum	Mean	
October	0	0	0	0
November	0	0	0	0
December	0	0	0	0
CAL YR 1975	389	0	151	109,400
January	197	121	156	9,570
February	298	124	213	12,260
March	325	200	257	15,800
April	235	159	188	11,190
May	190	68	135	8,280
June	66	39	50.7	3,010
July	272	33	130	8,000
August	269	62	120	7,350
September	244	70	115	6,840
WTR YR 1976	325	0	113	82,300

GILA RIVER BASIN

09457000. SAN SIMON RIVER NEAR SOLOMON, ARIZ.

LOCATION.--Lat 32°48'06", long 109°38'19", in NW¼NE¼ sec.25, T.7 S., R.26 E., Graham County, 1.0 mi (1.6 km) southwest of Solomon and 2.2 mi (3.5 km) upstream from mouth.

DRAINAGE AREA.--2,192 mi² (5,677 km²).

PERIOD OF RECORD.--June 1931 to September 1932, May 1935 to current year. Published as San Simon Creek near Solomonsville prior to October 1949 and as San Simon Creek near Solomon October 1949 to September 1961.

GAGE.--Water-stage recorder. Datum of gage is 2,960.15 ft (902.254 m) above mean sea level.

AVERAGE DISCHARGE.--42 years, 12.6 ft³/s (0.357 m³/s), 9,130 acre-ft/yr (11.3 hm³/yr); median of yearly mean discharges, 9.1 ft³/s (0.26 m³/s), 6,600 acre-ft/yr (8.1 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,070 ft³/s (86.9 m³/s) Sept. 24 (gage height, 13.40 ft or 4.08 m); no flow for most of year.

Period of record: Maximum discharge, 27,500 ft³/s (779 m³/s) Aug. 9, 1931 (gage height, 19.0 ft or 5.79 m), by slope-area measurement of peak flow; no flow for most of time.

REMARKS.--Records fair. Records do not include waste water passing station from San Jose Canal, which diverts from Gila River. Irrigation of about 13,800 acres (55.8 km²) above station, mostly by pumping from ground water. Floodflows are partly regulated by six flood-control detention structures on main stream and tributaries; combined maximum capacity in excess of 10,500 acre-ft (12.9 hm³).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0							0		0	0	0
2	0							0		0	0	0
3	0							0		0	0	0
4	0							26		0	0	0
5	0							22		0	0	14
6	0							0		0	0	263
7	0							0		0	0	0
8	0							0		0	0	0
9	0							0		0	0	0
10	0							0		0	0	0
11	0							0		78	0	0
12	0							0		40	0	0
13	0							0		0	0	0
14	0							0		0	0	0
15	0							0		0	0	54
16	0							0		6.7	0	0
17	0							0		0	0	0
18	0							0		0	0	0
19	0							0		18	0	0
20	0							0		10	0	0
21	48							0		75	0	0
22	91							0		46	4.8	0
23	.20							0		0	57	0
24	0							0		72	2.9	384
25	0							0		54	0	1.0
26	0							0		0	0	0
27	0							0		0	0	0
28	0							0		0	0	0
29	0							0		0	0	0
30	0				---			0		0	0	0
31	0	---			---		---	0	---	0	0	---
TOTAL	139.20	0	0	0	0	0	0	48	0	399.7	64.7	716.0
MEAN	4.49	0	0	0	0	0	0	1.55	0	12.9	2.09	23.9
MAX	91	0	0	0	0	0	0	26	0	78	57	384
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	276	0	0	0	0	0	0	95	0	793	128	1420
CAL YR 1975	TOTAL	2464.80	MEAN 6.75	MAX 568	MIN 0	AC-FT 4890						
WTR YR 1976	TOTAL	1367.60	MEAN 3.74	MAX 384	MIN 0	AC-FT 2710						

PEAK DISCHARGE (BASE, 2,500 CFS).--Sept. 24 (1930) 3,070 cfs (13.40 ft).

GILA RIVER BASIN

277

09458050. MARIJILDA WASH NEAR SAFFORD, ARIZ.

LOCATION.--Lat 32°41'43", long 109°47'28", in NE¼ sec.33, T.8 S., R.25 E. (unsurveyed), Graham County, on right bank, in Coronado National Forest, 10 mi (16 km) southwest of Safford.

DRAINAGE AREA.--10.9 mi² (28.2 km²).

PERIOD OF RECORD.--May 1971 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,500 ft (1,370 m), from topographic map.

EXTREMES.--Current year: Maximum discharge, 166 ft³/s (4.70 m³/s) Feb. 9 (gage height, 3.30 ft or 1.006 m); no flow Aug. 21-26.

Period of record: Maximum discharge, 668 ft³/s (18.9 m³/s) Dec. 28, 1972 (gage height, 4.70 ft or 1.433 m), from rating curve extended above 46 ft³/s (1.30 m³/s) by slope-area measurement of peak flow; no flow at times in most years.

REMARKS.--Records good. No regulation or diversion above station. Diversion to Lebanon ditch downstream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	.92	1.1	.60	.86	2.1	2.8	9.0	2.8	.26	.54	.04
2	2.4	.92	1.1	.60	.86	3.1	3.0	9.0	2.3	.23	.41	.07
3	2.1	.86	1.1	.64	.80	2.4	3.1	9.0	2.1	.14	.37	.09
4	1.7	.80	.98	.69	.86	2.8	3.6	10	1.9	.09	.23	.09
5	1.4	.80	.98	.69	1.6	2.4	4.0	8.7	1.7	.07	.20	.21
6	1.2	.80	.92	.69	9.1	2.4	4.0	7.9	1.7	.06	.11	.98
7	1.1	.80	.86	.69	5.5	2.3	4.0	7.6	1.6	.03	.09	.92
8	1.2	.80	.74	.69	4.4	2.1	4.0	7.1	1.3	.01	.07	.49
9	1.1	.74	.74	.69	24	2.1	4.0	6.4	1.2	.01	.11	.90
10	1.1	.74	.74	.69	92	1.9	4.2	6.4	1.1	.01	.09	1.9
11	1.1	.74	.74	.69	24	1.9	4.4	6.2	.98	.12	.09	1.1
12	.98	.74	.69	.69	14	1.7	4.8	6.4	.98	.85	.07	.86
13	.98	.92	.80	.69	11	1.7	4.8	6.7	.86	1.1	.07	.64
14	.98	.98	.90	.69	8.7	1.7	4.8	6.7	.80	.86	.04	.54
15	.98	.98	.90	.64	7.1	1.7	5.1	6.2	.74	.54	.02	.49
16	.92	.98	.70	.64	6.4	1.7	5.5	6.2	.74	.54	.02	.45
17	.92	.98	.70	.64	5.5	1.7	5.1	7.1	.74	.49	.01	.37
18	.92	.80	.70	.64	4.8	1.7	5.1	7.4	.64	1.2	.02	.29
19	.86	.74	.70	.64	4.0	1.9	5.9	7.6	.59	.80	.02	.23
20	.86	.80	.70	.64	3.8	2.1	6.7	7.4	.54	.59	.01	.23
21	1.7	.86	.70	.59	3.3	2.3	7.9	6.9	.54	.74	0	.23
22	1.6	.86	.70	.69	3.1	2.3	9.3	5.9	.49	.59	0	.26
23	1.1	.86	.70	1.2	2.8	2.3	10	5.5	.45	.49	0	.26
24	1.1	.86	.70	1.6	2.6	2.4	10	5.3	.37	.54	0	.37
25	.98	.86	.70	1.2	2.4	2.8	10	4.8	.27	.69	0	.54
26	.98	.92	.70	1.1	2.3	3.0	11	4.2	.26	.49	0	.59
27	.92	.86	.70	.98	2.3	3.3	11	4.0	.20	.37	.32	.49
28	.92	1.6	.70	.92	2.1	3.3	9.8	3.8	.20	.37	.17	.45
29	.86	3.1	.70	.92	2.1	3.5	9.6	3.6	.17	.80	.07	.41
30	.86	1.2	.70	.92	---	3.1	9.0	3.5	.20	1.1	.06	.37
31	.86	---	.70	.86	---	3.0	---	3.1	---	.92	.03	---
TOTAL	37.08	28.82	24.49	24.25	252.28	72.7	186.5	199.6	28.46	15.00	3.24	14.86
MEAN	1.20	.96	.79	.78	8.70	2.35	6.22	6.44	.95	.48	.10	.50
MAX	2.4	3.1	1.1	1.6	.92	3.5	11	10	2.8	1.2	.54	1.9
MIN	.86	.74	.69	.59	.80	1.7	2.8	3.1	.17	.01	0	.04
AC-FT	74	57	49	48	500	144	370	396	56	30	6.4	29

CAL YR 1975 TOTAL 1772.69 MEAN 4.86 MAX 130 MIN .03 AC-FT 3520
WTR YR 1976 TOTAL 887.28 MEAN 2.42 MAX 92 MIN 0 AC-FT 1760

PEAK DISCHARGE (BASE, 20 CFS).--Feb. 9 (2330) 166 cfs (3.30 ft); May 4 (time unknown) 24 cfs (2.20 ft).

GILA RIVER BASIN

09458200. DEADMAN CREEK NEAR SAFFORD, ARIZ.

LOCATION.--Lat 32°43'59", long 109°48'57", in SW¼ sec.17, T.8 S., R.25 E. (unsurveyed), Graham County, in Coronado National Forest, on left bank 9 mi (14 km) southwest of Safford.

DRAINAGE AREA.--4.78 mi² (12.38 km²).

PERIOD OF RECORD.--November 1966 to September 1976 (discontinued).

GAGE.--Water-stage recorder and sharp-crested V-notch weir. Altitude of gage is 4,950 ft (1,509 m), from topographic map.

AVERAGE DISCHARGE.--9 years (1967-76), 1.29 ft³/s (0.0365 m³/s), 935 acre-ft/yr (1.15 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 43 ft³/s (1.22 m³/s) Feb. 9 (gage height, 2.86 ft or 0.872 m); no flow Aug. 15-22, Aug. 25 to Sept. 5.

Period of record: Maximum discharge, 119 ft³/s (3.37 m³/s) Oct. 19, 1972 (gage height, 3.45 ft or 1.052 m), from rating curve extended above 18 ft³/s (0.51 m³/s) on basis of computation of flow over weir at gage height 3.25 ft (0.991 m); no flow at times in most years.

REMARKS.--Records good. No regulation or diversion above station. City of Safford diverts water about 1,000 ft (300 m) downstream, for municipal supply.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	.47	.41	.36	.31	1.0	.90	4.0	2.2	.15	.22	0
2	1.0	.47	.41	.36	.31	1.0	.90	4.0	2.2	.15	.18	0
3	.90	.47	.41	.36	.31	1.0	.90	4.0	2.0	.12	.15	0
4	.82	.41	.36	.27	.31	1.0	1.0	4.6	1.8	.12	.12	0
5	.74	.36	.36	.27	.74	1.0	1.2	4.6	1.7	.08	.06	0
6	.74	.36	.36	.22	2.5	1.0	1.3	4.4	1.5	.06	.04	.16
7	.67	.36	.36	.22	1.3	1.0	1.3	4.2	1.4	.06	.04	.18
8	.67	.36	.36	.22	1.0	1.0	1.3	4.0	1.3	.03	.03	.15
9	.67	.36	.36	.22	7.6	1.0	1.3	3.8	1.1	.03	.02	.22
10	.60	.36	.36	.22	22	1.0	1.4	3.8	1.0	.03	.02	.31
11	.53	.36	.36	.22	9.5	.90	1.5	4.0	1.0	.12	.02	.47
12	.47	.36	.36	.22	6.7	.90	1.8	4.2	.82	.10	.01	.36
13	.53	.36	.36	.22	4.6	.90	2.0	4.6	.74	.12	.01	.31
14	.53	.36	.36	.22	4.0	.90	2.1	4.4	.67	.27	.01	.27
15	.53	.36	.36	.27	3.6	.90	2.1	4.4	.67	.15	0	.27
16	.47	.36	.36	.27	3.0	.82	2.8	4.6	.60	.15	0	.22
17	.47	.36	.31	.27	2.7	.82	2.2	5.1	.53	.15	0	.18
18	.47	.36	.31	.27	2.4	.82	2.4	5.4	.47	.60	0	.15
19	.47	.36	.31	.27	2.2	.82	2.4	5.4	.41	.60	0	.12
20	.53	.36	.31	.22	2.0	.82	2.2	6.0	.41	.36	0	.12
21	.82	.41	.67	.22	1.8	.82	2.2	5.7	.41	.31	0	.12
22	.74	.41	.82	.27	1.5	.82	2.5	5.1	.36	.41	0	.12
23	.60	.41	.82	.53	1.4	.82	2.8	4.6	.31	.41	.03	.12
24	.53	.41	.67	.47	1.4	.82	3.0	4.2	.31	.41	.01	.22
25	.53	.41	.53	.47	1.3	.90	3.4	4.0	.27	.41	0	.27
26	.47	.41	.53	.36	1.2	1.0	3.8	3.6	.22	.31	0	.27
27	.47	.47	.47	.36	1.1	1.0	4.0	3.4	.18	.22	0	.27
28	.47	.50	.47	.31	1.0	1.0	4.0	3.2	.18	.22	0	.22
29	.47	1.3	.41	.31	1.0	1.0	4.0	3.0	.15	.27	0	.18
30	.47	.47	.41	.31	---	1.0	4.0	2.8	.15	.31	0	.12
31	.47	---	.36	.31	---	.90	---	2.5	---	.36	0	---
TOTAL	18.85	13.18	13.31	9.09	88.78	28.68	66.70	131.6	25.06	7.09	.97	5.40
MEAN	.61	.44	.43	.29	3.06	.93	2.22	4.25	.84	.23	.031	.18
MAX	1.0	1.3	.82	.53	.22	1.0	4.0	6.0	2.2	.60	.22	.47
MIN	.47	.36	.31	.22	.31	.82	.90	2.5	.15	.03	0	0
AC-FT	37	26	26	18	176	57	132	261	50	14	1.9	11

CAL YR 1975 TOTAL 670.23 MEAN 1.70 MAX 35 MIN .01 AC-FT 1230
WTR YR 1976 TOTAL 408.71 MEAN 1.12 MAX 22 MIN 0 AC-FT 811

PEAK DISCHARGE (BASE, 10 CFS).--Feb. 9 (2200) 43 cfs (2.86 ft); May 20 (1900) 11 cfs (2.37 ft).

09460150. FRYE CREEK NEAR THATCHER, ARIZ.

LOCATION.--Lat 32°44'32", long 109°50'24", in NE¼ sec.13, T.8 S., R.24 E. (unsurveyed), Graham County, in Coronado National Forest, on right bank and 9 mi (14 km) southwest of Thatcher.

DRAINAGE AREA.--3.91 mi² (10.13 km²).

PERIOD OF RECORD.--December 1966 to September 1976 (discontinued).

GAGE.--Water-stage recorder and sharp-crested V-notch weir. Altitude of gage is 5,800 ft (1,770 m), from topographic map.

AVERAGE DISCHARGE.--9 years (1967-76), 1.28 ft³/s (0.0362 m³/s), 927 acre-ft/yr (1.14 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 24 ft³/s (0.680 m³/s) Feb. 9 (gage height, 1.66 ft or 0.506 m), from rating curve extended above 45 ft³/s (1.28 m³/s); no flow Aug. 28-30.

Period of record: Maximum discharge, 96 ft³/s (2.72 m³/s) Sept. 6, 1975 (gage height, 2.14 ft or 0.652 m), from rating curve extended above 45 ft³/s (1.27 m³/s); no flow at times in most years.

REMARKS.--Records good. No regulation or diversion above station. City of Safford diverts from Frye Mesa Reservoir, 1 mi (2 km) downstream, for municipal supply.

REVISIONS.--WRD Ariz. 1968: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.92	.51	.40	.51	.41	.92	.76	2.6	3.4	.32	.36	.02
2	.83	.41	.40	.51	.41	1.1	.76	2.8	3.2	.28	.32	.03
3	.83	.36	.40	.51	.41	1.1	.76	3.0	3.0	.24	.32	.04
4	.76	.36	.41	.46	.41	.98	.76	3.4	3.0	.24	.28	.04
5	.76	.36	.41	.46	.41	.98	.83	3.9	2.8	.20	.28	.07
6	.69	.36	.40	.41	.69	.92	.83	3.9	2.6	.20	.28	.09
7	.69	.32	.40	.36	.69	.92	.83	3.4	2.6	.20	.28	.12
8	.69	.32	.40	.36	.69	.83	.83	3.2	2.3	.17	.24	.09
9	.69	.32	.40	.36	3.2	.83	.76	3.0	1.9	.17	.20	.09
10	.69	.32	.40	.36	18	.76	.76	3.0	1.7	.14	.17	.24
11	.69	.30	.40	.36	9.1	.76	.83	3.2	1.6	.14	.14	.46
12	.69	.30	.40	.36	5.5	.76	.92	3.9	1.4	.14	.12	.36
13	.69	.30	.40	.36	4.2	.83	.98	4.4	1.2	.12	.09	.36
14	.69	.30	.40	.36	3.2	.83	1.1	4.2	1.2	.09	.07	.36
15	.69	.30	.40	.32	2.8	.83	1.2	4.8	1.1	.09	.05	.36
16	.63	.30	.40	.32	2.3	.83	1.4	5.1	1.1	.09	.05	.36
17	.63	.30	.40	.32	1.9	.76	1.4	5.7	.92	.09	.05	.32
18	.56	.30	.40	.32	1.7	.76	1.4	7.2	.92	.14	.05	.28
19	.56	.30	.40	.32	1.6	.76	1.4	8.1	.76	.20	.04	.24
20	.55	.30	.40	.32	1.4	.76	1.4	8.6	.69	.20	.03	.24
21	.55	.30	.50	.32	1.4	.76	1.7	8.6	.69	.20	.03	.24
22	.55	.30	.60	.32	1.2	.76	1.8	8.1	.69	.24	.03	.20
23	.55	.40	.60	.32	1.2	.76	1.9	6.4	.63	.28	.03	.20
24	.55	.40	.55	.32	1.2	.76	1.9	6.1	.56	.28	.03	.20
25	.55	.40	.50	.36	.98	.69	2.0	5.4	.51	.28	.02	.20
26	.50	.40	.50	.36	.98	.69	2.3	4.8	.46	.28	.01	.20
27	.50	.40	.50	.41	.92	.69	2.3	4.8	.46	.28	.01	.20
28	.50	.40	.50	.41	.92	.69	2.3	4.8	.41	.32	0	.20
29	.50	.40	.50	.41	.92	.76	2.3	4.4	.36	.32	0	.20
30	.50	.40	.51	.41	---	.83	2.3	4.2	.36	.36	0	.24
31	.50	---	.51	.41	---	.76	---	3.4	---	.36	.01	---
TOTAL	19.68	10.44	13.79	11.71	68.74	25.37	40.71	148.4	42.52	6.66	3.59	6.25
MEAN	.63	.35	.44	.38	2.37	.82	1.36	4.79	1.42	.21	.12	.21
MAX	.92	.51	.60	.51	18	1.1	2.3	8.6	3.4	.36	.36	.46
MIN	.50	.30	.40	.32	.41	.69	.76	2.6	.36	.09	0	.02
AC-FT	39	21	27	23	136	50	81	294	84	13	7.1	12

CAL YR 1975 TOTAL 676.60 MEAN 1.85 MAX 33 MIN .09 AC-FT 1340

WTR YR 1976 TOTAL 397.86 MEAN 1.09 MAX 18 MIN 0 AC-FT 789

PEAK DISCHARGE (BASE, 8.0 CFS)--Feb. 9 (2300) 24 cfs (1.66 ft); May 21 (0300) 10 cfs (1.45 ft).

NOTE.--No gage-height record Nov. 10 to Dec. 30.

09466500. GILA RIVER AT CALVA, ARIZ.

LOCATION.--Lat 33°11'08", long 110°13'10", in SW¼ sec.8, T.3 S., R.21 E. (unsurveyed), Graham County, in San Carlos Indian Reservation, on right upstream abutment of Southern Pacific Railroad bridge at head of San Carlos Reservoir, 2.0 mi (3.2 km) west of Calva.

DRAINAGE AREA.--11,470 mi² (29,710 km²).

PERIOD OF RECORD.--October 1929 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,517.29 ft (767.270 m) above mean sea level. Prior to Oct. 1, 1954, and Aug. 25, 1958, to Dec. 31, 1962, at datum 2.52 ft (0.768 m) lower. Oct. 1, 1954, to Aug. 24, 1958, at datum 5.52 ft (1.682 m) lower. Dec. 31, 1962, to Oct. 20, 1972, at site 530 ft (162 m) downstream at datum 3.65 ft (1.113 m) lower. Oct. 20, 1972, to Sept. 30, 1974, supplementary gage at bridge on U.S. Highway 70, 6.2 mi (10.0 km) upstream at datum 2,560.19 ft (780.346 m) above mean sea level.

AVERAGE DISCHARGE.--47 years, 266 ft³/s (7,533 m³/s), 192,700 acre-ft/yr (238 hm³/yr); median of yearly mean discharges, 180 ft³/s (5.10 m³/s), 130,000 acre-ft/yr (160 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 2,600 ft³/s (73.6 m³/s) Feb. 12 (gage height, 6.05 ft or 1.844 m); minimum daily, 0.50 ft³/s (0.014 m³/s) July 11.

Period of record: Maximum discharge, 80,000 ft³/s (2,270 m³/s) Oct. 20, 1972 (gage height, 15.88 ft or 4.840 m at supplementary gage), from rating curve extended above 44,000 ft³/s (1,250 m³/s); no flow at times.

Maximum discharge since at least 1914, probably in excess of 100,000 ft³/s (2,830 m³/s) Jan. 20, 1916, determined on basis of peak discharge at stations near Solomon and at Kelvin.

REMARKS.--Records good except those above 1,000 ft³/s (24 m³/s), which are poor. Diversion above station for metallurgical treatment of ores, municipal uses, and irrigation of about 69,000 acres (279 km²).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	270	149	168	202	39	136	44	32	16	3.0	109	12
2	252	146	172	153	39	131	43	31	16	3.6	105	19
3	235	149	174	118	40	123	43	30	14	3.2	62	14
4	221	149	178	97	42	115	45	30	14	2.5	37	19
5	209	149	180	90	45	110	46	30	13	2.5	32	14
6	192	149	183	80	47	100	46	34	13	2.8	29	16
7	183	146	180	74	46	90	45	38	12	2.1	29	59
8	174	144	188	69	46	80	45	37	12	1.4	32	51
9	168	142	185	65	50	75	44	42	12	.70	30	38
10	157	138	190	60	58	70	46	34	12	.60	26	20
11	153	134	190	60	463	69	45	31	11	.50	22	17
12	146	131	192	56	1940	70	45	28	11	1.1	16	13
13	134	132	197	52	1950	70	43	27	10	48	21	11
14	125	131	190	48	1440	74	44	25	9.3	23	20	9.6
15	120	132	180	47	1190	70	45	25	8.9	37	14	9.3
16	114	134	180	46	1130	70	45	24	8.5	19	13	94
17	111	138	180	46	942	70	45	23	7.8	11	11	192
18	107	138	172	46	758	69	45	22	7.0	9.3	10	80
19	104	136	172	47	620	64	47	22	6.7	9.3	12	46
20	102	136	170	47	564	62	51	22	6.0	8.9	155	25
21	102	138	170	46	458	60	52	20	5.8	6.0	33	16
22	181	136	170	43	399	60	47	20	5.5	7.8	18	16
23	192	134	176	42	388	62	42	22	5.2	122	193	15
24	176	136	192	46	284	63	40	20	5.2	214	59	29
25	170	138	207	46	255	60	38	19	5.0	96	33	326
26	174	140	226	43	243	58	38	19	5.0	153	24	50
27	170	149	216	41	221	55	38	20	4.7	142	19	36
28	170	157	216	41	185	51	36	19	4.7	78	47	32
29	161	165	216	40	155	49	35	19	3.9	83	32	27
30	153	161	221	40	---	49	33	17	3.4	328	16	22
31	149	---	214	40	---	47	---	16	---	109	13	---
TOTAL	5075	4257	5845	1971	14037	2332	1301	798	268.6	1528.30	1272	1327.9
MEAN	164	142	189	63.6	484	75.2	43.4	25.7	8.95	49.3	41.0	44.3
MAX	270	165	226	202	1950	136	52	42	16	328	193	326
MIN	102	131	168	40	39	47	33	16	3.4	.50	10	9.3
AC-FT	10070	8440	11590	3910	27840	4630	2580	1580	533	3030	2520	2630

CAL YR 1975 TOTAL 105822.10 MEAN 290 MAX 10200 MIN 0 AC-FT 209900
WTR YR 1976 TOTAL 40012.80 MEAN 109 MAX 1950 MIN .50 AC-FT 79370

PEAK DISCHARGE (BASE, 3,000 CFS).--No peak above base.

GILA RIVER BASIN

281

09466500. GILA RIVER AT CALVA, ARIZ.
(National stream-quality accounting network station)

LOCATION.--Lat 33°11'06", long 110°13'12", in SW¼ sec.8, T.3 S., R.21 E. (unsurveyed), Graham County, in San Carlos Indian Reservation, at gaging station, 530 ft (162 m) downstream from Southern Pacific Railroad bridge, and 2.2 mi (3.5 km) northwest of Calva.

DRAINAGE AREA.--11,470 mi² (29,710 km²).

PERIOD OF RECORD.--Chemical analyses: October 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	CHEM- ICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	FECAL COLI- FORM (COL. PER 100 ML)	STREP- TOCOCCI (COL- ONIES PER 100 ML)
OCT 15...	1000	112	4090	8.0	15.0	7	--	--	60	200
NOV 11...	1030	122	3180	7.7	13.0	3	--	--	50	200
DEC 09...	1000	196	2480	--	9.0	35	--	--	48	200
JAN 13...	1000	58	6500	--	6.0	1	--	--	36	24
FEB 23...	1000	450	1700	8.0	9.0	130	--	--	882	450
MAR 15...	1430	70	6600	7.9	21.0	9	--	45	3	9
APR 08...	1100	40	7500	8.4	20.0	--	--	--	17	39
MAY 10...	0950	40	5500	7.9	24.0	32	--	64	67	200
JUN 14...	1030	10	7400	--	24.0	10	8.9	61	874	36
JUL 07...	1200	2.0	7500	8.1	29.0	3	8.4	32	850	80
AUG 10...	1115	27	4800	8.2	28.0	20	11.0	--	440	220
SEP 22...	1000	15	6000	8.2	26.0	85	8.8	--	300	143

DATE	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	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 15...	670	380	190	47	590	9.9	12	349	0	380
NOV 11...	550	280	160	36	470	8.7	10	328	0	290
DEC 09...	430	190	120	31	320	6.7	8.7	292	--	190
JAN 13...	1000	710	270	81	980	13	17	359	--	620
FEB 23...	320	120	90	22	220	5.4	6.0	238	0	150
MAR 15...	1100	800	280	87	1100	15	18	311	0	710
APR 08...	--	--	--	--	--	--	--	--	--	--
MAY 10...	920	700	240	79	930	13	15	271	0	620
JUN 14...	1100	860	280	92	1200	16	18	267	--	780
JUL 07...	1100	910	300	91	1200	16	20	265	0	740
AUG 10...	770	550	210	60	800	13	17	271	0	480
SEP 22...	930	680	250	73	950	14	18	294	0	620

B Results based on non-ideal colony count.

GILA RIVER BASIN

09466500. GILA RIVER AT CALVA, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED CHLOR- IDE (CL) (MG/L)	DIS- SOLVED FLUOR- IDE (F) (MG/L)	DIS- SOLVED SILICA (SiO ₂) (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)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT										
15...	940	1.6	37	2450	2370	3.33	.66	.06	480	--
NOV										
11...	730	1.6	35	1890	1900	2.57	.46	.07	460	0
DEC										
09...	510	1.8	35	1450	1370	1.97	.76	.08	340	--
JAN										
13...	1600	1.7	39	3980	3790	5.41	1.1	.01	970	0
FEB										
23...	330	1.4	32	983	973	1.34	.76	.09	230	0
MAR										
15...	1800	1.4	31	4410	4190	6.00	1.2	.01	990	30
APR										
08...	--	--	--	--	--	--	--	--	--	--
MAY										
10...	1500	1.5	36	3560	3560	4.84	--	--	60	30
JUN										
14...	1900	1.7	32	4480	4440	6.09	--	--	660	50
JUL										
07...	1900	1.7	32	4390	4420	5.97	.03	.07	980	40
AUG										
10...	1300	1.8	37	3070	3040	4.18	.73	.09	800	10
SEP										
22...	1500	1.6	36	3660	3600	4.98	.94	.02	960	40

DATE	TIME	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO ₃) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)
OCT								
15...	1000	.70	.66	.68	1.4	6.1	.06	.06
NOV								
11...	1030	.46	.46	.38	.84	3.7	.10	.07
DEC								
09...	1000	.29	.76	.69	.98	4.3	.20	.08
JAN								
13...	1000	1.2	1.1	.39	1.6	7.0	.05	.01
FEB								
23...	1000	.78	.76	1.3	2.1	9.2	.66	.09
MAR								
15...	1430	.88	1.2	.64	1.5	6.7	.13	.01
MAY								
10...	0950	.45	--	.43	.88	3.9	.06	--
JUN								
14...	1030	.00	--	.41	.41	1.8	.07	--
JUL								
07...	1200	.06	.03	.30	.36	1.6	.07	.07
AUG								
10...	1115	.93	.73	.64	1.6	7.0	.14	.09
SEP								
22...	1000	1.1	.94	.39	1.5	6.6	.20	.02

GILA RIVER BASIN

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09466500. GILA RIVER AT CALVA, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL BARIUM (BA) (UG/L)	TOTAL BORON (B) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)
NOV										
11...	1030	6	4	--	--	460	<10	0	<10	2
JAN										
13...	1000	6	--	0	960	970	<10	0	0	--
FEB										
23...	1000	9	4	100	240	230	10	1	20	0
MAR										
15...	1430	2	--	100	1100	990	<10	1	10	--
MAY										
10...	0950	4	4	300	570	60	<10	0	<10	0
JUN										
14...	1030	--	--	0	670	660	<10	0	10	--
JUL										
07...	1200	--	--	200	1000	980	10	0	10	--
AUG										
10...	1115	10	5	100	930	800	10	11	10	0
SEP										
22...	1000	5	--	500	1000	960	<10	--	10	--

DATE	TOTAL COBALT (CO) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
NOV										
11...	100	1	20	5	2200	0	<100	2	130	20
JAN										
13...	--	--	30	--	190	0	<100	--	680	80
FEB										
23...	<50	0	70	5	14000	0	<100	4	520	10
MAR										
15...	--	--	40	--	120	30	100	--	220	210
MAY										
10...	<50	0	7	2	1000	30	<100	4	180	160
JUN										
14...	--	--	5	--	410	50	<100	--	600	390
JUL										
07...	--	--	20	--	450	40	<100	--	760	380
AUG										
10...	<50	0	20	4	880	10	<100	45	100	70
SEP										
22...	--	--	20	--	6700	40	<100	--	280	60

DATE	TOTAL MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)
NOV										
11...	--	.0	0	1	--	10	10	4.0	--	--
JAN										
13...	.0	--	1	--	20	10	--	--	--	--
FEB										
23...	.1	.0	1	1	<10	70	10	9.7	.00	2
MAR										
15...	.2	--	1	--	10	90	--	12	.01	6
MAY										
10...	--	.3	0	0	<10	20	30	10	.00	3
JUN										
14...	.0	--	0	--	<10	30	--	9.6	.00	2
JUL										
07...	.2	--	1	--	10	10	--	6.7	.00	6
AUG										
10...	.0	.0	1	1	10	10	0	5.7	.00	6
SEP										
22...	.0	--	1	--	10	40	--	7.5	.00	7

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

GILA RIVER BASIN

09466500. GILA RIVER AT CALVA, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	DDD IN BOTTOM MA- TERIAL (UG/KG)	DDE IN BOTTOM MA- TERIAL (UG/KG)	DDT IN BOTTOM MA- TERIAL (UG/KG)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG)	DI- ELURIN IN BOTTOM MA- TERIAL (UG/KG)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	ETHION IN BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)
JUN 14...	1030	.0	0	.0	1.0	.0	.0	.0	.0	.0	.0	.0

DATE	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG)	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG)	2,4-D IN BOTTOM MA- TERIAL (UG/KG)	2,4,5-T IN BOTTOM MA- TERIAL (UG/KG)	SILVEX IN BOTTOM MA- TERIAL (UG/KG)	PCB IN BOTTOM MA- TERIAL (UG/KG)
JUN 14...	.0	.0	.0	.0	.0	0	.0	0	0	0	0

DATE	SUS- PENDE SEDI- MENT (MG/L)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
OCT 15...	273	25
NOV 11...	261	52
DEC 09...	302	61
JAN 13...	188	30
JUN 14...	39	75
JUL 21...	73	93
AUG 10...	37	76
SEP 22...	45	96

09466500. GILA RIVER AT CALVA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll a (mg/m ²)	Chlorophyll b (mg/m ²)	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight				
Nov. 11	27	100	95.0	42.0	2.10	120	Polyethylene strip
June 14	35	42.1	39.0	5.09	.497	610	Polyethylene strip
Aug. 10	34	7.81	7.31	.752	.000	660	Polyethylene strip

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

DEC. 17, 1974
1000 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,700 CELLS/ML

_ORGANISM__NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS				
	TOTALS	<u>44</u> 44	<u>3</u> 3	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...PENNALES	PENNATE			
...FRAGILARIACEAE				
....SYNEDRA		89	5	
...NAVICULACEAE	NAVICULOID			
DAMPHIPRORA		350	21	
....NAVICULA		220	13	
...NITZSCHIAEAE				
DHANTZSCHIA		440	26	
DNITZSCHIA		<u>530</u> 1,600	<u>32</u> 97	2.132=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.176
CLASS 0.176
ORDER 0.176
FAMILY 1.348
GENERA 2.252

GILA RIVER BASIN

09466500. GILA RIVER AT CALVA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JAN. 20, 1975
1015 HOURS

IDENTIFICATION OF PHYTOPLANKTON

3,300 CELLS/ML

__ORGANISM__NAME__	__COMMON__NAME__	CELLS/ML	PER_CENT	
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...GOMPHONEMATACEAE				
....GOMPHONEMA		180	5	
...NAVICULACEAE	NAVICULOID			
....AMPHIPRORA		2,500	76	
....NAVICULA		180	5	
...NITZSCHACEAE				
....HANTZSCHIA		88	3	
....NITZSCHIA		260	8	
	TOTALS	3,200	97	1.165=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
....EUGLENA		88	3	
	TOTALS	88	3	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.176
CLASS 0.176
ORDER 0.176
FAMILY 0.943
GENERA 1.310

MAR. 17, 1975
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

3,300 CELLS/ML

__ORGANISM__NAME__	__COMMON__NAME__	CELLS/ML	PER_CENT	
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		110	3	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...COCcone IS		220	7	
...CYMBELLACEAE				
....AMPHORA		110	3	
....CYMBELLA		110	3	
....EPITHEMIA		110	3	
....RHOPALODIA		110	3	
...DIATOMACEAE		110	3	
....DIATOMA		110	3	
...FRAGILARIACEAE				
....FRAGILARIA		770	23	
....SYNEDRA		110	3	
...GOMPHONEMATACEAE				
....GOMPHONEMA		550	17	
...NAVICULACEAE	NAVICULOID			
....AMPHIPRORA		110	3	
....CALONEIS		110	3	
....NAVICULA		440	13	
...NITZSCHACEAE				
....DENTICULA		110	3	
....HANTZSCHIA		110	3	
....NITZSCHIA		110	3	
	TOTALS	3,300	96	3.532=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
ORDER 0.211
FAMILY 2.711
GENERA 3.532

09466500. GILA RIVER AT CALVA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAY 12, 1975
1500 HOURS

IDENTIFICATION OF PHYTOPLANKTON

7,300 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
DOOCYSTIS		1,500	20	
...SCENEDESMACEAE				
...ACTINASTRUM		640	9	
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
...CHLAMYDOMONAS				
TOTALS		890 3,000	12 41	1.504=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCEAE				
...CYCLOTELLA		970	13	
..PENNALES	PENNATE			
...CYMBELLACEAE				
...CYMBELLA		81	1	
...NAVICULACEAE	NAVICULOID			
...AMPHIPRORA		81	1	
...NAVICULA		400	5	
...NITZSCHIA				
DNITZSCHIA		2,700	37	
...SURIARELLACEAE				
...SURIARELLA				
TOTALS		81 4,400	1 58	1.540=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:PHYL/DIV 0.975
CLASS 0.975
ORDER 1.785
FAMILY 2.457
GENERA 2.500JUNE 16, 1975
1330 HOURS

IDENTIFICATION OF PHYTOPLANKTON

20,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
...CLOSTERIOPSIS		550	3	
...SCENEDESMACEAE				
...SCENEDESMUS				
TOTALS		180 730	1 4	0.811=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCEAE				
DCYCLOTELLA		16,000	82	
..PENNALES	PENNATE			
...NAVICULACEAE	NAVICULOID			
LCALONEIS			0	
LFRUSTULIA			0	
...NAVICULA		730	4	
LPINNULARIA			0	
...TROPIDONEIS		270	1	
...NITZSCHIA				
TOTALS		1,500 19,000	7 94	0.857=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:PHYL/DIV 0.229
CLASS 0.229
ORDER 0.802
FAMILY 0.970
GENERA 1.084

GILA RIVER BASIN

09466500. GILA RIVER AT CALVA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JULY 15, 1975

1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

45,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...SCENEDESMACEAE				
DSCENEDESMUS				
	TOTALS	<u>7,600</u> 7,600	<u>17</u> 17	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
DCYCLOTELLA		9,400	21	
..PENNALES	PENNATE			
...CYMBELLACEAE				
...AMPHORA		1,900	4	
...DIATOMACEAE				
LDIATOMA			0	
...NAVICULACEAE	NAVICULOID			
DNAVICULA		10,000	23	
LPINNULARIA			0	
...NITZSCHACEAE				
DNITZSCHIA		15,000	33	
...SURIPELLACEAE				
....SURIPELLA		<u>940</u>	<u>2</u>	
	TOTALS	38,000	83	1.890=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.650
 CLASS 0.650
 ORDER 1.326
 FAMILY 2.225
 GENERA 2.225

AUG. 19, 1975
0730 HOURS

IDENTIFICATION OF PHYTOPLANKTON

740 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...SCENEDESMACEAE				
LCRUCIGENIA			0	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
DCYCLOTELLA		710	95	
..PENNALES	PENNATE			
...CYMBELLACEAE				
...AMPHORA		9	1	
...NAVICULACEAE	NAVICULOID			
...NAVICULA		9	1	
...NITZSCHACEAE				
....NITZSCHIA		<u>18</u>	<u>2</u>	
	TOTALS	740	99	0.351=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...NOSTOCACEAE				
LAPHANIZOMENON			0	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 ORDER 0.279
 FAMILY 0.351
 GENERA 0.351

GILA RIVER BASIN

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09466500. GILA RIVER AT CALVA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

SEP. 16, 1975
1000 HOURS

IDENTIFICATION OF PHYTOPLANKTON

570 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...SCENEDESMACEAE			
LSCENEDESMUS			0
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..PENNIALES	PENNATE		
...NAVICULACEAE	NAVICULOID		
LNAVICULA			0
...NITZSCHIAEAE			
DNITZSCHIA			
	TOTALS	<u>570</u> 570	<u>100</u> 100
			0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE

OCT. 15, 1975
1000 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,700 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
...CHLOROCOCCALES			
...OOCYSTACEAE			
....CHODATELLA			
	TOTALS	<u>50</u> 50	<u>3</u> 3
			0.000=DIVERSITY
CHRYSTOPHYTA			
..BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....CYCLOTELLA		50	3
..PENNIALES	PENNATE		
...ACHNANTHACEAE			
....ACHNANTHES		50	3
...NAVICULACEAE	NAVICULOID		
....AMPHIPRORA		250	14
DNAVICULA		450	26
LPINNULARIA			0
...NITZSCHIAEAE			
DNITZSCHIA			
	TOTALS	<u>900</u> 1,700	<u>51</u> 97
			1.699=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.187
 CLASS 0.187
 ORDER 0.373
 FAMILY 1.462
 GENERA 1.838

GILA RIVER BASIN

09466500. GILA RIVER AT CALVA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

NOV. 11, 1975
1030 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,000 CELLS/ML

__ORGANISM__NAME__	__COMMON__NAME__	CELLS/ML	PER_CENT	
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		68	3	
..PENNALES	PENNATE			
...NAVICULACEAE	NAVICULOID			
LAMPHIPRORA			0	
DNAVICULA		1,200	59	
...NITZSCHIAEAE				
DNITZSCHIA				
	TOTALS	<u>740</u> 2,000	<u>38</u> 100	1.150=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 ORDER 0.216
 FAMILY 1.150
 GENERA 1.150

DEC. 9, 1975
1000 HOURS

IDENTIFICATION OF PHYTOPLANKTON

3,100 CELLS/ML

__ORGANISM__NAME__	__COMMON__NAME__	CELLS/ML	PER_CENT	
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...GOMPHONEMATAEAE				
....GOMPHONEMA		310	10	
...NAVICULACEAE	NAVICULOID			
....AMPHIPRORA		100	3	
DNAVICULA		930	31	
...NITZSCHIAEAE				
DNITZSCHIA		1,600	53	
...SURIRELLAEAE				
....SURIRELLA				
	TOTALS	<u>100</u> 3,100	<u>3</u> 100	1.677=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 FAMILY 1.518
 GENERA 1.677

09466500. GILA RIVER AT CALVA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JAN. 13, 1976
1000 HOURS

IDENTIFICATION OF PHYTOPLANKTON

270 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS				
	TOTALS	10	4	0.000=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCEAE				
...CYCLOTELLA		10	4	
..PENNALES	PENNATE			
...ACHNANTHACEAE		10	4	
...COCCONEIS				
...GOMPHONEMACEAE		29	11	
...GOMPHONEMA				
...NAVICULACEAE	NAVICULOID	29	11	
...AMPHIPRORA				
L ...CALONEIS		97	36	
D ...NAVICULA				
...NITZSCHIAEAE		58	21	
D ...NITZSCHIA				
...SURIPELLACEAE		10	4	
...CYMATOPLEURA				
...SURIPELLA		12	7	2.524=DIVERSITY
	TOTALS	260	98	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%: MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER + 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.222
 CLASS 0.222
 ORDER 0.443
 FAMILY 2.196
 GENERA 2.656

MAR. 30, 1976
2400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

6,700 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS				
	TOTALS	500	7	0.000=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...FRAGILIARIACEAE				
...SYNEDRA		99	1	
L ...GOMPHONEMACEAE				
...GOMPHONEMA			0	
D ...NAVICULACEAE	NAVICULOID			
...AMPHIPRORA		3,800	57	
D ...NITZSCHIAEAE				
...NITZSCHIA		1,400	21	
...SURIPELLACEAE				
...SURIPELLA		700	10	
	TOTALS	6,000	89	1.367=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
...EUGLENA		99	1	
...TRACHELOMONAS		99	1	
	TOTALS	200	2	1.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%: MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER + 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.573
 CLASS 0.573
 ORDER 0.573
 FAMILY 1.798
 GENERA 1.828

GILA RIVER BASIN

09466500. GILA RIVER AT CALVA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

APR. 8, 1976
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

5.700 CELLS/ML

ORGANISM__NAME_____	COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS				
	TOTALS	<u>53</u> 53	<u>1</u> 1	0.000=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCEAE				
D ...CYCLOTELLA		850	15	
...PENNALES	PENNATE			
...NAVICULACEAE	NAVICULOID			
...AMPHIPRORA		53	1	
...CALONEIS		790	14	
...NAVICULA		320	6	
...NITZSCHIAEAE				
D ...NITZSCHIA		2,000	34	
...SURIPELLACEAE				
....SURIPELLA		<u>210</u> 4,200	<u>4</u> 74	2.014=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
D ...OSCILLATORIA		<u>1,500</u> 1,500	<u>26</u> 26	0.000=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
L ...EUGLENA			0	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.897
 CLASS 0.897
 ORDER 1.429
 FAMILY 2.149
 GENERA 2.371

09466500. GILA RIVER AT CALVA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAY 10, 1976
0950 HOURS

IDENTIFICATION OF PHYTOPLANKTON

8,200 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
...RADIOCOCCUS		1,200	14	
...SCENEDESMACEAE				
...CRUCIGENIA				
	TOTALS	<u>190</u> 1,400	<u>2</u> 16	0.592=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCAEAE				
D ...CYCLOTELLA		1,800	22	
...MELOSIRA		340	4	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		240	3	
...CYMBELLACEAE				
...AMPHORA		49	1	
...FRAGILARIACEAE				
...FRAGILARIA		97	1	
...SYNEDRA		150	2	
...NAVICULACEAE	NAVICULOID			
...AMPHIPRORA		190	2	
...CALONEIS		240	3	
...NAVICULA		1,100	13	
...NITZSCHACEAE				
D ...NITZSCHIA		2,000	24	
...SURIPELLACEAE				
...SURIPELLA				
	TOTALS	<u>49</u> 6,300	<u>1</u> 76	2.555=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
...AGMENELLUM		390	5	
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
L ...OSCILLATORIA				
	TOTALS	<u>390</u>	<u>0</u> 5	0.000=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
...EUGLENA		190	2	
L ...TRACHELOMONAS				
	TOTALS	<u>190</u>	<u>0</u> 2	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.063
 CLASS 1.063
 ORDER 1.775
 FAMILY 2.705
 GENERA 3.112

GILA RIVER BASIN

09466500. GILA RIVER AT CALVA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JUNE 14, 1976
1030 HOURS

IDENTIFICATION OF PHYTOPLANKTON

18,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...SCENEDESMACEAE				
L ...SCENEDESMUS			0	
...ZYGNEMALES				
...DESMIDIACEAE	PLACODERM DESMIDS			
...CLOSTERIUM				
	TOTALS	<u>1,500</u> 1,500	<u>8</u> 8	0.000=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
D ...CYCLOTELLA		14,000	80	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		300	2	
...NAVICULACEAE	NAVICULOID			
L ...AMPHIPRORA			0	
...NAVICULA		890	5	
L ...PINNULARIA			0	
...NITZSCHIACEAE				
...NITZSCHIA		890	5	
...SURIPELLACEAE				
L ...SURIPELLA			0	
	TOTALS	<u>17,000</u>	<u>92</u>	0.725=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.409

CLASS 0.409

ORDER 0.908

FAMILY 1.074

GENERA 1.074

GILA RIVER BASIN

295

09466500. GILA RIVER AT CALVA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JULY 7, 1976
1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

54,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...SCENEDESMACEAE				
...SCENEDESMUS		500	1	
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
L ...CHLAMYDOMONAS			0	
L ...CHLOROGONIUM			0	
	TOTALS	750	1	1.252=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...CHAETOCERACEAE				
...CHAETOCEROS		2,900	5	
...COSCINODISCEACEAE				
D ...CYCLOTELLA		43,000	80	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		750	1	
...CYMBELLACEAE				
L ...AMPHORA			0	
...NAVICULACEAE	NAVICULOID			
L ...AMPHIPRORA			0	
L ...CALONEIS			0	
...NAVICULA		870	2	
L ...TROPIDONEIS			0	
...NITZSCHACEAE				
...NITZSCHIA		2,500	5	
...SURIRELLACEAE				
L ...SURIRELLA			0	
	TOTALS	51,000	93	0.962=DIVERSITY
..CHRYSOPHYCEAE	YELLOW-BROWN ALGAE			
...CHRYSOMONADALES				
...SYNURACEAE				
...SYNURA		2,600	5	
	TOTALS	2,600	5	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%
 L - LESS THAN 1%: MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.105
 CLASS 0.383
 ORDER 0.822
 FAMILY 1.266
 GENERA 1.302

GILA RIVER BASIN

09466500. GILA RIVER AT CALVA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

AUG. 10, 1976

1115 HOURS

IDENTIFICATION OF PHYTOPLANKTON

33,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...SCENEDESMACEAE				
...SCENEDESMUS		3,700	11	
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
...CHLAMYDOMONAS				
	TOTALS	<u>370</u> 4,000	<u>1</u> 12	0.439=DIVERSITY
CHRYSPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
LCYCLOTELLA			0	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		370	1	
...NAVICULACEAE	NAVICULOID			
...NAVICULA		730	2	
...NITZSCHIACEAE				
DNITZSCHIA		<u>21,000</u> 22,000	<u>63</u> 66	0.332=DIVERSITY
	TOTALS			
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIA				
DOSCILLATORIA		<u>7,300</u> 7,300	<u>22</u> 22	0.000=DIVERSITY
	TOTALS			

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.245

CLASS 1.245

ORDER 1.298

FAMILY 1.517

GENERA 1.517

GILA RIVER BASIN

297

09466500. GILA RIVER AT CALVA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

SEP. 22, 1976
1000 HOURS

IDENTIFICATION OF PHYTOPLANKTON

8,300 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...MICRACTINIACEAE				
....MICRACTINIUM		790	9	
...OOCYSTACEAE				
....ANKISTRODESMUS		56	1	
...SCENEDESMACEAE				
DACTINASTRUM		2,700	32	
....SCENEDESMUS		220	3	
....TETRASTRUM		220	3	
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS		670	8	
....CHLOROGONIUM		170	2	
	TOTALS	4,800	58	1.948=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCAEAE				
DCYCLOTELLA		2,600	32	
..PENNALES	PENNATE			
...NAVICULACEAE	NAVICULOID			
....AMPHIPRORA		56	1	
....NAVICULA		220	3	
...NITZSCHIAEAE				
....NITZSCHIA		450	5	
	TOTALS	3,400	41	1.022=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
....ANACYSTIS		56	1	
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIACEAE				
....OSCILLATORIA		56	1	
	TOTALS	110	2	1.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.067
 CLASS 1.067
 ORDER 1.774
 FAMILY 2.251
 GENERA 2.627

GILA RIVER BASIN

09468500. SAN CARLOS RIVER NEAR PERIDOT, ARIZ.

LOCATION.--Lat 33°19'16", long 110°26'54", in NW¼ sec.30, T.1 S., R.19 E. (unsurveyed), Gila County, in San Carlos Indian Reservation, on right bank 750 ft (229 m) downstream from highway crossing, 0.8 mi (1.3 km) north of Peridot, and 2.4 mi (3.9 km) south of San Carlos.

DRAINAGE AREA.--1,027 mi² (2,660 km²).

PERIOD OF RECORD.--August 1910 to January 1911 (gage heights only), April 1914 to July 1915, August to September 1915 (monthly discharge only), October 1929 to current year. Prior to October 1929 published as "at San Carlos."

GAGE.--Water-stage recorder since Apr. 26, 1914. Datum of gage is 2,578.90 ft (786.049 m) above mean sea level. See WSP 1713 or 1733 for history of changes prior to Feb. 1, 1942. Feb. 1, 1942, to Mar. 4, 1969, at site 750 ft (229 m) upstream at different datums. Mar. 5, 1969, to Aug. 13, 1970, at site 300 ft (91 m) upstream at datum 0.88 ft (0.268 m) higher. Supplementary water-stage recorder Dec. 21, 1967, to July 2, 1968, at site 4 mi (6 km) downstream at datum in use prior to Feb. 1, 1942.

AVERAGE DISCHARGE.--47 years (1929-76), 46.2 ft³/s (1.31 m³/s), 33,470 acre-ft/yr (41.3 hm³/yr); median of yearly mean discharges, 28 ft³/s (0.79 m³/s), 20,300 acre-ft/yr (25.0 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 12,000 ft³/s (340 m³/s) Sept. 25 (gage height, 9.0 ft or 2.74 m, from high-water mark in gage well); minimum daily, 0.50 ft³/s (0.014 m³/s) July 1.
Period of record: Maximum discharge, 40,600 ft³/s (1,150 m³/s) Mar. 14, 1941 (gage height, 11.4 ft or 3.47 m, site and datum then in use), from rating curve extended above 23,000 ft³/s (650 m³/s) on basis of rate of change in storage in San Carlos Reservoir; no flow at times in most years.

REMARKS.--Records good, except for Sept. 25-30, which are poor. Diversions above station for irrigation of about 600 acres (2.43 km²). Small inflow from sewage treatment system about 2 miles (3.2 km) upstream.

REVISIONS.--WSP 1283: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.3	7.4	12	11	10	12	9.5	4.1	4.1	.50	26	3.6
2	5.0	7.4	12	11	9.2	13	10	4.8	3.6	1.6	11	4.1
3	4.8	7.4	12	12	9.5	13	9.5	4.8	3.4	2.6	8.1	4.1
4	4.8	7.0	12	12	10	13	9.5	59	2.9	3.1	7.4	4.1
5	4.8	7.4	12	12	12	13	9.5	40	2.9	3.8	8.4	4.6
6	4.8	7.8	12	12	24	12	10	12	2.4	3.8	11	6.7
7	4.8	7.8	12	13	26	12	10	7.4	2.1	4.1	13	5.8
8	4.8	7.8	12	13	16	12	9.5	7.4	2.1	2.9	23	5.5
9	5.0	7.8	12	13	13	11	9.2	7.0	2.1	1.9	4.1	5.8
10	5.0	7.0	11	12	205	11	9.2	6.7	1.8	2.1	3.4	6.0
11	5.0	7.4	11	12	119	11	8.8	6.4	1.8	1.9	6.1	4.8
12	4.6	7.4	11	12	46	11	8.4	6.0	1.8	1.5	3.1	5.0
13	4.6	7.0	11	12	29	11	8.4	5.5	1.8	92	3.1	5.5
14	4.8	7.0	12	11	22	11	8.4	5.5	1.7	51	3.3	6.0
15	5.3	6.7	13	11	19	11	10	5.3	1.7	8.4	3.3	6.4
16	5.3	6.7	13	11	18	10	13	5.3	1.7	8.2	3.6	6.4
17	5.5	6.7	12	10	16	10	16	5.3	1.5	6.4	3.8	6.0
18	5.5	6.7	12	10	15	10	12	5.3	1.5	215	3.6	6.7
19	5.5	8.1	12	10	14	10	10	12	1.5	17	3.6	6.5
20	5.5	8.4	12	10	14	10	12	14	1.3	6.4	3.6	3.1
21	5.5	8.8	12	10	13	10	16	8.4	1.1	5.5	3.6	73
22	7.4	8.8	13	10	13	10	12	8.1	1.0	27	11	7.0
23	7.8	8.8	12	10	12	11	11	7.4	1.0	19	5.8	12
24	7.8	8.4	14	11	12	11	9.2	6.7	1.0	9.3	3.3	34
25	7.4	8.4	12	11	12	11	8.4	6.0	1.1	33	3.5	815
26	7.0	9.5	12	11	12	11	8.1	5.5	.90	10	3.4	20
27	6.4	9.5	11	10	12	10	7.0	5.0	1.0	8.1	12	10
28	5.0	10	11	10	12	10	7.0	4.8	.90	7.8	3.8	10
29	6.4	12	12	10	12	10	7.0	4.8	.80	8.1	4.1	5.0
30	7.4	12	11	11	---	10	6.7	4.3	.80	72	4.1	5.0
31	7.4	---	11	10	---	10	---	4.3	---	40	3.6	---
TOTAL	176.2	243.1	369	344	756.7	341	295.3	289.1	53.30	674.00	210.7	1097.7
MEAN	5.68	8.10	11.9	11.1	26.1	11.0	9.84	9.33	1.78	21.7	6.80	36.6
MAX	7.8	12	14	13	205	13	16	59	4.1	215	26	815
MIN	4.6	6.7	11	10	9.2	10	6.7	4.1	.80	.50	3.1	3.1
AC-FT	349	482	732	682	1500	676	586	573	106	1340	418	2180
CAL YR 1975	TOTAL	9118.60	MEAN 25.0	MAX 718	MIN 2.4	AC-FT 18090						
WTH YR 1976	TOTAL	4850.10	MEAN 13.3	MAX 815	MIN .50	AC-FT 9620						

PEAK DISCHARGE (BASE, 2,200 CFS).--July 18 (2100) 4,320 cfs (5.60 ft); Sept. 25 (1030) 12,000 cfs (9.0 ft).

NOTE.--No gage-height record Sept. 25-30.

09469000. SAN CARLOS RESERVOIR AT COOLIDGE DAM, ARIZ.

LOCATION.--Lat 33°10'32", long 110°31'38", in NW¼ sec.17, T.3 S., R.18 E. (unsurveyed), Gila County, in San Carlos Indian Reservation, at right intake tower of Coolidge Dam on Gila River.

DRAINAGE AREA.--12,886 mi² (33,375 km²).

PERIOD OF RECORD.--November 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Prior to Jan. 15, 1937, series of stakes with tops at known elevations for reference points on right bank about 1,000 ft (300 m) upstream from dam. Jan. 15, 1937, to Dec. 31, 1947, water-stage recorder at present site at datum 0.72 ft (0.219 m) lower.

EXTREMES.-- Current year: Maximum contents, 141,500 acre-ft (174 hm³) Nov. 30 (elevation, 2,437.86 ft or 743.060 m); minimum, 19 acre-ft (23,400 m³) Sept. 16 (elevation, 2,383.09 ft or 726.366 m).

Period of record: Maximum contents, 843,300 acre-ft (1,040 hm³) June 1, 1973 (elevation, 2,504.67 ft or 763.423 m); no usable contents at times.

REMARKS.--Reservoir is formed by concrete multiple-dome dam. Dam completed Oct. 25, 1928; storage began Nov. 15, 1928. Usable capacity (from capacity table computed by San Carlos Irrigation District, based on an estimate of 20,000 acre-ft (25 hm³) of sediment deposited since 1966; used since Jan. 1, 1976) 1,073,000 acre-ft (1,320 hm³) between elevations 2,382.63 ft (726.226 m)—sill of lowest outlet gate—and 2,519.0 ft (767.79 m)—crest of spillway. No dead storage. Figures given herein represent usable contents. Reservoir is used to store water for irrigation of San Carlos project and for power development, dependent on irrigation demands.

REVISIONS (WATER YEARS).--WSP 1049: 1929, 1934, 1937-38. WSP 1283: Drainage area.

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

Oct. 1 to Dec. 31

Jan. 1 to Sept. 30

2,435	126,300	2,382.60	0	2,410	24,420
2,440	153,600	2,385	198	2,420	49,090
		2,390	1,380	2,430	85,370
		2,400	8,250	2,440	135,500

CONTENTS, IN ACRE-Feet, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	140700	134100	141200	117700	105100	113800	88830	66030	48120	29200	15690	1020
2	140800	134500	141100	117500	104700	113000	87940	65090	47600	28410	15640	582
3	140800	134800	141000	117400	104300	112100	86960	64230	47140	27650	15170	339
4	140400	135000	140900	117300	104000	111400	85790	63670	46900	26910	14720	196
5	140700	135200	140700	117200	103700	110800	84770	62920	46120	26190	14150	100
6	140000	135400	140600	116800	103500	110200	83730	62210	45600	25450	13540	50
7	139600	135700	140600	116300	103200	109500	82690	61510	45040	24690	12950	30
8	139400	135900	140500	115900	103000	108700	81740	60990	44470	24020	12260	70
9	139100	136200	140200	115500	102800	108200	80660	60610	43960	23340	11770	80
10	138500	136400	140000	114900	102700	107600	79700	60130	43280	22590	11200	60
11	138700	136700	139700	114300	103000	106800	78660	59540	42690	21900	10640	50
12	138300	136800	139300	113800	105600	106100	77860	58980	42130	21300	9970	40
13	138000	137000	139200	113200	109000	105600	76820	58260	41560	20590	9350	30
14	137800	137400	138800	112700	111500	105200	76100	57710	40950	19970	8690	22
15	137500	137500	138300	112200	113500	104600	75140	57120	40280	19300	8090	20
16	137100	137700	137900	111600	115500	104000	74940	56540	39630	18590	7820	19
17	136800	138000	137500	111100	117100	103200	74540	56060	38860	17790	7380	134
18	136700	138100	137000	110500	118200	102600	74140	55580	38130	17110	7010	269
19	136000	138300	136600	110000	118900	101700	73700	55010	37490	16490	6620	398
20	135700	138500	136300	109600	119100	100800	72310	54460	36740	15800	6120	470
21	135200	138800	136200	109000	119000	99900	72950	54010	36120	15080	5760	540
22	135200	138900	136200	108600	118800	98970	72550	53380	35390	14570	5290	640
23	134900	139100	136200	108300	118500	98030	72110	52810	34740	14240	4890	680
24	134900	139500	136100	107900	118000	96960	71630	52220	34110	14210	4590	721
25	134800	139700	136100	107700	117400	95790	71030	51670	33440	14180	4160	1230
26	134800	140000	136200	107300	116800	94720	70430	51210	32830	14210	3670	1600
27	134700	140200	135900	107000	116100	93690	69710	50750	32140	14350	3340	1750
28	134700	140600	135700	106700	115300	92430	68830	50180	31420	14390	2970	1840
29	134600	141200	135300	106300	114400	91350	67990	49600	30660	14430	2650	1920
30	134600	141500	135200	106000	---	90510	66990	49090	29940	14960	1880	1960
31	134100	---	135200	105500	---	89580	---	48570	---	15540	1300	---
MAX	140700	141500	141200	117700	119100	113800	88830	66030	48120	29200	15690	1960
MIN	134100	134300	135200	105500	102700	89580	66990	48570	29940	14180	1300	19
(†)	2436.49	2437.86	2436.69	2434.31	2436.06	2430.90	2425.40	2419.81	2412.46	2405.13	2389.69	2391.20
(‡)	-6900	+7400	-6500	-12200	+8900	-24820	-22590	-18420	-18630	-14400	-14240	+660

CAL YR 1975 MAX 272300 MIN 76080 ‡-137,700
WTR YR 1976 MAX 141500 MIN 19 ‡e-121,500

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

e Computed on basis of revised capacity table put into use Jan. 1, 1976.

GILA RIVER BASIN

09469500. GILA RIVER BELOW COOLIDGE DAM, ARIZ.

LOCATION.--Lat 33°10'10", long 110°31'50", in SW¼ sec.17, T.3 S., R.18 E. (unsurveyed), Pinal County, on left bank 2,200 ft (670 m) downstream from Coolidge Dam.

DRAINAGE AREA.--12,886 mi² (33,375 km²).

PERIOD OF RECORD.--July to October 1899, April 1900 to March 1902, July to September 1902, December 1902 to December 1904; January to May 1905 (gage heights only); June to November 1905; August 1910 to February 1911 (gage heights only); April 1914 to current year. Published as "at San Carlos" 1899-1911, as "near San Carlos" 1914-26, and as "at Coolidge Dam" 1927-38.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 2,309.33 ft (703.884 m) above mean sea level. Prior to Feb. 5, 1911, nonrecording gage at various sites and datums upstream from mouth of San Carlos River. Apr. 29, 1914, to Mar. 8, 1937, water-stage recorder at various sites within 1 mi (1.6 km) upstream from present site at different datums.

AVERAGE DISCHARGE (adjusted for storage in San Carlos Reservoir).--64 years (1900-1901, 1903-4, 1914-76), 343 ft³/s (9.714 m³/s), 248,500 acre-ft/yr (306 hm³/yr); median of yearly mean discharges, 210 ft³/s (5.95 m³/s), 152,000 acre-ft/yr (190 hm³/yr).

EXTREMES.--Current year: Maximum daily discharge, 668 ft³/s (18.9 m³/s) Apr. 6; minimum daily, 2.8 ft³/s (0.08 m³/s) Sept. 19, 30. 1914-28: Maximum discharge, 130,000 ft³/s (3,680 m³/s) Jan. 20, 1916, estimated on basis of peak discharge near Solomon and at Kelvin; no flow at times. 1928-76: Maximum discharge, 1,350 ft³/s (38.2 m³/s) July 28, 1952 (gage height, 4.64 ft or 1.414 m); no flow at times prior to 1958; minimum daily since 1938, 0.4 ft³/s (0.011 m³/s) in several years.

REMARKS.--Records excellent except those below 10 ft³/s (0.28 m³/s), which are fair. Flow regulated by San Carlos Reservoir since Nov. 15, 1928. (See sta 09469000.) Record includes flow of Warm Springs which enters between dam and gage. Large diversions above San Carlos Reservoir for irrigation, metallurgical treatment of ore, and municipal supply; about 69,000 acres (279 km²) of land was irrigated, a considerable portion by pumping from ground water.

REVISIONS (WATER YEARS).--WSP 629: 1915-16. WSP 1049: 1899-1904. WSP 1149: 1917(M), 1921, 1922(M), 1923, 1924(M). WSP 1283: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	308	6.6	341	248	306	601	522	496	328	417	71	306
2	268	4.8	251	220	306	601	522	493	313	417	208	300
3	246	4.2	253	175	311	577	535	496	313	420	346	192
4	272	4.2	255	177	311	528	594	425	319	423	363	66
5	275	4.2	255	177	308	456	625	474	327	393	414	42
6	275	4.2	255	272	300	453	668	447	327	406	417	39
7	275	4.2	260	321	278	474	618	398	327	412	417	28
8	251	4.2	275	321	278	496	618	346	327	420	406	42
9	251	4.2	340	321	272	478	614	327	327	417	374	53
10	251	4.2	349	357	253	447	594	332	327	417	374	53
11	253	4.2	346	357	241	453	577	338	327	414	371	41
12	255	4.2	346	349	202	435	577	365	332	414	371	29
13	255	4.2	346	335	204	394	577	377	349	414	371	22
14	255	4.2	346	357	204	397	570	377	360	414	371	17
15	255	4.2	426	349	206	412	506	371	388	414	371	14
16	282	4.2	426	327	204	471	400	346	400	447	360	12
17	282	4.2	426	327	220	500	316	330	400	457	332	48
18	282	4.2	394	327	272	503	298	327	400	415	319	44
19	282	4.2	400	327	346	532	293	321	400	393	354	2.8
20	282	3.7	371	306	409	577	272	332	400	406	365	3.7
21	282	3.7	371	306	465	577	280	354	400	391	365	5.4
22	258	4.2	248	295	519	577	300	354	406	371	363	5.4
23	258	4.2	248	272	535	601	300	351	414	251	360	6.3
24	204	4.2	248	260	584	649	308	340	414	200	360	3.2
25	188	4.2	248	253	618	645	324	321	414	150	360	3.7
26	188	4.2	251	253	618	642	359	319	414	99	363	3.2
27	188	4.2	351	253	625	642	429	316	414	133	360	3.2
28	186	4.8	351	255	642	632	456	316	417	105	340	3.2
29	186	4.8	351	255	628	590	506	313	417	35	420	3.2
30	248	4.8	317	263	---	554	500	313	420	26	462	2.8
31	251	---	255	293	---	544	---	319	---	27	361	---
TOTAL	7792	129.8	9900	8908	10665	16438	14058	11334	11121	10118	11089	1394.1
MEAN	251	4.33	319	287	368	530	469	366	371	326	358	46.5
MAX	308	6.6	426	357	642	649	668	496	420	457	462	306
MIN	186	3.7	248	175	202	394	272	313	313	26	71	2.8
AC-FT	15460	257	19640	17670	21150	32600	27880	22480	22060	20070	22000	2770
CAL YR 1975	TOTAL	172378.8	MEAN 472	MAX 903	MIN 3.7	AC-FT 341900						
WTR YR 1976	TOTAL	112946.9	MEAN 309	MAX 668	MIN 2.8	AC-FT 224000						

09470000. GILA RIVER AT WINKELMAN, AZ.

LOCATION.--Lat 33°00'06", long 110°45'55", in NW¼NE¼ sec.13, T.5 S., R.15 E., Gila County, Hydrologic Unit 15050100, on right bank 1 mi (2 km) north of Winkelman, 2.2 mi (3.5 km) upstream from San Pedro River, and 29 mi (47 km) downstream from Coolidge Dam.

DRAINAGE AREA.--13,268 mi² (34,361 km²), of which 382 mi² (989 km²) is below Coolidge Dam.

PERIOD OF RECORD.--September 1917 to June 1918, September 1941 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,921.76 ft (585.75 m) above mean sea level. Sept. 10, 1917, to June 27, 1918, non-recording gage at bridge 1.4 mi (2.3 km) downstream at different datum. Sept. 1941, to Jan. 5, 1964, at site about 400 ft (120 m) upstream at datum 0.81 ft (0.247 m) lower. Supplementary non-recording gage 1.3 mi (2.1 km) downstream since Aug. 9, 1963, at datum 13.68 ft (4.170 m) lower; supplementary water-stage recorder Jan. 6, 1964, to Nov. 24, 1975, at bridge 1.4 mi (2.3 km) downstream at datum 14.76 ft (4.499 m) lower.

AVERAGE DISCHARGE (adjusted for storage in San Carlos Reservoir).--35 years (1941-76), 244 ft³/s (6.910 m³/s), 176,800 acre-ft/yr (218 hm³/yr); median of yearly mean discharge, 170 ft³/s (4.81 m³/s), 123,000 acre-ft/yr (150 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 1,440 ft³/s (40.8 m³/s) Aug. 22 (gage height, 5.28 ft or 1.609 m); minimum daily, 6.9 ft³/s (0.20 m³/s) Sept. 22.

Period of record: Maximum discharge, 55,000 ft³/s (1,560 m³/s) of which 500 ft³/s (14.2 m³/s) was released by Coolidge Dam, Aug. 9, 1944 (gage height, 18.40 ft or 5.608 m), from rating curve extended above 2,900 ft³/s (82 m³/s) on basis of slope-area measurement of peak flow; no flow at times.

REMARKS.--Records good. Large diversions above station for irrigation, metallurgical treatment of ore, and municipal supply, but none between Coolidge Dam and this station. About 69,000 acres (279 km²) irrigated in the basin above Coolidge Dam, a considerable portion by pumping from ground water. Flow regulated by San Carlos Reservoir (See sta 09469000).

REVISIONS.--WSP 1283: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	325	205	156	246	289	640	512	494	300	394	20	298
2	279	143	205	240	291	609	506	486	300	392	75	295
3	241	78	238	186	297	604	509	485	295	395	257	276
4	246	21	243	171	297	551	555	493	295	395	317	127
5	259	18	246	169	304	481	626	487	295	395	358	68
6	259	17	246	208	310	431	656	431	295	362	373	68
7	257	15	247	282	289	437	676	401	290	373	374	57
8	246	15	255	308	283	473	639	336	293	385	373	46
9	235	15	282	309	287	479	627	303	300	384	347	48
10	235	14	327	323	277	439	604	294	298	382	387	57
11	235	12	329	341	269	424	576	292	299	386	354	57
12	232	12	328	340	227	419	570	312	299	398	340	49
13	232	11	330	319	212	377	571	331	318	387	338	45
14	232	11	330	335	214	361	574	335	322	386	335	42
15	232	11	360	340	217	362	574	333	344	383	333	43
16	243	11	398	317	219	400	456	317	363	390	330	41
17	257	11	400	313	223	454	348	297	365	440	319	41
18	257	11	368	311	259	461	284	292	367	394	291	81
19	257	11	385	312	322	466	279	296	366	379	299	68
20	259	10	355	303	389	534	266	295	369	380	363	41
21	259	11	361	289	431	554	264	315	369	372	358	8.7
22	249	10	308	292	523	555	288	330	370	369	456	6.9
23	235	9.3	247	274	539	556	299	320	380	335	491	7.4
24	224	9.1	244	256	585	616	303	310	383	223	362	163
25	184	9.2	243	248	646	638	325	310	386	205	355	82
26	184	8.7	242	242	659	639	333	300	387	132	342	23
27	181	8.9	283	243	656	641	408	295	389	172	383	13
28	181	9.6	336	243	679	641	425	290	387	172	335	9.6
29	181	17	336	242	687	606	487	285	393	62	348	8.2
30	205	17	333	244	---	551	498	285	393	38	428	7.8
31	243	---	264	262	---	533	---	290	---	25	417	---
TOTAL	7344	762.8	9245	8508	10880	15932	14038	10640	10210	9885	10458	2177.6
MEAN	237	25.4	298	274	375	514	468	343	340	319	337	72.6
MAX	325	205	400	341	687	641	676	494	393	440	491	298
MIN	181	8.7	156	169	212	361	264	285	290	25	20	6.9
AC-FT	14570	1510	18340	16880	21580	31600	27840	21100	20250	19610	20740	4320

CAL YR 1975 TOTAL 181867.6 MEAN 498 MAX 999 MIN 8.7 AC-FT 360700

WTR YR 1976 TOTAL 110080.4 MEAN 301 MAX 687 MIN 6.9 AC-FT 218300

PEAK DISCHARGE, UNADJUSTED FOR RELEASE FROM COOLIDGE DAM (BASE, 1,300 CFS), Aug. 22 (2315) 1,440 cfs (5.28 ft).

GILA RIVER BASIN

09470000. GILA RIVER AT WINKELMAN, ARIZ.

LOCATION.--Lat 33°00'06", long 110°45'55", in NW 1/4 sec.13, T.5 S., R.15 E., Gila County, at gaging station 1 mi (2 km) north of Winkelman, 2.2 mi (3.5 km) upstream from San Pedro River, and 29 mi (47 km) downstream from Coolidge Dam.

DRAINAGE AREA.--13,268 mi² (34,364 km²), of which 382 mi² (989 km²) is below Coolidge Dam.

PERIOD OF RECORD.--Chemical analyses: January 1976 to September 1976.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICHO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	CHEM- ICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	FECAL COLI- FORM (COL. PER 100 ML)	HARD- NESS (CA+MG) (MG/L)
JAN 13...	1300	313	1760	8.2	8.0	10	--	--	110	330
FEB 25...	1330	322	1590	8.0	11.5	23	--	--	51	290
MAR 24...	1330	636	1690	7.9	14.0	13	--	--	16	290
APR 06...	1300	650	1900	8.3	14.0	20	--	35	26	330
MAY 06...	1400	429	1590	8.5	18.0	15	--	14	870	340
JUN 28...	1700	385	2160	8.2	28.0	15	--	3	44	370
JUL 28...	1500	192	2040	8.4	28.0	270	7.6	--	14000	360
AUG 25...	1400	352	2200	8.2	29.0	55	7.0	--	2400	350
SEP 29...	1200	7.7	1700	8.2	24.5	30	8.0	--	160	370

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO ₃) (MG/L)	CAR- BONATE (CO ₃) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
JAN 13...	140	90	26	230	5.5	7.2	230	0	190	330
FEB 25...	120	80	23	210	5.3	6.9	214	0	140	290
MAR 24...	110	78	23	220	5.6	6.9	222	0	150	310
APR 06...	150	91	26	250	6.0	7.0	229	0	170	370
MAY 06...	140	88	28	250	5.9	7.4	232	0	180	370
JUN 28...	170	93	33	310	7.0	8.3	241	0	220	470
JUL 28...	190	94	31	280	6.4	8.3	208	0	180	440
AUG 25...	170	84	33	310	7.3	9.7	212	0	190	460
SEP 29...	140	99	29	200	4.5	7.7	274	0	160	320

B Results based on non-ideal colony count.

GILA RIVER BASIN

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09470000. GILA RIVER AT WINKELMAN, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SI02) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TUNN PER AC-FT)	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHO. PHOSPHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
JAN 13...	1.3	26	1040	1020	1.41	--	.28	.09	250	0
FEB 25...	1.2	25	916	882	1.25	--	.02	.11	220	0
MAR 24...	1.0	25	982	924	1.34	--	.00	.00	180	0
APR 06...	1.2	25	1080	1050	1.47	.05	.06	.01	250	10
MAY 06...	1.2	24	1100	1060	1.50	--	.01	.02	520	60
JUN 28...	1.3	27	1280	1280	1.74	--	.15	.09	300	10
JUL 28...	1.0	23	1190	1160	1.62	--	.72	.13	290	20
AUG 25...	1.1	28	1270	1220	1.73	--	.25	.09	330	20
SEP 29...	.7	23	974	976	1.32	--	.23	.10	230	10

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	TOTAL NITRATE PLUS NITRITE (N) (MG/L)	DIS-SOLVED NITRATE PLUS NITRITE (N) (MG/L)	TOTAL KJEL-DAHL NITROGEN (N) (MG/L)	TOTAL KJEL. NITROGEN IN BOTTOM MAT. (MG/KG)	TOTAL NITROGEN (N) (MG/L)	TOTAL NITROGEN (NO3) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOSPHORUS (P) (MG/L)
JAN 13...	1300	--	--	.30	.28	.50	--	.80	3.5	.15	.09
FEB 25...	1330	--	--	.04	.02	2.0	--	2.0	9.0	.15	.11
MAR 24...	1330	--	--	.01	.00	.81	--	.82	3.6	.08	.00
APR 06...	1300	.05	.01	.07	.06	.78	--	.85	3.8	.09	.01
MAY 06...	1400	--	--	.01	.01	.30	--	.31	1.4	.09	.02
JUN 28...	1700	--	--	.14	.15	.57	--	.71	3.1	.14	.09
JUL 28...	1500	--	--	.92	.72	2.1	1240	3.0	13	.87	.13
AUG 25...	1400	--	--	.38	.25	1.5	--	1.9	8.3	.53	.09
SEP 29...	1200	--	--	.28	.23	.73	--	1.0	4.5	.29	.10

09470000. GILA RIVER AT WINKELMAN, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	TOTAL ARSENIC IN BOTTOM MATERIAL (UG/G)	TOTAL BARIUM (BA) (UG/L)	TOTAL BARIUM IN BOTTOM MATERIAL (UG/G)	TOTAL BORON (B) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	TOTAL CADMIUM (CD) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	TOTAL CADMIUM IN BOTTOM MATERIAL (UG/G)
JAN 13...	1300	5	--	--	0	--	260	250	10	1	--
FEB 25...	1330	6	--	--	100	--	250	220	<10	1	--
MAR 24...	1330	4	--	--	100	--	250	180	<10	1	--
APR 06...	1300	4	--	--	0	--	410	250	<10	0	--
MAY 06...	1400	4	--	--	0	--	530	520	<10	1	--
JUN 28...	1700	--	7	--	100	--	420	300	<10	1	--
JUL 28...	1500	15	--	110	300	10	330	290	50	--	2
AUG 25...	1400	8	--	--	200	--	360	330	<10	--	--
SEP 29...	1200	1	--	--	100	--	230	230	10	--	--

DATE	TOTAL CHROMIUM (CR) (UG/L)	DIS-SOLVED CHROMIUM (CR) (UG/L)	TOTAL CHROMIUM IN BOTTOM MATERIAL (UG/G)	TOTAL COBALT (CO) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	TOTAL COPPER IN BOTTOM MATERIAL (UG/G)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
JAN 13...	0	--	--	--	--	10	--	--	450	0
FEB 25...	0	--	--	--	--	30	--	--	1800	0
MAR 24...	30	--	--	--	--	20	--	--	1100	0
APR 06...	0	--	--	--	--	10	--	--	1600	10
MAY 06...	0	--	--	--	--	10	--	--	1600	60
JUN 28...	0	0	--	<50	0	20	3	--	1900	10
JUL 28...	20	--	1	--	--	110	--	85	22000	20
AUG 25...	10	--	--	--	--	40	--	--	7500	20
SEP 29...	0	--	--	--	--	20	--	--	2500	10

DATE	TOTAL LEAD (PB) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	TOTAL LEAD IN BOTTOM MATERIAL (UG/G)	TOTAL MANGANESE (MN) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	TOTAL MERCURY IN BOTTOM MATERIAL (UG/G)	TOTAL SELENIUM (SE) (UG/L)	DIS-SOLVED SELENIUM (SE) (UG/L)
JAN 13...	<100	--	--	100	0	.0	--	--	1	--
FEB 25...	<100	--	--	540	10	.0	--	--	1	--
MAR 24...	<100	--	--	170	10	.9	--	--	0	--
APR 06...	<100	--	--	210	20	.0	--	--	0	--
MAY 06...	<100	--	--	170	30	.0	--	--	0	--
JUN 28...	<100	11	--	460	0	.3	.3	--	0	0
JUL 28...	100	--	24	1400	0	.0	--	.2	1	--
AUG 25...	<100	--	--	570	10	.0	--	--	1	--
SEP 29...	<100	--	--	--	200	.2	--	--	1	--

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

GILA RIVER BASIN

305

09470000. GILA RIVER AT WINKELMAN, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL SELE- NIUM IN BOTTOM MA- TERIAL (UG/G)	TOTAL SILVER (AG) (UG/L)	TOTAL SILVER IN BOTTOM MA- TERIAL (UG/G)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ZINC IN BOTTOM MA- TERIAL (UG/G)	TOTAL ORGANIC CARBON (C) (MG/L)	CYANIDE (CN) (MG/L)	TOTAL CYANIDE IN BOTTOM MA- TERIAL (UG/G)	PHENOLS (UG/L)
JAN 13...	--	<10	--	20	--	--	7.7	.00	--	1
FEB 25...	--	<10	--	30	--	--	7.9	.00	--	1
MAR 24...	--	<10	--	10	--	--	9.2	.00	--	1
APR 06...	--	<10	--	10	--	--	8.9	.00	--	2
MAY 06...	--	<10	--	10	--	--	20	.00	--	3
JUN 28...	--	<10	--	20	0	--	8.9	.00	--	2
JUL 28...	0	40	2	80	--	38	22	.00	0	3
AUG 25...	--	10	--	40	--	--	16	.00	--	21
SEP 29...	--	<10	--	10	--	--	29	.00	--	0

DATE	TIME	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	DDE IN BOTTOM MA- TERIAL (UG/KG)	DDT IN BOTTOM MA- TERIAL (UG/KG)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	ETHION IN BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)
JULY 28...	1500	.0	0	6.2	3.1	.0	.1	.0	.0	.0	.0

DATE	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG)	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG)	PCB IN BOTTOM MA- TERIAL (UG/KG)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG)	2,4-D IN BOTTOM MA- TERIAL (UG/KG)	2,4,5-T IN BOTTOM MA- TERIAL (UG/KG)	SILVEX IN BOTTOM MA- TERIAL (UG/KG)
JULY 28...	.0	.0	.0	.0	.0	0	15	.0	0	0	0

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

GILA RIVER BASIN

09470000. GILA RIVER AT WINKELMAN, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

JUNE 28, 1976
1700 HOURS

IDENTIFICATION OF PHYTOPLANKTON

6,300 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS				
	TOTALS	<u>510</u> 510	<u>8</u> 8	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCEAE				
...CYCLOTELLA		140	2	
...MELOSIRA		290	5	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
....ACHNANTHES		140	2	
...COCCONEIS		430	7	
...GOMPHONEMACEAE				
....GOMPHONEMA		72	1	
...NAVICULACEAE	NAVICULOID			
....NAVICULA		72	1	
...NITZSCHIACEAE				
....NITZSCHIA				
	TOTALS	<u>140</u> 1,300	<u>2</u> 20	2.530=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
DLYNGBYA				
	TOTALS	<u>4,400</u> 4,400	<u>70</u> 70	0.000=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
....PHACUS				
	TOTALS	<u>72</u> 72	<u>1</u> 1	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 1.196
CLASS 1.196
ORDER 1.386
FAMILY 1.582

GILA RIVER BASIN

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09470500. SAN PEDRO RIVER AT PALOMINAS, ARIZ.

LOCATION.--Lat 31°22'48", long 110°06'38", in SW¼SE¼ sec.33, T.23 S., R.22 E., Cochise County, near left bank on downstream side of pier of bridge on State Highway 92, 0.7 mi (1.1 km) east of Palominas, 2.5 mi (4.0 km) upstream from Green Brush Draw, 4.5 mi (7.2 km) downstream from international boundary, and 12 mi (19 km) southwest of Bisbee.

DRAINAGE AREA.--741 mi² (1,919 km²), of which 649 mi² (1,681 km²) is in Mexico.

PERIOD OF RECORD.--May 1930 to October 1933, May 1935 to July 1941, July 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,187.62 ft (1,276.387 m) above mean sea level (State Highway Department bench mark). See WSP 1733 for history of changes prior to Nov. 24, 1955.

AVERAGE DISCHARGE.--34 years (1930-33, 1935-40, 1950-76), 30.5 ft³/s (0.864 m³/s), 22,100 acre-ft/yr (27.2 hm³/yr); median of yearly mean discharges, 23 ft³/s (0.65 m³/s), 16,700 acre-ft/yr (21 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 5,000 ft³/s (142 m³/s) July 27 (gage height, 10.18 ft or 3.103 m); no flow June 2-4, 24-28. Period of record: Maximum discharge, 22,000 ft³/s (623 m³/s) Aug. 14, 1940 (gage height, 16.16 ft or 4.926 m, present datum), from rating curve extended above 5,600 ft³/s (160 m³/s) on basis of slope-area measurement of peak flow; no flow at times most years. Greatest flood since at least 1906 occurred Sept. 28, 1926 (gage height, about 23.9 ft or 7.28 m, present datum, from flood-marks; discharge not determined).

REMARKS.--Records fair. Small diversions for irrigation of a few hundred acres above station, mostly in Mexico. Record shows approximate flow of river at international boundary.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	.26	.40	1.4	3.7	2.8	2.6	.89	.11	7.6	17	4.1
2	.78	.23	.38	1.7	3.7	4.9	1.3	1.1	0	8.7	10	3.3
3	.42	.33	.39	1.9	3.7	3.2	1.1	1.4	0	.08	7.1	32
4	.38	.30	.47	4.2	4.0	2.3	.61	1.0	0	.12	6.2	70
5	.39	.16	.69	5.7	5.4	2.2	.47	.88	.16	.22	5.7	115
6	.46	.29	1.2	2.6	15	2.8	.49	1.2	.28	.09	4.7	141
7	.35	.31	1.1	4.5	5.9	3.0	.42	1.2	.42	.33	3.7	13
8	.50	.32	.96	2.7	4.4	1.4	.64	.95	.55	.47	95	7.1
9	.29	.28	1.3	2.9	4.7	1.4	.64	.93	.44	.32	322	5.6
10	.51	.27	1.2	2.5	19	2.0	.47	.74	.50	8.6	48	5.0
11	.44	.25	1.4	2.2	24	3.1	.82	.69	.42	.37	17	4.3
12	.44	.30	1.0	2.4	6.8	3.2	.83	.36	.06	9.8	6.2	3.7
13	.45	.36	1.2	2.0	6.1	3.5	.91	.44	.04	18	184	3.1
14	.43	.36	1.2	1.2	5.1	1.7	.81	.79	.25	.06	8.3	2.6
15	.43	.39	1.5	1.2	4.2	1.4	1.5	.53	.19	.38	2.5	2.2
16	.42	.41	2.5	1.3	3.8	2.5	.58	.63	.42	.90	.80	1.9
17	.36	.41	3.3	1.6	3.7	4.1	.50	.65	.44	110	.28	1.8
18	.48	.36	2.1	1.6	3.5	3.3	.78	.33	.33	100	.12	1.7
19	.51	.29	2.3	1.3	3.4	3.3	.80	.43	.22	.74	.08	1.6
20	.46	.33	1.8	1.8	3.2	2.0	1.5	.66	.16	180	13	1.5
21	.42	.36	1.3	2.6	3.1	1.7	1.2	.74	.03	307	2.6	1.5
22	.25	.31	1.6	3.3	3.0	1.7	.88	.55	.18	749	.75	1.4
23	.22	.42	2.1	4.1	3.1	1.9	.51	.21	.15	261	.60	15
24	.22	.37	2.0	4.0	3.2	1.4	.18	.20	0	665	187	.86
25	.41	.39	2.0	3.7	3.2	1.5	.03	.15	0	258	105	52
26	.32	.34	2.1	3.5	3.1	1.2	.66	.16	0	187	5.1	6.2
27	.34	.48	1.8	3.3	3.1	1.2	.84	.22	0	1470	2.9	3.5
28	.34	.54	1.4	3.4	3.1	2.0	.40	.47	0	482	4.4	2.3
29	.38	.41	2.6	3.6	3.0	1.8	1.0	.30	246	302	7.5	1.5
30	.43	.37	2.9	3.7	---	2.2	1.6	.30	38	87	1.7	1.4
31	.36	---	3.1	3.7	---	1.4	---	.50	---	32	3.1	---
TOTAL	13.19	10.20	49.29	85.6	161.2	72.1	25.07	19.60	289.35	5246.78	1072.33	506.16
MEAN	.43	.34	1.59	2.76	5.56	2.33	.84	.63	9.65	169	34.6	16.9
MAX	1.0	.54	3.3	5.7	24	4.9	2.6	1.4	246	1470	322	141
MIN	.22	.16	.38	1.2	3.0	1.2	.03	.15	0	.06	.08	.86
AC-FT	26	20	98	170	320	143	50	39	574	10410	2130	1000

CAL YR 1975 TOTAL 8034.51 MEAN 22.0 MAX 1700 MIN 0 AC-FT 15940
WTR YR 1976 TOTAL 7550.87 MEAN 20.6 MAX 1470 MIN 0 AC-FT 14980

PEAK DISCHARGE (BASE, 2,400 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-22	0215	9.03	3,300	7-27	0715	10.18	5,000
7-24	0015	9.05	3,320				

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 downstream side of pier near center of highway bridge, 0.3 mi (0.5 km) south of Charleston, 1.5 mi (2.4 km) upstream from Charleston damsite, and 9 mi (14 km) upstream from Babocomari River.

DRAINAGE AREA.--1,219 mi² (3,157 km²), of which 696 mi² (1,803 km²) is in Mexico.

PERIOD OF RECORD.--January and February 1904 (gage heights only); March 1904 to August 1906; November 1910 to December 1911 (gage heights only); September 1912 to current year. Monthly discharge only October 1926 to May 1928 and December 1933 to April 1935, published in WSP 1313. Published as "near Lewis Springs" 1910-11, and as "near Fairbank" 1911-26.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 3,954.01 ft (1,205.182 m) above mean sea level. Prior to Dec. 1, 1942, nonrecording gage or water-stage recorder at various sites within 6.5 mi (10.5 km) downstream at different datums.

AVERAGE DISCHARGE.--65 years (1904-5, 1912-76), 59.6 ft³/s (1.688 m³/s), 43,180 acre-ft/yr (53.2 hm³/yr); median of yearly mean discharges, 50 ft³/s (1.42 m³/s), 36,200 acre-ft/yr (45 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,620 ft³/s (103 m³/s) Sept. 5 (gage height, 6.15 ft or 1.875 m); minimum, 1.2 ft³/s (0.034 m³/s) June 14, 17, 18.

Period of record: Maximum discharge, about 98,000 ft³/s (2,780 m³/s) Sept. 28, 1926 (gage height, 21.9 ft or 6.68 m, site and datum then in use), by slope-area measurement of peak flow; minimum since 1928, 0.40 ft³/s (0.011 m³/s) June 7, 1974.

REMARKS.--Records good. Diversions, mostly by pumping from ground water, for irrigation of 3,600 acres (14.6 km²)—in 1966—above station, excluding an unknown amount in Mexico. Record shows flow available at Charleston damsite.

REVISIONS (WATER YEARS).--WSP 1119: 1939(M). WSP 1213: 1914, 1916(M), 1918(M), 1919, 1920(M), 1922-23(M). WSP 1283: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	7.6	11	18	14	17	12	8.4	2.2	25	63	30
2	5.6	8.4	12	16	15	18	12	8.4	2.0	9.7	41	43
3	5.6	9.1	11	15	16	23	12	8.4	2.0	9.7	29	32
4	5.2	9.1	12	14	17	24	10	9.1	1.9	8.0	24	44
5	5.2	9.7	11	15	22	21	9.7	9.1	1.8	6.0	21	396
6	5.2	9.7	12	15	25	18	10	8.4	1.9	5.0	16	253
7	4.8	9.7	12	15	33	18	12	8.4	1.9	4.0	14	80
8	4.8	9.7	12	16	23	20	11	9.1	1.9	3.0	12	43
9	5.2	9.7	13	16	19	17	10	9.1	1.8	3.0	386	30
10	5.2	9.7	13	16	25	15	9.7	9.1	1.8	3.0	108	19
11	5.6	10	13	14	67	12	9.7	9.1	1.9	94	84	15
12	5.6	10	12	14	47	14	9.1	8.4	1.8	23	63	9.7
13	5.2	10	12	14	36	14	9.1	8.0	1.7	22	186	6.8
14	5.6	10	12	14	27	14	9.1	8.0	1.6	17	68	5.2
15	6.0	10	12	14	27	12	12	7.6	1.6	8.4	29	4.4
16	6.4	11	12	14	29	12	14	8.4	1.6	15	15	3.9
17	6.4	11	12	14	26	12	14	7.6	1.5	36	13	3.2
18	6.4	11	13	14	23	14	11	8.4	1.6	212	31	2.5
19	6.4	11	12	15	21	13	10	11	1.8	63	14	2.0
20	6.4	11	12	14	17	13	10	11	2.0	211	22	1.9
21	6.4	11	13	15	14	12	10	9.1	2.0	216	31	1.9
22	7.2	11	13	14	12	12	10	7.6	1.9	854	21	1.8
23	7.2	12	14	16	8.0	13	8.4	6.8	1.9	178	56	1.8
24	7.2	11	14	15	9.7	12	8.4	5.2	2.0	789	138	50
25	7.6	10	14	14	13	12	8.0	4.2	2.0	294	244	50
26	7.6	10	14	14	15	11	8.4	4.2	1.9	393	74	44
27	7.6	10	14	14	16	12	8.0	3.7	1.7	1400	47	16
28	7.2	11	14	15	16	11	8.4	3.4	1.8	611	45	12
29	7.2	14	14	15	16	12	8.0	3.2	203	436	48	9.1
30	7.2	12	15	14	---	12	8.0	3.0	153	202	35	8.0
31	6.8	---	17	14	---	12	---	2.7	---	103	26	---
TOTAL	191.6	309.4	397	457	648.7	452	302.0	228.1	407.5	6253.8	2004	1219.2
MEAN	6.18	10.3	12.8	14.7	22.4	14.6	10.1	7.36	13.6	202	64.6	40.6
MAX	7.6	14	17	18	67	24	14	11	203	1400	386	396
MIN	4.8	7.6	11	14	8.0	11	8.0	2.7	1.5	3.0	12	1.8
AC-FT	380	614	787	906	1290	897	599	452	808	12400	3970	2420
CAL YR 1975	TOTAL	10893.8	MEAN	29.8	MAX	1550	MIN	1.9	AC-FT	21610		
WTR YR 1976	TOTAL	12870.3	MEAN	35.2	MAX	1400	MIN	1.5	AC-FT	25530		

PEAK DISCHARGE (BASE, 3,000 CFS).--July 27 (1230) 3,240 cfs (6.00 ft); Sept. 5 (2300) 3,620 cfs (6.15 ft).

09471550. SAN PEDRO RIVER NEAR TOMBSTONE, ARIZ.

LOCATION.--Lat 31°45'03", long 110°12'02", in SE¼ sec.28, T.19 S., R.21 E. (unsurveyed), Cochise County, in Spanish land grant of San Juan de las Boquillas y Nogales, on right bank 0.5 mi (0.8 km) downstream from Willow Wash, 2.6 mi (4.2 km) north of Fairbank, and 8 mi (13 km) northwest of Tombstone.

DRAINAGE AREA.--1,740 mi² (4,510 km²) approximately, of which 696 mi² (1,800 km²) is in Mexico.

PERIOD OF RECORD.--April 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,780 ft (1,152 m), from topographic map.

AVERAGE DISCHARGE.--9 years, 41.0 ft³/s (1.161 m³/s), 29,700 acre-ft/yr (36.6 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 8,580 ft³/s (243 m³/s) July 27 (gage height, 7.80 ft or 2.377 m); no flow May 31 to June 28.

Period of record: Maximum discharge, 18,500 ft³/s (524 m³/s) July 20, 1974 (gage height, 10.43 ft or 3.179 m), from rating curve extended above 4,900 ft³/s (140 m³/s) on basis of slope-area measurements at gage heights 6.23 ft (1.899 m) and 8.89 ft (2.710 m); no flow at times during each summer.

REMARKS.--Records fair. Diversions above station, mostly by pumping from ground water, for irrigation of 3,600 acres (14.6 km²)—in 1966—excluding an unknown amount in Mexico.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	4.1	9.1	17	14	13	12	8.0	0	37	79	20
2	3.4	4.4	8.8	21	14	13	12	8.0	0	14	50	43
3	3.3	5.2	8.7	17	15	15	12	8.0	0	17	38	28
4	3.2	5.3	8.8	18	16	15	10	8.0	0	15	26	45
5	3.0	5.3	8.9	19	17	13	10	8.0	0	10	20	242
6	3.0	5.4	9.1	19	20	13	10	8.0	0	8.0	17	714
7	2.8	5.5	9.3	19	22	13	10	8.0	0	6.0	15	89
8	2.7	5.8	11	20	20	14	10	8.0	0	5.0	13	44
9	2.5	5.9	11	18	18	13	10	8.0	0	4.0	323	25
10	2.5	6.1	12	16	19	13	10	8.0	0	4.0	222	18
11	2.7	6.2	12	15	27	13	10	7.0	0	61	68	14
12	2.5	6.3	11	14	31	13	10	7.0	0	52	32	12
13	2.7	6.6	12	14	23	13	10	7.0	0	24	200	4.4
14	2.8	7.0	11	13	22	14	10	7.0	0	14	72	7.5
15	3.0	7.2	12	13	20	13	10	7.0	0	8.9	27	6.2
16	3.4	7.7	12	13	19	12	9.0	6.0	0	9.1	19	5.4
17	3.5	7.7	12	12	20	13	9.0	6.0	0	13	17	4.4
18	3.4	7.7	13	12	19	13	9.0	6.0	0	201	14	3.3
19	3.2	7.7	14	12	19	13	9.0	6.0	0	110	30	2.6
20	3.2	8.0	13	12	18	13	9.0	6.0	0	120	19	2.5
21	3.3	8.3	15	12	16	13	9.0	6.0	0	389	17	2.2
22	3.7	8.2	15	12	16	12	9.0	6.0	0	448	17	2.0
23	3.7	8.5	15	14	16	12	9.0	6.0	0	203	39	1.9
24	3.6	9.1	15	15	16	12	9.0	6.0	0	1100	103	13
25	3.4	9.2	15	15	16	11	9.0	6.0	0	379	226	11
26	4.1	9.2	15	14	16	11	8.0	5.0	0	536	56	28
27	4.1	9.2	16	15	15	11	8.0	4.0	0	1890	24	8.6
28	4.0	9.3	16	15	15	11	8.0	3.0	0	996	20	6.2
29	3.9	11	16	15	15	11	8.0	2.0	46	647	27	4.7
30	4.0	11	22	15	---	11	8.0	1.0	291	325	23	3.4
31	3.8	---	16	14	---	12	---	0	---	137	19	---
TOTAL	102.6	215.6	394.7	470	534	392	286.0	190.0	337	8283.0	1872	1416.3
MEAN	3.31	7.22	12.7	15.2	18.4	12.6	9.53	6.13	11.2	267	60.4	47.2
MAX	4.1	11	22	21	31	15	12	8.0	291	1890	323	714
MIN	2.5	4.1	8.7	12	14	11	8.0	0	0	4.0	13	1.9
AC-FT	204	430	783	932	1060	778	567	377	668	16430	3710	2810

CAL YR 1975 TOTAL 14361.90 MEAN 39.3 MAX 1710 MIN 0 AC-FT 28490
WTR YR 1976 TOTAL 14494.2 MEAN 39.6 MAX 1890 MIN 0 AC-FT 28750

PEAK DISCHARGE (BASE, 3,000 CFS).--July 27 (2245) 8,580 cfs (7.80 ft); Sept. 6 (0100) 3,060 cfs (5.70 ft).

NOTE.--No gage-height record Apr. 7 to June 8.

GILA RIVER BASIN

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, on right bank, 6 mi (10 km) downstream from Tres Alamos Wash, and 11 mi (18 km) north of Benson.

DRAINAGE AREA.--2,500 mi² (6,475 km²), of which 696 mi² (1,803 km²) is in Mexico.

PERIOD OF RECORD.--March 1966 to September 1976 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 3,303.5 ft (1,006.91 m) above mean sea level, unadjusted.

AVERAGE DISCHARGE.--10 years, 31.8 ft³/s (0.901 m³/s), 23,040 acre-ft/yr (28.4 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 5,110 ft³/s (145 m³/s) July 28 (gage height, 7.70 ft or 2.347 m); no flow for most of year. Period of record: Maximum discharge, 9,800 ft³/s (278 m³/s) Aug. 26, 1972 (gage height, 10.60 ft or 3.231 m), from rating curve extended above 4,500 ft³/s (127 m³/s) on basis of slope-area measurement at gage height 9.96 ft (3.036 m); maximum gage height, 10.85 ft or 3.307 m, July 20, 1974; no flow for most of each year.

REMARKS.--Records poor. Diversions above station, partly by pumping from ground water, for irrigation of 8,300 acres (33.6 km²), in 1966, excluding an unknown amount in Mexico. Records of suspended-sediment loads for the current water year are published on following pages.

REVISIONS (WATER YEARS).--WRD Ariz. 1969: 1966-67(M,P).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								0	0	12	44	0
2								0	0	0	5.0	0
3								0	0	0	1.0	0
4								0	0	0	0	0
5								0	0	0	0	95
6								0	0	0	0	438
7								0	0	0	0	276
8								0	0	0	0	3.5
9								0	0	0	67	0
10								0	0	1.0	222	0
11								0	0	13	104	0
12								0	0	212	.50	0
13								0	0	45	.20	0
14								0	0	20	47	0
15								0	0	.10	.40	0
16								0	0	0	0	0
17								0	0	178	0	0
18								0	0	138	0	0
19								2.1	0	278	0	0
20								.30	0	.50	0	0
21								0	0	190	0	0
22								0	0	537	313	0
23								0	0	212	68	0
24								0	0	942	0	25
25								0	0	412	32	32
26								0	0	316	98	57
27								0	0	764	46	0
28								0	0	1980	78	0
29								0	213	937	0	0
30								0	60	341	0	0
31		---			---		---	0	---	102	0	---
TOTAL	0	0	0	0	0	0	0	2.40	273	7630.60	1126.10	926.5
MEAN	0	0	0	0	0	0	0	.077	9.10	246	36.3	30.9
MAX	0	0	0	0	0	0	0	2.1	213	1980	313	438
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	4.8	541	15140	2230	1840
CAL YR 1975	TOTAL	6946.10	MEAN 19.0	MAX 2020	MIN 0	AC-FT 13780						
WTR YR 1976	TOTAL	9958.60	MEAN 27.2	MAX 1980	MIN 0	AC-FT 19750						

PEAK DISCHARGE (BASE, 3,000 CFS).--July 28 (0500) 5,110 cfs (7.70 ft); July 29 (0100) 3,450 cfs (6.47 ft).

GILA RIVER BASIN

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 mi (10 km) downstream from Tres Alamos Wash, and 11 mi (18 km) north of Benson.

DRAINAGE AREA.--2,500 mi² (6,475 km²), of which 696 mi² (1,803 km²) is in Mexico.

PERIOD OF RECORD.--Sediment records: March 1966 to September 1976 (discontinued).

REMARKS.--Records of temperature and specific conductance of individual samples available* in district office at Tucson, Ariz. No flow many days each year.

MONTHLY AND ANNUAL SUMMARY OF SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

Month	Discharge (cfs)	Suspended-sediment discharge (tons)
October 1975	0	0
November	0	0
December	0	0
January 1976	0	0
February	0	0
March	0	0
April	0	0
May	2.40	30.4
June	273.00	53,290.0
July	7,630.60	1,782,384.7
August	1,126.10	81,850.1
September	926.50	102,232.0
Total for year	9,958.60	2,019,787.2

09472000. SAN PEDRO RIVER NEAR REDINGTON, ARIZ.

LOCATION.--Lat 32°22'50", long 110°26'45", in NE¼NW¼ sec.19, T.12 S., R.19 E., Cochise County, on left bank, 0.3 mi (0.5 km) upstream from Cochise-Pima County line, 4.3 mi (6.9 km) southeast of Redington, and 30 mi (48 km) north of Benson.

DRAINAGE AREA.--2,939 mi² (7,612 km²), of which 696 mi² (1,803 km²) is in Mexico.

PERIOD OF RECORD.--June 1943 to June 1947, July 1950 to current year (monthly discharge only, July 1954 to March 1955). Also extremes for water years 1948-50, published in WSP 1179.

GAGE.--Water-stage recorder. Datum of gage is 2,930.04 ft (893.076 m) above mean sea level. June 1943 to June 1947, and Oct. 1, 1962, to June 27, 1963, at present site at datum 7.49 ft (2.283 m) higher. July 1950 to Sept. 30, 1962, at site 400 ft (120 m) upstream at datum 10.47 ft (3.191 m) higher. Supplementary water-stage recorder 50 ft upstream at different datum since June 18, 1975.

AVERAGE DISCHARGE.--29 years (1943-46, 1950-76), 43.2 ft³/s (1.223 m³/s), 31,300 acre-ft/yr (38.6 hm³/yr); median of yearly mean discharges, 31 ft³/s (0.88 m³/s), 22,500 acre-ft/yr (28 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 6,550 ft³/s (185 m³/s) July 28 (gage height, 14.10 ft or 4.298 m); no flow for many days. Period of record: Maximum discharge, 28,600 ft³/s (810 m³/s) Aug. 2, 1951 (gage height, 20.2 ft or 6.16 m, present site and datum), from rating curve extended above 16,000 ft³/s (450 m³/s) on basis of slope-area measurement of peak flow; no flow at times in most years.

Maximum discharge since at least 1906, about 90,000 ft³/s (2,550 m³/s) Sept. 28, 1926 (gage height, 29.0 ft or 8.84 m, present site and datum, from floodmark), computed on basis of peak discharge of same flood for station at Charleston and for Gila River at Kelvin.

REMARKS.--Records fair except those for Oct. 1 to Jan. 30, which are poor. Diversions above station for irrigation of about 9,700 acres (39.3 km²) in 1966, excluding an unknown amount in Mexico. Diversion above gage into formerly used ditch on right bank was placed in operation in January 1972; diversion was observed Nov. 11, Dec. 15, Jan 29, and Mar. 13.

REVISIONS.--WSP 1283: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	.30	.50					0	35	50	2.0
2		0	.30	.50					0	1.6	5.0	1.0
3		0	.30	.50					0	0	1.0	1.0
4		0	.30	.50					0	0		27
5		0	.30	.50					0	.20	0	84
6		0	.30	.50					0	.20	0	376
7		0	.30	.50					0	.10	0	372
8		0	.30	.50					0	0	0	17
9		0	.30	.50					0	0	0	2.4
10		0	.30	.50					0	0	163	1.2
11		0	.30	.50					0	5.0	170	1.1
12		0	.30	.50					0	131	44	1.0
13		0	.30	.50					0	18	6.9	.90
14		0	.30	.50					0	5.1	18	.90
15		0	.40	0					0	2.9	50	.60
16		0	.40	0					0	1.0	6.9	.60
17		0	.40	0					0	.47	1.1	.50
18		0	.40	0					0	130	.50	.10
19		.10	.40	0					0	284	.20	0
20		.10	.40	0					0	28	.20	0
21		.10	.40	0					0	12	.10	0
22		.10	.50	0					0	580	0	0
23		.10	.50	0					0	320	293	0
24		.20	.50	0					0	638	36	15
25		.20	.50	0					0	512	9.8	11
26		.20	.50	0					0	248	103	28
27		.20	.50	0					0	378	122	3.0
28		.50	.50	0					0	2380	90	2.0
29		.30	.50	0					0	1220	15	2.0
30		.30	.50	0	---				109	392	3.0	1.0
31		---	.50	0	---		---		---	162	2.0	---
TOTAL	0	2.40	12.00	7.00	0	0	0	0	109	7531.10	1190.70	951.30
MEAN	0	.080	.39	.23	0	0	0	0	3.63	243	38.4	31.7
MAX	0	.50	.50	.50	0	0	0	0	109	2380	293	376
MIN	0	0	.30	0	0	0	0	0	0	0	0	0
AC-FT	0	4.8	24	14	0	0	0	0	216	14940	2360	1890
CAL YR 1975	TOTAL	7560.30	MEAN 20.7	MAX 2080	MIN 0	AC-FT 15000						
WTR YR 1976	TOTAL	9803.50	MEAN 26.8	MAX 2380	MIN 0	AC-FT 19450						

PEAK DISCHARGE (BASE, 3,000 CFS).--July 28 (0900) 6,550 cfs (14.10 ft); July 29 (0230) 3,260 cfs (12.55 ft).

NOTE.--No gage-height record Oct. 1 to Jan. 29, Feb. 6 to Mar. 17.

09473000. ARAVAIPA CREEK NEAR MAMMOTH, ARIZ.

LOCATION.--Lat 32°50'37", long 110°37'07", in NW¼NW¼ sec.9, T.7 S., R.17 E., Pinal County, on right bank 6 mi (10 km) upstream from mouth and 9 mi (14 km) north of Mammoth.

DRAINAGE AREA.--541 mi² (1,401 km²).

PERIOD OF RECORD.--May 1931 to December 1942 (published as "near Feldman"), May 1966 to current year. Monthly discharge only July 1941 to December 1942, published in WSP 1313.

GAGE.--Water-stage recorder. Altitude of gage is 2,350 ft (716 m), from topographic map. May 1931 to December 1942 at site 0.3 mi (0.5 km) downstream at different datum.

AVERAGE DISCHARGE.--21 years, 27.4 ft³/s (0.776 m³/s), 19,850 acre-ft/yr (24.5 hm³/yr); median of yearly mean discharges, 19 ft³/s (0.54 m³/s), 15,800 acre-ft/yr (17 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 1,120 ft³/s (31.7 m³/s) Aug. 23 (gage height, 4.32 ft or 1.317 m); minimum daily, 1.3 ft³/s (0.037 m³/s) July 6, 7.

Period of record: Maximum discharge since at least 1931, 10,500 ft³/s (297 m³/s) Dec. 19, 1967 (gage height, 11.86 ft or 3.615 m, in gage well, 14.25 ft or 4.343 m, from profile past gage), from rating curve extended above 430 ft³/s (12.2 m³/s) on basis of slope-area measurement at gage height 12.5 ft (3.81 m), from profile past gage; minimum, 0.3 ft³/s (0.008 m³/s) Aug. 30, 1940.

A discharge of 20,000 ft³/s (566 m³/s) occurred Aug. 2, 1919, at site of former gaging station 6 mi (10 km) downstream, operated April 1919 to September 1921 (gage height, 6.3 ft or 1.920 m, from floodmark, site and datum then in use), from rating curve extended above 5,100 ft³/s (144 m³/s) on basis of velocity-area study.

REMARKS.--Records fair. Diversions for irrigation of several hundred acres above station.

REVISIONS (WATER YEARS).--WRD Ariz. 1968: 1967.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	6.5	13	13	10	8.5	7.3	9.0	3.5	1.5	12	6.2
2	7.4	6.6	13	13	10	6.3	7.2	9.0	3.0	1.5	10	5.5
3	7.3	9.4	12	13	12	7.1	6.8	9.0	3.0	2.0	8.3	6.2
4	6.3	8.2	12	13	15	10	6.6	9.0	3.0	1.7	7.6	8.0
5	7.5	7.5	12	12	17	12	7.2	9.0	3.0	1.5	6.2	13
6	6.8	7.9	12	13	18	11	7.0	9.0	3.0	1.3	4.5	70
7	7.0	9.6	11	13	17	11	7.0	9.0	2.9	1.3	3.8	20
8	6.0	9.7	11	12	17	12	7.0	9.0	2.7	1.5	4.6	11
9	6.2	9.1	11	13	16	13	7.0	8.3	2.6	1.6	4.1	9.0
10	7.0	9.0	12	13	21	12	7.0	7.6	2.4	2.0	4.0	8.8
11	8.1	9.3	11	13	14	13	6.5	6.8	2.7	2.0	6.7	9.0
12	8.3	9.2	12	12	14	11	6.5	6.8	3.4	2.5	4.5	7.3
13	8.2	9.3	13	12	12	12	6.5	7.1	3.2	3.8	4.1	7.0
14	7.3	8.9	13	12	13	11	6.5	7.0	3.0	2.0	3.9	7.0
15	6.2	8.9	12	12	12	12	6.5	5.6	3.0	1.5	3.8	7.4
16	6.6	9.2	11	12	11	11	7.0	5.3	3.0	1.5	4.4	7.3
17	8.6	9.2	12	11	11	11	7.0	3.8	3.4	2.4	5.2	7.4
18	8.6	9.7	12	10	10	11	7.0	4.2	3.2	2.9	4.6	6.0
19	8.2	11	11	11	10	9.6	7.0	4.4	2.8	4.2	4.1	6.0
20	8.9	11	13	11	9.2	10	7.0	4.7	2.3	3.9	2.6	5.7
21	9.8	8.0	14	12	8.9	10	7.5	4.2	2.2	15	3.3	5.3
22	9.8	8.7	13	12	8.6	11	7.5	4.0	1.9	20	8.7	5.6
23	9.4	9.8	14	12	8.3	9.5	7.5	4.0	1.8	115	134	5.4
24	9.2	11	14	13	8.6	6.6	7.5	4.0	1.8	16	19	48
25	9.9	11	14	13	8.5	5.5	7.5	4.0	1.6	13	11	50
26	9.7	11	14	12	7.8	5.9	8.0	4.0	1.5	12	8.8	25
27	8.9	11	13	11	7.7	6.2	8.0	3.5	1.9	10	7.7	13
28	8.7	10	13	11	6.9	6.2	8.0	3.5	1.5	9.1	7.6	12
29	6.4	17	13	11	7.6	6.2	8.0	3.5	1.4	8.0	6.7	11
30	5.9	13	13	11	---	6.2	8.0	3.5	1.6	96	6.2	10
31	6.1	---	13	10	---	6.5	---	3.5	---	20	6.2	---
TOTAL	241.3	289.7	387	372	342.1	294.3	215.1	185.3	76.3	376.7	328.2	413.1
MEAN	7.78	9.66	12.5	12.0	11.8	9.49	7.17	5.98	2.54	12.2	10.6	13.8
MAX	9.9	17	14	13	21	13	8.0	9.0	3.5	115	134	70
MIN	5.9	6.5	11	10	6.9	5.5	6.5	3.5	1.4	1.3	2.6	5.3
AC-FT	479	575	768	738	679	584	427	368	151	747	651	819

CAL YR 1975 TOTAL 4257.6 MEAN 11.7 MAX 108 MIN 1.9 AC-FT 8440
WTR YR 1976 TOTAL 3521.1 MEAN 9.62 MAX 134 MIN 1.3 AC-FT 6980

PEAK DISCHARGE (BASE, 2,500 CFS).--No peak above base.

NOTE.--No gage-height record Apr. 6 to May 6, May 22 to June 6.

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, on right bank 0.7 mi (1.1 km) south of Winkelman, and 1.0 mi (1.6 km) upstream from mouth.

DRAINAGE AREA.--4,471 mi² (11,580 km²); of which 696 mi² (1,803 km²) is in Mexico.

PERIOD OF RECORD.--May to August 1890 (monthly discharge only), January 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,925 ft (587 m), from topographic map. Apr. 8 to Aug. 31, 1890, nonrecording gage at site about 1,000 ft (300 m) upstream at different datum. Jan. 1, 1966, to Sept. 30, 1968, water-stage recorder at present site at datum 0.27 ft (0.082 m) lower.

AVERAGE DISCHARGE.--10 years, 40.7 ft³/s (1.153 m³/s), 29,490 acre-ft/yr (36.4 hm³/yr); median of yearly mean discharges, 34 ft³/s (0.96 m³/s) 24,600 acre-ft/yr (30 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 4,300 ft³/s (122 m³/s) July 28 (gage height, 9.30 ft or 2.835 m); no flow for many days. Period of record: Maximum discharge, about 15,000 ft³/s (425 m³/s) Dec. 20, 1967 (gage height, 11.95 ft or 3.642 m), from rating curve extended above 2,600 ft³/s (74 m³/s) and comparison with slope-area measurement for flood of Dec. 22-23, 1965, at site 3.5 mi (5.6 km) upstream; no flow at times each year. Flood of Dec. 22-23, 1965, reached a stage of 12.2 ft (3.72 m), from floodmarks, present site, datum used Jan. 1, 1966, to Sept. 30, 1968—discharge, 16,800 ft³/s (476 m³/s) at site 3.5 mi (5.6 km) upstream—by slope-area measurement of peak flow.

REMARKS.--Records fair. Diversions above station, mostly by pumping from ground water, for municipal and industrial use, and for irrigation of about 12,700 acres (51.4 km²). Records of water temperatures and suspended-sediment loads for the current water year are published on following pages.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NCV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	2.4	3.9	1.9	1.9	0	0		19	23	1.0
2	.90	0	2.7	3.9	2.4	1.5	0	0		10	8.7	.30
3	.10	0	2.4	3.9	2.7	1.7	0	0		1.0	4.4	.10
4	0	0	1.9	2.9	2.9	2.2	0	0		.50	1.5	.40
5	0	0	1.9	2.7	2.7	2.2	0	0		0	.40	29
6	0	0	1.9	2.4	1.9	1.9	0	0		0	.40	405
7	0	0	1.9	2.4	1.7	1.9	0	0		0	.30	484
8	0	0	1.5	2.4	1.7	1.7	0	0		0	0	49
9	0	0	1.2	2.7	1.7	1.5	0	0		0	0	1.0
10	0	0	1.0	2.4	1.5	1.2	0	0		0	2.1	.40
11	0	0	.70	2.4	1.7	1.0	0	0		0	77	.30
12	0	0	.40	2.4	1.7	1.0	0	0		0	30	0
13	0	0	.70	2.4	1.9	1.0	0	0		50	3.0	0
14	0	0	1.0	2.2	1.7	.70	0	0		2.9	2.0	0
15	0	0	1.2	1.9	1.7	.40	0	0		.40	.50	0
16	0	0	1.5	2.2	1.7	.40	.70	0		.20	2.9	0
17	0	0	1.5	2.2	1.7	.30	11	0		.10	6.4	0
18	0	0	1.7	2.2	1.7	.10	2.0	0		110	2.4	0
19	0	0	1.5	2.4	1.9	.20	.60	7.0		102	1.0	0
20	0	0	1.7	2.2	1.7	.20	.30	0		36	4.6	0
21	0	0	2.9	2.2	1.7	.20	.10	0		10	.10	0
22	0	0	3.4	2.2	1.7	.10	.10	0		96	4.9	0
23	0	0	3.4	2.4	1.7	0	.10	0		674	442	.50
24	0	0	4.4	2.7	1.7	0	.10	0		450	38	82
25	0	0	4.4	2.4	1.7	.10	.10	0		615	14	50
26	0	0	3.9	2.4	1.7	0	.10	0		117	6.4	36
27	0	0	4.4	2.2	1.7	0	.10	0		68	33	8.7
28	0	0	4.4	2.2	1.7	0	0	0		1550	42	4.4
29	0	3.1	3.4	1.9	1.7	0	0	0		682	33	1.2
30	0	3.4	2.9	2.2	---	0	0	0		807	10	.40
31	0	---	3.4	1.9	---	0	---	0		119	5.0	---
TOTAL	1.00	6.5	71.60	76.8	53.8	23.40	15.30	7.0	0	5520.10	799.00	1153.70
MEAN	.032	.22	2.31	2.48	1.86	.75	.51	.23	0	178	25.8	38.5
MAX	.90	3.4	4.4	3.9	2.9	2.2	11	7.0	0	1550	442	484
MIN	0	0	.40	1.9	1.5	0	0	0	0	0	0	0
AC-FT	2.0	13	142	152	107	46	30	14	0	10950	1580	2290
CAL YR 1975	TOTAL	4334.45	MEAN 11.9	MAX 898	MIN 0	AC-FT 8600						
WTR YR 1976	TOTAL	7728.20	MEAN 21.1	MAX 1550	MIN 0	AC-FT 15330						

PEAK DISCHARGE (BASE, 4,000 CFS).--July 28 (1800) 4,300 cfs (9.30 ft).

09473500. SAN PEDRO RIVER AT WINKELMAN, ARIZ.
(National stream-quality accounting network station)

LOCATION.--Lat 32°58'38", long 110°46'11", in SE4SW4 sec.24, T.5 S., R.15 E., Pinal County, at gaging station 0.7 mi (1.1 km) south of Winkelman, and 1.0 mi (1.6 km) upstream from mouth.

DRAINAGE AREA.--4,471 mi² (11,580 km²), of which 696 mi² (1,803 km²) is in Mexico.

PERIOD OF RECORD.--Chemical analyses: October 1974 to current year.

Specific conductance: January 1966 to September 1976 (discontinued).

Water temperatures: January 1966 to September 1976 (discontinued).

Sediment records: January 1966 to September 1976 (discontinued).

EXTREMES.--Current year:

Specific conductance: Maximum daily, 1,790 micromhos Mar. 22; minimum daily, 401 micromhos July 1.

Water temperatures: Maximum observed, 38.0°C Aug. 5; minimum observed, 7.0°C Dec. 16.

Sediment concentrations: Maximum daily, 132,000 mg/L Aug. 23; minimum daily, no flow on many days.

Sediment discharge: Maximum daily, 382,000 tons (347,000 tonnes) July 28; minimum daily, 0 ton (0 tonne) on many days.

Period of record:

Specific conductance: Maximum daily, 2,210 micromhos July 12, 1975; minimum daily, 300 micromhos Oct. 4, 1970.

Water temperatures: Maximum observed, 42.0°C Sept. 10, 1968; minimum observed, 2.0°C Dec. 31, 1966.

Sediment concentrations: Maximum daily, 138,000 mg/L June 14, 1972; minimum daily, no flow on many days.

Sediment discharge: Maximum daily, 961,000 tons (872,000 tonnes) Dec. 20, 1967; minimum daily, 0 ton (0 tonne) on many days.

REMARKS.--No flow for extended periods each year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS-CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COL. UNITS PER 100 ML)	HARDNESS (CA+MG)
DEC 09...	1130	.70	1480	8.6	13.5	100	--	120	360	400
JAN 13...	1200	2.4	1530	8.1	15.0	32	--	8100	340	440
FEB 25...	1300	2.2	1600	8.2	24.0	14	--	870	670	450
JUL 28...	1230	1690	463	8.4	26.0	19000	7.7	34000	82000	140
AUG 25...	1500	5.9	723	8.4	37.0	8000	6.2	110000	67000	240
SEP 29...	1300	2.4	1200	8.3	32.0	3300	6.9	16000	51000	360

DATE	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED PHOSPHATE (P) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
DEC 09...	170	120	25	160	3.5	6.9	283	0	400	88
JAN 13...	230	130	27	160	3.3	7.6	256	0	430	99
FEB 25...	260	130	30	180	3.7	7.9	235	0	440	120
JUL 28...	1	44	7.5	30	1.1	4.1	170	0	97	5.6
AUG 25...	140	78	11	37	1.0	6.0	125	0	200	12
SEP 29...	160	110	20	120	2.8	9.5	242	0	340	59

DATE	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF TWEENTIS) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)	DISSOLVED ORTHOPHOSPHORUS (P) (MG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED IRON (FE) (UG/L)
DEC 09...	2.4	35	1020	979	1.39	.50	.07	--	--
JAN 13...	2.3	36	1050	1020	1.43	.60	.01	250	10
FEB 25...	2.2	34	1100	1060	1.50	.23	.02	270	10
JUL 28...	.7	14	261	292	.36	1.2	.03	60	10
AUG 25...	.7	18	427	432	.58	1.7	.12	80	10
SEP 29...	2.0	28	816	811	1.11	.53	.05	200	10

B Results based on non-ideal colony count.

GILA RIVER BASIN

09473500. SAN PEDRO RIVER AT WINKELMAN, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL ARSENIC IN BOTTOM MA- TERIAL (UG/G)	TOTAL BARIUM (BA) (UG/L)	TOTAL BARIUM IN BOTTOM MA- TERIAL (UG/G)	TOTAL BORON (B) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CAUMIUM IN BOTTOM MA- TERIAL (UG/G)
JAN 13...	1200	11	--	--	0	--	270	250	<10	1	--
FEB 25...	1300	6	6	--	0	--	290	270	10	0	--
JUL 28...	1230	500	4	--	18000	--	1400	60	150	0	--
AUG 25...	1500	350	--	50	5400	40	330	80	40	--	1
SEP 29...	1300	100	7	--	2100	--	390	200	30	0	--

DATE	TOTAL CHRO- MIUM (CH) (UG/L)	DIS- SOLVED CHRO- MIUM (CH) (UG/L)	TOTAL CHRO- MIUM IN BOTTOM MA- TERIAL (UG/G)	TOTAL COBALT (CO) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL COPPER IN BOTTOM MA- TERIAL (UG/G)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
JAN 13...	0	--	--	--	--	40	--	--	3700	10
FEB 25...	0	0	--	<50	0	10	4	--	300	10
JUL 28...	1200	0	--	1600	0	4300	11	--	660000	10
AUG 25...	340	--	3	--	--	1800	--	5	330000	10
SEP 29...	160	0	--	300	3	420	5	--	160000	10

DATE	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL LEAD IN BOTTOM MA- TERIAL (UG/G)	TOTAL MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL MERCURY IN BOTTOM MA- TERIAL (UG/G)	TOTAL SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)
JAN 13...	<100	--	--	410	0	.0	--	--	0	--
FEB 25...	<100	3	--	60	10	.1	.1	--	0	0
JUL 28...	2900	8	--	57000	0	--	.0	--	1	1
AUG 25...	1000	--	10	22000	0	1.8	--	.0	1	--
SEP 29...	400	0	--	3900	30	1.3	--	--	2	1

DATE	TOTAL SELE- NIUM IN BOTTOM MA- TERIAL (UG/G)	TOTAL SILVER (AG) (UG/L)	TOTAL SILVER IN BOTTOM MA- TERIAL (UG/G)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ZINC IN BOTTOM MA- TERIAL (UG/G)	TOTAL ORGANIC CARBON (C) (MG/L)	CYANIDE (CN) (MG/L)	TOTAL CYANIDE IN BOTTOM MA- TERIAL (UG/G)	PHENOLS (UG/L)
JAN 13...	--	<10	--	40	--	--	--	--	--	--
FEB 25...	--	<10	--	20	10	--	1.8	.00	--	3
JUL 28...	--	140	--	6500	0	--	76	.01	--	11
AUG 25...	0	40	3	1900	--	12	213	.00	0	4
SEP 29...	--	10	--	790	10	--	49	.01	--	1

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

GILA RIVER BASIN

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09473500. SAN PEDRO RIVER AT WINKELMAN, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL NITRATE PLUS NITRITE (N) (MG/L)	DIS- SOLVED NITRATE PLUS NITRITE (N) (MG/L)	TOTAL KJEL- DAHL- NITRO- GEN (N) (MG/L)	TOTAL KJEL. NITRO- GEN IN BOTTOM MAT. (MG/KG)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)			
DEC 09...	1130	.51	.50	.57	--	1.1	4.8	.08	.07			
JAN 13...	1200	.61	.60	.66	--	1.3	5.6	.10	.01			
FEB 25...	1300	.23	.23	.38	--	.61	2.7	.02	.02			
JUL 28...	1230	1.3	1.2	21	--	22	99	13	.03			
AUG 25...	1500	1.7	1.7	7.3	52	9.0	40	6.2	.12			
SEP 29...	1300	.71	.53	5.4	--	6.1	27	5.9	.05			
DATE	TIME	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	DDE IN BOTTOM MA- TERIAL (UG/KG)	DDT IN BOTTOM MA- TERIAL (UG/KG)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	ETHION IN BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)	
AUG. 27...	1500	.0	0	.0	.0	.0	.0	.0	.0	.0	.0	
DATE	TIME	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG)	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG)	PCB IN BOTTOM MA- TERIAL (UG/KG)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG)	2,4-D IN BOTTOM MA- TERIAL (UG/KG)	2,4,5-T IN BOTTOM MA- TERIAL (UG/KG)	SILVEX IN BOTTOM MA- TERIAL (UG/KG)
AUG. 27...		.0	.0	.0	.0	.0	45	0	.0	0	0	0

GILA RIVER BASIN

09473500. SAN PEDRO RIVER AT WINKELMAN, ARIZ.--CONTINUED

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	1080	1320	1440	1560	---	---	---	401	516	1150
2	1100	---	1080	1330	1700	1570	---	---	---	547	706	1010
3	1280	---	1160	1340	1480	1470	---	---	---	742	957	1290
4	---	---	1210	1340	1430	1450	---	---	---	991	1050	668
5	---	---	1230	1330	1430	1470	---	---	---	1240	1060	589
6	---	---	1190	1380	1410	1450	---	---	---	836	1040	501
7	---	---	1260	1340	1430	1460	---	---	---	---	1070	506
8	---	---	1270	1360	1450	1460	---	---	---	---	---	456
9	---	---	1260	1340	1440	1450	---	---	---	---	---	507
10	---	---	1360	1340	1450	1500	---	---	---	---	884	675
11	---	---	1300	1350	1430	1520	---	---	---	---	674	728
12	---	---	1310	1350	1440	1540	---	---	---	---	565	---
13	---	---	1240	1330	1430	1480	---	---	---	602	784	---
14	---	---	1190	1340	1480	1550	---	---	---	587	961	---
15	---	---	1250	1350	1480	1560	1680	---	---	731	1150	---
16	---	---	1240	1360	1470	1610	1610	---	---	987	1170	---
17	---	---	1260	1370	1470	1520	646	---	---	1070	972	---
18	---	---	1340	1370	1480	1660	1120	---	---	590	960	---
19	---	---	1380	1370	1480	1570	1460	---	---	550	1190	---
20	---	---	1310	1400	1510	1600	1560	---	---	523	1170	---
21	---	---	1180	1420	1480	1780	1680	---	---	627	980	---
22	---	---	1270	1420	1490	1790	1660	---	---	475	1210	---
23	---	---	1310	1380	1480	---	1670	---	---	437	586	---
24	---	---	1260	1390	1510	---	1680	---	---	455	588	952
25	---	---	1280	1400	1470	1670	1730	---	---	456	669	499
26	---	---	1300	1410	1490	---	1720	---	---	520	864	514
27	---	---	1310	1420	1500	---	---	---	---	513	832	736
28	---	---	1370	1410	1480	---	---	---	---	512	514	862
29	---	1170	1330	1410	1500	---	---	---	---	500	664	1000
30	---	---	1340	1440	---	---	---	---	---	460	773	1100
31	---	---	1340	1450	---	---	---	---	---	456	1030	---
MEAN	---	---	1260	1370	1470	---	---	---	---	632	882	---

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	18.0	17.0	24.0	18.0	---	---	---	27.5	24.0	27.0
2	25.0	---	15.0	17.0	23.0	24.0	---	---	---	25.0	25.0	30.0
3	34.0	---	17.5	16.0	19.0	23.0	---	---	---	27.0	36.0	29.0
4	---	---	15.0	19.0	17.0	14.0	---	---	---	27.0	23.0	24.0
5	---	---	17.0	15.0	18.0	24.0	---	---	---	26.0	38.0	26.0
6	---	---	20.0	13.0	23.0	25.0	---	---	---	28.0	28.0	23.0
7	---	---	13.0	19.0	24.0	16.0	---	---	---	---	33.0	29.0
8	---	---	12.0	14.0	23.0	25.0	---	---	---	---	---	28.0
9	---	---	16.0	18.0	23.0	23.0	---	---	---	---	---	24.0
10	---	---	23.0	19.0	24.0	23.0	---	---	---	---	25.0	25.0
11	---	---	24.0	20.0	20.0	23.0	---	---	---	---	27.0	29.0
12	---	---	19.0	20.0	24.0	16.0	---	---	---	---	28.0	---
13	---	---	15.0	17.0	23.0	26.0	---	---	---	31.0	27.0	---
14	---	---	15.0	20.0	27.0	29.0	---	---	---	27.0	31.0	---
15	---	---	14.0	21.0	23.0	25.0	15.0	---	---	34.0	22.0	---
16	---	---	7.0	21.0	23.0	26.0	14.0	---	---	28.0	32.0	---
17	---	---	18.0	23.0	21.0	22.0	20.0	---	---	34.0	24.0	---
18	---	---	17.0	23.0	26.0	16.0	31.0	---	---	33.0	28.0	---
19	---	---	13.0	18.0	26.0	25.0	27.0	---	---	32.0	35.0	---
20	---	---	9.0	18.0	23.0	30.0	29.0	---	---	29.5	33.0	---
21	---	---	15.0	15.0	21.0	31.0	35.0	---	---	27.0	32.0	---
22	---	---	20.0	21.0	22.0	30.0	18.0	---	---	31.5	26.0	---
23	---	---	15.0	23.0	24.0	---	25.0	---	---	30.5	27.0	---
24	---	---	15.0	19.0	25.0	---	22.0	---	---	25.5	28.0	25.0
25	---	---	14.0	23.0	22.0	12.0	14.0	---	---	28.5	35.0	26.5
26	---	---	20.0	20.0	---	---	22.0	---	---	30.0	26.0	24.5
27	---	---	20.0	18.0	10.0	---	---	---	---	32.5	29.0	24.0
28	---	---	16.0	18.0	11.0	---	---	---	---	29.0	27.5	34.0
29	---	12.5	19.0	20.0	20.0	---	---	---	---	28.0	25.0	27.0
30	---	---	20.0	24.0	---	---	---	---	---	27.5	27.0	21.0
31	---	---	10.0	10.0	---	---	---	---	---	28.0	27.0	---
MEAN	---	---	16.0	18.5	22.0	---	---	---	---	29.0	28.5	---

GILA RIVER BASIN

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09473500. SAN PEDRO RIVER AT WINKELMAN, ARIZ.--CONTINUED

SUSPENDED-SEDIMENT CONCENTRATION (MG/L), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	1750	140	20	47	---	---		112000	53000	4000
2	9740	---	550	165	58	50	---	---		120000	33000	361
3	1000	---	400	180	51	44	---	---		103000	11000	126
4	---	---	225	190	29	68	---	---		50000	1800	6500
5	---	---	215	155	139	112	---	---		---	210	30500
6	---	---	280	120	94	100	---	---		---	202	85300
7	---	---	140	130	134	86	---	---		---	140	79000
8	---	---	120	160	27	134	---	---		---	---	54000
9	---	---	135	150	22	73	---	---		---	---	36000
10	---	---	200	150	25	78	---	---		---	13000	17500
11	---	---	180	105	17	36	---	---		---	122000	7000
12	---	---	120	105	19	29	---	---		---	88000	---
13	---	---	145	210	49	78	---	---		121000	76000	---
14	---	---	190	160	29	37	---	---		78000	46000	---
15	---	---	340	145	18	82	---	---		40000	6000	---
16	---	---	160	140	14	50	38	---		2000	19700	---
17	---	---	120	100	17	68	2460	---		147	44000	---
18	---	---	320	110	21	91	1100	---		105000	24000	---
19	---	---	210	170	32	82	161	1760		115000	6000	---
20	---	---	130	100	13	21	100	---		103000	18200	---
21	---	---	220	64	31	27	56	---		96000	3000	---
22	---	---	250	90	22	75	89	---		79800	2950	---
23	---	---	340	72	26	---	8	---		83200	132000	900
24	---	---	220	74	28	---	42	---		64300	89000	17100
25	---	---	160	86	55	86	39	---		79800	42000	21600
26	---	---	160	72	52	---	36	---		78700	80000	30800
27	---	---	150	66	44	---	30	---		93000	125000	61000
28	---	---	130	56	46	---	---	---		102000	84000	51000
29	---	4210	100	87	47	---	---	---		71400	81000	22000
30	---	4600	110	21	---	---	---	---		72000	61000	1000
31	---	---	145	42	---	---	---	---		61000	26000	---

GILA RIVER BASIN

09473500. SAN PEDRO RIVER AT WINKEIMAN, ARIZ.--CONTINUED

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	16	1.5	.10	.24	0	0		7440	3290	11
2	52	0	4.0	1.7	.38	.20	0	0		3240	775	.29
3	.21	0	2.6	1.9	.37	.20	0	0		278	131	.03
4	0	0	1.2	1.5	.23	.40	0	0		68	7.3	7.0
5	0	0	1.1	1.1	1.0	.66	0	0		0	.23	7410
6	0	0	1.4	.78	.48	.51	0	0		0	.22	126000.0
7	0	0	.72	.84	.62	.44	0	0		0	.11	118000.0
8	0	0	.48	1.0	.12	.62	0	0		0	0	7140
9	0	0	.44	1.1	.10	.30	0	0		0	0	97
10	0	0	.54	.97	.10	.25	0	0		0	509	19
11	0	0	.34	.68	.08	.10	0	0		0	30200	5.7
12	0	0	.13	.68	.09	.08	0	0		0	7130	0
13	0	0	.27	1.4	.25	.21	0	0		17700	616	0
14	0	0	.51	.95	.13	.07	0	0		611	248	0
15	0	0	1.1	.74	.08	.09	0	0		43	8.1	0
16	0	0	.65	.83	.06	.05	.07	0		1.1	154	0
17	0	0	.44	.59	.08	.05	124	0		.04	760	0
18	0	0	1.5	.65	.10	.02	5.9	0		37400	156	0
19	0	0	.85	1.1	.16	.04	.26	99		35100	16	0
20	0	0	.60	.59	.06	.01	.08	0		10000	416	0
21	0	0	1.7	.38	.14	.01	.02	0		2590	.81	0
22	0	0	2.3	.53	.10	.02	.02	0		24900	405	0
23	0	0	3.1	.47	.12	0	0	0		176000.0	168000.0	1.2
24	0	0	2.6	.54	.13	0	.01	0		105000.0	9130	5010
25	0	0	1.9	.56	.25	.02	.01	0		145000.0	1590	3760
26	0	0	1.7	.47	.24	0	.01	0		25500	1380	3200
27	0	0	1.8	.39	.20	0	.01	0		17100	11100	1430
28	0	0	1.5	.33	.21	0	0	0		382000.0	9530	606
29	0	53	.42	.45	.22	0	0	0		138000.0	7220	71
30	0	42	.86	.12	---	0	0	0		168000.0	1650	1.1
31	0	---	1.3	.22	---	0	---	0		19600	351	---
TOTAL	52.27	95	54.60	25.06	6.20	4.59	130.39	99	0	13115611.14	254773.77	272769.32
YEAR	TOTAL	1843021.34										

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
(ANALYSES MADE IN DISTILLED WATER)

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TEMPERATURE (DEG C)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	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. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM
JUL												
01...	1930	7.9	--	109000	2330	66	83	99	--	100	--	--
20...	0915	78	--	101000	21300	57	74	96	100	--	--	--
27...	1315	75	--	101000	20500	60	76	97	99	--	100	--
28...	--	1750	26.0	89900	425000	35	46	66	93	--	98	100
28...	1230	1690	26.0	89900	410000	--	--	--	93	--	--	--
AUG												
02...	--	9.5	33.0	37800	970	80	97	100	--	--	--	--
11...	1000	104	--	149000	41800	49	64	91	99	--	99	100
26...	0840	6.4	--	87700	1520	68	88	100	--	--	--	--

09473500. SAN PEDRO RIVER AT WINKELMAN, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll a	Chlorophyll b	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight	(mg/m ²)	(mg/m ²)		
Jan. 13	35	30.0	28.0	10.0	2.30	200	Polyethylene strip

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

DEC. 17, 1974
1510 HOURS

IDENTIFICATION OF PHYTOPLANKTON

3,900 CELLS/ML

_ORGANISM_NAME	_COMMON_NAME	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...SCENEDESMACEAE				
....SCENEDESMUS		41	1	
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS				
	TOTALS	<u>250</u> 290	<u>6</u> 7	0.592=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
DCYCLOTELLA		1,500	37	
..PENNALES	PENNATE			
...FRAGILARIACEAE				
....SYNEDRA		250	6	
...NAVICULACEAE	NAVICULOID			
....NAVICULA		250	6	
...NITZSCHACEAE				
DNITZSCHIA		<u>1,700</u> 3,600	<u>43</u> 92	1.568=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.377
CLASS 0.377
ORDER 1.322
FAMILY 1.873
GENERA 1.873

JAN. 20, 1975
1050 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,400 CELLS/ML

_ORGANISM_NAME	_COMMON_NAME	CELLS/ML	PER_CENT	
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...FRAGILARIACEAE				
....H. ARCUS		30	1	
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
DCOSCINODISCUS		1,100	45	
...CYCLOTELLA		60	3	
..PENNALES	PENNATE			
...CYMBELLACEAE				
....CYMBELLA		30	1	
...FRAGILARIACEAE				
....SYNEDRA		270	12	
...NAVICULACEAE	NAVICULOID			
....NAVICULA		270	12	
...NITZSCHACEAE				
....HANTZSCHIA		210	9	
...NITZSCHIA		300	13	
...SURIPELLACEAE				
....CYMATOPLEURA		30	1	
...SURIPELLA		<u>91</u> 2,400	<u>4</u> 101	2.488=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
ORDER 1.085
FAMILY 2.089
GENERA 2.488

09473500. SAN PEDRO RIVER AT WINKELMAN, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

FEB. 18, 1975
1500 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,500 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
..SCENEDESMACEAE				
..SCENEDESMUS				
	TOTALS	170	11	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
..COSCINODISCACEAE				
D ..CYCLOTELLA		360	25	
..PENNIALES	PENNATE			
..ACHNANTHACEAE				
..ACHNANTHES		110	8	
..CYMBELLACEAE				
..AMPHORA		56	4	
..GOMPHONEMACEAE				
..GOMPHONEMA		56	4	
..NAVICULACEAE	NAVICULOID			
D ..NAVICULA		280	19	
..NITZSCHACEAE				
..DENTICULA		28	2	
..NITZSCHIA		190	13	
..SURIRELLACEAE				
..SURIRELLA				
	TOTALS	56	4	2.553=DIVERSITY
		1,100	79	
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
..CHROOCOCCACEAE				
..AGMENELLUM				
	TOTALS	170	11	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/IV 0.998
 CLASS 0.998
 ORDER 1.695
 FAMILY 2.891
 GENERA 2.973

MAR. 17, 1975
1640 HOURS

IDENTIFICATION OF PHYTOPLANKTON

970 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
..COSCINODISCACEAE				
..CYCLOTELLA		99	10	
..PENNIALES	PENNATE			
..CYMBELLACEAE				
..AMPHORA		25	3	
..FRAGILARIACEAE				
..FRAGILARIA		50	5	
..NAVICULACEAE	NAVICULOID			
..CALONEIS		25	3	
D ..NAVICULA		520	54	
..NITZSCHACEAE				
D ..NITZSCHIA				
	TOTALS	250	26	1.812=DIVERSITY
		970	101	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 ORDER 0.477
 FAMILY 1.662
 GENERA 1.812

09473500. SAN PEDRO RIVER AT WINKELMAN, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

APR. 14, 1975
1630 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,700 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...HYDRODICTYACEAE				
....PEDIASTRUM				
	TOTALS	<u>130</u> 130	<u>8</u> 8	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
...CYCLOTELLA		33	2	
..PENNALS	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		66	4	
...FRAGILARIACEAE				
...SYNEDRA		33	2	
...GOMPHONEMACEAE				
...GOMPHONEMA		33	2	
...NAVICULACEAE	NAVICULOID			
...CALONEIS		33	2	
D ...NAVICULA		330	20	
...NITZSCHACEAE				
...DENTICULA		33	2	
D ...NITZSCHIA		<u>920</u> 1,500	<u>56</u> 90	1.718=DIVERSITY
	TOTALS			
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
....EUGLENA				
	TOTALS	<u>33</u> 33	<u>2</u> 2	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.541
CLASS 0.541
ORDER 0.680
FAMILY 1.865
GENERA 2.087

JULY 15, 1975
1130 HOURS

IDENTIFICATION OF PHYTOPLANKTON

56,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
D ...MELOSIRA		33,000	60	
..PENNALS	PENNATE			
...DIATOMACEAE				
...DIATOMA		5,600	10	
...GOMPHONEMACEAE				
D ...GOMPHONEMA		11,000	20	
...NAVICULACEAE	NAVICULOID			
L ...CALONEIS			0	
L ...PINNULARIA			0	
...NITZSCHACEAE				
....NITZSCHIA		<u>5,600</u> 56,000	<u>10</u> 100	1.571=DIVERSITY
	TOTALS			

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
ORDER 0.971
FAMILY 1.571
GENERA 1.571

GILA RIVER BASIN

09473500. SAN PEDRO RIVER AT WINKELMAN, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

AUG. 27, 1975
1350 HOURS

IDENTIFICATION OF PHYTOPLANKTON

25,000 CELLS/ML

__ORGANISM__NAME__	__COMMON__NAME__	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...CHARACIACEAE				
...SCHROEDERIA		860	3	
...OOCYSTACEAE				
DDICTYOSPHAERIUM				
	TOTALS	<u>6,900</u> 7,800	<u>28</u> 31	0.503=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...GOMPHONEMATACEAE				
...GOMPHONEMA		860	3	
...NAVICULACEAE	NAVICULOID			
DNAVICULA		4,300	17	
...NITZSCHIAEAE				
DNITZSCHIA				
	TOTALS	<u>12,000</u> 17,000	<u>48</u> 68	1.076=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.894
 CLASS 0.894
 ORDER 0.894
 FAMILY 1.792
 GENERA 1.792

SEP. 16, 1975
1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,200 CELLS/ML

__ORGANISM__NAME__	__COMMON__NAME__	CELLS/ML	PER_CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...CYMBELLACEAE				
DEPITHEMIA				
	TOTALS	<u>2,200</u> 2,200	<u>100</u> 100	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

GILA RIVER BASIN

325

09473500. SAN PEDRO RIVER AT WINKELMAN, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

DEC. 9, 1975
1130 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,300 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..PENNALES	PENNATE		
...ACHNANTHACEAE			
....ACHNANTHES		59	3
...CYMBELLACEAE			
....EPITHEMIA		59	3
...GOMPHONEMACEAE			
....GOMPHONEMA		59	3
...NAVICULACEAE	NAVICULOID		
DNAVICULA		590	26
...NITZSCHACEAE			
DNITZSCHIA		1,500	67
...SURIPELLACEAE			
LSURIPELLA			
TOTALS		2,300	102

1.300=DIVERSITY

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%
 L - LESS THEN 1%: MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 FAMILY 1.300
 GENERA 1.300

JAN. 13, 1976
1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,400 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
..CENTRALES	CENTRIC		
...COSCINODISCACEAE			
....MELOSIRA		70	3
..PENNALES	PENNATE		
...ACHNANTHACEAE			
....ACHNANTHES		70	3
...NAVICULACEAE	NAVICULOID		
DNAVICULA		350	15
...NITZSCHACEAE			
DNITZSCHIA		1,800	76
...SURIPELLACEAE			
....SURIPELLA		70	3
TOTALS		2,400	100

1.152=DIVERSITY

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 ORDER 0.191
 FAMILY 1.152
 GENERA 1.152

GILA RIVER BASIN

09473500. SAN PEDRO RIVER AT WINKELMAN, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

FEB. 25, 1976
1300 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2+200 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
LANKISTRODESMUS			0	
...SCENEDESMACEAE				
LSCENEDESMUS			0	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
...CYCLOTELLA		250	11	
..PENNALES	PFNNATE			
...ACHNANTHACEAE				
...ACHNANTHES		200	9	
...CYMBELLACEAE				
...CYMBELLA		49	2	
...FRAGILARIACEAE				
...SYNEDRA		49	2	
...NAVICULACEAE	NAVICULOID			
...CALONEIS		49	2	
LGYROSIGMA			0	
...NAVICULA		150	7	
...NITZSCHACEAE				
...NITZSCHIA		250	11	
...SURIPELLACEAE				
LSURIPELLA			0	
	TOTALS	980	44	2.523=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
LAGMENELLUM			0	
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIA				
0OSCILLATORIA		1,200	55	
	TOTALS	1,200	55	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.994
 CLASS 0.994
 ORDER 1.363
 FAMILY 2.067
 GENERA 2.141

GILA RIVER BASIN

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09473500. SAN PEDRO RIVER AT WINKELMAN, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JULY 28, 1976
1230 HOURS

IDENTIFICATION OF PHYTOPLANKTON

- - - NO ORGANISMS REPORTED - - -

NOTE: ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE

AUG. 25, 1976
1500 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,200 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...PENNALES	PENNATE			
....NITZSCHACEAE				
DNITZSCHIA				
TOTALS		<u>1,200</u> 1,200	<u>100</u> 100	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE

SEP. 29, 1976
1300 HOURS

IDENTIFICATION OF PHYTOPLANKTON

- - - NO ORGANISMS REPORTED - - -

NOTE: ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE

09474000. GILA RIVER AT KELVIN, ARIZ.

LOCATION.--Lat 33°06'10", long 110°58'33", in NE¼NW¼ sec.12, T.4 S., R.13 E., Pinal County, on left bank at Kelvin, 500 ft (152 m) downstream from Mineral Creek, 18 mi (29 km) downstream from San Pedro River, and 19 mi (31 km) upstream from Ashurst-Hayden Dam.

DRAINAGE AREA.--18,011 mi² (46,648 km²), of which 5,125 mi² (13,274 km²) is below Coolidge Dam.

PERIOD OF RECORD.--January 1911 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,745.02 ft (531.882 m) above mean sea level. Prior to June 15, 1914, and Dec. 1, 1914, to Aug. 31, 1915, nonrecording gages at several sites within 2 mi (3 km) of present site at different datums. Sept. 1, 1915, to Sept. 30, 1963, water-stage recorder at site 900 ft (274 m) downstream at datum 1.80 ft (0.549 m) lower.

AVERAGE DISCHARGE (adjusted for storage in San Carlos Reservoir).--65 years, 457 ft³/s (12.94 m³/s), 331,100 acre-ft/yr (408 hm³/yr); median of yearly mean discharges, 300 ft³/s (8.50 m³/s), 217,000 acre-ft/yr (268 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 2,510 ft³/s (71.1 m³/s) July 28 (gage height, 9.10 ft or 2.774 m); minimum daily, 15 ft³/s (0.42 m³/s) Sept. 23.

Period of record: Maximum discharge, about 132,000 ft³/s (3,740 m³/s) Jan. 20, 1916 (gage height, 19.5 ft or 5.94 m), from rating curve extended above slope-area measurement at gage height 16.2 ft (4.94 m) for flood of Sept. 28, 1926; minimum daily, 0.1 ft³/s (0.003 m³/s) June 25, 1961.

Maximum discharge since completion of Coolidge Dam, 42,800 ft³/s (1,210 m³/s) Aug. 8, 1950 (gage height, 12.6 ft or 3.84 m).

REMARKS.--Records fair. Large diversions above station for irrigation, of which about 90 percent is above Coolidge Dam. About 82,000 acres (332 km²) irrigated, a considerable portion by pumping from ground water. Flow regulated by San Carlos Reservoir 49 mi (79 km) upstream since Nov. 15, 1928. (See sta 09469000.) San Pedro River contributes major portion of unregulated inflow. Records of chemical analyses, water temperatures, and suspended-sediment loads for the current year are published on following pages.

REVISIONS (WATER YEARS).--WSP 329: 1911. WSP 609: 1916(M). WSP 629: 1914-17. WSP 1119: 1913, 1915, 1917(M), 1921(M), 1922-23, 1927(M). WSP 1283: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	362	250	29	265	293	615	494	458	275	377	74	321
2	293	104	211	255	308	602	470	462	285	368	58	281
3	248	56	248	230	314	598	470	462	272	368	140	272
4	226	45	255	191	317	542	486	478	272	362	234	178
5	236	37	258	188	326	474	542	482	278	359	250	141
6	238	33	260	190	332	401	594	436	290	326	288	360
7	240	30	262	252	311	394	625	404	290	329	305	661
8	238	29	272	302	290	422	606	341	290	335	317	280
9	224	27	288	317	296	440	602	282	290	341	308	150
10	222	26	350	335	422	422	590	265	288	341	298	80
11	222	25	362	365	317	398	578	260	288	338	422	70
12	222	23	371	368	248	398	558	258	288	365	398	60
13	222	22	380	350	204	368	554	278	296	429	326	50
14	224	21	374	353	196	335	558	290	308	362	323	40
15	226	21	387	371	192	329	558	290	326	347	317	35
16	230	21	443	353	191	359	482	282	350	344	314	30
17	258	21	446	332	190	422	380	260	362	404	317	25
18	265	21	443	332	196	446	299	252	362	540	302	20
19	268	21	418	332	238	454	282	260	359	481	285	40
20	275	21	412	323	326	506	262	255	359	522	341	23
21	280	21	404	302	398	550	240	262	356	362	332	19
22	280	20	462	299	478	550	240	282	353	341	335	16
23	258	20	293	290	538	554	252	288	353	901	915	15
24	258	19	268	268	574	574	252	290	356	629	474	381
25	204	19	250	260	630	625	266	285	362	744	395	298
26	188	19	245	248	655	620	278	272	359	308	326	194
27	182	19	255	248	650	620	320	268	359	168	336	50
28	180	23	332	245	650	620	387	270	359	1010	398	34
29	178	56	338	245	650	594	418	268	359	867	329	24
30	184	32	350	250	---	546	450	268	359	662	394	19
31	250	---	311	260	---	518	---	270	---	189	415	---
TOTAL	7381	1102	9977	8919	10730	15296	13095	9778	9703	13819	10266	4167
MEAN	238	36.7	322	288	370	493	437	315	323	446	331	139
MAX	362	250	462	371	655	625	625	482	362	1010	915	661
MIN	178	19	29	188	190	329	240	252	272	168	58	15
AC-FT	14640	2150	19790	17690	21280	30340	25970	19390	19250	27410	20360	8270

CAL YR 1975 TOTAL 177090 MEAN 485 MAX 1070 MIN 19 AC-FT 351300
WTR YR 1976 TOTAL 114233 MEAN 312 MAX 1010 MIN 15 AC-FT 226600

PEAK DISCHARGE (BASE, 4,000 CFS).--No peak above base.

09474000. GILA RIVER AT KELVIN, ARIZ.
(National stream-quality accounting 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 (60 m) upstream from Mineral Creek, 700 ft (200 m) upstream from gaging station, 18 mi (29 km) downstream from San Pedro River, 19 mi (31 km) upstream from Ashurst-Hayden Dam, and 49 mi (79 km) downstream from Coolidge Dam.

DRAINAGE AREA.--18,011 mi² (46,648 km²) at gaging station, of which 5,125 mi² (13,274 km²) is below Coolidge Dam.

PERIOD OF RECORD.--Chemical analyses: December 1950 to current year.
Specific conductance: December 1950 to September 1976 (discontinued).
Water temperatures: December 1950 to September 1976 (discontinued)
Sediment records: January 1958 to September 1976 (discontinued).

EXTREMES.--Current year:

Specific conductance: Maximum daily, 2,990 micromhos Sept. 20; minimum daily, 418 micromhos Sept. 26.
Water temperatures: Maximum observed, 28.0°C on many days during July, August; minimum observed 8.0°C on many days in January.
Sediment concentrations: Maximum daily, 91,700 mg/L Sept. 7; minimum daily, 3 mg/L Nov. 6.
Sediment discharge: Maximum daily, 182,000 tons (165,000 tonnes) Sept. 7; minimum daily, 0.27 ton (0.24 tonnes) Nov. 6.

Period of record:

Specific conductance: Maximum daily, 5,120 micromhos May 22, 1961; minimum daily, 406 micromhos Oct. 18, 1971.
Water temperatures: Maximum observed, 36.5°C July 25, Aug. 20, 1953; minimum observed, 3.5°C Jan. 13, 1962.
Sediment concentrations: Maximum daily, 153,000 mg/L July 30, 1961; minimum daily, 0 mg/L July 3, 1971.
Sediment discharge: Maximum daily, 740,000 tons (671,000 tonnes) Dec. 23, 1965; minimum daily, 0 ton (0 tonne) on July 2-5, 11, 1971.

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 load from Mineral Creek.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROHMS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	COD IN BOTTOM MATERIAL (MG/KG)	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)
OCT											
15...	1200	228	1330	7.9	18.0	15	--	--	--	78	2700
NOV											
11...	1420	25	2150	7.8	18.5	1	--	--	--	8	860
DEC											
09...	1400	280	1630	8.4	12.5	50	--	--	--	76	320
JAN											
13...	1400	344	1820	8.0	8.5	17	--	--	--	200	78
FEB											
25...	1430	650	1630	8.1	13.5	45	--	--	--	872	320
MAR											
24...	1430	615	1690	8.0	16.0	17	--	--	--	18	790
APR											
06...	1150	600	1800	7.3	16.0	24	--	31	--	50	7
MAY											
06...	1230	429	1900	8.2	18.5	25	--	19	--	8150	81540
JUN											
28...	1600	375	2180	8.3	30.0	15	--	10	110000	80	13500
JUL											
28...	1330	250	1100	8.4	27.0	15000	7.5	--	--	50000	60000
AUG											
25...	1300	394	1860	8.3	29.5	8300	7.0	--	--	70000	96000
SEP											
24...	1100	24	1980	8.3	23.5	4400	8.1	--	--	14000	67000

DATE	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED PHOSPHATE (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)
OCT										
15...	260	110	69	22	160	4.3	6.2	191	0	140
NOV										
11...	630	380	170	51	230	4.0	8.0	316	0	490
DEC										
09...	310	130	81	26	200	4.9	7.3	218	0	170
JAN										
13...	350	150	94	27	230	5.4	7.4	238	0	200
FEB										
25...	310	130	84	24	210	5.2	6.8	216	0	150
MAR										
24...	290	110	79	23	220	5.6	6.9	224	0	150
APR										
06...	330	140	90	26	230	5.5	6.9	229	0	170
MAY										
06...	350	160	92	29	250	5.8	7.9	232	0	190
JUN										
28...	380	180	100	32	310	6.9	8.8	243	0	230
JUL										
28...	320	170	99	18	95	2.3	4.8	179	0	170
AUG										
25...	330	140	94	24	240	5.7	8.3	240	0	180
SEP										
29...	590	370	170	41	200	3.6	11	275	0	430

B Results based on non-ideal colony count.

GILA RIVER BASIN

09474000, GILA RIVER AT KELVIN, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (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)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED BORON (H) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT 15...	230	1.1	25	777	748	1.06	.14	.04	180	--
NOV 11...	290	1.0	27	1450	1420	1.97	.03	.01	210	0
DEC 09...	300	1.2	25	943	919	1.28	.22	.05	200	--
JAN 13...	340	1.3	28	1070	1050	1.46	.28	.03	250	0
FEB 25...	300	1.3	25	945	909	1.29	.15	.03	220	0
MAR 24...	310	1.0	25	991	926	1.35	.00	.00	180	0
APR 06...	350	1.1	25	1050	1010	1.43	.01	.01	230	20
MAY 06...	370	1.2	24	1130	1080	1.54	.02	.03	350	100
JUN 28...	470	1.2	27	1300	1300	1.77	.15	.08	300	20
JUL 28...	150	.5	16	673	646	.92	1.0	.04	120	10
AUG 25...	350	.7	23	1040	1060	1.41	1.3	.18	230	20
SEP 29...	260	1.1	23	1300	1270	1.77	.55	.04	220	10

DATE	TIME	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	TOTAL NITRATE PLUS NITRITE (N) (MG/L)	DIS- SOLVED NITRATE PLUS NITRITE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL KJEL- NITRO- GEN IN BOTTOM MAT. (MG/KG)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)
OCT 15...	1200	--	--	.14	.14	.86	--	1.0	4.4	.10	.04
NOV 11...	1420	--	--	.08	.03	.84	--	.92	4.1	.02	.01
DEC 09...	1400	--	--	.23	.22	.66	--	.89	3.9	.11	.05
JAN 13...	1400	--	--	.29	.28	.49	--	.78	3.5	.06	.03
FEB 25...	1430	--	--	.21	.15	1.4	--	1.6	7.1	.26	.03
MAR 24...	1430	--	--	.00	.00	.58	--	.58	2.6	.09	.00
APR 06...	1150	.01	.00	.01	.01	.77	--	.78	3.5	.10	.01
MAY 06...	1230	--	--	.02	.02	.15	--	.17	.75	.13	.03
JUN 28...	1600	--	--	.18	.15	.73	2600	.91	4.0	.16	.08
JUL 28...	1330	--	--	.94	1.0	11	--	12	53	9.2	.04
AUG 25...	1300	--	--	1.4	1.3	11	--	12	55	13	.18
SEP 29...	1100	--	--	.68	.55	5.4	--	6.1	27	2.2	.04

09474000. GILA RIVER AT KELVIN, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL ARSENIC IN BOTTOM MA- TERIAL (UG/G)	TOTAL BARIUM (BA) (UG/L)	TOTAL BARIUM IN BOTTOM MA- TERIAL (UG/G)	TOTAL BORON (B) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CU) (UG/L)	TOTAL CADMIUM IN BOTTOM MA- TERIAL (UG/G)
NOV											
11...	1420	6	5	--	--	--	--	210	<10	0	--
JAN											
13...	1400	7	--	--	0	--	280	250	10	1	--
FEB											
25...	1430	9	5	--	100	--	230	220	10	1	--
MAR											
24...	1430	6	--	--	100	--	240	180	<10	1	--
APR											
06...	1150	4	--	--	0	--	420	230	<10	0	--
MAY											
06...	1230	6	4	--	0	--	370	350	10	1	--
JUN											
28...	1600	--	6	300	100	110	340	300	<10	0	2
JUL											
28...	1330	600	--	--	10000	--	690	120	80	--	--
AUG											
25...	1300	450	--	--	6000	--	450	230	40	--	--
SEP											
29...	1100	8	5	--	2600	--	420	220	40	0	--

DATE	TOTAL CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL CHRO- MIUM IN BOTTOM MA- TERIAL (UG/G)	TOTAL COBALT (CO) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL COPPER IN BOTTOM MA- TERIAL (UG/G)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
NOV										
11...	<10	4	--	<50	1	10	6	--	10	0
JAN										
13...	10	--	--	--	--	20	--	--	980	0
FEB										
25...	10	0	--	<50	0	30	7	--	4300	0
MAR										
24...	10	--	--	--	--	20	--	--	1600	0
APR										
06...	10	--	--	--	--	10	--	--	1800	20
MAY										
06...	0	10	--	<50	0	20	9	--	2900	100
JUN										
28...	0	0	3	<50	0	20	4	85	2300	20
JUL										
28...	750	--	--	--	--	3800	--	--	400000	10
AUG										
25...	340	--	--	--	--	1400	--	--	380000	20
SEP										
29...	180	0	--	400	0	530	14	--	190000	10

DATE	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL LEAD IN BOTTOM MA- TERIAL (UG/G)	TOTAL MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL MERCURY IN BOTTOM MA- TERIAL (UG/G)	TOTAL SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)
NOV										
11...	100	8	--	160	140	.4	.0	--	0	1
JAN										
13...	<100	--	--	150	0	.0	--	--	1	--
FEB										
25...	100	3	--	410	20	2.3	.0	--	1	0
MAR										
24...	<100	--	--	220	10	.0	--	--	2	--
APR										
06...	<100	--	--	230	0	.0	--	--	0	--
MAY										
06...	<100	4	--	240	20	.0	.0	--	0	0
JUN										
28...	<100	6	22	510	0	.1	.0	.0	0	0
JUL										
28...	1800	--	--	36000	240	--	--	--	1	--
AUG										
25...	1100	--	--	24000	1400	1.3	--	--	1	--
SEP										
29...	500	0	--	11000	260	1.3	.0	--	2	1

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

GILA RIVER BASIN

09474000. GILA RIVER AT KELVIN, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL SELE- NIUM IN BOTTOM MA- TERIAL (UG/G)	TOTAL SILVER (AG) (UG/L)	TOTAL SILVER IN BOTTOM MA- TERIAL (UG/G)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ZINC IN BOTTOM MA- TERIAL (UG/G)	TOTAL ORGANIC CARBON (C) (MG/L)	CYANIDE (CN) (MG/L)	TOTAL CYANIDE IN BOTTOM MA- TERIAL (UG/G)	PHENOLS (UG/L)
NOV 11...	--	--	--	10	20	--	4.7	--	--	--
JAN 13...	--	<10	--	10	--	--	--	.00	--	--
FEB 25...	--	<10	--	30	0	--	8.9	.00	--	4
MAR 24...	--	<10	--	20	--	--	9.2	.00	--	1
APR 06...	--	<10	--	0	--	--	8.9	.00	--	3
MAY 06...	--	<10	--	10	0	--	8.8	.00	--	3
JUN 28...	0	<10	1	20	0	27	9.2	.00	0	2
JUL 28...	--	90	--	4000	--	--	95	.00	--	7
AUG 25...	--	40	--	1900	--	--	11	.00	--	3
SEP 29...	--	10	--	960	10	--	50	.00	--	6

DATE	TIME	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	DDE IN BOTTOM MA- TERIAL (UG/KG)	DDT IN BOTTOM MA- TERIAL (UG/KG)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	ETHION IN BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)
JUNE 28...	1600	.0	0	3.4	.0	.0	.0	.0	.0	.0	.0

DATE	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	MALATHION IN BOTTOM MA- TERIAL (UG/KG)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG)	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG)	PCB IN BOTTOM MA- TERIAL (UG/KG)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG)	2,4-D IN BOTTOM MA- TERIAL (UG/KG)	2,4,5-T IN BOTTOM MA- TERIAL (UG/KG)	SILVEX IN BOTTOM MA- TERIAL (UG/KG)
JUNE 28...	.0	.0	.0	.0	.0	0	0	.0	0	0	0

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

09474000. GILA RIVER AT KELVIN, ARIZ.--CONTINUED

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1130	1470	1730	1560	1600	1600	1600	1850	1930	1990	1370	2070
2	1150	1570	1460	1580	1540	1580	1580	1860	1960	2060	1620	2000
3	1150	1640	1440	1550	1580	1580	1580	1840	1940	2070	2500	1970
4	1140	1670	1440	1550	1660	1580	1600	1840	1880	2090	2600	2070
5	1140	1680	1470	1540	1690	1580	1640	1790	1870	2080	2400	1860
6	1140	1720	1520	1550	1720	1580	1710	1860	1850	2100	2400	798
7	1160	1740	1530	1560	1670	1560	1700	1860	1850	1980	2400	586
8	1260	1770	1550	1560	1680	1540	1670	1880	1890	1950	2400	881
9	1210	1790	1570	1590	1720	1540	1660	1880	1880	2030	2300	1630
10	1200	1820	1580	1640	1720	1560	1670	1880	1900	1950	1610	2120
11	1200	1840	1590	1660	1740	1550	1670	1900	1880	1950	1640	2460
12	1260	1860	1590	1680	1770	1620	1670	1850	1890	1950	1880	2770
13	1250	1890	1560	1720	1710	1620	1680	1900	1870	1790	2400	2400
14	1260	1900	1580	1710	1770	1580	1650	1850	1940	1970	2300	2340
15	1260	1910	1580	1730	1740	1560	1680	1920	1920	1980	2300	2240
16	1240	1900	1530	1760	1680	1560	1650	1920	1950	1990	2300	2160
17	---	1900	1510	1760	1700	1560	1670	1840	1990	2020	1260	2150
18	1230	1900	1500	1770	1700	1580	1680	1840	2000	1580	2500	2150
19	1270	1900	1530	1780	1650	1580	1690	1850	1990	1870	2300	2870
20	1290	1930	1530	1750	1690	1650	1710	1870	2010	1760	2400	2990
21	1320	1960	1580	1720	1660	1650	1690	1810	2020	1980	2300	2710
22	1340	1940	1610	1630	1520	1630	1690	1810	2010	2000	2300	2490
23	1340	---	1590	1600	1540	1620	1700	1830	2030	1000	1130	1810
24	1350	1980	1630	1600	1510	1610	1720	1840	2030	1020	1520	1120
25	1360	1960	1650	1610	1520	1630	1780	1860	2070	897	1990	719
26	1360	2000	1640	1600	1510	1630	1770	1850	2050	920	2500	418
27	1370	1980	1480	1610	1510	1620	1870	1850	2070	1550	2400	1480
28	1360	1550	1660	1590	1510	1610	1810	1880	2080	738	1960	1540
29	1340	1640	1640	1630	1570	1620	1840	1880	2060	564	2090	---
30	1340	1650	1570	1580	---	1620	1840	1890	2100	575	1700	---
31	1320	---	1600	1600	---	1640	---	1890	---	821	2050	---
MEAN	1260	1810	1560	1640	1640	1590	1700	1860	1960	1650	2090	1890
YEAR	MAX	2990	MIN	418	MEAN	1720						

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.5	18.0	11.0	10.0	12.0	14.0	16.0	20.0	25.0	27.0	27.0	27.0
2	23.0	17.0	10.5	8.0	10.0	15.0	16.0	20.0	25.0	27.0	27.5	27.0
3	23.0	17.0	11.0	8.0	9.0	13.0	16.0	21.0	25.0	27.0	28.0	27.0
4	23.0	17.0	11.0	8.0	10.0	11.0	16.0	20.0	25.0	27.0	28.0	27.0
5	23.0	17.0	11.0	8.0	10.0	11.0	16.0	20.0	25.0	27.0	28.0	27.0
6	23.0	18.0	11.0	8.0	12.0	11.0	16.0	20.0	25.0	---	28.0	26.0
7	23.0	18.0	11.0	8.0	12.0	11.0	16.0	20.0	25.0	28.0	28.0	26.0
8	22.0	18.0	11.0	8.0	12.0	11.0	16.0	21.0	25.0	28.0	28.0	26.0
9	22.0	17.0	12.0	8.0	12.0	12.5	16.0	23.0	25.0	28.0	28.0	26.0
10	22.0	17.0	12.0	8.0	12.0	12.0	16.0	24.0	27.0	28.0	28.0	26.0
11	22.0	17.0	12.0	8.0	12.0	11.0	17.0	24.0	27.0	28.0	28.0	26.0
12	22.0	17.0	12.0	8.0	12.0	12.0	18.0	24.0	27.0	28.0	28.0	26.0
13	21.0	17.0	12.0	8.0	12.0	11.0	17.0	24.0	27.0	28.0	28.0	26.0
14	21.0	17.0	11.0	8.0	12.0	15.0	15.0	24.0	27.0	28.0	26.0	26.0
15	21.0	17.0	10.0	8.0	12.0	15.0	14.0	24.0	27.0	28.0	27.0	26.0
16	21.0	17.0	10.0	8.0	12.0	14.0	14.0	24.0	27.0	28.0	27.0	26.0
17	---	17.0	10.0	8.0	12.0	14.0	14.0	24.0	27.0	28.0	27.0	26.0
18	21.0	17.0	10.0	8.0	12.0	14.0	16.0	24.0	27.0	28.0	26.0	26.0
19	21.0	15.0	10.0	8.0	13.0	14.0	16.0	24.0	27.0	28.0	26.0	26.0
20	21.0	15.0	10.0	8.0	13.0	15.0	20.0	24.0	27.0	28.0	26.0	26.0
21	21.0	15.0	10.0	10.0	13.0	15.0	22.0	25.0	27.0	28.0	26.0	26.0
22	21.0	14.0	10.0	10.0	14.0	16.0	22.0	26.0	27.0	28.0	26.0	26.0
23	21.0	---	10.0	10.0	14.0	16.0	22.0	25.0	27.0	28.0	26.0	26.0
24	21.0	14.0	10.0	10.0	14.0	16.0	22.0	25.0	27.0	28.0	26.0	26.0
25	18.0	14.0	10.0	10.0	14.0	16.0	22.0	25.0	27.0	28.0	26.0	26.0
26	18.0	14.0	10.0	10.0	14.0	16.0	22.0	25.0	27.0	28.0	26.0	26.0
27	17.0	14.0	10.0	10.0	14.0	16.0	22.0	25.0	27.0	28.0	26.0	26.0
28	17.0	13.0	10.0	10.0	14.0	15.0	22.0	25.0	27.0	24.0	28.0	26.0
29	17.0	11.0	10.0	10.0	14.0	15.0	20.0	25.0	27.0	24.0	28.0	---
30	20.0	11.0	10.0	12.0	---	14.0	20.0	25.0	27.0	26.0	28.0	---
31	18.0	---	10.0	12.0	---	16.0	---	25.0	---	26.0	28.0	---
MEAN	21.0	16.0	10.5	9.0	12.5	14.0	18.0	23.5	26.5	27.5	27.0	26.0
YEAR	MAX	28.0	MIN	8.0	MEAN	19.0						

09474000. GILA RIVER AT KELVIN, ARIZ.--CONTINUED

SUSPENDED-SEDIMENT CONCENTRATION (MG/L), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	250	85	95	61	40	253	95	69	66	9390	27000	740
2	240	70	388	75	37	195	74	48	63	3300	13000	610
3	175	72	135	56	14	165	58	55	63	1500	9000	520
4	225	69	119	54	86	162	74	226	85	560	2800	520
5	213	29	120	125	72	144	95	828	82	280	2450	18300
6	272	3	122	100	61	125	115	121	83	180	2350	73200
7	240	13	114	88	68	145	155	95	79	212	1970	91700
8	168	30	95	180	58	105	120	71	53	211	1530	51000
9	168	21	92	100	75	93	125	66	62	375	1090	21000
10	175	26	200	105	77	111	120	76	88	290	1790	6000
11	163	33	195	161	85	95	105	65	107	900	47700	3000
12	159	23	170	147	83	90	105	76	71	2000	22800	399
13	184	28	170	112	41	89	110	68	84	17800	3200	170
14	145	38	143	110	46	79	105	81	96	6150	1460	147
15	170	52	136	67	42	85	90	62	116	1200	850	148
16	203	35	226	74	43	100	58	51	134	400	700	76
17	210	22	220	59	37	111	69	53	121	500	1300	124
18	225	73	189	63	72	105	55	68	160	17400	1220	74
19	258	94	165	73	95	121	37	88	210	18700	610	100
20	298	22	132	63	110	123	31	130	189	25400	1320	119
21	215	79	120	49	190	131	36	120	176	10400	790	183
22	145	60	150	55	155	129	34	70	190	2800	580	117
23	185	65	115	46	185	112	51	74	189	54800	58100	110
24	155	66	78	42	245	135	41	92	205	48400	24200	22200
25	135	47	66	33	275	180	54	102	165	69900	13900	15000
26	169	78	112	28	230	135	42	86	149	40200	4100	19000
27	100	38	140	30	205	139	64	76	135	27000	1500	13900
28	68	111	158	28	212	148	52	77	124	21200	15800	32000
29	62	182	155	29	285	139	84	69	115	57000	6400	25000
30	75	125	110	22	---	135	32	65	110	65600	3440	10000
31	123	---	76	32	---	115	---	59	---	48000	1800	---

YEAR	MAX	91700	MIN	3
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SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

[illegible]

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
(ANALYSES MADE IN DISTILLED WATER)

[illegible]

09474000. GILA RIVER AT KELVIN, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll ^a	Chlorophyll ^b	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight	(mg/m ²)	(mg/m ²)		
Jan. 13	35	20.0	18.0	6.50	.400	310	Polyethylene strip

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

DEC. 17, 1974
1400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,700 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...CYMBELLACEAE		130	8	
...CYMBELLA				
...GOMPHONEMACEAE		270	15	
D ...GOMPHONEMA				
...NAVICULACEAE	NAVICULOID	1,100	62	
D ...NAVICULA				
...NITZSCHIACEAE		270	15	
D ...NITZSCHIA		1,700	100	1.547=DIVERSITY
	TOTALS			

NOTE: D = DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
FAMILY 1.547
GENERA 1.547

JAN. 20, 1975
1340 HOURS

IDENTIFICATION OF PHYTOPLANKTON

980 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
...ANKISTRODESMUS		20	2	
...KIRCHNERIELLA		20	2	
	TOTALS	39	4	1.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCEAE				
...CYCLOTELLA		20	2	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...COCCONEIS		59	6	
...RHOICOSPHENIA		20	2	
...DIATOMACEAE				
...DIATOMA		39	4	
...GOMPHONEMACEAE				
D ...GOMPHONEMA		220	22	
...NAVICULACEAE	NAVICULOID			
...GYROSIGMA		20	2	
D ...NAVICULA		390	40	
...NITZSCHIACEAE				
...NITZSCHIA		98	10	
...SURIARELLACEAE				
...SURIARELLA		79	8	
	TOTALS	940	96	2.442=DIVERSITY

NOTE: D = DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.242
CLASS 0.242
ORDER 0.383
FAMILY 2.406
GENERA 2.627

09474000. GILA RIVER AT KELVIN, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

FEB. 18, 1975

1400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,700 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...SCENEDESMACEAE				
DSCENEDESMUS				
		TOTALS	<u>270</u> 270	<u>15</u> 15 0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...COCCONEIS		130	8	
...DIATOMACEAE				
DDIATOMA		670	38	
...FRAGILARIACEAE				
...SYNEDRA		130	8	
...GOMPHONEMACEAE				
...GOMPHONEMA		130	8	
...NAVICULACEAE	NAVICULOID			
...GYROSTIGMA		67	4	
...NAVICULA		130	8	
...SURIPELLACEAE				
...SURIPELLA				
		TOTALS	<u>200</u> 1,500	<u>12</u> 86 2.370=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.619
 CLASS 0.619
 ORDER 0.619
 FAMILY 2.519
 GENERA 2.625

MAR. 17, 1975

1520 HOURS

IDENTIFICATION OF PHYTOPLANKTON

730 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS				
		TOTALS	<u>86</u> 86	<u>12</u> 12 0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...COCCONEIS		21	3	
...RHOICOSPHEA		21	3	
...DIATOMACEAE				
DDIATOMA		240	32	
...FRAGILARIACEAE				
...SYNEDRA		86	12	
...GOMPHONEMACEAE				
DGOMPHONEMA		150	21	
...NAVICULACEAE	NAVICULOID			
...NAVICULA		64	9	
...NITZSCHACEAE				
...NITZSCHIA				
		TOTALS	<u>64</u> 640	<u>9</u> 89 2.400=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.523
 CLASS 0.523
 ORDER 0.523
 FAMILY 2.581
 GENERA 2.640

GILA RIVER BASIN

09474000. GILA RIVER AT KELVIN, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

APR. 14, 1975

1540 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...SCENEDESMACEAE				
....CRUCIGENIA		80	8	
....SCENEDESMUS		80	8	
	TOTALS	160	16	1.000=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CFNTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		40	4	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...COCCONEIS		120	12	
...CYMBELLACEAE				
....AMPHORA		20	2	
...DIATOMACEAE				
....DIATOMA		300	29	
...GOMPHONEMACEAE				
....GOMPHONEMA		120	12	
...NAVICULACEAE	NAVICULOID			
....NAVICULA		100	10	
...NITZSCHACEAE				
....NITZSCHIA		40	4	
	TOTALS	740	73	2.365=DIVERSITY
RHODOPHYTA	RED ALGAE			
..RHODOPHYCEAE				
..NEMALIONALES				
...CHANTRANSICACEAE				
....AUDOUINELLA		120	12	
	TOTALS	120	12	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.118
 CLASS 1.118
 ORDER 1.338
 FAMILY 2.834
 GENERA 2.991

GILA RIVER BASIN

339

09474000. GILA RIVER AT KELVIN, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAY 30, 1975
1410 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,700 CELLS/ML

_ORGANISM_NAME_____	_COMMON_NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS		150	9	
....SCENEDESMACFAE				
0)SCENEDESMUS		300	18	
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS				
	TOTALS	<u>76</u> 530	<u>5</u> 32	1.379=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAF	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		76	5	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...COCCONEIS		150	9	
...DIATOMACEAE				
....DIATOMA		150	9	
...GOMPHONEMACEAE				
....GOMPHONEMA		230	14	
...NAVICULACEAE	NAVICULOID			
0)NAVICULA		380	23	
...NITZSCHACEAE				
....Hantzschia				
	TOTALS	<u>76</u> 1,100	<u>5</u> 65	2.353=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAF				
..EUGLENALES				
...EUGLENACEAE				
....TRACHELomonas				
	TOTALS	<u>76</u> 76	<u>5</u> 5	0.000=DIVERSITY

NOTE: 0 - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.143
CLASS 1.143
ORDER 1.568
FAMILY 3.079
GENERA 3.079

GILA RIVER BASIN

09474000. GILA RIVER AT KELVIN, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JUNE 30, 1975

1320 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,700 CELLS/ML

__ORGANISM__NAME_____	__COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
DANKISTRODESMUS		530	31	
...SCENEDESMACEAE				
DSCENEDESMUS				
	TOTALS	<u>640</u> 1,200	<u>37</u> 68	0.994=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		35	2	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...COCONEIS		140	8	
...GOMPHONEMACEAE				
....GOMPHONEMA		71	4	
...NAVICULACEAE	NAVICULOID			
....NAVICULA		35	2	
...PINNULARIA		71	4	
...NITZSCHACEAE				
....NITZSCHIA		<u>210</u>	<u>12</u>	
	TOTALS	570	32	2.281=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.911
 CLASS 0.911
 ORDER 1.021
 FAMILY 2.269
 GENERA 2.325

JULY 15, 1975

1230 HOURS

IDENTIFICATION OF PHYTOPLANKTON

22,000 CELLS/ML

__ORGANISM__NAME_____	__COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...ULOTRICHALES				
...MICROSPORACEAE				
DMICROSPORA				
	TOTALS	<u>17,000</u> 17,000	<u>75</u> 75	0.000=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...NAVICULACEAE	NAVICULOID			
DNAVICULA		5,600	25	
...NITZSCHACEAE				
LNANTZSCHIA			0	
LNITZSCHIA			<u>0</u>	
	TOTALS	<u>5,600</u>	25	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.811
 CLASS 0.811
 ORDER 0.811
 FAMILY 0.811
 GENERA 0.811

09474000. GILA RIVER AT KELVIN, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

AUG. 27, 1975
1220 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,600 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...HYDRODICTYACEAE				
...PEDIASTRUM		290	11	
...OOCYSTACEAE				
...ANKISTRODESMUS		98	4	
...OOCYSTIS		200	7	
...SCENEDESMACEAE				
D ...CRUCIGENIA		390	15	
...SCENEDESMUS		290	11	
...VOLVOCALES				
...VOLVOCAEAE				
L ...PANDORINA				
	TOTALS	<u>1,300</u>	<u>48</u>	2.200=DIVERSITY
CHRYSPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
...CYCLOTELLA		150	6	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...COCONEIS		98	4	
...PHOICOSPHENIA		49	2	
...CYMBELLACEAE				
...CYMBELLA		49	2	
...DIATOMACEAE				
L ...DIATOMA			0	
...FRAGILARIACEAE			0	
L ...SYNEDRA			0	
...GOMPHONEMATAEAE				
D ...GOMPHONEMA		540	20	
...NAVICULACEAE	NAVICULOID			
L ...GYROSIGMA			0	
...NAVICULA		290	11	
...NITZSCHACEAE				
L ...HANTZSCHIA			0	
...NITZSCHIA		<u>150</u>	<u>6</u>	
	TOTALS	<u>1,300</u>	<u>51</u>	2.345=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
L ...AGMENELLUM			0	
...OSCILLATORIALES	FILAMENTOUS			
...NOSTOCACEAE				
L ...ANABAENA			0	
...OSCILLATORIAEAE				
L ...OSCILLATORIA			0	
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
...PHACUS		<u>49</u>	<u>2</u>	
	TOTALS	<u>49</u>	<u>2</u>	0.000=DIVERSITY
PYRRHOPHYTA	FIRE ALGAE			
..DINOPHYCEAE	DINOFLAGELLATES			
...PERIDINIALES				
...GLENODINIACEAE				
L ...GLENODINIUM			0	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.114
 CLASS 1.114
 ORDER 1.366
 FAMILY 2.937
 GENERA 3.346

GILA RIVER BASIN

09474000. GILA RIVER AT KELVIN, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

SEP. 16, 1975
1300 HOURS

IDENTIFICATION OF PHYTOPLANKTON

7,400 CELLS/ML

__ORGANISM__NAME__	__COMMON__NAME__	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...SCENEDESMACEAE				
LSCENEDESMUS			0	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...NITZSCHIAEAE				
....NITZSCHIA				
	TOTALS	<u>570</u> 570	<u>8</u> 8	0.000=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...NOSTOCACEAE				
DANABAEAE				
	TOTALS	<u>6,800</u> 6,800	<u>92</u> 92	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.391
 CLASS 0.391
 ORDER 0.391
 FAMILY 0.391
 GENERA 0.391

OCT. 15, 1975
1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,100 CELLS/ML

__ORGANISM__NAME__	__COMMON__NAME__	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
LANKISTRODESMSUS			0	
....TETRAEDRON		39	3	
...SCENEDESMACEAE				
ICRUCIGENIA			0	
....SCENEDESMUS			14	
	TOTALS	<u>160</u> 200	<u>14</u> 17	0.722=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CFNTRALES	CFNTRIC			
...COSCINODISCACEAE				
...MELOSIRA		39	3	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...COCCONEIS		39	3	
LRHODOSPHENIA			0	
...GOMPHONEMACEAE				
...GOMPHONEMA		39	3	
...NAVICULACEAE	NAVICULOID			
DNAVICULA		430	38	
...NITZSCHIAEAE				
DNITZSCHIA		390	34	
...SURIRELLACEAE				
ISURIRELLA			0	
	TOTALS	<u>940</u> 940	<u>81</u> 81	1.615=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.663
 CLASS 0.663
 ORDER 0.870
 FAMILY 2.124
 GENERA 2.124

09474000. GILA RIVER AT KELVIN, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

NOV. 11, 1975
1420 HOURS

IDENTIFICATION OF PHYTOPLANKTON

230 CELLS/ML

__ORGANISM__NAME__	__COMMON__NAME__	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
.CHLOROPHYCEAE				
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
DCHLAMYDOMONAS		42	18	
	TOTALS	42	18	0.000=DIVERSITY
CHRYSOPHYTA				
.BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...GOMPHONEMACEAE				
LGOMPHONEMA			0	
...NAVICULACEAE	NAVICULOID			
DNAVICULA		63	27	
...NITZSCHIACEAE				
DNITZSCHIA		130	55	
	TOTALS	190	82	0.918=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.684
 CLASS 0.684
 ORDER 0.684
 FAMILY 1.435
 GENERA 1.435

DEC. 9, 1975
1400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

3,300 CELLS/ML

__ORGANISM__NAME__	__COMMON__NAME__	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
.CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS		260	8	
....TETRAEDRON		26	1	
....TREUBARIA		100	3	
...SCENEDESMACEAE				
....CRUCIGENIA		100	3	
....SCENEDESMUS		310	9	
LTETRASTRUM			0	
	TOTALS	790	24	1.979=DIVERSITY
CHRYSOPHYTA				
.BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
DCYCLOTELLA		610	19	
DMELOSIRA		560	17	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
....ACHNANTHES		380	12	
....COCONEIS		77	2	
...CYMBELLACEAE				
....CYMBELLA		51	2	
...NAVICULACEAE	NAVICULOID			
LAMPHIPRORA			0	
....CALONEIS		26	1	
DNAVICULA		480	15	
...NITZSCHIACEAE				
....NITZSCHIA		230	7	
...SURIPELLACEAE				
....SURIPELLA		51	2	
	TOTALS	2,500	77	2.633=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.799
 CLASS 0.799
 ORDER 1.555
 FAMILY 2.541
 GENERA 3.274

GILA RIVER BASIN

09474000. GILA RIVER AT KELVIN, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JAN. 13, 1976
1400 HOURS

IDENTIFICATION OF PHYTOPLANKTON

890 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...HYDRODICTYACEAE				
L ...PEDIASTRUM			0	
...OOCYSTACEAE				
...ANKISTRODESMUS		37	4	
...KIRCHNERIELLA		37	4	
...SCENEDESMACEAE				
...SCENEDESMUS		91	10	
...TETRASTRUM		73	8	
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
...CHLAMYDOMONAS		18	2	
TOTALS		260	28	2.121=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
...CYCLOTELLA		110	12	
...MELOSIRA		18	2	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...COCCONEIS		18	2	
...CYMBELLACEAE				
...CYMBELLA		9	1	
...DIATOMACEAE				
...DIATOMA		18	2	
...EUNOTIACEAE				
...EUNOTIA		9	1	
...FRAGILARIACEAE				
...FRAGILARIA		27	3	
...GOMPHONEMATACEAE				
...GOMPHONEMA		73	8	
...NAVICULACEAE	NAVICULOID			
...AMPHIPRORA		9	1	
...DIPLOEIS		9	1	
D ...NAVICULA		200	23	
...NITZSCHACEAE				
...NITZSCHIA		73	8	
...SIRIOCELLACEAE				
...CYMATOPLEURA		9	1	
TOTALS		590	65	2.877=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
...ANACYSTIS		37	4	
TOTALS		37	4	0.000=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
...EUGLENALS				
...EUGLENACEAE				
...TRACHELOMONAS		9	1	
TOTALS		9	1	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.171
 CLASS 1.171
 ORDER 1.778
 FAMILY 3.207
 GENERA 3.681

GILA RIVER BASIN

345

09474000. GILA RIVER AT KELVIN, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

FEB. 25, 1976
1430 HOURS

IDENTIFICATION OF PHYTOPLANKTON

3,900 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
..OOCYSTACEAE				
D)ANKISTRODESMUS		990	25	
....KIRCHNERIELLA		140	4	
....SCENEDESMACEAE				
L)SCENEDESMUS			0	
L)TETRASTRUM			0	
	TOTALS	1,100	29	0.544=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
..COSCINOIDISACEAE				
....CYCLOTELLA		140	4	
....MELOSIIRA		560	14	
..PENNALES	PENNATE			
....ACHNANTHACEAE				
....ACHNANTHES		140	4	
L)COCCONFIS			0	
L)RHOICOSPHEA			0	
....DIATOMACEAE				
....DIATOMA		140	4	
....FRAGILARIACEAE				
L)SYNEDRA			0	
....GOMPHONEMACEAE				
L)GOMPHONEMA			0	
....NAVICULACEAE	NAVICULOID			
L)AMPHIPRORA			0	
D)NAVICULA		1,300	32	
....NITZSCHACEAE				
....NITZSCHIA		560	14	
....SURIARELLACEAE				
L)SURIARELLA			0	
	TOTALS	2,800	72	2.095=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.863

CLASS 0.863

ORDER 1.443

FAMILY 2.231

GENERA 2.515

GILA RIVER BASIN

09474000. GILA RIVER AT KELVIN, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAR. 24, 1976
1430 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,600 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALFS				
...NOCYSTACEAE				
....ANKISTRODESMUS		80	3	
...SCENEDESMACEAE				
....SCENEDESMUS				
	TOTALS	<u>160</u> 240	<u>6</u> 9	0.918=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCEAE				
....CYCLOTELLA		120	5	
L ...MELOSTRA			0	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
D ...COCCONEIS		400	15	
...DIATOMACEAE				
....DIATOMA		40	2	
...GOMPHONEMATACEAE				
....GOMPHONEMA		160	6	
...NAVICULACEAE	NAVICULOID			
L ...GYROSIGMA			0	
...NAVICULA		280	11	
...NITZSCHACEAE				
....NITZSCHIA		40	2	
...SURIRELLACEAE				
....SURIRELLA		<u>40</u> 1,100	<u>2</u> 43	2.324=DIVERSITY
	TOTALS			
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
DANACYSTIS		<u>1,300</u> 1,300	<u>49</u> 49	0.000=DIVERSITY
	TOTALS			

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.347
 CLASS 1.347
 ORDER 1.556
 FAMILY 2.397

GILA RIVER BASIN

347

09474000. GILA RIVER AT KELVIN, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

APR. 6, 1976
1150 HOURS

IDENTIFICATION OF PHYTOPLANKTON

9,700 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS		1,000	11	
....KIRCHNERIELLA		430	4	
....SELENASTRUM		61	1	
	TOTALS	1,500	16	1.078=DIVERSITY
CHRYSTOPHYTA				
..RACILLARIOPHYCEAE	DIATOMS			
..CFNTRALES	CFNTRIC			
...COSCINODISCAEAE				
....CYCLOTELLA		180	2	
L ...MELOSIRA			0	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
....ACHNANTHES		120	1	
....COCCONEIS		300	3	
....RHOICOSPHENIA		61	1	
...FRAGILARIACEAE				
L ...SYNEDRA			0	
...GOMPHONEMATACEAE				
....GOMPHONEMA		120	1	
...NAVICULACEAE	NAVICULOID			
....NAVICULA		430	4	
...NITZSCHIAEAE				
....NITZSCHIA		240	3	
	TOTALS	1,500	15	2.584=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
DANACYSTIS		6,700	69	
	TOTALS	6,700	69	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER * 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.199

CLASS 1.199

ORDER 1.281

FAMILY 1.524

GENERA 1.759

GILA RIVER BASIN

09474000. GILA RIVER AT KELVIN, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JUNE 28, 1976

1600 HOURS

IDENTIFICATION OF PHYTOPLANKTON

4.100 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...HYDRODICTYACEAE				
DPEDIASTRUM		590	15	
...OOCYSTACEAE				
...ANKISTRODESMUS		370	9	
...KIRCHNERIELLA		300	7	
...SCENEDESMACEAE				
...CRUCIGENIA		300	7	
...SCENEDESMUS		150	4	
TOTALS		1,700	42	2.193=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
DCYCLOTELLA		890	22	
..PENNIALES	PENNATE			
...ACHNANTHACEAE				
...COCCONEIS		370	9	
...RHODOSPHENIA		74	2	
...NAVICULACEAE	NAVICULOID			
...GYROSIGMA		74	2	
...NAVICULA		74	2	
...NITZSCHACEAE				
...NITZSCHIA		440	11	
...SURIRELLACEAE				
...SURIRELLA		74	2	
TOTALS		2,000	50	2.157=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
...ANACYSTIS		300	7	
TOTALS		300	7	0.000=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
...EUGLENA		74	2	
TOTALS		74	2	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.410
 CLASS 1.410
 ORDER 1.897
 FAMILY 3.016
 GENERA 3.386

JULY 28, 1976
 1330 HOURS

IDENTIFICATION OF PHYTOPLANKTON

- - - NO ORGANISMS REPORTED - - -

NOTE: ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

GILA RIVER BASIN

349

09474000. GILA RIVER AT KELVIN, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

AUG. 25, 1976
1300 HOURS

IDENTIFICATION OF PHYTOPLANKTON

0 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHRYSTOPHYTA			
..BACILLARIOPHYCEAF	DIATOMS		
..PENNIALES	PENNATE		
...NITZSCHIAEAE			
INITZSCHIA			0

NOTE: L - LESS THEN 1%: MAY NOT HAVE BEEN ACTUALLY COUNTED
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE

SEP. 29, 1976
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

32,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT
CHLOROPHYTA	GREEN ALGAE		
..CHLOROPHYCEAE			
..CHLOROCOCCALES			
...HYDRODICTYACEAE			
IPEDIASTRUM			0
CHRYSTOPHYTA			
..BACILLARIOPHYCEAF	DIATOMS		
..PENNIALES	PENNATE		
...NITZSCHIAEAE			
...NITZSCHIA			
	TOTALS	<u>2,300</u> 2,300	<u>7</u> 7
			0.000=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE		
..MYXOPHYCEAE			
..CHROOCOCCALES	COCCOID		
...CHROOCOCCACEAE			
DANACYSTIS		16,000	50
..OSCILLATORIALES	FILAMENTOUS		
...OSCILLATORIAEAE			
DOSCILLATORIA			
	TOTALS	<u>14,000</u> 29,000	<u>43</u> 93
			0.996=DIVERSITY

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%
L - LESS THEN 1%: MAY NOT HAVE BEEN ACTUALLY COUNTED
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.371
CLASS 0.371
ORDER 1.296
FAMILY 1.296
GENERA 1.296

GILA RIVER BASIN

09475000. GILA RIVER AT ASHURST-HAYDEN DAM, NEAR FLORENCE, ARIZ.

LOCATION.--Lat 33°05'59", long 111°14'46", in SW¼NW¼ sec.8, T.4 S., R.11 E., Pinal County, on left bank at Ashurst-Hayden Dam, 9 mi (14 km) northeast of Florence.

DRAINAGE AREA.--18,305 mi² (47,410 km²).

PERIOD OF RECORD.--July 1923 to current year (head on crest of dam only). Records of monthly diversions to Florence-Casa Grande Canal, January 1928 to current year.

GAGE.--Gila River: Water-stage recorder. Permanent crest of dam is 1,563.00 ft (476.402 m) above mean sea level. For normal operation, crest is raised to 1,566.00 ft (477.317 m) by 3.0-ft (0.91-m) gates. Prior to December 1960, permanent crest at 1,562.6 ft (476.28 m) and normally raised about 1.2 ft (0.37 m) by use of flashboards. Prior to Apr. 12, 1932, nonrecording gage at same site and datum.

09475500. Florence-Casa Grande Canal: Water-stage recorder and Parshall flume at China Wash 2.6 mi (4.2 km) downstream from dam. Prior to Jan. 12, 1937, water-stage recorder 900 ft (270 m) downstream from dam.

EXTREMES.--Current year: Maximum head on dam, 1.80 ft (0.549 m) July 29; no flow over dam for most of year.

Period of record: Maximum head on dam, 8.0 ft (2.44 m) Sept. 28, 1926; no flow over dam most of each year.

REMARKS.--Records show daily mean head on dam and monthly diversions to Florence-Casa Grande Canal. Mean head is often not representative of flow passing dam because of sluiceway- and crest-gate openings. Florence-Casa Grande Canal diverts water at dam supplemented by pumping from ground water for irrigation of land under 100,000-acre (400-km²) San Carlos project. Canal records adjusted for sluicing through the dam or from the canal and pumping (but not natural losses), to show water available at dam, except for flow through dam or spill over dam during times of flood runoff. Flow regulated by San Carlos Reservoir. (See sta 09469000.) Diversions above station for irrigation of about 82,000 acres (330 km²), a considerable portion of which is irrigated by pumping from ground water.

COOPERATION.--Records furnished by Bureau of Indian Affairs.

DAILY MEAN HEAD, IN FEET, OVER DAM, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	(e)	0	0	0	(e)	0	(e)
2	0	0	0	0	0	(e)	0	0	0	0	0	.01
3	0	0	0	0	0	0	0	0	0	0	0	.01
4	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	0	0	.08
6	0	0	0	0	0	0	0	0	0	(e)	0	.03
7	0	0	0	0	0	0	.01	0	0	0	0	.08
8	0	0	0	0	0	0	0	0	0	0	0	(e)
9	0	0	0	0	0	(e)	0	0	0	0	0	0
10	0	0	0	0	(e)	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	(e)	0
12	0	0	0	0	0	0	0	0	0	(e)	0	0
13	0	0	(e)	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	(e)	0	0
18	0	0	0	0	0	0	0	0	0	(e)	0	0
19	0	0	0	0	0	0	(e)	0	0	(e)	0	0
20	0	0	0	0	0	.01	(e)	0	0	(e)	0	0
21	(e)	0	0	0	0	.04	0	0	0	0	0	0
22	0	0	(e)	0	0	0	0	0	0	(e)	0	0
23	0	0	0	0	0	0	0	0	0	.26	.23	0
24	0	0	0	0	0	0	0	.01	0	.16	.09	.02
25	0	0	0	0	(e)	0	0	0	0	.16	0	.09
26	0	0	0	0	0	(e)	0	0	0	.02	0	0
27	0	0	0	0	0	0	0	0	0	(e)	0	0
28	0	0	0	0	0	0	(e)	0	0	.20	0	0
29	0	0	0	0	0	0	.01	0	0	.48	0	0
30	0	0	0	0	-----	0	0	0	0	.23	(e)	0
31	0	-----	0	0	-----	(e)	-----	0	-----	0	0	-----

e Flow over crest of dam for short time, but mean for day less than 0.01 ft.

GILA RIVER BASIN

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09475000. GILA RIVER AT ASHURST-HAYDEN DAM, NEAR FLORENCE, ARIZ.--CONTINUED

MONTHLY DIVERSIONS TO FLORENCE-CASA GRANDE CANAL
WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

Month	Discharge, in cubic feet per second			Diversions in acre-feet	Water sluiced above flume (acre-feet)†
	Maximum	Minimum	Mean		
October	365	155	224	13,740	0
November	213	20	39.7	2,360	1,550
December	403	30	293	17,990	54
CAL YR 1975	914	20	456	330,200	1,920
January	335	182	274	16,820	0
February	583	184	322	18,510	0
March	597	339	480	29,500	0
April	613	240	426	25,330	0
May	450	243	305	18,730	0
June	332	237	283	16,820	0
July	878	275	404	24,840	109
August	557	56	308	18,960	8
September	397	7	131	7,810	44
WTR YR 1976	878	7	291	211,400	1,760

† Included in first four columns of table.

NOTE.--Diversion records are those at canal gaging station at flume 2.6 mi (4.2 km) downstream from dam; values are adjusted for sluicing through the dam or from canal and pumping between intake and flume, but are not adjusted for natural losses. Adjusted values show water available at Ashurst-Hayden Dam, except for spill over the dam or water sluiced through the dam during times of flood runoff.

GILA RIVER BASIN

09479500. GILA RIVER NEAR LAVERN, ARIZ.

LOCATION.--Lat 33°15'25", long 112°09'59", in SW¼NW¼ sec.16, T.2 S., R.2 E., Pinal County, in Gila River Indian Reservation, on left abutment of highway bridge, 2.1 mi (3.4 km) upstream from Santa Cruz River, 2.6 mi (4.2 km) south of Komatke, and 7.3 mi (11.7 km) south of Laveen.

DRAINAGE AREA.--20,615 mi² (53,393 km²), of which 696 mi² (1,803 km²) is in Mexico.

PERIOD OF RECORD.--January 1940 to September 1946, December 1947 to current year.

GAGE.--Water-stage recorder above concrete diversion dam. Datum of gage is 1,018.90 ft (310.561 m) above mean sea level. Since July 9, 1969, supplementary water-stage recorder on overflow channel at highway bridge 0.2 mi (0.3 km) south at same datum. Oct. 16, 1940, to July 8, 1969, supplementary staff gage or water-stage recorder on overflow channel at datum 0.23 ft (0.070 m) lower.

AVERAGE DISCHARGE.--34 years, (1940-46, 1948-76), 21.9 ft³/s (0.620 m³/s), 15,870 acre-ft/yr (19.6 hm³/yr); median of yearly mean discharges, 12 ft³/s (0.34 m³/s) 8,700 acre-ft/yr (11 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 397 ft³/s (11.2 m³/s) Sept. 25 (gage height, 6.65 ft or 2.027 m); no flow for most of year.

Period of record: Maximum discharge, 11,900 ft³/s (337 m³/s) Jan. 2, 1941 (gage height, 9.33 ft or 2.844 m); maximum gage height, 10.08 ft (3.072 m) Dec. 26, 1965; no flow at times in most years.

REMARKS.--Records fair. Records include flow over dam and in overflow channel. Large diversions above station for irrigation. Flow partly regulated by storage in San Carlos Reservoir. (See elsewhere in this report.)

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										0	4.8	0
2										0	1.8	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										0	0	0
15										0	0	0
16										0	0	0
17										0	0	0
18										0	0	0
19										0	0	0
20										0	0	0
21										0	0	0
22										0	0	0
23										0	0	.81
24										0	0	96
25										0	0	182
26										0	0	80
27										0	0	23
28										0	0	5.0
29										0	0	2.5
30										0	0	.40
31		---			---		---		---	7.5	0	---
TOTAL	0	0	0	0	0	0	0	0	0	7.5	6.6	389.71
MEAN	0	0	0	0	0	0	0	0	0	.24	.21	13.0
MAX	0	0	0	0	0	0	0	0	0	7.5	4.8	182
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	0	15	13	773
CAL YR 1975	TOTAL	3.60	MEAN	.010	MAX	1.9	MIN	0	AC-FT	7.1		
WTR YR 1976	TOTAL	405.81	MEAN	1.10	MAX	182	MIN	0	AC-FT	801		

PEAK DISCHARGE (BASE, 700 CFS).--No peak above base.

09480000. SANTA CRUZ RIVER NEAR LOCHIEL, ARIZ.

LOCATION.--Lat 31°21'19", long 110°35'20", in SW¼ sec.11, T.24 S., R.17 E. (unsurveyed), Santa Cruz County, on southern border of Spanish land grant of San Rafael, near left bank on downstream side of pier of bridge on county road, 1.7 mi (2.7 km) upstream from international boundary and 2.5 mi (4.0 km) northeast of Lochiel.

DRAINAGE AREA.--82.2 mi² (212.9 km²).

PERIOD OF RECORD.--January 1949 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,620 ft (1,408 m), from topographic map.

AVERAGE DISCHARGE.--27 years, 3.08 ft³/s (0.0872 m³/s), 2,230 acre-ft/yr (2.75 hm³/yr); median of yearly mean discharges, 1.9 ft³/s (0.054 m³/s), 1,400 acre-ft/yr (1.73 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,540 ft³/s (100 m³/s) July 22 (gage height, 9.39 ft or 2.862 m), from rating curve extended above 620 ft³/s (17 m³/s) on basis of slope-area measurement at gage height 9.13 ft (2.783 m); no flow June 9 to July 13.
Period of record: Maximum discharge, 4,810 ft³/s (136 m³/s) Sept. 12, 1965 (gage height, 8.90 ft or 2.712 m), from rating curve extended above 1,600 ft³/s (45 m³/s) on basis of slope-area measurement of peak flow; no flow at times in most years.

REMARKS.--Records fair. Small diversions for irrigation of 200 acres (809,000 m²) above station, mostly by pumping from ground water.

REVISIONS (WATER YEARS).--WSP 1733: 1951.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.24	.30	.33	.45	.33	.35	.47	.30	.10	0	8.0	2.4
2	.26	.31	.35	.38	.38	.36	.47	.28	.10	0	7.0	2.3
3	.24	.31	.36	.38	.38	.38	.43	.25	.10	0	6.0	2.3
4	.22	.30	.34	.35	.41	.40	.45	.25	.10	0	5.2	1.3
5	.23	.30	.33	.35	.52	.36	.40	.26	.10	0	5.1	4.4
6	.24	.29	.32	.35	.45	.35	.38	.24	.10	0	5.3	2.8
7	.24	.28	.32	.35	.38	.37	.35	.23	.10	0	5.5	3.5
8	.24	.28	.32	.38	.38	.39	.31	.20	.10	0	5.5	2.4
9	.22	.28	.33	.38	.59	.41	.31	.17	0	0	5.6	2.2
10	.20	.27	.33	.38	.47	.42	.25	.14	0	0	5.2	2.1
11	.16	.27	.33	.38	.46	.40	.21	.12	0	0	5.2	2.0
12	.15	.26	.33	.38	.42	.37	.20	.09	0	0	5.1	1.8
13	.17	.26	.38	.38	.42	.37	.19	.06	0	0	5.0	1.7
14	.21	.28	.35	.38	.40	.37	.20	.06	0	.01	4.9	1.6
15	.20	.29	.34	.35	.35	.37	.25	.05	0	.01	4.7	1.5
16	.22	.30	.37	.35	.34	.37	.51	.07	0	.02	4.5	1.4
17	.23	.30	.37	.38	.35	.37	.52	.11	0	10	4.5	1.4
18	.23	.29	.36	.38	.36	.36	.42	.17	0	.71	4.4	1.3
19	.25	.29	.35	.38	.36	.33	.38	.22	0	.13	4.1	1.2
20	.25	.29	.36	.38	.38	.31	.40	.20	0	1.5	3.9	1.2
21	.24	.30	.42	.38	.37	.32	.42	.13	0	330	3.8	1.1
22	.27	.29	.38	.41	.35	.31	.39	.06	0	463	5.0	1.1
23	.27	.32	.41	.41	.34	.32	.38	.03	0	183	3.9	.98
24	.27	.32	.38	.38	.33	.33	.37	.04	0	136	3.3	1.2
25	.27	.34	.38	.38	.34	.33	.33	.10	0	58	3.4	1.1
26	.29	.33	.38	.35	.35	.34	.34	.10	0	28	2.9	.93
27	.30	.33	.41	.35	.33	.37	.34	.10	0	307	2.7	.85
28	.29	.42	.38	.35	.34	.39	.34	.10	0	159	2.6	.86
29	.28	.50	.35	.35	.34	.40	.33	.10	0	53	2.4	.86
30	.29	.33	.38	.35	---	.40	.32	.10	0	15	2.4	.85
31	.30	---	.41	.35	---	.45	---	.10	---	10	2.4	---
TOTAL	7.52	9.23	11.15	11.55	11.22	11.37	10.66	4.43	.80	1754.38	139.5	62.33
MEAN	.24	.31	.36	.37	.39	.37	.36	.14	.027	56.6	4.50	2.08
MAX	.30	.50	.42	.45	.59	.45	.52	.30	.10	463	8.0	13
MIN	.15	.26	.32	.35	.33	.31	.19	.03	0	0	2.4	.85
AC-FT	15	18	22	23	22	23	21	8.8	1.6	3480	277	124
CAL YR 1975	TOTAL	683.29	MEAN	1.87	MAX	268	MIN	0	AC-FT	1360		
WTR YR 1976	TOTAL	2034.14	MEAN	5.56	MAX	463	MIN	0	AC-FT	4030		

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-21	2100	9.13	3,330	7-24	1830	4.98	692
7-22	2030	9.39	3,540	7-27	2245	6.19	1,200
7-23	1415	5.46	884	7-28	1945	4.65	560

GILA RIVER BASIN

09480500. SANTA CRUZ RIVER NEAR NOGALES, ARIZ.

LOCATION.--Lat 31°20'40", long 110°51'03", in NW¼ sec.18, T.24 S., R.15 E. (unsurveyed), Santa Cruz County, in Spanish land grant of Maria Santissima del Carmen, on left bank 0.8 mi (1.3 km) downstream from international boundary and 5.5 mi (8.8 km) east of Nogales.

DRAINAGE AREA.--533 mi² (1,380 km²), of which 348 mi² (901 km²) is in Mexico.

PERIOD OF RECORD.--March to November 1907 and April 1909 to December 1912 (discharge measurements and fragmentary gage-height record), January 1913 to June 1922 (October 1915 to September 1916 monthly discharge only), May 1930 to December 1933, July 1935 to current year. Water-year estimates for 1913, 1915-16, 1920-22, 1930, 1934-35, published in WSP 1733.

GAGE.--Water-stage recorder. Datum of gage is 3,702.54 ft (1,128.534 m) above mean sea level (levels by International Boundary and Water Commission). Prior to June 30, 1922, nonrecording gage or water-stage recorder at various sites 5 to 6 mi (8 to 10 km) downstream at different datums.

AVERAGE DISCHARGE.--57 years (1912-22, 1929-76), 23.5 ft³/s (0.660 m³/s), 16,880 acre-ft/yr (20.8 hm³/yr); median of yearly mean discharges, 19 ft³/s (0.54 m³/s), 13,800 acre-ft/yr (17.0 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 6,700 ft³/s (190 m³/s) July 22 (gage height, 8.70 ft or 2.652 m); no flow for many days. 1930-76: Maximum discharge, 17,100 ft³/s (484 m³/s) Aug. 1, 1974 (gage height, 12.94 ft or 3.944 m), from rating curve extended above 3,700 ft³/s (105 m³/s) on basis of slope-area measurement of peak flow; maximum gage height, 13.71 ft (4.179 m) Aug. 20, 1955; no flow at times in most years. Flood of Dec. 22, 1914, probably about the same as that of Aug. 1, 1974.

REMARKS.--Records fair except those for Aug. 29 to Sept. 21, which are poor. Diversions above station of about 4,600 acre-ft/yr (5.67 hm³/yr) for irrigation of about 2,300 acres (9.3 km²) in Mexico. Diversion 19 mi (31 km) upstream for municipal supply of city of Nogales, Sonora, began in 1949; diversion in 1968 totaled 3,500 acre-ft/yr (4.32 hm³/yr). Records of suspended-sediment loads for the current water year are published on following pages.

REVISIONS (WATER YEARS).--WSP 959: 1935(M). WSP 1213: 1915-16, 1930-32(M), 1934(M), 1936-37(M). WSP 1283: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	.70	6.4	1.4	1.4	8.5	3.0	.40		0	39	2.0
2	2.3	.70	5.8	1.3	1.4	7.7	2.6	.30		0	25	1.0
3	2.0	.70	5.8	1.8	1.4	7.0	2.3	.30		0	16	1.0
4	1.8	.60	5.8	2.2	1.8	8.5	2.3	.20		0	11	1.0
5	1.7	1.0	5.8	2.2	2.8	7.0	2.2	.20		0	9.0	6.5
6	1.6	.90	5.8	2.1	3.5	7.0	2.1	.20		0	7.7	7.0
7	1.6	.80	5.8	2.0	3.5	7.0	2.0	.20		0	5.1	4.0
8	1.4	1.0	5.8	1.8	2.6	6.7	1.8	.20		0	131	3.0
9	1.4	1.1	5.4	1.7	3.3	6.7	1.6	.20		0	145	2.0
10	1.4	1.1	5.1	1.6	273	6.7	1.2	.10		0	58	1.0
11	1.3	1.1	4.8	1.6	42	6.7	1.1	0		0	10	1.0
12	1.1	1.1	4.1	1.6	20	6.7	1.0	.10		27	11	1.0
13	1.1	1.6	3.9	1.6	15	6.4	.80	.20		0	8.0	1.0
14	1.0	1.6	3.7	1.4	12	6.4	.70	.20		0	6.7	1.0
15	1.0	1.3	3.3	1.3	10	6.1	1.0	.20		0	5.8	1.0
16	1.0	1.3	3.0	1.1	10	6.1	2.0	.20		.70	4.8	1.0
17	.90	1.1	2.8	1.1	10	6.1	2.6	.20		51	4.1	1.0
18	.90	1.4	2.8	1.1	10	6.1	2.0	.20		0	2.6	1.0
19	.80	1.4	2.8	1.1	9.5	6.1	1.7	.20		0	3.9	1.0
20	.60	1.7	2.6	1.1	8.5	6.1	1.3	.20		0	4.6	1.0
21	.80	1.8	2.6	1.1	8.5	5.8	1.0	.20		12	3.7	1.0
22	.80	1.7	2.6	1.4	8.5	5.8	.70	.20		1100	4.6	9.3
23	.70	1.6	2.6	1.7	9.5	5.4	.60	.20		631	16	8.8
24	.70	2.1	2.6	1.7	10	5.4	.60	.20		82	27	15
25	.60	2.1	2.3	1.4	10	5.4	.60	.20		998	73	10
26	.70	2.2	2.2	1.4	10	4.8	.60	.20		12	45	5.1
27	.70	2.6	2.0	1.3	10	4.6	.50	.20		892	14	2.5
28	.70	3.9	1.7	1.3	9.5	4.4	.40	.20		1300	18	1.4
29	.70	9.5	1.3	1.3	9.0	3.9	.40	.10		651	10	1.1
30	.70	7.4	1.3	1.3	---	3.5	.40	0		268	5.0	.70
31	.70	---	1.3	1.3	---	3.5	---	0		79	3.0	---
TOTAL	35.70	56.70	113.8	46.3	526.7	188.1	41.10	5.70	0	6103.70	727.6	93.40
MEAN	1.15	1.89	3.67	1.48	18.2	6.07	1.37	.18	0	197	23.5	3.11
MAX	2.8	4.5	6.4	2.2	273	8.5	3.0	.40	0	1300	145	15
MIN	.60	.70	1.3	1.1	1.4	3.5	.40	0	0	0	2.6	.70
AC-FT	71	112	226	92	1040	373	82	11	0	12110	1440	185
CAL YR 1975	TOTAL	10520.50	MEAN 28.8	MAX 3500	MIN 0	AC-FT 20870						
WTR YR 1976	TOTAL	7938.80	MEAN 21.7	MAX 1300	MIN 0	AC-FT 15750						

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-22	0500	8.70	6,700	7-27	1200	7.05	3,600
7-23	0600	7.60	4,580	7-28	2000	8.30	5,910
7-25	0100	8.20	5,720	8- 8	2130	6.25	2,360

GILA RIVER BASIN

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09480500. SANTA CRUZ RIVER NEAR NOGALES, ARIZ.

LOCATION.--Lat 31°21'40", long 110°51'03", in NW¼ sec.18, T.24 S., R.15 E., (unsurveyed), Santa Cruz County, in Spanish land grant of Maria Santisima del Carmen, 0.8 mi (1.3 km) downstream from international boundary and 5.5 mi (8.8 km) east of Nogales.

DRAINAGE AREA.--533 mi² (1,380 km²), of which 348 mi² (901 km²) is in Mexico.

PERIOD OF RECORD.--Sediment records: October 1970 to current year.

REMARKS.--No flow many days each year. Records of temperature and specific conductance of individual samples available in district office at Tucson, Ariz.

MONTHLY AND ANNUAL SUMMARY OF SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

Month	Discharge (cfs)	Suspended-sediment discharge (tons)
October 1975	35.70	2.91
November	56.70	2.20
December	113.80	4.59
January 1976	46.30	1.61
February	526.70	2,810.73
March	188.10	8.04
April	41.10	1.43
May	5.70	0.03
June	0	0
July	6,103.70	641,224.84
August	727.60	11,748.96
September	93.40	112.63
Total for year	7,938.80	655,917.97

 PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
 (ANALYSES MADE IN DISTILLED WATER)

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	TEMPER- ATURE (DEG C)	SUS- PENDED SEDIM- ENT (MG/L)	SUS- PENDED SEDIM- ENT DIS- CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	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
AUG 25...	1205	72	27.0	9680	1880	43	54	77	95	99	100

GILA RIVER BASIN

09481710. SANTA CRUZ RIVER AT RIO RICO, ARIZ.

LOCATION.--Lat 31°28'13", long 110°59'30", in NW¼NW¼SW¼ sec.35, T.22 S., R.13 E., Santa Cruz County, in Spanish land grant of Luis Maria Baca (float No. 3), at bridge at community of Rio Rico, 1.6 mi (2.6 km) downstream from Sonoita Creek, 1.6 mi (2.6 km) northwest of site of abandoned settlement of Calabasas, 9 mi (14.5 km) north of Nogales, Ariz., and 16.5 mi (26.5 km) downstream from international boundary.

DRAINAGE AREA.--1,004 mi² (2,600 km²).

PERIOD OF RECORD.--Chemical analyses: January 1976 to September 1976.

REMARKS.--Streamflow ungaged. Most low flow is effluent from Nogales International Sewage Treatment Plant located approximately 2.5 mi (4.0 km) upstream.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	CHEM- ICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	FECAL COLI- FORM (COL. PER 100 ML)	HARD- NESS (CA+MG) (MG/L)
JAN 30...	1500	E3.0	880	8.0	20.5	15	--	--	<1	190
FEB 23...	1430	E3.0	850	7.6	23.0	26	--	--	<1	180
MAR 25...	1500	E3.0	820	7.7	24.0	22	--	--	<1	170
APR 29...	1015	E4.0	740	8.4	27.5	21	--	120	28	160
MAY 20...	1015	E4.0	830	8.6	27.0	20	--	--	230	190
JUN 21...	1600	E4.0	820	8.3	28.0	15	7.6	3	2200	190
JUL 29...	1500	E600	440	8.3	25.5	3500	7.4	--	14000	160
AUG 26...	1600	E5.0	610	8.3	23.0	380	7.5	--	11000	150
SEP 30...	1500	E4.0	670	8.1	26.0	35	7.0	--	2000	160

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	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)
JAN 30...	0	58	11	78	2.5	14	354	0	74	48
FEB 23...	0	57	10	76	2.4	15	337	0	72	47
MAR 25...	0	52	9.2	79	2.7	16	312	0	75	49
APR 29...	0	50	9.2	87	3.0	16	207	0	87	54
MAY 20...	0	57	11	83	2.6	16	307	0	79	55
JUN 21...	0	57	11	87	2.8	16	313	0	88	57
JUL 29...	61	50	8.8	16	.5	4.7	122	0	100	6.6
AUG 26...	0	49	7.3	64	2.3	10	240	0	64	39
SEP 30...	0	51	8.9	73	2.5	13	212	0	74	50

E Estimated value.

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

09481710. SANTA CRUZ RIVER AT RIO RICO, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CATIONS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHO. PHOS. PHOSPHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
JAN 30...	.5	37	481	518	.65	.04	7.5	190	20
FEB 23...	.5	37	472	502	.64	.00	6.9	210	10
MAR 25...	.6	40	465	495	.63	.47	5.8	--	30
APR 29...	.4	36	485	495	.66	10	3.0	220	30
MAY 26...	.6	43	540	496	.73	--	--	210	80
JUN 21...	.5	43	514	527	.70	.55	3.7	210	20
JUL 29...	.4	14	262	263	.36	.48	.13	50	10
AUG 26...	.4	34	369	396	.50	.41	2.5	160	20
SEP 30...	.4	38	432	441	.59	4.7	2.4	190	20

DATE	TIME	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL. DAHL NITROGEN (N) (MG/L)	TOTAL KJEL. NITROGEN IN BOTTOM MAT. (MG/KG)	TOTAL NITROGEN (N) (MG/L)	TOTAL NITROGEN (NO3) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOSPHORUS (P) (MG/L)
JAN 30...	1500	.09	.04	33	--	33	150	8.9	7.5
FEB 23...	1430	.00	.00	40	--	40	180	8.9	6.9
MAR 25...	1500	.36	.47	30	--	30	130	6.5	5.8
APR 29...	1015	2.8	10	31	--	34	150	6.4	3.0
MAY 26...	1015	.59	--	17	--	18	78	6.5	--
JUN 21...	1600	.51	.55	16	230	17	73	5.1	3.7
JUL 29...	1500	.50	.48	6.7	--	7.2	32	3.0	.13
AUG 26...	1600	.49	.41	11	--	11	51	3.2	2.5
SEP 30...	1500	2.4	4.7	4.2	--	6.6	29	4.1	2.4

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	TOTAL ARSENIC IN BOTTOM MATERIAL (UG/G)	TOTAL BARIUM (BA) (UG/L)	TOTAL BARIUM IN BOTTOM MATERIAL (UG/G)	TOTAL BORON (B) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	TOTAL CADMIUM (CD) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	TOTAL CADMIUM IN BOTTOM MATERIAL (UG/G)	TOTAL CHROMIUM (CR) (UG/L)
JAN 30...	1500	5	--	0	--	200	190	10	1	--	0
FEB 23...	1430	4	--	100	--	280	210	<10	0	--	0
MAR 25...	1500	5	--	0	--	200	--	<10	--	--	30
APR 29...	1015	4	--	100	--	220	220	<10	0	--	0
MAY 26...	1015	5	--	--	--	210	210	--	0	--	--
JUN 21...	1600	7	40	0	20	210	210	<10	--	1	0
JUL 29...	1500	150	--	2500	--	160	50	60	--	--	160
AUG 26...	1600	50	--	600	--	200	160	10	--	--	30
SEP 30...	1500	3	--	100	--	230	190	<10	--	--	0

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

09481710. SANTA CRUZ RIVER AT RIO RICO, ARIZ.--CONTINUED

WATER QUALITY DATA: WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL CHROMIUM IN BOTTOM MA-TERIAL (UG/G)	TOTAL COPPER (CU) (UG/L)	TOTAL COPPER IN BOTTOM MA-TERIAL (UG/G)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL LEAD IN BOTTOM MA-TERIAL (UG/G)	TOTAL MANGANESE (MN) (UG/L)	DIS-SOLVED MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL MERCURY IN BOTTOM MA-TERIAL (UG/G)
JAN 30...	--	10	--	430	20	<100	--	90	20	3.9	--
FEB 23...	--	10	--	640	10	<100	--	180	90	.1	--
MAR 27...	--	20	--	540	30	<100	--	120	40	.0	--
APR 24...	--	10	--	350	30	<100	--	110	20	.1	--
MAY 20...	--	--	--	--	80	--	--	--	0	.4	--
JUN 21...	1	40	7	190	20	<100	6	70	0	.2	.2
JUL 24...	--	920	--	230000	10	800	--	13000	0	2.6	--
AUG 20...	--	170	--	46000	20	200	--	2800	610	.3	--
SEP 30...	--	10	--	1700	20	<100	--	200	40	.1	--

DATE	TOTAL SELENIUM (SE) (UG/L)	TOTAL SELENIUM IN BOTTOM MA-TERIAL (UG/G)	TOTAL SILVER (AG) (UG/L)	TOTAL SILVER IN BOTTOM MA-TERIAL (UG/G)	TOTAL ZINC (ZN) (UG/L)	TOTAL ZINC IN BOTTOM MA-TERIAL (UG/G)	TOTAL ORGANIC CARBON (C) (MG/L)	CYANIDE (CN) (MG/L)	TOTAL CYANIDE IN BOTTOM MA-TERIAL (UG/G)	PHENOLS (UG/L)
JAN 30...	0	--	<10	--	50	--	41	--	--	--
FEB 23...	0	--	<10	--	280	--	92	.02	--	40
MAR 27...	0	--	10	--	30	--	45	.02	--	18
APR 24...	--	--	<10	--	20	--	56	.02	--	17
MAY 20...	0	--	--	--	--	--	22	--	--	4
JUN 21...	0	0	<10	1	30	9	24	.00	0	3
JUL 24...	1	--	20	--	1500	--	8.9	.00	--	18
AUG 20...	1	--	20	--	280	--	68	.00	--	7
SEP 30...	1	--	<10	--	20	--	11	.00	--	10

DATE	TIME	ALDRIN IN BOTTOM MA-TERIAL (UG/KG)	CHLORDANE IN BOTTOM MA-TERIAL (UG/KG)	DDD IN BOTTOM MA-TERIAL (UG/KG)	DDE IN BOTTOM MA-TERIAL (UG/KG)	DDT IN BOTTOM MA-TERIAL (UG/KG)	DI-AZINON IN BOTTOM MA-TERIAL (UG/KG)	DI-ELDRIN IN BOTTOM MA-TERIAL (UG/KG)	ENDRIN IN BOTTOM MA-TERIAL (UG/KG)	ETHION IN BOTTOM MA-TERIAL (UG/KG)	HEPTACHLOR IN BOTTOM MA-TERIAL (UG/KG)	HEPTACHLOR EPOXIDE IN BOTTOM MA-TERIAL (UG/KG)
N 1...	1600	.0	12	.0	.0	.0	.4	.0	.0	.0	.0	.0
		LINDANE IN BOTTOM MA-TERIAL (UG/KG)	MALATHION IN BOTTOM MA-TERIAL (UG/KG)	METHYL PARA-THION IN BOTTOM MA-TERIAL (UG/KG)	METHYL TRI-THION IN BOTTOM MA-TERIAL (UG/KG)	PARA-THION IN BOTTOM MA-TERIAL (UG/KG)	TUXAPHENE IN BOTTOM MA-TERIAL (UG/KG)	TRI-THION IN BOTTOM MA-TERIAL (UG/KG)	2,4-D IN BOTTOM MA-TERIAL (UG/KG)	2,4,5-T IN BOTTOM MA-TERIAL (UG/KG)	SILVEX IN BOTTOM MA-TERIAL (UG/KG)	PCB IN BOTTOM MA-TERIAL (UG/KG)
JUN 21...		.0	.0	.0	.0	.0	0	.0	0	0	0	0

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

09481710. SANTA CRUZ RIVER AT RIO RICO, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

JUNE 21, 1976
1600 HOURS

IDENTIFICATION OF PHYTOPLANKTON

83,000 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...CHARACIACEAE				
L ...SCHROEDERIA			0	
...COELASTRACEAE				
...COELASTRUM		8,300	10	
...MICRACTINIACEAE				
D ...MICRACTINIUM		53,000	63	
...OOCYSTACEAE				
...ANKISTRODESMUS		1,800	2	
L ...KIRCHNERIELLA			0	
...SCENEDESMACEAE				
D ...SCENEDESMUS				
	TOTALS	<u>15,000</u> 78,000	<u>17</u> 92	1.366=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
...CYCLOTELLA		1,600	2	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		480	1	
L ...COCCONEIS			0	
...NITZSCHACEAE				
...NITZSCHIA				
	TOTALS	<u>480</u> 2,900	<u>1</u> 4	1.685=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
...ANACYSTIS				
	TOTALS	<u>2,400</u> 2,400	<u>3</u> 3	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.404
 CLASS 0.404
 ORDER 0.438
 FAMILY 1.716
 GENERA 1.741

09482000. SANTA CRUZ RIVER AT CONTINENTAL, ARIZ.

LOCATION.--Lat 31°51'12", long 110°58'40", in NE¼ sec.23, T.18 S., R.13 E. (unsurveyed), Pima County, in Spanish land grant of San Ignacio de la Canoa, near left bank on downstream side of pier of highway bridge at Continental.

DRAINAGE AREA.--1,662 mi² (4,305 km²), of which 395 mi² (1,023 km²) is in Mexico.

PERIOD OF RECORD.--May 1940 to December 1946, October 1951 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,832.35 ft (863.300 m) above mean sea level. Prior to Sept. 8, 1965, at datum 4.00 ft (1.219 m) higher.

AVERAGE DISCHARGE.--31 years, 17.9 ft³/s (0.507 m³/s), 13,000 acre-ft/yr (16.0 hm³/yr); median of yearly mean discharges, 9.5 ft³/s (0.27 m³/s), 6,900 acre-ft/yr (8.5 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,800 ft³/s (108 m³/s) July 12 (gage height, 7.9 ft or 2.41 m, from high-water mark in gage well); no flow for most of year.
Period of record: Maximum discharge, 18,000 ft³/s (510 m³/s) Dec. 20, 1967 (gage height, 15.3 ft or 4.66 m), from rating curve extended above 6,000 ft³/s (170 m³/s) on basis of slope-area measurement of main channel at gage height 14.13 ft (4.307 m) and partial discharge measurement of main channel with contracted-opening measurement of bypass channel at gage height 15.3 ft (4.66 m); maximum gage height, 15.3 ft or 4.66 m (present datum) Aug. 19, 1955, and Dec. 20, 1967; no flow for most of each year.

REMARKS.--Records fair. Irrigation above station of about 12,500 acres (50.6 km²) including about 2,300 acres (9.31 km²) in Mexico, mostly by pumping from ground water.

REVISIONS.--WSP 1283: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0			0		.10	0	0	.40
2				0			0		1.0	0	0	.40
3				0			0		0	0	0	.40
4				0			.90		0	0	2.3	17
5				0			.60		0	0	1.9	4.5
6				0			0		0	0	1.6	31
7				0			.60		0	0	1.0	3.8
8				0			1.0		0	0	4.3	.50
9				0			.60		0	0	0	0
10				0			0		0	0	3.1	0
11				0			0		0	100	2.9	0
12				0			0		0	670	0	0
13				0			0		0	0	0	0
14				0			0		0	0	0	0
15				0			0		0	0	0	0
16				0			0		0	385	0	0
17				0			0		0	50	0	0
18				0			0		0	274	0	0
19				0			0		0	0	0	0
20				0			0		0	0	0	0
21				0			0		0	0	0	0
22				25			0		0	1040	68	0
23				0			0		0	539	6.4	0
24				0			0		0	316	0	0
25				0			0		0	334	2.8	149
26				0			0		0	33	60	63
27				0			0		0	100	13	.70
28				0			0		0	667	.50	0
29				0			0		0	514	.50	0
30				0	---		0		0	145	.40	0
31		---		0	---		---		---	2.0	.40	---
TOTAL	0	0	0	25	0	0	3.70	0	1.10	5169.0	169.10	270.70
MEAN	0	0	0	.81	0	0	.12	0	.037	167	5.45	9.02
MAX	0	0	0	25	0	0	1.0	0	1.0	1040	68	149
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	50	0	0	7.3	0	2.2	10250	335	537
CAL YR 1975	TOTAL	2500.10	MEAN	6.85	MAX	404	MIN	0	AC-FT	4960		
WTR YR 1976	TOTAL	5638.60	MEAN	15.4	MAX	1040	MIN	0	AC-FT	11180		

PEAK DISCHARGE (BASE, 2,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-12	*1200	†7.9	3,800	9-25	2200	6.30	2,330
7-22	1430	6.10	2,130				

* About.

† From high-water mark in gage well.

NOTE.--No gage-height record Jan. 11 to Feb. 17.

GILA RIVER BASIN

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09482400. AIRPORT WASH AT TUCSON, ARIZ.

LOCATION.--Lat 32°09'09", long 110°58'52", in NE¼SE¼ sec.2, T.15 S., R.13 E., Pima County, 25 ft (7.6 m) upstream from Santa Clara Avenue, 0.7 mi (1.1 km) upstream from mouth, 4.3 mi (6.9 km) downstream from confluence of North and South Forks, and 4.9 mi (7.9 km) south of city hall in Tucson.

DRAINAGE AREA.--23.0 mi² (59.6 km²).

PERIOD OF RECORD.--September 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,460 ft (750 m), from topographic map. Prior to July 1, 1974, at site 1.8 mi (2.9 km) upstream at different datum.

AVERAGE DISCHARGE.--11 years, 0.461 ft³/s (0.0131 m³/s), 334 acre-ft/yr (412,000 m³/yr); median of yearly mean discharges, 0.39 ft³/s (0.011 m³/s), 280 acre-ft/yr (350,000 m³/yr).

EXTREMES.--Current year: Maximum discharge, 896 ft³/s (25.4 m³/s) Sept. 25 (gage height, 2.64 ft or 0.805 m), from rating curve extended above 57 ft³/s (1.61 m³/s) on basis of critical-depth computations; no flow for most of year.

Period of record: Maximum discharge, 896 ft³/s (25.4 m³/s) Sept. 25, 1976 (gage height, 2.64 ft or 0.805 m), from rating curve extended above 57 ft³/s (1.61 m³/s) on basis of critical-depth computations; no flow for most of each year.

REMARKS.--Records fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	.01							0	0	3.1
2		0	0							0	0	0
3		0	0							0	0	0
4		0	0							0	0	0
5		0	0							0	0	0
6		0	0							0	0	0
7		0	0							0	0	0
8		0	0							0	0	0
9		0	0							0	0	0
10		0	0							0	0	0
11		0	0							0	0	0
12		0	0							.12	0	0
13		0	0							0	0	0
14		0	0							0	0	0
15		0	0							0	0	0
16		0	0							0	0	0
17		0	0							0	0	0
18		0	0							0	0	0
19		0	0							0	0	0
20		0	0							0	0	0
21		0	0							0	0	0
22		0	0							0	2.4	0
23		0	3.1							0	0	0
24		0	.12							.01	0	2.0
25		0	0							0	0	111
26		0	0							0	0	30
27		0	0							0	0	0
28		0	0							0	0	0
29		.93	0							0	0	0
30		.08	0		---					23	0	0
31		---	0		---		---		---	0	0	---
TOTAL	0	1.01	3.23	0	0	0	0	0	0	23.13	2.4	146.1
MEAN	0	.034	.10	0	0	0	0	0	0	.75	.077	4.87
MAX	0	.93	3.1	0	0	0	0	0	0	23	2.4	111
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	2.0	6.4	0	0	0	0	0	0	46	4.8	290
CAL YR 1975	TOTAL	69.04	MEAN .19	MAX 39	MIN 0	AC-FT 137						
WTR YR 1976	TOTAL	175.87	MEAN .48	MAX 111	MIN 0	AC-FT 349						

PEAK DISCHARGE (BASE, 150 CFS).--July 30 (0830) 536 cfs (2.22 ft); Sept. 25 (2045) 896 cfs (2.64 ft).

09482500. SANTA CRUZ RIVER AT TUCSON, ARIZ.

LOCATION.--Lat 32°13'16", long 110°58'52", in NE¼NE¼ sec.14, T.14 S., R.13 E., Pima County, on downstream side of center pier of Congress Street Bridge in Tucson.

DRAINAGE AREA.--2,222 mi² (5,755 km²), of which 395 mi² (1,023 km²) is in Mexico, adjusted for 15.2 mi² (39.4 km²) of Tucson Arroyo drainage area contributing to this station effective July 1956.

PERIOD OF RECORD.--October 1905 to current year (monthly discharge only, January 1907 to September 1912, January to September 1914).

GAGE.--Water-stage recorder. Datum of gage is 2,317.82 ft (706.472 m) above mean sea level. Prior to Nov. 27, 1929, nonrecording gages or reference points for measuring to water surface at various places on bridge at same site and various datums. Nov. 27, 1929, to Oct. 27, 1970, water-stage recorder at present site: at datum 9.08 ft (2.768 m) higher Nov. 27, 1929, to June 18, 1958; at datum 5.08 ft (1.548 m) higher June 18, 1958, to May 21, 1963; at datum 0.62 ft (0.189 m) lower May 21, 1963, to Oct. 27, 1970. No gage Oct. 27, 1970, to Oct. 1, 1971.

AVERAGE DISCHARGE.--71 years, 21.3 ft³/s (0.603 m³/s), 15,430 acre-ft/yr (19.0 hm³/yr); median of yearly mean discharges, 15 ft³/s (0.42 m³/s), 10,900 acre-ft/yr (13 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 7,100 ft³/s (201 m³/s) Sept. 25 (gage height, 13.00 ft or 3.962 m); no flow for most of year.

Period of record: Maximum discharge, 16,600 ft³/s (470 m³/s) Aug. 23, 1961 (gage height, 20.68 ft or 6.303 m, present datum), from rating curve extended above 4,200 ft³/s (120 m³/s) on basis of slope-area measurement of peak flow, and partial discharge measurement at gage height 18.4 ft (5.61 m), present datum; no flow for most of each year.

REMARKS.--Records fair except those below 5 ft³/s (0.1 m³/s), which are poor. Irrigation above station of about 26,000 acres (105 km²), including about 2,300 acres (9.31 km²) in Mexico, mostly by pumping from ground water. Ground water is also pumped above the station for municipal supply and mining. Since October 1969 all flow past station is published, including waste water when known.

REVISIONS (WATER YEARS).--WSP 859: 1915(M). WSP 1283: Drainage area. WSP 1313: 1939(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	0	0		0	0			0	0	.10
2		0	0	0		0	0			0	0	.10
3		0	0	0		1.0	0			0	0	0
4		0	0	0		.50	0			0	0	6.0
5		0	0	0		0	0			0	0	7.0
6		0	0	0		0	0			0	0	13
7		0	0	0		0	0			0	0	28
8		0	0	0		0	0			0	.30	.10
9		0	0	0		0	0		.40	85	0	0
10		0	0	0		0	0		0	60	18	0
11		0	0	0		0	0		8.5	85	.10	0
12		0	0	0		0	0		379	0	0	0
13		0	0	0		0	0		83	0	0	0
14		0	0	0		0	0		3.0	0	0	0
15		0	0	0		0	2.3		0	0	0	0
16		0	0	0		0	5.5		66	0	0	0
17		0	0	0		0	0		7.5	0	0	0
18		0	0	0		0	0		55	0	0	0
19		0	0	0		0	0		7.9	0	0	0
20		0	0	0		0	0		2.6	16	0	0
21		0	0	0		0	0		0	58	0	0
22		0	0	5.2		0	0		496	63	0	0
23		0	15	0		0	0		264	47	0	0
24		0	1.2	0		0	0		72	0	123	0
25		0	0	0		0	0		119	0	1140	0
26		0	0	0		0	0		42	0	578	0
27		0	0	0		0	0		26	57	1.0	0
28		0	0	0		0	0		366	0	0	0
29		5.0	0	0		0	0		422	0	0	0
30		0	0	0	---	0	0		370	0	0	0
31		---	0	0	---	0	---		---	0	0	---
TOTAL	0	5.0	16.2	5.2	0	1.50	7.8	0	0	2789.90	471.30	1914.40
MEAN	0	.17	.52	.17	0	.048	.26	0	0	90.0	15.2	63.8
MAX	0	5.0	15	5.2	0	1.0	5.5	0	0	496	85	1140
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	9.9	32	10	0	3.0	15	0	0	5530	935	3800
CAL YR 1975	TOTAL	2795.10	MEAN	7.66	MAX	432	MIN	0	AC-FT	5540		
WTR YR 1976	TOTAL	5211.30	MEAN	14.2	MAX	1140	MIN	0	AC-FT	10340		

PEAK DISCHARGE (BASE, 1,700 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-12	1900	9.41	2,760	9-25	2100	13.00	7,100
7-30	0830	9.41	2,670				

NOTE.--Doubtful or no gage-height record Oct. 19 to Dec. 15, Dec. 25 to Mar. 4.

GILA RIVER BASIN

363

09482950. RAILROAD WASH AT TUCSON, ARIZ.

LOCATION.--Lat 32°12'48", long 110°56'45", in SE¼NE¼ sec.18, T.14 S., R.14 E., Pima County, on right bank 200 ft (61 m) upstream from Winsett Street in Tucson.

DRAINAGE AREA.--1.9 mi² (4.9 km²).

PERIOD OF RECORD.--October 1975 to September 1976.

GAGE.--Water-stage recorder and concrete flume. Altitude of gage is 2,430 ft (741 m), from topographic map.

EXTREMES.--Water year 1976: Maximum discharge, 312 ft³/s (8.84 m³/s) July 11 (gage height, 3.15 ft or 0.960 m); no flow for most of year.

COOPERATION.--Records furnished by Water Resources Research Center, University of Arizona.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	0		0			0	0	.45		0
2		0	0		0			0	0	0		0
3		0	0		0			0	0	0		0
4		0	0		0			0	0	0		4.9
5		0	0		0			0	0	0		.01
6		0	0		0			0	0	0		0
7		0	0		0			0	0	0		0
8		0	0		0			0	0	0		0
9		0	0		0			0	0	0		0
10		0	0		.50			0	0	0		.89
11		0	0		.05			0	0	12		0
12		0	0		.04			0	0	3.1		0
13		0	0		0			0	0	0		0
14		0	0		0			0	0	0		0
15		0	0		0			0	0	0		0
16		0	0		0			0	0	0		0
17		0	0		0			0	0	0		0
18		0	0		0			0	0	0		0
19		0	0		0			0	0	0		0
20		0	0		0			.17	0	.97		0
21		0	0		0			0	0	0		0
22		0	0		0			0	0	0		0
23		0	.98		0			0	0	0		0
24		0	.05		0			0	0	0		4.0
25		0	0		0			0	0	0		2.4
26		0	0		0			0	0	0		.40
27		0	0		0			0	0	0		0
28		0	0		0			0	0	0		0
29		.70	0		0			0	0	.87		0
30		0	0		---			0	1.9	4.0		0
31		---	0		---		---	0	---	0		---
TOTAL	0	.70	1.03	0	.59	0	0	.17	1.9	21.39	0	12.60
MEAN	0	.023	.033	0	.020	0	0	.006	.063	.69	0	.42
MAX	0	.70	.98	0	.50	0	0	.17	1.9	12	0	4.9
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	1.4	2.0	0	1.2	0	0	.3	3.8	42	0	25
WTR YR 1976	TOTAL	38.38	MEAN	.10	MAX	12	MIN	0	AC-FT	76		

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-11	2207	3.15	312	9-4	1755	2.58	176
7-30	0925	2.24	108				

GILA RIVER BASIN

09483000. TUCSON ARROYO AT VINE AVENUE, TUCSON, ARIZ.

LOCATION.--Lat 32°13'00", long 110°56'54", in SW¼NE¼ sec.18, T.14 S., R.14 E., Pima County, on right bank at Vine Avenue in Tucson, 0.2 mi (0.3 km) downstream from Arroyo Chico.

DRAINAGE AREA.--8.2 mi² (21.2 km²) since June 1956. Prior to August 1945, 27.0 mi² (69.9 km²). See WSP 1733 for history of progressive reduction of drainage area by flood-control diversion structures.

PERIOD OF RECORD.--June 1944 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,411.9 ft (735.15 m) above mean sea level (city of Tucson bench mark).

AVERAGE DISCHARGE.--8 years (1944-52), 0.68 ft³/s (0.0193 m³/s), 492 acre-ft/yr (607,000 m³/yr), representing flow from 23.4 mi² (60.6 km²); 20 years (1956-76), 0.88 ft³/s (0.0249 m³/s), 638 acre-ft/yr (787,000 m³/yr).

EXTREMES.--Current year: Maximum discharge, 446 ft³/s (12.63 m³/s) Sept. 4 (gage height, 5.62 ft or 1.713 m); no flow for most of year. Period of record: Maximum discharge, 5,000 ft³/s (142 m³/s) Aug. 22, 1961 (gage height, 10.35 ft or 3.155 m), from rating curve extended above 2,100 ft³/s (60 m³/s) on basis of slope-area measurements at gage heights 10.13 and 10.35 ft (3.088 and 3.155 m); no flow for most of each year.

REMARKS.--Records good prior to July 20, and fair thereafter. A flood-control project, at upper end of natural basin, diverts runoff from 3.6 mi² (9.3 km²) into Lakeside Reservoir (Atterbury) which is in Pantano Wash drainage area. Another flood-control project diverts runoff from 15.2 mi² (39.4 km²) near the upper end of basin into a flood-control detention reservoir in SE¼ sec.29, T.14 S., R.14 E., from which reservoir water is released to Julian Wash, which enters Santa Cruz River upstream from Tucson Arroyo. Since October 1969, all flow past the station is published. Some flow is waste water dumped into stream.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	0		0	0	0	0	0	.51	0	.25
2		0	0		0	0	0	0	0	0	0	.01
3		0	0		0	3.0	0	0	0	0	0	0
4		0	0		0	1.9	0	0	0	0	0	22
5		0	0		.24		.03	0	0	0	0	.17
6		0	0		1.3	0	.22	0	0	0	0	0
7		0	0		.23	0	.30	0	0	0	0	0
8		0	0		0	0	.22	0	0	0	0	0
9		0	0		0	0	.01	0	0	.01	0	0
10		0	0		6.1	0	0	0	0	0	0	3.9
11		0	0		.21	0	0	0	0	14	0	.01
12		0	0		.48	0	0	0	0	8.8	0	0
13		0	0		0	0	0	0	0	0	0	0
14		0	0		0	0	.06	0	0	0	0	0
15		0	0		0	0	1.1	0	0	0	0	0
16		0	0		0	0	6.6	0	0	0	0	0
17		0	0		0	0	.52	0	0	0	0	0
18		0	0		0	0	0	0	0	0	0	0
19		0	0		0	0	0	0	0	0	0	0
20		0	0		0	0	0	.60	0	4.1	0	0
21		0	0		0	0	0	0	0	0	0	0
22		0	0		0	0	0	0	0	0	.27	0
23		0	5.6		0	0	0	0	0	0	0	0
24		0	.46		0	0	0	0	0	0	2.6	17
25		0	0		0	0	0	0	0	0	.46	23
26		0	0		0	0	.14	0	0	0	0	.85
27		0	0		0	0	0	0	0	0	0	0
28		0	0		0	0	0	0	0	0	0	0
29		5.0	0		0	0	0	0	0	.30	0	0
30		0	0		---	0	0	0	1.3	6.8	0	0
31		---	0		---	0	---	0	---	0	0	---
TOTAL	0	5.0	6.06	0	8.56	4.9	9.20	.60	1.3	34.52	3.33	67.19
MEAN	0	.17	.20	0	.30	.16	.31	.019	.043	1.11	.11	2.24
MAX	0	5.0	5.6	0	6.1	3.0	6.6	.60	1.3	14	2.6	23
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	9.9	12	0	17	9.7	18	1.2	2.6	68	6.6	133

CAL YR 1975 TOTAL 172.22 MEAN .42 MAX 41 MIN 0 AC-FT 302
WTR YR 1976 TOTAL 140.66 MEAN .38 MAX 23 MIN 0 AC-FT 279

PEAK DISCHARGE (BASE, 300 CFS).--July 11 (2215) 356 cfs (5.32 ft); Sept. 4 (1800) 446 cfs (5.62 ft).

GILA RIVER BASIN

365

09483010. HIGH SCHOOL WASH AT TUCSON, ARIZ.

LOCATION.--Lat 32°13'28", long 110°56'48", in SE¼SE¼ sec.7, T.14 S., R.14 E., Pima County, on right bank 200 ft (61 m) upstream from Cherry Avenue in Tucson.

DRAINAGE AREA.--0.95 mi² (2.46 km²).

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

GAGE.--Water-stage recorder and concrete flume. Altitude of gage is 2,415 ft (736 m), from topographic map.

EXTREMES.--Current year: Maximum discharge, 156 ft³/s (4.42 m³/s) Sept. 4 (gage height, 2.87 ft or 0.875 m); no flow for most of year.
Period of record: Maximum discharge, 195 ft³/s (5.52 m³/s) July 16, 1975 (gage height, 3.21 ft or 0.978 m); no flow most of each year.

REMARKS.--Entire drainage basin is an urban, residential area.

COOPERATION.--Records furnished by Water Resources Research Center, University of Arizona.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	0	0	0	0	0	0	0	.03	0	.86
2		0	0	0	0	0	0	0	0	0	0	0
3		0	0	0	0	2.0	0	0	0	0	0	0
4		0	0	0	0	1.4	0	0	0	0	0	3.4
5		0	0	0	.10	0	0	0	0	0	0	0
6		0	0	0	0	0	0	0	0	0	0	0
7		0	0	0	0	0	0	0	0	0	0	0
8		0	0	0	0	0	0	0	0	0	0	0
9		0	0	0	0	0	0	0	0	.66	0	0
10		0	0	0	.50	0	0	0	0	.01	0	1.2
11		0	0	0	0	0	0	0	0	2.1	0	0
12		0	0	0	0	0	0	0	0	2.3	0	0
13		0	0	0	0	0	0	0	0	0	0	0
14		0	0	0	0	0	.50	0	0	0	0	0
15		0	0	0	0	0	1.2	0	0	0	0	0
16		0	0	0	0	0	1.4	0	0	0	0	0
17		0	0	0	0	0	0	0	0	0	0	0
18		0	0	0	0	0	0	0	0	0	0	0
19		0	0	0	0	0	0	0	0	0	0	0
20		0	0	0	0	0	0	1.8	0	2.3	0	0
21		0	.22	0	0	0	0	0	0	0	0	0
22		0	0	1.1	0	0	0	0	0	0	.98	0
23		0	1.6	0	0	0	0	0	0	0	0	0
24		0	0	0	0	0	0	0	0	0	1.1	1.5
25		0	0	0	0	0	0	0	0	0	0	2.1
26		0	0	0	0	0	0	0	0	0	0	.01
27		0	0	0	0	0	0	0	0	0	0	0
28		0	0	0	0	0	0	0	0	0	0	0
29		1.2	0	0	0	0	0	0	0	.10	0	0
30		0	0	0	---	0	0	0	.46	.14	0	0
31		---	0	0	---	0	---	0	---	0	0	---
TOTAL	0	1.2	1.82	1.1	.60	3.4	3.10	1.8	.46	7.64	2.08	9.07
MEAN	0	.040	.059	.036	.021	.11	.10	.058	.015	.25	.067	.30
MAX	0	1.2	1.6	1.1	.50	2.0	1.4	1.8	.46	2.3	1.1	3.4
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	2.4	3.6	2.2	1.2	6.7	6.1	3.6	.9	15	4.1	18
CAL YR 1975	TOTAL 30.83	MEAN .085	MAX 7.1	MIN 0	AC-FT 61							
WTR YR 1976	TOTAL 32.27	MEAN .088	MAX 3.4	MIN 0	AC-FT 64							

PEAK DISCHARGE (BASE, 50 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
5-20	1642	1.92	74	9- 4	1746	2.87	156
7-12	0002	1.95	76	9-10	1836	1.79	65
7-20	1025	2.00	80				

GILA RIVER BASIN

09485390. ATTERBURY WASH TRIBUTARY AT TUCSON, ARIZ.

LOCATION.--Lat 32°11'09", long 110°49'17", in SW¼ sec.28, T.14 S., R.15 E., Pima County, on left bank 500 ft (150 m) downstream from Stella Road in Tucson.

DRAINAGE AREA.--5.13 mi² (13.29 km²).

PERIOD OF RECORD.--October 1975 to September 1976.

GAGE.--Water-stage recorder and concrete flume. Altitude of gage is 2,710 ft (826 m), from topographic map.

EXTREMES.--Water year 1976: Maximum discharge, 218 ft³/s (6.17 m³/s) Sept. 25 (gage height, 3.30 ft or 1.006 m); no flow for most of year.

COOPERATION.--Records furnished by Water Resources Research Center, University of Arizona.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0				0		0	0	0	0
2	0	0	0				0		0	0	0	0
3	0	0	0				0		0	0	0	0
4	0	0	0				0		0	0	0	.26
5	0	0	0				0		0	0	0	.03
6	0	0	0				0		0	0	0	0
7	0	0	0				0		0	0	0	0
8	0	0	0				0		0	0	0	0
9	0	0	0				0		0	0	0	0
10	0	0	0				0		0	0	0	0
11	0	0	0				0		0	0	0	0
12	0	0	0				0		0	0	0	0
13	0	0	0				0		0	0	0	0
14	0	0	0				0		0	0	0	0
15	0	0	0				.08		0	0	0	0
16	0	0	0				.41		0	0	0	0
17	0	0	0				.02		0	0	0	0
18	0	0	0				0		0	0	0	0
19	0	0	0				0		0	0	0	0
20	0	0	0				0		0	.11	0	0
21	.36	0	0				0		0	.02	0	0
22	0	0	0				0		0	0	0	0
23	0	0	2.4				0		0	0	0	0
24	0	0	1.7				0		0	0	.09	.07
25	0	0	0				0		0	0	0	.42
26	0	0	0				0		0	.10	0	9.2
27	0	0	0				0		0	0	0	0
28	0	.01	0				0		.06	0	0	0
29	0	0	0				0		0	0	.04	0
30	0	0	0				0		0	0	0	0
31	0	---	0		---	---	---		0	0	0	---
TOTAL	.36	.01	4.1	0	0	0	.51	0	.06	.23	.13	51.52
MEAN	.012	.0003	.13	0	0	0	.017	0	.002	.007	.004	1.72
MAX	.36	.01	2.4	0	0	0	.41	0	.06	.11	.09	.42
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	.7	.02	8.1	0	0	0	1.0	0	.1	.5	.3	102
WTR YR 1976	TOTAL 56.92	MEAN .16	MAX	42	MIN 0	AC-FT 113						

PEAK DISCHARGE (BASE, 50 CFS).--Sept. 25 (1827) 218 cfs (3.30 ft).

GILA RIVER BASIN

367

09485650. ARCADIA WASH AT TUCSON, ARIZ.

LOCATION.--Lat 32°14'37", long 110°53'05", in SE¼NW¼ sec.2, T.14 S., R.14 E., Pima County, on right bank 150 ft (46 m) downstream from Pima Street in Tucson.

DRAINAGE AREA.--3.49 mi² (9.04 km²).

PERIOD OF RECORD.--October 1975 to September 1976.

GAGE.--Water-stage recorder and concrete flume. Altitude of gage is 2,485 ft (757 m), from topographic map.

EXTREMES.--Water year 1976: Maximum discharge, 342 ft³/s (9.69 m³/s) Sept. 25 (gage height, 3.38 ft or 1.030 m); no flow for most of year.

REMARKS.--Entire drainage basin is an urban, residential area.

COOPERATION.--Records furnished by Water Resources Research Center, University of Arizona.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	0		0	0	0	0		0	0	0
2		0	0		0	0	0	0		0	0	0
3		0	0		0	.06	0	.01		0	0	0
4		0	0		0	0	0	0		0	0	.07
5		0	0		0	0	0	0		0	0	0
6		0	0		0	0	0	0		0	0	0
7		0	0		0	0	0	0		0	0	0
8		0	0		0	0	0	0		0	0	0
9		0	0		0	0	0	0		0	0	0
10		0	0		1.3	0	0	0		0	0	0
11		0	0		0	0	0	0		0	0	0
12		0	0		0	0	0	0		0	0	0
13		0	0		0	0	0	0		0	0	0
14		0	0		0	0	.01	0		0	0	0
15		0	0		0	0	0	0		0	0	0
16		0	0		0	0	.05	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	0	0	0		0	0	0
20		0	0		0	0	0	0		8.1	0	0
21		0	0		0	0	0	0		0	0	0
22		0			0	0	0	0		0	0	0
23			.02		0	0	0	0		0	0	0
24		0	0		0	0	0	0		0	8.8	.14
25		0	0		0	0	0	0		0	0	17
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		.48	0		0	0	0	0		0	0	0
30		0	0		---	0	0	0		0	0	0
31		---	0		---	0	---	0		0	0	---
TOTAL	0	.48	.02	0	1.3	.06	.06	.01	0	8.1	8.8	17.21
MEAN	0	.016	.0006	0	.045	.002	.002	.0003	0	.26	.28	.57
MAX	0	.48	.02	0	1.3	.06	.05	.01	0	8.1	8.8	17
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	1.0	.04	0	2.6	.1	.1	.02	0	16	17	34
WTR YR 1976	TOTAL	36.04	MEAN .099	MAX	17	MIN	0	AC-FT	71			

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-20	1046	2.72	230	9-25	1922	3.38	342
8-24	1916	2.64	218				

09486300. CANADA DEL ORO NEAR TUCSON, ARIZ.

LOCATION.--Lat 32°22'27", long 111°00'31", in SW¼NW¼ sec.22, T.12 S., R.13 E., Pima County, on right bank at upstream side of Overton Road, 4.7 mi (7.6 km) upstream from mouth, and 10.5 mi (16.9 km) north of city hall in Tucson.

DRAINAGE AREA.--250 mi² (648 km²).

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,380 ft (725 m), from topographic map.

AVERAGE DISCHARGE.--11 years, 1.72 ft³/s (0.049 m³/s), 1,250 acre-ft/yr (1.54 hm³/yr); median of yearly mean discharges, 1.0 ft³/s (0.03 m³/s), 720 acre-ft/yr (0.89 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 2,220 ft³/s (62.9 m³/s) Sept. 5 (gage height, 4.50 ft or 1.372 m), from rating curve extended above 580 ft³/s (16.4 m³/s) on basis of slope-area measurement at gage height 7.65 ft (2.332 m); no flow for most of year. Period of record: Maximum discharge, 13,900 ft³/s (394 m³/s) Dec. 20, 1967 (gage height, 7.65 ft or 2.332 m, from high-water mark in gage well), from rating curve extended above 580 ft³/s (16.4 m³/s) on basis of slope-area measurement of peak flow; no flow for most of each year.

REMARKS.--Records poor. Lago del Oro—capacity 9,400 acre-ft (11.6 hm³)—16 mi (26 km) upstream, has contained no storage since May 4, 1971, as gates were opened by court order; however, peak flows are regulated while passing through the lake.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										0	0	0
2										0	0	0
3										0	0	0
4										0	0	0
5										0	0	86
6										0	0	8.2
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										0	0	0
15										0	0	0
16										.90	0	0
17										0	0	0
18										0	0	0
19										0	0	0
20										0	6.1	0
21										0	0	0
22										.20	0	0
23										1.1	0	0
24										2.2	0	29
25										0	.50	0
26										0	1.1	0
27										29	0	0
28										0	0	0
29										.10	0	0
30										0	0	0
31		---			---		---		---	0	0	---
TOTAL	0	0	0	0	0	0	0	0	0	33.50	7.70	123.2
MEAN	0	0	0	0	0	0	0	0	0	1.08	.25	4.11
MAX	0	0	0	0	0	0	0	0	0	29	6.1	86
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	0	66	15	244
CAL YR 1975	TOTAL	21.00	MEAN	.056	MAX	11	MIN	0	AC-FT	42		
WTR YR 1976	TOTAL	104.40	MEAN	.45	MAX	86	MIN	0	AC-FT	326		

PEAK DISCHARGE (BASE, 500 CFS).--July 27 (2000) 770 cfs (3.75 ft); Sept. 5 (2100) 2,220 cfs (4.50 ft).

09486500. SANTA CRUZ RIVER AT CORTARO, ARIZ.

LOCATION.--Lat 32°21'04", long 111°05'38", in NW¼NW¼ sec.35, T.12 S., R.12 E., Pima County, on downstream side of right bridge pier 0.5 mi (0.8 km) southwest of Cortaro, 2.6 mi (4.2 km) downstream from Canada del Oro, and 3.7 mi (6.0 km) downstream from Rillito Creek.

DRAINAGE AREA.--3,503 mi² (9,073 km²), of which 395 mi² (1,023 km²) is in Mexico.

PERIOD OF RECORD.--October 1939 to June 1947 (published as "at Rillito"), July 1950 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,133.13 ft (650.178 m) above mean sea level (State Highway Department bench mark). Prior to June 30, 1947, at site 5.5 mi (8.8 km) downstream at different datum. July 8, 1950, to Jan. 20, 1966, at present site at datum 4.00 ft (1.219 m) higher.

AVERAGE DISCHARGE (unadjusted for waste water and sewage effluent).--33 years (1939-46, 1950-76), 36.0 ft³/s (1.02 m³/s), 26,100 acre-ft/yr (32.2 hm³/yr); median of yearly mean discharges, 28 ft³/s (0.79 m³/s), 20,300 acre-ft/yr (25 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 10,600 ft³/s (300 m³/s) Sept. 25 (gage height, 12.68 ft or 3.865 m); minimum daily, 20 ft³/s (0.57 m³/s) Sept. 22.

Period of record: Maximum discharge, 17,000 ft³/s (481 m³/s) Aug. 14, 1940 (gage height, 9.9 ft or 3.02 m, site and datum then in use); no natural flow for most of each year. (See REMARKS.)

REMARKS.--Records poor. Many diversions above station, mostly by pumping from ground water, for irrigation of about 34,000 acres (138 km²). Waste water from irrigation and from sewage-disposal plant is included in flow past station; included only in water years 1951, 1952, and since 1970 water year. This year most of flow shown below 60 ft³/s (1.70 m³/s) is waste water.

REVISIONS.--WSP 1283: Drainage area.

DISCHARGE* IN CUBIC FEET PER SECOND* WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	45	45	39	37	36	34	41	45	49	60	44
2	40	45	45	37	42	37	36	43	47	47	50	42
3	40	45	45	41	42	44	32	50	47	43	50	41
4	40	45	40	36	41	67	36	48	51	45	50	76
5	40	45	40	42	41	37	41	43	48	47	37	114
6	40	45	40	41	44	37	34	46	48	50	59	146
7	45	45	40	39	42	37	35	47	48	45	52	112
8	45	45	40	41	41	36	40	45	46	40	48	70
9	45	45	40	41	41	37	46	43	46	472	129	63
10	45	45	40	39	36	37	50	46	43	162	57	98
11	45	45	42	39	34	37	46	47	43	41	298	65
12	45	45	39	36	46	39	40	45	41	284	102	50
13	45	45	39	39	42	37	40	48	40	160	75	40
14	45	45	42	37	39	37	40	45	47	72	50	40
15	45	45	36	36	41	37	72	45	44	52	40	40
16	45	45	36	37	41	36	84	44	45	70	36	40
17	45	45	41	34	48	29	50	47	36	95	37	40
18	45	45	36	34	42	30	45	47	33	105	26	35
19	45	45	37	37	39	29	45	47	35	80	27	35
20	45	45	41	39	41	34	45	45	38	112	45	36
21	45	45	44	37	41	34	45	48	44	61	74	23
22	45	45	44	42	39	37	45	46	41	320	73	20
23	45	45	51	46	44	36	80	43	36	279	89	27
24	45	45	68	39	37	34	50	46	38	173	63	225
25	45	45	37	39	39	30	40	45	45	93	144	1070
26	45	45	36	41	34	29	40	44	41	253	100	1170
27	45	45	34	39	41	29	40	42	42	61	80	61
28	45	45	37	39	34	27	40	46	43	290	70	50
29	45	45	41	37	34	29	42	45	42	513	60	25
30	45	45	42	41	---	34	42	40	40	503	50	22
31	45	---	39	39	---	30	---	40	---	100	44	---
TOTAL	1370	1350	1277	1203	1163	1099	1355	1397	1283	4717	2175	3920
MEAN	44.2	45.0	41.2	38.8	40.1	35.5	45.2	45.1	42.8	152	70.2	131
MAX	45	45	68	46	48	67	84	50	51	513	298	1170
MIN	40	45	34	34	34	27	32	40	33	40	26	20
AC-FT	2720	2680	2530	2390	2310	2180	2690	2770	2540	9360	4310	7780

CAL YR 1975 TOTAL 20812 MEAN 57.0 MAX 649 MIN 32 AC-FT 41280
WTR YR 1976 TOTAL 22309 MEAN 61.0 MAX 1170 MIN 20 AC-FT 44250

PEAK DISCHARGE (BASE, 2,700 CFS).--July 9 (2200) 6,800 cfs (11.15 ft); Sept. 25 (2230) 10,600 cfs (12.68 ft.)

NOTE.--No gage-height record Oct. 1 to Dec. 10.

09488500. SANTA ROSA WASH NEAR VAIVA VO, NEAR SELLS, ARIZ.

LOCATION.--Lat 32°40'03", long 111°55'39", in SW¼SW¼ sec.2, T.9 S., R.4 E., Pinal County, in Papago Indian Reservation, on right bank about 1 mi (2 km) downstream from Tat Momolikot Dam, 3.3 mi (5.3 km) south of Vaiva Vo, 10 mi (16 km) southwest of Chuichu, 12 mi (19 km) downstream from Gu Komelik and 52 mi (84 km) north of Sells.

DRAINAGE AREA.--1,782 mi² (4,615 km²).

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

GAGE.--Water-stage recorder. Altitude of gage is 1,470 ft (448 m), from topographic map.

AVERAGE DISCHARGE.--22 years, 12.8 ft³/s (0.362 m³/s), 9,270 acre-ft/yr (11.4 hm³/yr); median of yearly mean discharges, 6.7 ft³/s (0.19 m³/s), 4,900 acre-ft/yr (6.0 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 390 ft³/s (11.0 m³/s) Sept. 25 (gage height, 5.60 ft or 1.707 m); no flow for most of year. Period of record: Maximum discharge, 53,100 ft³/s (1,500 m³/s) Sept. 27, 1962 (gage height, 16.9 ft or 5.15 m), from rating curve extended above 840 ft³/s (24 m³/s) on basis of slope-area measurement of peak flow; no flow for most of each year.

REMARKS.--Records fair. Beginning July 1974, flood flows are regulated by Lake St. Clair, formed by Tat Momolikot Dam, about 1 mi (2 km) upstream--total capacity, 384,000 acre-ft (473 hm³).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0					0	0		0	0	1.5
2		0					0	0		0	0	0
3		0					0	0		0	0	0
4		0					0	1.3		0	0	0
5		0					0	0		0	0	0
6		0					0	0		0	0	0
7		0					0	0		0	0	0
8		0					0	0		0	0	0
9		0					0	0		5.8	0	0
10		0					0	0		.30	1.3	0
11		0					0	0		0	.40	0
12		0					0	0		0	0	0
13		0					0	0		0	0	0
14		0					0	0		0	0	0
15		0					0	0		0	0	0
16		0					1.9	0		0	0	0
17		0					0	0		0	0	0
18		0					0	0		1.7	0	0
19		0					0	0		0	0	0
20		0					0	0		0	0	0
21		0					0	0		0	0	0
22		0					0	0		0	17	0
23		0					0	0		0	1.2	.40
24		0					0	0		0	0	1.7
25		0					0	0		11	0	18
26		0					0	0		.10	0	0
27		0					0	0		0	0	0
28		1.3					0	0		0	.80	0
29		.50					0	0		0	0	0
30		0			---		0	0		0	0	0
31		---			---		---	0	---	0	.90	---
TOTAL	0	1.80	0	0	0	0	1.9	1.3	0	18.90	21.60	21.60
MEAN	0	.060	0	0	0	0	.063	.042	0	.61	.70	.72
MAX	0	1.3	0	0	0	0	1.9	1.3	0	11	17	18
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	3.6	0	0	0	0	3.8	2.6	0	37	43	43

CAL YR 1975 TOTAL 87.40 MEAN .24 MAX 45 MIN 0 AC-FT 173
WTR YR 1976 TOTAL 67.10 MEAN .18 MAX 18 MIN 0 AC-FT 133

PEAK DISCHARGE (BASE, 700 CFS).--No peak above base.

NOTE.--No gage-height record Aug. 23 to Sept. 30.

GILA RIVER BASIN

371

09489000. SANTA CRUZ RIVER NEAR LAVERN, ARIZ.

LOCATION.--Lat 33°13'56", long 112°10'08", in NE¼ sec.29, T.2 S., R.2 E., Pinal County, in Gila River Indian Reservation, on downstream side of highway bridge, 3.4 mi (5.5 km) upstream from mouth, 4.3 mi (6.9 km) south of Komatke, and 9 mi (14 km) south of Laven.

DRAINAGE AREA.--8,581 mi² (22,225 km²).

PERIOD OF RECORD.--January 1940 to September 1946, December 1947 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,020.86 ft (311.158 m) above mean sea level.

AVERAGE DISCHARGE.--34 years (1940-46, 1948-76), 18.5 ft³/s (0.524 m³/s), 13,400 acre-ft/yr (16.5 hm³/yr); median of yearly mean discharges, 12 ft³/s (0.34 m³/s), 8,700 acre-ft/yr (11 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 583 ft³/s (16.5 m³/s) Sept. 25 (gage height, 11.57 ft or 3.526 m); no flow for most of year.

Period of record: Maximum discharge, 9,200 ft³/s (261 m³/s) Sept. 29, 1962 (gage height, 17.50 ft or 5.334 m); no flow for most of time in recent years.

REMARKS.--Records poor. Many diversions above station, mostly by pumping from ground water, for municipal uses and for irrigation of about 240,000 acres (970 km²), not including San Carlos Project. Much of the low flow passing this station is drainage and wasteway return from irrigated lands upstream and pumpage from ground water; such flow is excluded when it can be identified.

REVISIONS.--WSP 1283: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0					0	0		0	140	0
2		0					0	0		0	96	0
3		0					0	0		0	2.5	0
4		0					0	0		0	1.0	0
5		0					0	.40		0	0	0
6		0					0	0		0	0	15
7		0					0	0		0	0	0
8		0					0	0		0	0	0
9		0					0	0		0	18	0
10		0					0	0		0	0	0
11		0					0	0		0	0	0
12		0					0	0		0	0	0
13		0					0	0		0	0	0
14		0					0	0		0	0	0
15		0					2.0	0		0	0	0
16		0					3.0	0		0	0	0
17		0					.30	0		0	0	0
18		0					.10	.36		0	0	0
19		0					0	2.4		0	0	0
20		0					0	0		0	0	0
21		0					0	0		0	0	0
22		0					0	0		0	0	0
23		0					0	0		0	0	49
24		0					0	0		0	0	282
25		0					0	0		3.4	0	256
26		0					0	0		40	0	1.0
27		0					0	0		1.6	0	.50
28		3.7					0	0		14	0	1.5
29		12					0	0		8.7	0	56
30		4.2			---		0	0		18	0	11
31		---			---		---	0	---	9.3	0	---
TOTAL	0	19.9	0	0	0	0	5.40	3.16	0	95.0	257.5	672.00
MEAN	0	.66	0	0	0	0	.18	.10	0	3.06	8.31	22.4
MAX	0	12	0	0	0	0	3.0	2.4	0	40	140	282
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	39	0	0	0	0	11	6.3	0	188	511	1330
CAL YR 1975	TOTAL	309.39	MEAN .85	MAX 66	MIN 0	AC-FT 614						
WTR YR 1976	TOTAL	1052.96	MEAN 2.88	MAX 282	MIN 0	AC-FT 2090						

PEAK DISCHARGE (BASE, 380 CFS).--Sept. 25 (0230) 583 cfs (11.57 ft).

GILA RIVER BASIN

09489000. SANTA CRUZ RIVER NEAR LAVERN, ARIZ.
(National stream-quality accounting network station)

LOCATION.--Lat 33°13'56", long 112°10'08", in NE¼ sec.29, T.2 S., R.2 E., Pinal County, in Gila River Indian Reservation, at gaging station at highway bridge, 3.4 mi (5.5 km) upstream from mouth, 4.3 mi (6.9 km) south of Komatke, and 9 mi (14 km) south of Laveen.

DRAINAGE AREA.--8,581 mi² (22,225 km²).

PERIOD OF RECORD.--Chemical analyses: October 1974 to current year.

REMARKS.--Many diversions above station, mostly by pumping ground water. Some low flow is entirely waste water from irrigated lands. No flow for most of each year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	FECAL COLI- FORM (COL. PER 100 ML)	STREP- TOCOCCI (COL- ONIES PER 100 ML)	HARD- NESS (CA+MG) (MG/L)	NON- CAH- BONATE HARD- NESS (MG/L)
SEP 27...	1200	.50	350	7.7	22.0	700	86900	818000	30	0

DATE	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	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)
SEP 27...	9.9	1.4	61	4.8	4.5	163	0	16	19

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (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)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
SEP 27...	.4	8.8	206	203	.28	.21	.06	180	100

DATE	TIME	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)
SEP 27...	1200	.55	.21	1.4	2.0	8.6	3.5	.06

B Results based on non-ideal colony count.

GILA RIVER BASIN

373

09489000. SANTA CRUZ RIVER NEAR LAVERN, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)
SEP 27...	1200	20	9	180	<10	1	20	0

DATE	TOTAL COPALT (CU) (UG/L)	DIS- SOLVED COPALT (CU) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)
SEP 27...	50	0	100	15	36000	100	<100	10	830

DATE	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
SEP 27...	0	.1	.2	1	1	190	10	13

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

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

SEP. 27, 1976
1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

27,000 CELLS/ML

_ORGANISM_NAME	_COMMON_NAME	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...VOLVOCALES				
....CHLAMYDOMONADACEAE				
.....CHLAMYDOMONAS				
	TOTALS	<u>190</u> 190	<u>1</u> 1	0.000=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
....OSCILLATORIA				
D	TOTALS	<u>27,000</u> 27,000	<u>99</u> 99	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SFDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.061
 CLASS 0.061
 ORDER 0.061
 FAMILY 0.061
 GENERA 0.061

09489070. NORTH FORK OF EAST FORK BLACK RIVER NEAR ALPINE, ARIZ.

LOCATION.--Lat 33°54'11", long 109°19'20", in SW¼NE¼ sec.19, T.6 N., R.29 E. (unsurveyed), Apache County, in Apache National Forest, on right bank 1.4 mi (2.3 km) downstream from Crosby Crossing and 12 mi (19 km) northwest of Alpine.

DRAINAGE AREA.--38.1 mi² (98.7 km²).

PERIOD OF RECORD.--June 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 8,650 ft (2,637 m), from topographic map.

AVERAGE DISCHARGE.--11 years, 13.5 ft³/s (0.382 m³/s), 9,780 acre-ft/yr (12.1 hm³/yr); median of yearly mean discharges, 9.7 ft³/s (0.27 m³/s) 7,000 acre-ft/yr (8.6 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 283 ft³/s (8.01 m³/s) about Apr. 5 (gage height, 3.04 ft or 0.927 m); minimum daily, 0.74 ft³/s (0.021 m³/s) Oct. 11-14.

Period of record: Maximum discharge, 1,070 ft³/s (30.3 m³/s) Apr. 17, 1973 (gage height, 4.64 ft or 1.414 m), from rating curve extended above 260 ft³/s (7.4 m³/s) on basis of culvert and road overflow computation at gage height 3.80 ft (1.158 m); maximum gage height, 4.75 ft (1.448 m) Mar. 11, 1975 (result of ice jam); minimum daily discharge, 0.20 ft³/s (0.006 m³/s) Dec. 20, 1968, to Mar. 15, 1969, and Jan. 6-10, 1971.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Minor storage at headwaters for recreation and stock purposes; the largest is Big Lake. No diversions above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.3	1.0	1.0	1.5	10	35	20	3.6	1.3	26	1.7
2	1.3	1.4	1.0	1.0	1.5	10	40	18	3.2	1.2	11	1.8
3	1.0	1.4	1.0	1.0	1.5	15	50	18	3.0	.94	7.7	1.8
4	.93	1.4	1.0	1.0	1.5	15	70	33	2.8	.94	5.6	1.5
5	.83	1.5	1.0	1.0	1.5	15	80	29	2.8	.94	4.0	2.0
6	.83	1.5	1.0	1.0	1.5	15	80	21	2.6	.84	3.2	3.0
7	.83	1.5	1.0	1.0	2.0	15	80	19	2.5	.84	3.0	2.1
8	.84	1.5	1.0	1.0	2.5	15	80	41	2.1	1.0	3.2	5.8
9	.84	1.7	1.0	1.0	10	15	80	35	2.0	2.6	2.6	3.2
10	.84	1.7	1.0	1.0	50	15	80	23	1.8	1.2	2.6	3.2
11	.74	1.5	1.0	1.0	50	15	70	18	1.8	1.3	2.6	2.6
12	.74	1.5	1.0	1.0	40	15	60	16	2.0	2.0	2.1	2.0
13	.74	1.5	1.0	1.0	30	15	50	12	1.7	2.3	2.3	1.7
14	.74	1.5	1.0	1.0	25	15	45	11	1.5	1.8	1.8	1.4
15	.84	1.5	1.0	1.0	25	15	40	9.4	1.5	1.3	1.5	1.4
16	1.1	1.0	1.0	1.0	20	20	30	9.0	1.3	1.2	1.4	1.3
17	1.1	1.0	1.0	1.0	20	20	30	8.3	1.3	1.2	1.4	1.2
18	.94	1.0	1.0	1.0	20	25	30	8.3	1.4	.94	1.5	1.2
19	.94	1.0	1.0	1.0	15	25	35	13	1.3	1.8	1.5	1.0
20	1.0	1.0	1.0	1.0	15	30	40	17	1.2	2.8	3.0	1.0
21	1.2	1.0	1.0	1.0	15	30	60	48	1.2	1.7	3.0	1.0
22	1.0	1.0	1.0	1.0	10	30	50	22	1.2	1.8	1.8	1.2
23	1.2	1.0	1.0	1.0	10	35	45	15	1.0	2.3	4.0	1.5
24	1.0	1.0	1.0	1.0	9.0	40	45	12	1.0	3.8	2.8	1.4
25	1.2	1.0	1.0	1.0	8.0	50	40	9.8	1.0	3.0	2.0	1.8
26	1.3	1.0	1.0	1.0	8.0	45	40	7.7	1.0	3.0	1.8	2.2
27	1.3	1.0	1.0	1.0	9.0	40	35	6.1	1.0	4.8	9.8	1.9
28	1.2	1.0	1.0	1.0	10	35	30	5.6	1.0	4.8	6.1	1.7
29	1.2	1.0	1.0	1.0	10	30	25	5.3	1.2	5.6	3.6	1.4
30	1.1	1.0	1.0	1.0	---	25	23	4.8	1.3	5.8	2.6	1.2
31	1.3	---	1.0	1.0	---	30	---	4.0	---	26	2.0	---
TOTAL	31.52	37.4	31.0	31.0	422.5	725	1498	519.3	52.3	91.04	127.5	56.2
MEAN	1.02	1.25	1.00	1.00	14.6	23.4	49.9	16.8	1.74	2.94	4.11	1.87
MAX	1.3	1.7	1.0	1.0	50	50	80	48	3.6	26	26	5.8
MIN	.74	1.0	1.0	1.0	1.5	10	23	4.0	1.0	.84	1.4	1.0
AC-FI	63	74	61	61	835	1440	2970	1030	104	181	253	111
CAL YR 1975	TOTAL	5346.82	MEAN	17.4	MAX	398	MIN	.74	AC-FI	12590		
WTR YR 1976	TOTAL	3022.76	MEAN	9.90	MAX	80	MIN	.74	AC-FI	7190		

PEAK DISCHARGE (BASE, 75 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-10	unknown	unknown	unknown	4-21	unknown	unknown	unknown
3-25	unknown	unknown	unknown	5-21	0600	2.12	81
4-5	unknown	3.04	283				

NOTE.--No gage-height record Nov. 13 to Apr. 29.

09489100. BLACK RIVER NEAR MAVERICK, ARIZ.

LOCATION.--Lat 33°42'27", long 109°26'48", in SW¼ sec.30, T.4 N., R.28 E., Apache County, in Apache National Forest, on right bank 1.0 mi (1.6 km) downstream from Fish Creek, 1.1 mi (1.8 km) upstream from Conklin Creek, and 6 mi (10 km) southeast of Maverick.

DRAINAGE AREA.--315 mi² (816 km²).

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,850 ft (2,088 m), from topographic map. Prior to Sept. 19, 1973, at datum 0.85 ft (0.259 m) higher.

AVERAGE DISCHARGE.--14 years, 136 ft³/s (3.852 m³/s), 98,530 acre-ft/yr (121 hm³/yr); median of yearly mean discharges, 110 ft³/s (3.12 m³/s), 79,700 acre-ft/yr (98 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 714 ft³/s (20.2 m³/s) Apr. 5 (gage height, 3.22 ft or 0.981 m); minimum daily, 10 ft³/s (0.28 m³/s) Nov. 30.

Period of record: Maximum discharge, 11,100 ft³/s (314 m³/s) Oct. 20, 1972 (gage height, 8.14 ft or 2.481 m), from rating curve extended above 2,100 ft³/s (59 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 10 ft³/s (0.28 m³/s) Nov. 30, 1975.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Minor storage for recreational and stock purposes near headwaters. No diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	22	16	22	25	100	279	195	49	25	93	24
2	33	23	24	20	27	100	347	178	46	28	65	28
3	32	22	27	21	26	100	435	169	43	23	50	26
4	30	22	25	23	26	100	476	203	42	21	43	23
5	29	22	24	26	25	100	580	228	41	21	34	26
6	28	22	23	25	26	110	488	177	40	21	30	37
7	27	22	23	25	30	110	445	157	43	22	28	31
8	26	22	23	22	39	110	510	209	41	22	29	27
9	26	22	24	22	115	120	556	221	38	24	28	27
10	26	21	26	23	300	124	539	167	35	27	28	33
11	25	21	23	22	300	124	482	139	34	31	33	33
12	25	19	21	21	250	118	440	126	32	36	34	28
13	24	17	26	21	200	118	375	116	30	46	31	26
14	24	18	23	22	175	122	303	106	28	54	27	25
15	24	20	16	23	175	128	275	100	28	38	25	25
16	24	21	20	22	150	130	249	95	27	31	23	24
17	24	21	21	24	150	142	249	96	25	28	22	24
18	24	19	21	25	125	171	295	95	25	26	23	23
19	24	17	22	26	125	224	328	104	25	31	23	23
20	24	14	23	25	100	231	351	117	24	37	26	22
21	26	18	26	22	100	221	400	207	24	35	28	21
22	27	16	25	25	100	231	351	148	24	37	25	21
23	25	16	26	24	75	256	333	111	24	34	32	25
24	24	18	25	23	75	275	333	94	23	40	33	26
25	23	21	19	21	75	324	328	85	22	39	28	29
26	24	15	22	18	75	351	320	78	21	43	32	34
27	24	18	24	19	75	324	297	69	21	40	32	37
28	23	25	24	21	75	320	262	64	21	58	38	35
29	23	13	19	23	100	238	241	59	21	69	35	33
30	23	10	21	24	---	207	216	55	21	74	30	29
31	23	---	24	26	---	221	---	53	---	115	27	---
TOTAL	798	577	706	706	3139	5550	11083	4021	918	1176	1035	825
MEAN	25.7	19.2	22.8	22.8	108	179	369	130	30.6	37.9	33.4	27.5
MAX	34	25	27	26	300	351	580	228	49	115	93	37
MIN	23	10	16	18	25	100	216	53	21	21	22	21
AC-F T	1580	1140	1400	1400	6230	11010	21980	7980	1820	2330	2050	1640

CAL YR 1975 TOTAL 75321 MEAN 206 MAX 1870 MIN 10 AC-F T 149400
WTR YR 1976 TOTAL 30534 MEAN 83.4 MAX 580 MIN 10 AC-F T 60560

PEAK DISCHARGE (BASE, 400 CFS).--Feb. 10 (time unknown) 668 cfs (*2.95 ft); Apr. 5 (0145) 714 cfs (3.22 ft).

* About.

NOTE.--No gage-height record Feb. 10 to Mar. 9.

09489200. PACHETA CREEK AT MAVERICK, ARIZ.

LOCATION.--Lat 33°44'23", long 109°32'24", at corner of secs.28, 29, 32, 33, T.4½ N., R.27 E. (unsurveyed), Apache County, in Fort Apache Indian Reservation, on left bank 0.5 mi (0.8 km) southeast of Maverick.

DRAINAGE AREA.--14.8 mi² (38.3 km²).

PERIOD OF RECORD.--October 1957 to current year. Prior to October 1970 published as Pachete Creek at Maverick.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 7,850 ft (2,393 m), by barometer.

AVERAGE DISCHARGE.--19 years, 8.29 ft³/s (0.235 m³/s), 6,010 acre-ft/yr (7.41 hm³/yr); median of yearly mean discharges, 6.8 ft³/s (0.19 m³/s), 4,930 acre-ft/yr (6.1 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 47 ft³/s (1.33 m³/s) Apr. 10 (gage height, 3.21 ft or 0.978 m); minimum daily, 1.0 ft³/s (0.028 m³/s) Jan. 1-3, 28.

Period of record: Maximum discharge, 323 ft³/s (9.15 m³/s) May 13, 1973 (gage height, 4.36 ft or 1.329 m); minimum daily, 0.2 ft³/s (0.006 m³/s) many days in 1959-60.

REMARKS.--Records good except those for period of no gage-height record, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.3	1.2	1.0	1.1	2.9	10	23	5.0	2.7	4.7	2.7
2	1.3	1.3	1.2	1.0	1.1	2.7	10	22	4.5	2.7	4.1	2.3
3	1.2	1.3	1.2	1.0	1.1	2.6	10	21	4.0	2.9	4.9	1.8
4	1.2	1.3	1.2	1.1	1.1	2.4	9.9	27	4.0	2.9	4.2	1.8
5	1.2	1.2	1.2	1.1	1.1	2.6	9.5	25	3.5	3.0	3.3	2.5
6	1.2	1.3	1.2	1.1	1.2	2.6	13	22	3.5	3.2	3.0	2.4
7	1.2	1.3	1.2	1.1	1.2	2.6	24	22	3.0	3.4	3.0	1.9
8	1.2	1.3	1.2	1.1	1.2	2.9	30	29	3.0	3.3	2.8	1.9
9	1.2	1.3	1.2	1.1	2.0	3.5	39	27	2.5	3.3	2.9	2.1
10	1.2	1.3	1.2	1.1	4.0	3.3	41	23	2.5	3.7	3.6	2.2
11	1.2	1.3	1.2	1.1	4.0	3.3	39	19	2.2	3.6	3.1	2.1
12	1.3	1.2	1.2	1.1	3.6	3.1	40	17	2.0	3.5	2.7	2.0
13	1.3	1.2	1.2	1.1	3.5	3.3	33	15	1.9	5.7	2.6	1.9
14	1.3	1.2	1.2	1.1	3.3	3.6	29	14	1.9	6.2	2.3	1.9
15	1.2	1.2	1.3	1.1	2.9	4.0	28	14	1.9	5.6	2.3	1.9
16	1.2	1.3	1.2	1.1	2.6	4.6	24	14	1.9	4.7	2.3	1.9
17	1.2	1.2	1.2	1.1	2.4	6.5	24	13	1.9	4.1	2.1	1.9
18	1.2	1.2	1.2	1.1	2.6	9.5	27	17	2.0	3.8	2.1	1.9
19	1.2	1.2	1.2	1.1	2.6	12	30	16	2.0	4.5	2.1	1.9
20	1.3	1.2	1.2	1.1	2.4	11	29	15	2.0	4.3	2.0	1.8
21	1.3	1.2	1.2	1.1	2.1	12	31	21	2.0	5.9	2.0	1.8
22	1.3	1.2	1.2	1.1	2.0	12	34	18	2.1	7.0	2.0	1.8
23	1.3	1.2	1.2	1.2	2.0	12	36	16	2.1	8.3	2.1	1.9
24	1.3	1.2	1.2	1.1	2.1	12	36	16	2.1	7.0	1.9	1.9
25	1.3	1.2	1.1	1.1	2.1	12	35	14	2.1	6.5	2.1	1.8
26	1.3	1.2	1.2	1.1	2.4	10	34	12	2.3	6.2	1.8	1.9
27	1.2	1.2	1.2	1.1	2.6	9.5	32	10	2.3	5.7	2.1	1.8
28	1.2	1.3	1.1	1.0	2.9	9.9	30	8.5	2.4	8.4	1.9	1.7
29	1.3	1.9	1.1	1.1	3.3	6.5	27	7.0	2.4	7.0	1.8	1.5
30	1.3	1.2	1.1	1.1	---	9.2	25	6.5	2.6	6.2	1.7	1.5
31	1.3	---	1.2	1.1	---	12	---	5.5	---	6.0	1.7	---
TOTAL	38.7	37.9	36.9	33.8	66.5	206.1	819.4	529.5	77.6	151.3	81.2	58.4
MEAN	1.25	1.26	1.19	1.09	2.29	6.65	27.3	17.1	2.59	4.88	2.62	1.95
MAX	1.3	1.9	1.3	1.2	4.0	12	41	29	5.0	8.4	4.9	2.7
MIN	1.2	1.2	1.1	1.0	1.1	2.4	9.5	5.5	1.9	2.7	1.7	1.5
AC-FT	77	75	73	67	132	409	1630	1050	154	300	161	116

CAL YR 1975 TOTAL 4152.5 MEAN 11.4 MAX 120 MIN 1.1 AC-FT 8240
WTR YR 1976 TOTAL 2137.3 MEAN 5.84 MAX 41 MIN 1.0 AC-FT 4240

PEAK DISCHARGE (BASE, 35 CFS).--Apr. 10 (0030) 47 cfs (3.21 ft); July 13 (1430) 46 cfs (3.20 ft).

NOTE.--No gage-height record May 11 to June 16.

GILA RIVER BASIN

377

09489500. BLACK RIVER BELOW PUMPING PLANT, NEAR POINT OF PINES, ARIZ.

LOCATION.--Lat 33°28'36", long 109°45'48", in W½ sec.32, T.2 N., R.25 E. (unsurveyed), Graham County, in San Carlos Indian Reservation, on left bank 0.9 mi (1.4 km) downstream from Phelps Dodge Corp. pumping plant, 1.3 mi (2.1 km) downstream from Freezeout Creek, 8 mi (13 km) northwest of Point of Pines, and 63 mi (101 km) upstream from confluence with White River.

DRAINAGE AREA.--560 mi² (1,450 km²).

PERIOD OF RECORD.--June 1953 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,725 ft (1,745.0 m), from topographic map.

AVERAGE DISCHARGE (adjusted for diversion to Willow Creek)--23 years, 189 ft³/s (5.352 m³/s), 136,900 acre-ft/yr (169 hm³/yr); median of yearly mean discharges, 140 ft³/s (3.96 m³/s), 101,000 acre-ft/yr (125 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 782 ft³/s (22.1 m³/s) Apr. 10 (gage height, 4.44 ft or 1.353 m); minimum daily, 9.2 ft³/s (0.26 m³/s) June 28.

Period of record: Maximum discharge, 17,900 ft³/s (507 m³/s) Oct. 19, 1972 (gage height, 18.0 ft or 5.49 m, from floodmarks), from rating curve extended above 5,000 ft³/s (140 m³/s); minimum daily, 2.6 ft³/s (0.074 m³/s) July 5, 1974.

REMARKS.--Records good. Water is diverted at pumping plant 0.9 mi (1.4 km) upstream and pumped into headwaters of Willow Creek (tributary of Eagle Creek) for mining, metallurgical treatment of ores, and domestic supply in vicinity of Morenci. (See sta 09445000.)

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	25	20	22	32	124	381	342	72	15	128	24
2	32	25	28	20	33	137	427	313	66	17	110	27
3	30	24	31	28	34	146	503	290	61	17	77	30
4	29	25	34	42	37	150	563	292	57	13	61	24
5	27	24	31	46	48	125	651	364	54	12	48	24
6	26	24	29	44	59	136	625	318	51	14	37	36
7	24	24	27	37	56	139	573	282	50	13	31	45
8	22	24	27	37	52	135	599	302	50	11	29	34
9	21	24	27	40	66	135	665	343	45	13	26	29
10	21	24	28	34	529	138	683	298	40	14	26	33
11	20	24	28	30	556	139	637	255	36	20	33	40
12	20	23	27	32	401	138	595	231	34	27	39	33
13	19	22	27	33	333	134	542	212	32	33	38	26
14	19	21	31	34	353	142	472	197	29	53	30	21
15	19	21	26	32	315	144	424	182	27	57	22	20
16	20	23	23	33	265	148	439	172	24	39	19	17
17	20	25	25	31	224	154	349	163	22	28	16	16
18	20	26	26	30	191	212	409	168	20	20	15	14
19	19	25	30	31	172	276	469	166	19	22	15	12
20	19	26	26	31	167	317	488	183	18	29	17	11
21	21	27	31	30	141	314	526	211	18	38	20	11
22	22	28	35	28	119	318	521	271	17	41	26	12
23	23	26	35	34	109	335	507	193	15	45	28	13
24	22	20	36	37	106	361	502	161	14	45	33	16
25	21	22	33	35	102	394	496	138	12	47	33	22
26	20	23	30	28	97	435	489	125	11	45	35	27
27	23	23	25	27	99	421	473	112	9.8	46	44	31
28	29	25	24	25	104	420	442	101	9.2	50	44	29
29	26	46	22	26	112	390	402	91	16	86	54	25
30	26	35	24	29	---	326	369	84	13	107	44	23
31	25	---	13	31	---	334	---	76	---	138	33	---
TOTAL	718	754	859	997	4912	7217	15221	6636	942.0	1155	1211	725
MEAN	23.2	25.1	27.7	32.2	169	233	507	214	31.4	37.3	39.1	24.2
MAX	33	46	36	46	556	435	683	364	72	138	128	45
MIN	19	20	13	20	32	124	349	76	9.2	11	15	11
AC-FT	1420	1500	1700	1980	9740	14310	30190	13160	1870	2290	2400	1440
MEAN †	44.2	41.2	43.6	49.0	180	247	529	237	55.9	60.8	62.9	48.2
AC-FT†	2720	2450	2680	3010	10370	15180	31460	14570	3330	3740	3870	2870

CAL YR 1975	TOTAL	87463.0	MEAN 240	MAX 2170	MIN 11	AC-FT 173500	MEAN † 255	AC-FT † 184500
WTR YR 1976	TOTAL	41347.0	MEAN 113	MAX 683	MIN 9.2	AC-FT 82010	MEAN † 133	AC-FT † 96260

PEAK DISCHARGE (BASE, 500 CFS).--Feb. 11 (0100) 727 cfs (4.34 ft); Apr. 10 (1130) 782 cfs (4.44 ft).

† Adjusted for Willow Creek diversion from Black River, near Morenci, Ariz.

GILA RIVER BASIN

09489700. BIG BONITO CREEK NEAR FORT APACHE, ARIZ.

LOCATION.--Lat 33°40'02", long 109°50'46", in NE¼ sec.28, T.4 N., R.24 E. (unsurveyed), Apache County, in Fort Apache Indian Reservation, near right bank on downstream side of pier of highway bridge, 1.9 mi (3.1 km) upstream from Tonto Creek, 3.7 mi (6.0 km) southeast of Chino Springs, and 12 mi (19 km) southeast of Fort Apache.

DRAINAGE AREA.--119 mi² (308 km²).

PERIOD OF RECORD.--October 1957 to current year. Prior to October 1969 published as Big Bonita Creek near Fort Apache.

GAGE.--Water-stage recorder. Altitude of gage is 5,910 ft (1,801 m), by barometer.

AVERAGE DISCHARGE.--19 years, 61.1 ft³/s (1.730 m³/s), 44,270 acre-ft/yr (54.6 hm³/yr); median of yearly mean discharges, 57 ft³/s (1.61 m³/s), 41,300 acre-ft/yr (51 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 194 ft³/s (5.49 m³/s) Feb. 10 (gage height, 3.45 ft or 1.052 m); minimum daily, 4.2 ft³/s (0.12 m³/s) Nov. 30.

Period of record: Maximum discharge, 1,870 ft³/s (53.0 m³/s) Oct. 20, 1972 (gage height, 7.11 ft or 2.167 m); maximum gage height, 8.43 ft (2.569 m) Oct. 20, 1972 (backwater from bridge downstream); minimum daily discharge, 4.2 ft³/s (0.12 m³/s) Nov. 30, 1975.

REMARKS.--Records good except those for December and January, which are fair. No storage or diversion above station.

REVISIONS (WATER YEARS).--WRD Ariz. 1969: 1967.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	12	11	11	13	36	79	122	37	9.4	73	17
2	14	12	19	11	14	36	85	117	33	9.8	49	20
3	13	12	18	11	15	35	94	115	30	7.2	38	17
4	12	12	20	11	17	30	101	118	29	6.3	36	15
5	12	12	20	11	19	28	111	115	26	6.5	25	16
6	11	12	18	11	24	34	109	107	25	9.0	20	25
7	11	12	17	11	25	32	100	98	23	9.8	18	18
8	11	12	16	11	28	29	103	124	21	10	18	16
9	11	12	13	11	49	30	110	111	20	9.0	17	16
10	11	12	13	11	166	30	117	105	18	11	17	18
11	10	11	13	10	116	32	121	101	16	14	20	15
12	10	11	12	9.0	84	30	124	105	15	19	17	15
13	11	10	13	7.0	74	27	118	109	14	18	18	14
14	11	11	13	10	73	33	109	106	13	47	16	13
15	11	12	6.5	11	65	36	105	106	13	20	14	13
16	11	12	13	11	54	38	92	105	12	15	13	13
17	11	12	13	11	47	43	92	106	12	13	12	12
18	11	11	13	11	41	50	91	100	11	12	13	11
19	11	9.0	13	11	38	65	103	99	11	13	12	11
20	11	7.7	13	11	37	68	117	94	11	18	13	10
21	12	7.7	14	11	29	71	136	123	10	20	13	11
22	12	9.4	14	12	29	73	148	97	9.8	40	13	12
23	12	10	14	12	30	78	152	86	9.8	30	18	12
24	12	13	14	12	30	78	153	78	9.4	42	24	13
25	11	13	14	12	24	85	156	72	8.6	39	19	15
26	12	11	12	13	27	90	154	65	8.1	39	22	20
27	12	11	12	13	29	88	151	57	7.7	27	25	23
28	12	13	12	13	30	88	142	52	8.6	30	35	20
29	12	7.2	12	13	33	78	135	48	9.8	55	28	16
30	12	4.2	12	13	---	72	125	45	9.0	98	22	15
31	12	---	12	13	---	73	---	41	---	107	18	---
TOTAL	358	326.2	429.5	349.0	1260	1616	3533	2927	480.8	804.0	696	462
MEAN	11.5	10.9	13.9	11.3	43.4	52.1	118	94.4	16.0	25.9	22.5	15.4
MAX	14	13	20	13	166	90	156	124	37	107	73	25
MIN	10	4.2	6.5	7.0	13	27	79	41	7.7	6.3	12	10
AC-FT	710	647	852	692	2500	3210	7010	5810	954	1590	1380	916
CAL YR 1975	TOTAL	23935.2	MEAN 65.6	MAX 421	MIN 4.2	AC-FT 47480						
WTR YR 1976	TOTAL	13241.5	MEAN 36.2	MAX 166	MIN 4.2	AC-FT 26260						

PEAK DISCHARGE (BASE, 150 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-10	1115	3.45	194	5-21	0715	3.12	151
4-25	0400	3.20	161				

09490500. BLACK RIVER NEAR FORT APACHE, ARIZ.

LOCATION.--Lat 33°42'46", long 110°12'40", in NW¼ sec.12, T.4 N., R.20 E. (unsurveyed), Gila County, on downstream side of first pier from right on highway bridge, 5 mi (8 km) upstream from confluence with White River and 14 mi (23 km) west of Fort Apache.

DRAINAGE AREA.--1,232 mi² (3,191 km²).

PERIOD OF RECORD.--October 1912 to December 1915, September 1916, October 1917 to January 1918, April 1918, October 1957 to current year. Monthly discharge only for some periods, published in WSP 1313.

GAGE.--Water-stage recorder. Altitude of gage is 4,345 ft (1,324.4 m), from river-profile map. November 1912 to July 1918, non-recording gages or water-stage recorders at several sites within 1 mi (2 km) of present site at various datums.

AVERAGE DISCHARGE.--22 years (1912-15, 1957-76), 368 ft³/s (10.42 m³/s), 266,600 acre-ft/yr (329 hm³/yr); median of yearly mean discharges, 280 ft³/s (7.93 m³/s), 203,000 acre-ft/yr (250 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 1,560 ft³/s (44.2 m³/s) Feb. 11 (gage height, 5.93 ft or 1.807 m); minimum daily, 22 ft³/s (0.62 m³/s) July 1, 4-9, 11.

Period of record: Maximum discharge, 28,400 ft³/s (804 m³/s) Oct. 20, 1972 (gage height, 21.40 ft or 6.523 m), from rating curve extended above 8,900 ft³/s (250 m³/s) on basis of slope-area measurement at gage height 14.70 ft (4.481 m); minimum daily, 11 ft³/s (0.31 m³/s) July 6, 1974.

REMARKS.--Records good except those for December and January, which are fair. One transbasin diversion for industrial and municipal use (see record of Willow Creek diversion from Black River, near Morenci). Negligible storage in several small recreational lakes.

REVISIONS (WATER YEARS).--WSP 1313: 1914-15, drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	36	46	25	35	166	510	545	130	22	311	65
2	41	36	34	35	37	195	560	499	118	25	264	57
3	41	36	40	45	38	213	620	464	108	23	216	51
4	40	36	50	50	40	227	700	454	97	22	160	49
5	40	36	55	50	65	223	790	466	89	22	135	51
6	40	36	54	45	132	194	800	537	83	22	107	48
7	40	35	50	44	148	203	791	461	78	22	87	49
8	39	35	49	40	136	215	729	432	74	22	72	59
9	39	34	47	39	129	220	790	486	71	22	61	66
10	39	35	47	39	990	220	878	527	69	23	61	57
11	39	35	46	38	1310	220	887	422	63	22	50	51
12	40	35	46	38	770	220	828	380	58	23	55	54
13	39	35	49	36	578	210	795	353	54	33	55	55
14	39	35	52	36	490	210	710	338	51	47	55	50
15	40	34	50	35	454	210	645	318	48	82	55	43
16	40	34	42	35	417	220	613	303	45	93	47	38
17	40	33	31	39	349	250	586	290	41	87	40	35
18	39	34	35	32	305	300	481	293	38	59	35	32
19	38	36	35	35	271	320	626	293	35	54	33	29
20	38	36	40	33	251	330	695	297	32	47	39	27
21	37	36	45	32	240	340	740	320	30	43	35	26
22	38	35	45	34	218	350	829	392	28	54	35	25
23	38	35	50	32	187	370	812	409	26	104	37	23
24	37	34	50	33	170	410	777	311	25	154	38	29
25	37	36	50	33	165	450	767	265	25	137	56	31
26	36	35	50	37	157	470	754	240	24	115	63	38
27	35	34	45	37	141	490	739	217	23	126	61	43
28	37	38	45	32	147	480	700	194	23	119	61	53
29	39	59	43	32	154	470	648	172	24	101	84	55
30	38	58	34	34	---	460	593	155	23	185	88	50
31	37	---	28	35	---	450	---	142	---	285	94	---
TOTAL	1202	1102	1383	1140	8524	9306	21393	10975	1633	2195	2590	1339
MEAN	38.8	36.7	44.6	36.8	294	300	713	354	54.4	70.8	83.5	44.6
MAX	42	59	55	50	1310	490	887	545	130	285	311	66
MIN	35	33	28	25	35	166	481	142	23	22	33	23
AC-FT	2380	2190	2740	2260	16910	18460	42430	21770	3240	4350	5140	2660

CAL YR 1975 TOTAL 135259 MEAN 371 MAX 3000 MIN 28 AC-FT 268300
WTR YR 1976 TOTAL 62782 MEAN 172 MAX 1310 MIN 22 AC-FT 124500

PEAK DISCHARGE (BASE, 1,000 CFS).--Feb. 11 (0130) 1,560 cfs (5.93 ft); Apr. 11 (0230) 1,010 cfs (4.67 ft).

GILA RIVER BASIN

09490500. BLACK RIVER NEAR FORT APACHE, ARIZ.

LOCATION.--Lat 33°42'46", long 110°12'40", in NW¼ sec.12, T.4 N., R.20 E. (unsurveyed), Gila County, on boundary between Fort Apache and San Carlos Indian Reservations, at gaging station at highway bridge, 5 mi (8 km) upstream from confluence with White River and 14 mi (23 km) west of Fort Apache.

DRAINAGE AREA.--1,232 mi² (3,191 km²).

PERIOD OF RECORD.--Chemical analyses: January 1976 to September 1976.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICHOHMS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	HARDNESS (CA+MG) (MG/L)
JAN 26...	1630	45	260	--	2.0	2	--	--	--	55
FEB 18...	1200	275	95	7.1	8.0	9	--	--	<1	46
MAR 19...	1400	210	100	8.3	11.0	3	--	--	2	47
APR 12...	1600	800	70	7.6	15.0	9	--	8	1	32
MAY 18...	1130	266	76	7.8	21.0	1	6.9	15	3	35
JUN 23...	1230	20	150	8.9	25.0	1	7.6	15	5	62
JUL 15...	1530	91	150	8.8	29.0	8	7.7	--	51	68
AUG 17...	1100	45	140	7.4	21.0	2	6.7	--	14	62
SEP 14...	1030	52	132	8.4	21.0	1	7.5	--	5	60

DATE	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED PHOSPHATE (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
JAN 26...	0	13	5.4	5.9	.3	1.1	81	--	4.3	1.4
FEB 18...	5	11	4.6	4.0	.3	1.1	51	0	12	1.9
MAR 19...	2	11	4.8	4.5	.3	1.2	55	0	9.2	1.1
APR 12...	3	7.3	3.3	3.3	.3	1.0	35	0	10	1.3
MAY 18...	2	8.7	3.1	3.6	.3	1.1	40	0	6.4	1.1
JUN 23...	0	15	5.9	7.0	.4	1.7	86	0	3.8	1.6
JUL 15...	0	17	6.1	6.9	.4	1.8	91	0	5.1	1.6
AUG 17...	0	15	5.9	7.2	.4	1.7	82	0	6.0	1.5
SEP 14...	0	15	5.5	6.0	.3	1.6	75	0	5.9	1.0

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

GILA RIVER BASIN

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09490500. BLACK RIVER NEAR FORT APACHE, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
JAN 26...	.1	20	90	91	.12	.01	.01	.03	6	10
FEB 18...	.1	18	74	78	.10	--	.00	.02	10	30
MAR 19...	.2	19	81	78	.11	--	.01	.01	40	30
APH 12...	.1	15	57	59	.08	--	.00	.03	0	130
MAY 18...	.1	16	72	60	.10	.01	.01	.02	60	90
JUN 23...	.2	14	114	92	.16	--	--	--	1	70
JUL 15...	.1	21	97	105	.13	--	.07	.04	20	100
AUG 17...	.1	21	99	99	.13	--	.01	.04	10	100
SEP 14...	.1	21	91	93	.12	--	.01	.03	8	70

DATE	TIME	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL- NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)
JAN 26...	1630	.01	.00	.01	.01	.20	.21	.93	.02	.03
FEB 18...	1200	--	--	.01	.00	.56	.57	2.5	.05	.02
MAR 19...	1400	--	--	.00	.01	.08	.08	.35	.06	.01
APH 12...	1600	--	--	.03	.00	.30	.33	1.5	.10	.03
MAY 18...	1130	.01	.00	.00	.01	.15	.15	.66	.04	.02
JUN 23...	1230	--	--	.00	--	.28	.28	1.2	.27	--
JUL 15...	1530	--	--	.03	.07	.32	.35	1.6	.05	.04
AUG 17...	1100	--	--	.01	.01	.17	.18	.80	.04	.04
SEP 14...	1030	--	--	.02	.01	.28	.30	1.3	.04	.03

GILA RIVER BASIN

09490500. BLACK RIVER NEAR FORT APACHE, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	TOTAL BARIUM (BA) (UG/L)	TOTAL BORON (B) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CH) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
JAN											
26...	1630	0	0	40	6	<10	0	0	10	60	10
FEB											
18...	1200	0	0	40	10	<10	1	0	10	590	30
MAR											
19...	1400	0	100	60	40	<10	1	10	10	300	30
APR											
12...	1600	0	0	30	0	<10	1	0	<10	1900	130
MAY											
18...	1130	0	0	60	60	<10	0	<10	<10	160	90
JUN											
23...	1230	1	0	2	1	<10	0	20	<10	250	70
JUL											
15...	1530	1	0	50	20	<10	1	10	<10	310	100
AUG											
17...	1100	0	0	110	10	<10	--	0	60	230	100
SEP											
14...	1030	1	0	90	8	<10	--	10	<10	150	70

DATE	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)
JAN										
26...	<100	10	0	.0	0	<10	10	1.4	--	--
FEB										
18...	<100	30	0	.0	0	<10	10	--	.00	1
MAR										
19...	<100	10	0	.2	0	<10	10	1.3	.00	2
APR										
12...	<100	30	0	.0	0	<10	40	3.5	.01	2
MAY										
18...	<100	20	0	.2	--	<10	10	1.8	.00	1
JUN										
23...	<100	30	10	.7	0	<10	10	2.4	.00	8
JUL										
15...	<100	50	10	.0	0	<10	0	2.8	.00	0
AUG										
17...	<100	20	0	.0	0	<10	150	1.9	.00	3
SEP										
14...	<100	8	10	.0	0	<10	0	1.5	.00	4

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

09490500. BLACK RIVER NEAR FORT APACHE, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

JUNE 23, 1976
1230 HOURS

IDENTIFICATION OF PHYTOPLANKTON

41,000 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
..OOCYSTACEAE				
....ANKISTRODESMUS		630	2	
DDICTYOSPHAERIUM		25,000	61	
....SELENASTRUM		<u>310</u>	<u>1</u>	
	TOTALS	26,000	64	0.260=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
..COSCINODISCACEAE				
DCYCLOTELLA		8,800	22	
..PENNALES	PENNATE			
..ACHNANTHACEAE				
LCOCCONEIS			0	
..NITZSCHACEAE				
....NITZSCHIA		<u>4,100</u>	<u>10</u>	
	TOTALS	13,000	32	0.984=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
..CHROOCOCCACEAE				
....ANACYSTIS		<u>1,700</u>	<u>4</u>	
	TOTALS	1,700	4	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.136

CLASS 1.136

ORDER 1.429

FAMILY 1.453

GENERA 1.618

GILA RIVER BASIN

09490800. NORTH FORK WHITE RIVER NEAR GREER, ARIZ.

LOCATION.--Lat 34°00'55", long 109°38'37", in SW¼ sec.7, T.7 N., R.26 E. (unsurveyed), Apache County, in Fort Apache Indian Reservation, on right bank 300 ft (91 m) upstream from Bear Cienega Creek and 11 mi (18 km) west of Greer.

DRAINAGE AREA.--39 mi² (101 km²), approximately.

PERIOD OF RECORD.--June 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 8,372 ft (2,551.8 m). Prior to Nov. 13, 1965, at datum 1.08 ft (0.329 m) higher.

AVERAGE DISCHARGE.--11 years, 25.2 ft³/s (0.714 m³/s), 18,260 acre-ft/yr (22.5 hm³/yr); median of yearly mean discharges, 22 ft³/s (0.62 m³/s) 15,900 acre-ft/yr (20 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 139 ft³/s (3.94 m³/s) Apr. 9 (gage height, 3.40 ft or 1.036 m); maximum gage height, 4.04 ft (1.231 m), backwater from ice; minimum daily discharge, 6.8 ft³/s (0.19 m³/s) Nov. 12, Sept. 20.

Period of record: Maximum discharge, 510 ft³/s (14.4 m³/s) Apr. 28, 1973 (gage height, 4.15 ft or 1.265 m); minimum daily, 4.8 ft³/s (0.14 m³/s) June 24, 1971.

REMARKS.--Records good except those for December to March, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	15.4	8.0	8.0	7.0	10	24	51	57	18	14	14
2	13	7.7	8.0	8.0	7.0	10	25	54	55	14	11	12
3	13	7.7	8.0	8.0	7.0	9.4	32	54	54	11	10	9.8
4	13	7.7	8.0	8.0	7.0	8.0	40	56	53	9.8	9.4	9.8
5	13	7.7	8.0	8.0	7.0	7.0	49	55	51	8.7	8.7	13
6	13	7.7	8.0	8.0	7.0	8.0	46	54	50	8.7	8.4	11
7	13	7.7	8.0	8.0	7.7	8.0	52	53	49	8.7	8.7	10
8	13	7.7	8.0	8.0	9.8	9.0	72	74	46	9.4	8.7	9.8
9	13	7.7	8.0	8.0	16	9.0	84	68	44	12	8.4	10
10	13	7.7	8.0	8.0	19	9.0	72	62	40	10	8.7	10
11	13	7.7	8.0	8.0	19	9.4	61	62	37	9.8	16	9.0
12	13	8.8	8.0	8.0	13	9.0	55	70	33	9.4	12	8.7
13	13	9.0	8.0	8.0	15	11	42	73	29	11	9.0	8.4
14	13	10	8.0	8.0	12	11	36	76	27	16	8.0	8.0
15	13	10	8.0	8.0	13	10	36	83	25	8.4	7.7	8.0
16	13	10	8.0	8.0	10	9.8	24	89	23	8.0	7.4	7.7
17	13	10	8.0	8.0	9.8	11	31	86	22	8.0	8.0	7.4
18	13	10	8.0	8.0	12	14	34	81	20	10	7.7	7.4
19	13	10	8.0	8.0	12	16	32	89	19	13	10	7.1
20	13	9.4	8.0	8.0	12	16	49	84	18	12	10	6.8
21	13	11	8.0	7.0	12	17	61	101	17	11	8.7	7.4
22	13	9.4	8.0	7.0	14	20	51	89	16	14	14	8.0
23	13	11	8.0	7.0	13	21	48	84	15	23	12	7.7
24	10	10	8.0	7.0	8.7	24	49	80	14	24	10	12
25	9.4	11	8.0	7.0	14	29	52	76	14	15	10	15
26	9.0	8.7	8.0	7.0	13	32	54	71	13	14	8.7	14
27	8.4	8.0	8.0	7.0	9.4	33	53	68	12	15	13	14
28	8.4	8.0	8.0	7.0	9.8	32	51	68	12	14	11	13
29	8.0	8.0	8.0	7.0	10	29	49	68	12	14	9.8	13
30	8.0	8.0	8.0	7.0	---	26	48	65	12	22	8.7	14
31	8.0	---	8.0	7.0	---	24	---	60	---	18	8.4	---
TOTAL	306.2	263.7	248.0	237.0	326.2	491.6	1412	2204	889	399.9	306.1	306.0
MEAN	11.5	8.79	8.00	7.65	11.2	15.9	47.1	71.1	29.6	12.9	9.87	10.2
MAX	13	11	8.0	8.0	19	33	84	101	57	24	16	15
MIN	8.0	8.8	8.0	7.0	7.0	7.0	24	51	12	8.0	7.4	6.8
AC-FT	707	523	492	470	647	975	2800	4370	1760	793	607	607

CAL YR 1975 TOTAL 5421.4 MEAN 23.1 MAX 100 MIN 6.0 AC-FT 16700

WTR YR 1976 TOTAL 7439.7 MEAN 20.3 MAX 101 MIN 6.8 AC-FT 14760

PEAK DISCHARGE (BASE, 100 CFS).--Apr. 9 (1845) 139 cfs (3.40 ft); May 21 (0445) 118 cfs (3.20 ft).

09491000. NORTH FORK WHITE RIVER NEAR McNARY, ARIZ.

LOCATION.--Lat 34°02'47", long 109°44'02", in E½ sec.31, T.8 N., R.25 E. (unsurveyed), Apache County, in Fort Apache Indian Reservation, on left bank 1.9 mi (3.1 km) downstream from Paradise Creek and 7 mi (11 km) southeast of McNary.

DRAINAGE AREA.--66 mi² (171 km²), approximately.

PERIOD OF RECORD.--June 1945 to June 1947, May 1948 to June 1949, May 1950 to September 1954 (monthly discharge only, July to September 1954), June 1957 to current year. Maximum discharge only for water years 1955-56, published in WSP 1513. Prior to Oct. 1, 1963, published as White River near McNary.

GAGE.--Water-stage recorder. Datum of gage is 7,723 ft (2,354.0 m) above mean sea level.

AVERAGE DISCHARGE.--24 years (1945-46, 1950-54, 1957-76), 43.5 ft³/s (1.232 m³/s), 31,520 acre-ft/yr (38.9 hm³/yr); median of yearly mean discharges, 40 ft³/s (1.13 m³/s), 29,000 acre-ft/yr (36 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 184 ft³/s (5.21 m³/s) May 21; maximum gage height, 3.04 ft (0.927 m) Feb. 10 (backwater from ice); minimum daily discharge, 11 ft³/s (0.31 m³/s) Nov. 7-9, 11.
Period of record: Maximum discharge, 1,290 ft³/s (36.5 m³/s) Sept. 19, 1946 (gage height, 5.36 ft or 1.634 m), from rating curve extended above 350 ft³/s (9.9 m³/s); minimum recorded, 4 ft³/s (0.11 m³/s) Nov. 19, 1948, and Nov. 29, 1950, caused by ice jam upstream.

REMARKS.--Records fair except those for winter periods, which are poor. No storage above station. Water diverted about 5 mi (8 km) upstream from station for use at McNary.

REVISIONS.--WSP 1243: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	13	13	13	12	23	50	93	100	27	40	28
2	17	12	13	13	12	22	62	94	95	20	40	30
3	16	12	13	13	12	21	72	95	90	17	41	21
4	16	12	13	13	12	20	78	95	90	15	40	20
5	15	12	13	13	12	13	86	108	86	14	38	25
6	15	12	13	13	13	15	78	104	85	14	35	24
7	15	11	13	13	15	15	82	104	82	15	34	23
8	15	11	13	13	20	18	103	138	77	18	33	23
9	15	11	13	13	25	18	121	122	72	21	33	22
10	15	12	13	13	35	20	109	120	67	26	28	22
11	13	11	13	13	35	20	102	116	63	19	56	20
12	13	12	13	13	22	20	99	128	56	22	27	19
13	13	14	13	13	25	25	82	132	48	30	20	18
14	13	16	13	13	21	27	70	135	43	48	17	18
15	13	15	13	13	23	23	70	148	40	21	15	16
16	13	15	13	13	16	23	60	157	36	19	16	17
17	13	13	13	13	16	25	70	155	32	18	16	17
18	13	14	13	13	19	31	80	143	30	17	22	17
19	13	13	13	13	19	36	80	153	28	24	16	16
20	13	13	13	13	18	35	100	147	26	24	14	16
21	13	13	13	12	17	37	130	165	24	26	14	16
22	13	13	13	12	20	41	110	150	23	28	17	18
23	13	13	13	12	22	46	100	143	21	40	17	19
24	13	13	13	12	19	50	106	140	20	45	21	19
25	14	13	13	12	21	58	108	135	19	40	20	26
26	13	13	13	12	22	59	108	130	18	35	19	27
27	13	13	13	12	21	59	103	125	18	33	41	34
28	12	13	13	12	22	53	100	120	18	41	27	25
29	12	13	13	12	24	42	96	115	18	45	24	22
30	12	13	13	12	---	46	89	110	18	45	21	20
31	12	---	13	12	---	48	---	105	---	44	19	---
TOTAL	426	384	403	392	570	989	2704	3925	1443	851	821	640
MEAN	13.7	12.8	13.0	12.6	19.7	31.9	90.1	127	48.1	27.5	26.5	21.3
MAX	17	16	13	13	35	59	130	165	100	48	56	34
MIN	12	11	13	12	12	13	50	93	18	14	14	16
AC-FT	845	762	799	778	1130	1960	5360	7790	2860	1690	1630	1270

CAL YR 1975 TOTAL 12242 MEAN 50.0 MAX 300 MIN 10 AC-FT 36180
WTR YR 1976 TOTAL 12548 MEAN 37.0 MAX 165 MIN 11 AC-FT 26870

PEAK DISCHARGE (BASE, 180 CFS).--Apr. 9 (1945) 180 cfs (2.37 ft); May 21 (0600) 184 cfs (2.30 ft).

09492400. EAST FORK WHITE RIVER NEAR FORT APACHE, ARIZ.

LOCATION.--Lat 33°49'20", long 109°48'50", in SE¼ sec.16, T.5 N., R.24 E. (unsurveyed), Apache County, in Fort Apache Indian Reservation, on left bank 600 ft (180 m) downstream from highway bridge, 0.1 mi (0.2 km) upstream from Rock Creek and 10 mi (16 km) east of Fort Apache.

DRAINAGE AREA.--38.8 mi² (100.5 km²).

PERIOD OF RECORD.--August 1957 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,050 ft (1,844 m), by barometer. Prior to Dec. 29, 1960, at site 600 ft (180 m) upstream at datum 12.78 ft (3.895 m) higher. Dec. 29, 1960, to Sept. 28, 1962, at site 600 ft (180 m) upstream at datum 12.92 ft (3.938 m) higher.

AVERAGE DISCHARGE.--19 years, 32.0 ft³/s (0.906 m³/s), 23,180 acre-ft/yr (28.6 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 166 ft³/s (4.70 m³/s) July 30 (gage height, 2.22 ft or 0.677 m); minimum daily, 4.0 ft³/s (0.11 m³/s) Nov. 29.

Period of record: Maximum discharge, 663 ft³/s (18.8 m³/s) Aug. 17, 1961 (gage height, 4.82 ft or 1.469 m, present site and datum, from floodmark), from rating curve extended above 170 ft³/s (4.8 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 4.0 ft³/s (0.11 m³/s) Nov. 29, 1975.

REMARKS.--Records good except those for winter periods, which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	9.5	16	8.0	8.9	13	22	84	63	12	66	23
2	13	9.2	14	7.0	9.2	13	26	86	61	12	52	25
3	12	8.9	11	6.0	9.2	12	30	87	59	11	42	21
4	11	8.6	10	6.0	9.5	10	31	87	55	10	36	19
5	10	8.3	10	7.0	9.5	15	34	86	52	10	31	23
6	10	8.3	9.7	7.0	9.5	13	32	82	49	10	28	25
7	10	8.1	9.5	8.0	8.6	11	29	77	45	10	26	22
8	9.7	8.1	10	8.0	10	10	31	82	42	10	25	20
9	9.5	8.1	9.2	9.0	26	10	38	76	38	10	23	21
10	9.2	7.5	9.4	9.0	36	11	44	79	36	14	24	21
11	9.2	7.8	9.3	9.0	26	11	47	95	34	14	27	19
12	9.2	7.8	9.2	9.0	20	11	50	114	31	16	23	17
13	9.2	7.5	9.4	9.0	19	9.5	44	127	28	24	22	15
14	8.9	7.8	9.0	9.0	19	11	40	127	26	35	19	14
15	9.2	7.8	8.0	9.0	17	12	36	131	24	17	17	14
16	8.9	8.1	8.5	8.5	14	12	29	136	22	14	16	14
17	8.9	7.8	9.0	8.5	13	14	30	134	21	13	15	13
18	8.6	7.3	9.0	8.5	12	16	30	122	20	12	15	12
19	8.6	7.3	9.0	8.5	12	20	30	120	18	17	22	12
20	8.6	6.3	9.0	8.5	12	19	37	119	17	16	19	11
21	9.2	8.3	9.0	8.5	11	20	50	126	17	28	17	11
22	9.2	7.5	10	8.5	13	21	58	122	16	43	21	11
23	8.9	11	11	8.5	11	22	61	114	15	38	29	13
24	8.6	12	9.6	8.5	11	22	65	109	14	32	28	13
25	8.6	10	9.0	8.5	11	24	72	104	13	27	25	18
26	9.2	8.3	9.0	8.5	11	26	76	92	13	27	23	22
27	8.9	9.5	9.0	8.5	11	26	79	83	12	27	29	27
28	8.6	8.1	9.0	8.5	11	26	78	83	13	28	32	21
29	8.6	4.0	9.0	8.5	12	22	79	83	13	38	31	21
30	8.6	7.8	9.0	8.5	---	23	79	79	12	79	27	18
31	8.6	---	9.0	8.9	---	20	---	70	---	98	22	---
TOTAL	294.7	246.6	300.8	256.4	402.4	505.5	1387	3116	879	752	832	536
MEAN	9.51	8.22	9.70	8.27	13.9	16.3	46.2	101	29.3	24.3	26.8	17.9
MAX	14	12	16	9.0	36	26	79	136	63	98	66	27
MIN	8.6	4.0	8.0	6.0	8.6	9.5	22	70	12	10	15	11
AC-FT	585	489	597	509	798	1000	2750	6180	1740	1490	1650	1060
CAL YR 1975	TOTAL	13198.0	MEAN	36.2	MAX	218	MIN	4.0	AC-FT	26180		
WTR YR 1976	TOTAL	9508.4	MEAN	26.0	MAX	136	MIN	4.0	AC-FT	18860		

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
5-2	2115	1.87	104	7-30	1730	2.22	166
5-16	1945	2.11	148				

09494000. WHITE RIVER NEAR FORT APACHE, ARIZ.

LOCATION.--Lat 33°44'11", long 110°09'58", in SE¼ sec.32, T.4½ N., R.21 E. (unsurveyed), Gila County, in Fort Apache Indian Reservation, on right bank 2,200 ft (670 m) downstream from highway bridge, 4.5 mi (7.2 km) upstream from confluence with Black River, and 11 mi (18 km) west of Fort Apache.

DRAINAGE AREA.--632 mi² (1,637 km²).

PERIOD OF RECORD.--October 1917 to September 1918 (published as "at Wanslee's Ranch"), October 1957 to current year. Monthly discharge only for some periods, published in WSP 1313.

GAGE.--Water-stage recorder. Datum of gage is 4,365.99 ft (1,330.754 m) above mean sea level. Oct. 12, 1917, to Aug. 31, 1918, nonrecording gage at site 2,100 ft (640 m) upstream at different datum.

AVERAGE DISCHARGE.--20 years, 174 ft³/s (4.928 m³/s), 126,100 acre-ft/yr (155 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 2,220 ft³/s (62.9 m³/s) July 14 (gage height, 6.77 ft or 2.063 m); minimum daily, 35 ft³/s (0.99 m³/s) Jan. 5.

Period of record: Maximum discharge, 8,670 ft³/s (246 m³/s) Aug. 12, 1971 (gage height, 13.8 ft or 4.21 m), from rating curve extended above 3,800 ft³/s (110 m³/s) on basis of slope-area measurements at gage heights 9.2 and 13.8 ft (2.80 and 4.21 m); no flow July 18-21, 1963.

REMARKS.--Records fair. Small diversions above station for irrigation of about 1,460 acres (5.91 km²). Negligible storage above station in several small recreational lakes.

REVISIONS.--WRD Ariz. 1971: 1967(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	39	37	49	40	94	226	400	210	43	350	66
2	42	42	44	50	40	98	263	400	194	44	300	105
3	42	44	53	40	40	102	296	390	188	44	250	98
4	41	40	55	40	40	99	315	380	180	45	200	79
5	41	40	56	35	65	79	341	383	178	43	170	72
6	40	39	54	40	110	101	354	370	169	42	150	99
7	38	40	53	46	160	99	340	342	163	42	130	92
8	38	39	52	46	140	91	320	402	152	40	110	75
9	38	40	51	46	500	90	340	410	140	40	130	72
10	38	41	50	45	800	91	360	374	128	39	110	76
11	37	40	48	42	265	93	400	353	115	39	93	74
12	36	41	46	42	188	92	400	366	108	39	73	70
13	37	39	51	42	162	84	330	391	102	77	61	65
14	36	38	50	42	162	90	280	389	94	176	47	65
15	37	39	43	40	150	95	240	396	90	90	41	60
16	37	41	41	40	137	99	220	414	85	80	38	55
17	39	43	46	40	123	102	200	424	80	64	37	55
18	38	43	45	40	111	114	200	410	75	60	37	50
19	38	43	47	40	105	133	260	438	70	70	96	45
20	39	41	48	40	101	150	370	425	65	80	149	45
21	41	38	51	40	90	147	500	456	65	100	95	40
22	42	37	52	40	80	153	590	432	60	130	86	40
23	42	36	51	40	87	166	580	392	55	250	135	38
24	40	37	49	40	95	184	580	359	54	200	118	42
25	39	42	46	40	87	197	550	337	52	220	111	67
26	38	42	44	40	85	219	500	310	50	190	100	96
27	40	38	46	40	88	220	470	284	48	170	106	115
28	40	47	47	40	90	223	450	269	46	210	146	104
29	40	59	41	40	89	223	430	262	45	250	122	95
30	40	39	40	40	---	186	420	255	45	300	113	65
31	38	---	47	40	---	198	---	236	---	400	99	---
TOTAL	1213	1227	1484	1285	4230	4112	11125	11449	3106	3617	3805	2160
MEAN	39.1	40.9	47.9	41.5	146	133	371	369	104	117	123	72.0
MAX	42	59	56	50	800	223	590	456	210	400	350	115
MIN	36	36	37	35	40	79	200	236	45	39	37	38
AC-F T	2410	2430	2940	2550	8390	8160	22070	22710	6160	7170	7550	4280

CAL YR 1975 TOTAL 79533 MEAN 218 MAX 1650 MIN 36 AC-F T 157800
WTR YR 1976 TOTAL 48813 MEAN 133 MAX 800 MIN 35 AC-F T 96820

PEAK DISCHARGE (BASE 1,000 CFS).--July 14 (1730) 2,220 cfs (6.77 ft); Aug. 23 (1645) 1,140 cfs (5.41 ft).

GILA RIVER BASIN

09494000. WHITE RIVER NEAR FORT APACHE, ARIZ.

LOCATION.--Lat 33°44'11", long 110°09'58", in SE¼ sec.32, T.4½ N., R.21 E. (unsurveyed), Gila County, in Fort Apache Indian Reservation, at gaging station 2,200 ft (670 m) downstream from highway bridge, 4.5 mi (7.2 km) upstream from confluence with Black River, and 11 mi (18 km) west of Fort Apache.

DRAINAGE AREA.--632 mi² (1,637 km²).

PERIOD OF RECORD.--Chemical analyses: January 1976 to September 1976.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	CHEM- ICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	FECAL COLI- FORM (COL. PER 100 ML)	HARD- NESS (CA+MG) (MG/L)
JAN 28...	1030	45	440	8.5	2.0	5	--	--	--	210
FEB 18...	1000	100	350	7.2	5.5	8	--	--	6	130
MAR 19...	1000	100	250	8.7	9.0	16	--	--	36	120
APR 12...	1700	300	140	8.3	13.0	14	--	13	7	66
MAY 18...	1310	425	120	7.3	18.0	10	7.0	2	13	56
JUN 23...	1030	63	133	8.5	20.5	1	7.7	12	4	170
JUL 15...	1430	86	260	8.5	26.0	110	6.9	--	8650	130
AUG 17...	1245	74	310	8.7	21.0	8	7.8	--	30	160
SEP 14...	1145	46	323	8.4	19.0	4	8.4	--	16	160

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO ₃) (MG/L)	CAR- BONATE (CO ₃) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)
JAN 28...	48	63	12	9.4	.3	2.4	190	2	73	3.2
FEB 18...	22	38	8.5	6.7	.3	1.8	131	0	39	2.5
MAR 19...	23	35	7.8	6.0	.2	1.8	118	0	30	1.9
APR 12...	6	19	4.5	4.1	.2	1.5	73	0	17	1.5
MAY 18...	9	17	3.3	3.5	.2	1.2	57	0	14	1.2
JUN 23...	42	50	9.8	8.2	.3	2.7	146	2	47	2.6
JUL 15...	20	40	7.4	6.6	.3	2.5	135	0	30	2.4
AUG 17...	38	49	10	8.0	.3	2.2	153	0	55	2.3
SEP 14...	39	45	11	7.9	.3	2.3	145	0	57	3.5

B Results based on non-ideal colony count.

GILA RIVER BASIN

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09494000. WHITE RIVER NEAR FORT APACHE, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO ₂) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	DIS- SOLVED SOLIDS (TUNS PER AC-FT)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHU. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
JAN 28...	.2	18	287	277	.39	.01	.01	.04	20	0	
FEB 18...	.1	16	176	177	.24	--	.01	.02	10	10	
MAR 19...	.2	17	165	158	.22	--	.00	.00	20	10	
APR 12...	.1	15	98	99	.13	--	.00	.01	0	90	
MAY 18...	.1	16	96	85	.13	--	--	--	40	120	
JUN 23...	.2	16	226	211	.31	--	--	--	20	70	
JUL 15...	.1	19	173	176	.24	--	.22	.07	20	190	
AUG 17...	.2	19	206	221	.28	--	.00	.01	20	10	
SEP 14...	.2	19	211	218	.29	--	.02	.02	20	80	

DATE	TIME	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHU. PHOS- PHORUS (P) (MG/L)
JAN 28...	1030	.01	.00	.01	.01	.16	.17	.75	.04	.04
FEB 18...	1000	--	--	.01	.01	.57	.58	2.6	.02	.02
MAR 19...	1000	--	--	.00	.00	.24	.24	1.1	.10	.00
APR 12...	1700	--	--	.00	.00	.48	.48	2.1	.11	.01
MAY 18...	1310	--	--	.01	--	.23	.24	1.1	.05	--
JUL 15...	1430	--	--	.10	.22	.92	1.0	4.5	.19	.07
AUG 17...	1245	--	--	.01	.00	.20	.21	.93	.03	.01
SEP 14...	1145	--	--	.02	.02	.52	.54	2.4	.04	.02

09494000. WHITE RIVER NEAR FORT APACHE, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	TOTAL BARIUM (BA) (UG/L)	TOTAL BORON (B) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CM) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
JAN 28...	1030	0	0	50	20	<10	1	0	10	110	0
FEB 18...	1000	1	0	30	10	<10	1	0	10	450	10
MAR 19...	1000	2	0	40	20	<10	1	10	20	900	10
APR 12...	1700	1	0	20	0	<10	2	0	<10	660	90
MAY 18...	1310	0	0	40	40	<10	1	<10	<10	1200	120
JUN 23...	1030	2	100	30	20	<10	0	20	<10	390	70
JUL 15...	1430	11	0	40	20	<10	1	20	20	6300	190
AUG 17...	1245	0	0	120	20	<10	--	0	<10	360	10
SEP 14...	1145	2	0	60	20	<10	--	0	<10	290	80

DATE	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)
JAN 28...	<100	20	0	.0	0	<10	10	6.9	--	--
FEB 18...	<100	30	0	.1	0	<10	10	--	.00	1
MAR 19...	<100	60	0	.0	0	<10	10	2.4	.00	9
APR 12...	<100	90	0	.0	0	<10	20	--	.00	--
MAY 18...	<100	30	10	.0	--	<10	10	3.3	.00	0
JUN 23...	<100	10	10	.5	0	<10	10	1.8	.00	8
JUL 15...	<100	270	20	.0	0	<10	20	8.5	.00	2
AUG 17...	<100	20	0	.0	0	<10	10	1.7	.00	4
SEP 14...	<100	10	0	.0	0	<10	10	1.7	.00	2

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

09494000. WHITE RIVER NEAR FORT APACHE, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

JUNE 23, 1976
1030 HOURS

IDENTIFICATION OF PHYTOPLANKTON

740 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...SCENEDESMACEAE				
....TETRASTRUM		32	4	
...ZYGNEMATALES				
....DESMIDIACEAE	PLACODERM DESMIDS		0	
I.CLOSTERIUM				
...ZYGNEMATAEAE				
....SPIROGYRA				
	TOTALS	<u>73</u> 100	<u>10</u> 14	0.890=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNAE			
...ACHNANTHACEAE				
....ACHNANTHES		40	5	
D.COCCONFIS		190	25	
...CYMBELLACEAE				
D.CYMBELLA		150	20	
...FRAGILARIACEAE				
....SYNEDRA		16	2	
...GOMPHONEMACEAE				
....GOMPHONEMA		8	1	
...NAVICULACEAE	NAVICULOID			
....GYROSIGMA		8	1	
....NAVICULA		16	2	
...NITZSCHACEAE				
....NITZSCHIA		<u>57</u> 480	<u>8</u> 64	2.249=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
D.OSCILLATORIA		<u>160</u> 160	<u>22</u> 22	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.289
 CLASS 1.289
 ORDER 1.414
 FAMILY 2.621
 GENERA 2.857

GILA RIVER BASIN

09495000. FORESTDALE CREEK DIVERSION FROM SHOW LOW CREEK, NEAR SHOW LOW, ARIZ.

LOCATION.--Lat 34°10'40", long 110°00'56", in SE¼NW¼ sec.16, T.9 N., R.22 E., Navajo County, in Sitgreaves National Forest, on right bank 170 ft (50 m) downstream from terminal structure of Show Low Creek diversion works, 4,350 ft (1,330 m) west of pumping plant on Show Low Lake, and 5 mi (8 km) south of Show Low.

PERIOD OF RECORD.--May 1953 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Datum of gage is 6,621.57 ft (2,018.255 m) above mean sea level (Bureau of Reclamation bench mark).

EXTREMES.--Period of record: Maximum daily discharge, 28 ft³/s (0.79 m³/s) June 2, 3, 5, 1973, Mar. 17-25, 27-30, Apr. 2-15, Apr. 18 to May 5, 1975; no flow for most of time.

REMARKS.--Records good. Entire flow consists of water pumped from Show Low Lake, in Little Colorado River basin, into headwaters of Forestdale Creek in Gila River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0	21	20	21	20			
2					0	21	20	21	18			
3					0	20	20	22	14			
4					0	20	20	22	14			
5					0	20	20	22	18			
6					0	20	20	21	20			
7					0	20	20	21	16			
8					0	20	20	21	3.3			
9					0	20	20	21	0			
10					0	20	21	21	0			
11					0	20	21	21	0			
12					13	20	21	21	0			
13					21	20	20	21	0			
14					21	20	20	21	0			
15					22	20	18	21	0			
16					22	20	20	21	0			
17					22	20	20	21	0			
18					22	21	20	20	0			
19					22	21	20	21	0			
20					22	21	21	20	0			
21					22	21	21	20	0			
22					22	21	21	21	0			
23					22	21	22	21	0			
24					22	21	22	21	0			
25					21	21	22	21	0			
26					21	21	21	20	0			
27					21	21	22	20	0			
28					21	21	22	9.1	0			
29					21	21	22	14	0			
30					---	21	22	20	0			
31		---			---	21	---	20	---			---
TOTAL	0	0	0	0	380	636	618	628.1	143.3	0	0	0
MEAN	0	0	0	0	13.1	20.5	20.6	20.3	4.78	0	0	0
MAX	0	0	0	0	22	21	22	22	20	0	0	0
MIN	0	0	0	0	0	20	18	9.1	0	0	0	0
AC-FT	0	0	0	0	754	1260	1230	1250	284	0	0	0
CAL YR 1975	TOTAL	3562.7	MEAN	9.76	MAX	28	MIN	0	AC-FT	7070		
WTR YR 1976	TOTAL	2405.4	MEAN	6.57	MAX	22	MIN	0	AC-FT	4770		

GILA RIVER BASIN

393

09496500. CARRIZO CREEK NEAR SHOW LOW, ARIZ.

LOCATION.--Lat 33°59'07", long 110°16'49", in sec.24, T.7 N., R.19 E. (unsurveyed), Gila County, in Fort Apache Indian Reservation, on upstream side of center pier of bridge on U.S. Highway 60, 1 mi (2 km) downstream from Corduroy Creek, 23 mi (37 km) southwest of Show Low, and 24 mi (39 km) upstream from mouth.

DRAINAGE AREA.--439 mi² (1,137 km²).

PERIOD OF RECORD.--June 1951 to June 1961, June 1967 to June 1976 (monthly discharge only, October 1975 to June 1976). Construction of new bridge and channel work created conditions that made it impossible to record gage heights. Station temporarily discontinued.

GAGE.--Water-stage recorder. Datum of gage is 4,750.25 ft (1,447.876 m) above mean sea level.

AVERAGE DISCHARGE.--17 years (1951-60, 1967-75), 42.9 ft³/s (1.215 m³/s), 31,080 acre-ft/yr (38.3 hm³/yr); median of yearly mean discharges, 25 ft³/s (0.71 m³/s), 18,100 acre-ft/yr (22 hm³/yr), unadjusted for transbasin diversion.

EXTREMES.--October 1975 to June 1976: Maximum discharge during period, 4,220 ft³/s (120 m³/s) Feb. 9 (gage height, 6.34 ft or 1.932 m); minimum daily, 1.0 ft³/s (0.028 m³/s) Jan. 6, 7.

Period of record: Maximum discharge, 20,500 ft³/s (581 m³/s) Jan. 18, 1952 (gage height, 12.08 ft or 3.682 m), from rating curve extended above 2,000 ft³/s (57 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 0.2 ft³/s (0.006 m³/s) July 12, 1951, Sept. 21, 1959.

Maximum discharge since at least 1951, about 23,000 ft³/s (650 m³/s) Dec. 30, 1965 (gage height, 13.0 ft or 3.96 m, from flood-mark), from rating curve extended above 2,000 ft³/s (57 m³/s) on basis of slope-area measurement at gage height 12.08 ft (3.682 m).

REMARKS.--Records poor. Diversions for irrigation above station of less than 300 acres (1.21 km²). Records include transbasin diversion from Show Low Creek. (See sta 09495000.) Station removed July 1976 for bridge construction.

REVISIONS.--WRD Ariz. 1968: Drainage area.

MONTHLY DISCHARGE, IN CUBIC FEET PER SECOND,
OCTOBER 1975 TO JUNE 1976

Month	Maximum	Minimum	Mean	Runoff in acre-feet
October	--	--	4.1	254
November	--	--	8.7	516
December	33	2.0	12	734
CAL YR 1975	472	1.5	36.2	26,240
January	--	1.0	4.9	300
February	1,160	--	98	5,630
March	38	9.5	26	1,600
April	--	--	40	2,380
May	47	--	30	1,860
June	24	9.5	1.6	964
PERIOD OCTOBER 1975 TO JUNE 1976	1,160	1.0	26.2	14,240

PEAK DISCHARGE (BASE, 1,000 CFS).--Feb. 9 (2215) 4,220 cfs (6.34 ft).

NOTE.--No gage-height record for most of period. Stage-discharge relation indefinite because of new bridge construction.

09497500. SALT RIVER NEAR CHRYSOTILE, ARIZ.

LOCATION.--Lat 33°47'53", long 110°29'57", in sec.25, T.5 N., R.17 E. (unsurveyed), Gila County, in San Carlos Indian Reservation, on left bank 1,200 ft (366 m) upstream from bridge on U.S. Highway 60, 5.7 mi (9.2 km) northeast of Chrysotile, 8 mi (13 km) upstream from Cibecue Creek, and 33 mi (53 km) downstream from confluence of Black and White Rivers.

DRAINAGE AREA.--2,849 mi² (7,379 km²).

PERIOD OF RECORD.--September 1924 to current year (monthly discharge only July to December 1954).

GAGE.--Water-stage recorder. Datum of gage is 3,354.57 ft (1,022.473 m) above mean sea level.

AVERAGE DISCHARGE.--52 years, 594 ft³/s (16.82 m³/s), 430,400 acre-ft/yr (531 hm³/yr); median of yearly mean discharges, 450 ft³/s (12.7 m³/s), 326,000 acre-ft/yr (400 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 6,070 ft³/s (172 m³/s) Feb. 10 (gage height, 6.26 ft or 1.908 m); minimum daily, 105 ft³/s (2.97 m³/s) July 9.
 Period of record: Maximum discharge, 52,900 ft³/s (1,500 m³/s) Feb. 7, 1937 (gage height, 15.18 ft or 4.627 m); minimum, 49 ft³/s (1.39 m³/s) July 6, 7, 1955.
 Flood peak of 74,000 ft³/s (2,100 m³/s) occurred prior to 1924 and is believed to be the peak of the flood of Jan. 19, 1916 (gage height, 18 ft or 5.5 m, from floodmarks), from rating curve extended above 52,000 ft³/s (1,500 m³/s).

REMARKS.--Records good. Several diversions for irrigation above station of about 3,100 acres (12.5 km²), one diversion into the basin (see record of Forestdale Creek diversion from Show Low Creek, near Show Low), and one diversion out of the basin (see record of Willow Creek diversion from Black River, near Morenci).

REVISIONS (WATER YEARS).--WSP 859: 1926-27, 1929-30, 1934, 1936. WSP 899: 1927, 1932, 1937, 1938(M). WSP 1313: 1925-26(M), 1929-30(M), 1935-36(M), 1944(M). WSP 1343: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	160	130	214	172	165	381	678	987	460	130	678	252
2	155	135	172	145	169	381	736	946	450	121	560	218
3	150	140	169	142	169	397	819	914	430	124	455	239
4	150	142	145	145	176	430	922	914	410	124	392	214
5	145	142	136	136	199	430	1020	962	380	115	329	226
6	145	140	159	127	425	419	1130	954	370	110	289	218
7	140	136	183	139	628	419	1120	906	360	113	257	222
8	140	139	183	142	408	425	1050	866	350	110	235	226
9	140	136	176	152	560	425	1100	938	340	105	222	226
10	138	136	172	169	3510	419	1190	954	330	107	214	222
11	127	139	169	180	2260	419	1220	898	305	124	366	210
12	127	139	169	176	1310	425	1170	835	281	121	231	199
13	124	142	169	162	946	419	1110	819	266	250	214	191
14	124	142	172	159	850	397	1040	819	251	270	199	187
15	124	136	183	162	780	397	1000	804	239	300	183	176
16	127	136	180	162	700	419	1010	804	223	275	176	162
17	130	139	172	169	630	425	962	796	211	260	165	152
18	127	139	165	169	560	442	850	788	197	220	159	145
19	130	142	145	169	500	467	922	796	185	180	152	142
20	136	145	155	169	470	539	1150	890	180	200	324	136
21	136	145	155	172	448	614	1410	835	165	199	266	133
22	139	142	159	165	425	621	1530	914	162	239	202	130
23	136	136	199	169	414	621	1480	922	152	533	222	133
24	133	136	202	180	408	656	1370	804	148	425	289	166
25	135	133	202	187	403	699	1300	700	139	461	257	303
26	135	139	199	187	392	743	1260	650	136	371	235	303
27	135	142	210	176	387	811	1220	600	130	329	257	340
28	134	152	202	165	387	811	1170	580	127	419	266	262
29	133	214	187	165	381	819	1100	550	127	500	270	232
30	132	222	180	169	---	788	1050	520	133	392	270	212
31	130	---	180	169	---	685	---	480	---	758	280	---
TOTAL	4217	4336	5463	5050	19060	16343	33089	25145	7637	7985	8614	6177
MEAN	136	145	176	163	657	527	1103	811	255	258	278	206
MAX	160	222	214	187	3510	819	1530	987	460	758	678	340
MIN	124	130	136	127	165	381	678	480	127	105	152	130
AC-FT	8360	8600	10840	10020	37810	32420	65630	49880	15150	15840	17090	12250

CAL YR 1975 TOTAL 243101 MEAN 666 MAX 4250 MIN 90 AC-FT 482200
 WTR YR 1976 TOTAL 143116 MEAN 391 MAX 3510 MIN 105 AC-FT 283900

PEAK DISCHARGE (BASE, 3,500 cfs).--Feb. 10 (0445) 6,070 cfs (6.26 ft).

09497800. CIBECUE CREEK NEAR CHRYSOTILE, ARIZ.

LOCATION.--Lat 33°50'35", long 110°33'25", in E½ sec.8, T.5 N., R.17 E. (unsurveyed), Gila County, in Fort Apache Indian Reservation, on right bank 0.5 mi (0.8 km) upstream from mouth and 7 mi (11 km) north of Chrysotile.

DRAINAGE AREA.--295 mi² (764 km²).

PERIOD OF RECORD.--May 1959 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,200 ft (975 m), from topographic map.

AVERAGE DISCHARGE.--17 years, 38.5 ft³/s (1.090 m³/s), 27,890 acre-ft/yr (34.4 hm³/yr); median of yearly mean discharges, 29 ft³/s (0.82 m³/s), 21,000 acre-ft/yr (26 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,500 ft³/s (99.1 m³/s) probably Sept. 27 (gage height, 6.78 ft or 2.07 m), from inside high-water mark; minimum daily, 7.9 ft³/s (0.22 m³/s) July 10.

Period of record: Maximum discharge, 8,800 ft³/s (249 m³/s) Dec. 30, 1965 (gage height, 10.70 ft or 3.261 m), from rating curve extended above 2,200 ft³/s (62 m³/s) on basis of slope-area measurement at gage height 10.50 ft (3.200 m); minimum daily, 4.1 ft³/s (0.12 m³/s) Aug. 17-19, 1968.

REMARKS.--Records fair except those for July and August, which are poor. Small diversions for irrigation in the vicinity of the village of Cibecue.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	15	16	15	18	34	33	45	13	13	15	13
2	16	15	18	15	18	39	32	41	12	10	15	19
3	15	15	20	18	17	45	30	40	15	8.8	15	13
4	15	14	16	20	20	50	30	48	14	8.5	15	14
5	15	14	15	21	25	47	31	50	14	8.5	15	16
6	16	14	15	22	23	44	31	39	13	8.5	15	23
7	15	14	15	20	20	42	31	38	13	8.8	15	14
8	15	15	15	20	20	40	29	39	13	8.7	15	15
9	16	14	15	21	468	40	28	36	12	8.0	15	14
10	16	14	15	22	650	40	27	33	12	7.9	15	14
11	16	14	15	20	300	45	25	33	12	8.0	15	15
12	16	14	16	20	200	50	24	30	12	91	15	14
13	15	14	18	20	150	51	24	30	12	27	15	14
14	16	15	19	20	130	47	28	30	11	20	15	14
15	16	13	16	20	120	45	31	30	11	20	15	14
16	17	14	16	19	100	44	41	30	11	25	15	13
17	16	14	17	19	90	47	31	30	11	30	15	13
18	16	13	17	19	85	48	27	30	11	20	15	13
19	16	14	17	19	81	51	27	40	10	20	45	13
20	16	13	17	19	67	60	26	30	10	35	15	13
21	17	13	25	19	61	64	51	30	10	30	15	13
22	16	13	22	18	57	58	94	25	9.3	17	60	13
23	16	13	19	19	52	52	102	25	9.1	292	20	14
24	15	12	18	19	48	49	98	25	9.3	122	15	94
25	16	12	18	20	45	46	94	20	9.2	69	20	115
26	15	12	18	19	41	44	79	20	9.0	45	20	35
27	16	13	19	18	39	43	65	20	9.2	81	14	300
28	15	20	18	18	37	43	58	20	9.3	30	19	60
29	16	33	17	18	34	46	53	20	9.6	35	16	20
30	16	15	19	18	---	39	47	15	8.8	60	16	20
31	14	---	20	18	---	36	---	15	---	35	13	---
TOTAL	487	436	541	593	3016	1429	1327	957	334.8	1202.7	558	975
MEAN	15.7	14.5	17.5	19.1	104	46.1	44.2	30.9	11.2	38.8	18.0	32.5
MAX	17	33	25	22	650	64	102	50	15	292	60	300
MIN	14	12	15	15	17	34	24	15	8.8	7.9	13	13
AC-FT	566	665	1070	1180	5980	2830	2630	1900	664	2390	1110	1930
CAL YR 1975	TOTAL	10494.0	MEAN 28.8	MAX 300	MIN	10	AC-FT 20810					
WTR YR 1976	TOTAL	11856.5	MEAN 32.4	MAX 650	MIN	7.9	AC-FT 23520					

PEAK DISCHARGE (BASE, 1,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-9	2030	5.58	2,180	(a)	unknown	6.78	3,500
7-23	0100	6.52	3,200				

a Probably Sept. 27.

09497900. CHERRY CREEK NEAR YOUNG, ARIZ.

LOCATION.--Lat 34°04'58", long 110°55'25", in SE¼NE¼ sec.32, T.9 N., R.14 E., Gila County, on left bank 0.3 mi (0.5 km) downstream from Deadman Canyon and 2 mi (3 km) southeast of Young.

DRAINAGE AREA.--62.1 mi² (161 km²).

PERIOD OF RECORD.--August 1963 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,950 ft (1,509 m), from topographic map. Prior to June 11, 1973, at datum 2.07 ft (0.631 m) higher.

AVERAGE DISCHARGE.--13 years, 10.8 ft³/s (0.306 m³/s), 7,820 acre-ft/yr (9.64 hm³/yr); median of yearly mean discharges, 7.6 ft³/s (0.22 m³/s), 5,510 acre-ft/yr (6.8 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 2,300 ft³/s (65.1 m³/s) Feb. 9 (gage height, 7.00 ft or 2.134 m), from rating curve extended above 110 ft³/s (3.1 m³/s) on basis of slope-area measurements at gage heights 7.97 and 11.00 ft (2.429 and 3.353 m), present datum; minimum daily, 0.25 ft³/s (0.007 m³/s) Oct. 5, 6.

Period of record: Maximum discharge, 7,290 ft³/s (206 m³/s) Oct. 19, 1972 (gage height, 11.00 ft or 3.353 m, present datum), from rating curve extended above 110 ft³/s (3.1 m³/s) on basis of slope-area measurements at gage heights 7.97 and 11.00 ft (2.429 and 3.353 m), present datum; no flow July 18, 20, 1972.

REMARKS.--Records poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.34	.49	1.2	2.1	1.3	3.8	2.6	4.0	1.0	.50	2.5	.30
2	.29	.47	1.2	2.6	1.3	4.1	3.1	3.5	1.0	.50	.64	.30
3	.28	.49	3.0	2.3	1.4	4.5	3.2	3.0	1.0	.50	.50	.30
4	.28	.50	2.2	1.4	1.7	5.8	3.2	5.0	1.0	.50	.50	.30
5	.25	.50	1.8	1.6	100	5.7	3.2	4.0	1.0	.50	.50	.90
6	.25	.60	2.0	1.3	195	6.1	3.0	3.5	1.0	.50	.40	.40
7	.26	.50	2.7	1.4	92	7.7	3.0	4.0	1.0	.50	.40	.30
8	.28	.60	2.2	1.5	59	12	3.0	4.5	1.0	.50	.40	.30
9	.28	.50	2.0	1.3	788	16	3.0	4.0	1.0	.50	.40	.30
10	.28	.60	1.8	1.3	290	21	3.0	3.5	1.0	.50	2.7	.30
11	.26	.60	1.7	1.3	114	19	3.0	3.0	1.0	.50	.90	.30
12	.26	.84	1.5	1.3	61	16	2.7	3.0	1.0	.50	.60	.30
13	.29	.96	1.4	1.2	37	13	2.7	2.5	1.0	.50	.40	.30
14	.31	1.1	1.4	1.2	23	11	3.0	2.5	1.0	.50	.40	.30
15	.31	1.1	2.2	1.2	12	11	3.3	2.5	1.0	.50	.40	.30
16	.29	1.1	2.0	1.2	8.6	9.3	4.8	2.0	1.0	.50	.40	.30
17	.29	1.1	1.7	1.2	7.1	7.9	5.7	2.0	1.0	.50	.40	.30
18	.30	1.1	1.5	1.2	6.3	6.7	5.5	2.0	1.0	.50	.40	.30
19	.30	1.1	1.4	1.2	5.2	5.8	16	2.0	1.0	.50	.40	.30
20	.33	1.1	1.3	1.1	4.9	5.0	71	2.5	1.0	.50	8.1	.30
21	.35	1.1	7.2	1.1	4.6	4.4	48	2.5	1.0	.50	2.0	.30
22	.32	1.1	4.2	1.2	4.6	3.9	30	2.0	.50	1.0	2.4	.30
23	.33	1.1	3.4	1.3	4.2	3.5	24	2.0	.50	1.5	1.2	1.0
24	.38	.96	2.6	1.4	4.2	3.1	16	2.0	.50	7.2	.80	5.2
25	.43	.96	2.1	1.5	3.9	2.9	12	2.0	.50	4.8	.50	14
26	.49	.96	1.9	1.4	3.9	2.7	9.5	1.5	.50	1.7	.40	15
27	.41	.96	1.7	1.3	3.9	2.5	8.0	1.5	.50	7.0	.40	5.5
28	.41	1.1	1.6	1.3	3.9	2.4	6.5	1.5	.50	5.4	.40	1.2
29	.44	1.2	1.6	1.3	3.8	2.4	5.5	1.5	.50	3.2	.30	.60
30	.48	1.2	1.6	1.3	---	2.4	5.0	1.5	.50	20	.30	.40
31	.49	---	1.6	1.3	---	2.2	---	1.5	---	7.8	.30	---
TOTAL	10.26	25.99	65.7	43.3	1845.8	223.8	312.5	82.5	25.50	70.10	30.34	50.20
MEAN	.33	.87	2.12	1.40	63.6	7.22	10.4	2.66	.85	2.26	.98	1.67
MAX	.49	1.2	7.2	2.6	788	21	71	5.0	1.0	20	8.1	15
MIN	.25	.47	1.2	1.1	1.3	2.2	2.6	1.5	.50	.50	.30	.30
AC-FT	20	52	130	86	3660	444	620	164	51	139	60	100

CAL YR 1975 TOTAL 2484.11 MEAN 6.81 MAX 129 MIN .20 AC-FT 4930
WTR YR 1976 TOTAL 2785.99 MEAN 7.61 MAX 788 MIN .25 AC-FT 5530

PEAK DISCHARGE (BASE, 250 CFS).--Feb. 6 (1700) 315 cfs (3.18 ft); Feb. 9 (1500) 2,300 cfs (7.00 ft).

09497980. CHERRY CREEK NEAR GLOBE, ARIZ.

LOCATION.--Lat 33°49'40", long 110°51'20", in SW¼ sec.30, T.6 N., R.15 E. (unsurveyed), Gila County, in Tonto National Forest, on left bank 0.2 mi (0.3 km) upstream from Devils Chasm, 13 mi (21 km) upstream from mouth, and 30 mi (48 km) north of Globe.

DRAINAGE AREA.--200 mi² (518 km²).

PERIOD OF RECORD.--May 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,200 ft (975 m), from topographic map.

AVERAGE DISCHARGE.--11 years, 33.8 ft³/s (0.957 m³/s), 24,490 acre-ft/yr (30.2 hm³/yr); median of yearly mean discharges, 21 ft³/s (0.59 m³/s), 15,200 acre-ft/yr (19 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,820 ft³/s (108 m³/s) Feb. 9 (gage height, 9.03 ft or 2.752 m); minimum daily, 4.7 ft³/s (0.13 m³/s) Sept. 18.

Period of record: Maximum discharge, 8,300 ft³/s (235 m³/s) Oct. 19, 1972 (gage height, 14.0 ft or 4.27 m, from floodmarks), from rating curve extended above 330 ft³/s (9.3 m³/s) on basis of slope-area measurements at gage heights 5.85, 6.70, 8.70, and 12.3 ft (1.783, 2.042, 2.652, and 3.75 m); minimum, 3.2 ft³/s (0.091 m³/s) Aug. 27, 28, Sept. 17, 1965, Aug. 14, 1970.

REMARKS.--Records fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	5.8	7.0	7.3	6.5	13	8.9	11	7.3	6.1	17	5.8
2	6.6	5.8	7.0	6.7	6.5	13	8.3	11	6.9	5.4	13	6.1
3	6.6	5.8	7.0	6.7	6.5	15	8.3	11	6.9	5.2	13	6.1
4	6.5	5.7	6.5	6.8	9.5	17	8.1	13	6.8	5.2	12	6.0
5	6.3	5.8	6.4	6.6	415	15	8.0	11	6.5	5.6	11	5.9
6	6.3	5.8	6.1	6.6	435	15	8.0	10	6.2	6.3	10	5.9
7	6.3	5.8	6.1	6.8	248	18	8.0	10	6.2	6.7	9.0	5.8
8	6.3	5.8	6.1	6.8	112	19	7.8	11	6.0	6.2	8.0	5.7
9	6.3	5.8	6.1	6.8	1450	21	7.7	10	6.0	7.3	7.5	5.6
10	6.0	5.9	6.1	6.7	708	27	7.7	10	5.7	5.9	7.0	5.5
11	6.0	6.0	6.1	6.6	241	28	7.5	9.7	6.0	5.3	6.5	5.5
12	6.0	6.0	5.9	6.6	121	25	7.8	10	6.2	6.2	5.9	5.4
13	6.0	6.1	7.1	6.6	82	22	7.9	9.6	6.2	5.5	5.7	5.1
14	6.0	6.1	7.4	6.6	62	23	9.3	9.6	6.0	4.9	5.5	4.9
15	5.9	6.1	6.3	6.6	51	21	9.5	9.3	5.9	5.4	5.5	4.9
16	5.8	6.1	6.1	6.6	46	19	36	9.0	5.9	5.2	5.5	4.9
17	5.8	6.1	6.0	6.6	39	17	25	8.9	5.8	6.2	6.3	4.9
18	5.8	5.9	5.9	6.6	33	16	17	9.5	5.7	5.9	6.3	4.7
19	5.8	6.1	5.9	6.6	30	15	33	9.5	5.5	7.1	5.7	4.9
20	6.2	6.1	6.0	6.6	25	14	71	12	5.3	8.0	5.7	4.9
21	6.1	6.1	23	6.6	23	12	58	9.8	5.2	7.4	5.6	5.4
22	6.1	6.1	28	6.6	21	12	40	9.0	5.2	17	6.2	6.0
23	6.1	6.1	17	6.8	20	11	28	8.7	5.3	26	12	6.0
24	6.0	6.1	13	6.9	19	10	21	8.4	5.8	30	7.3	11
25	6.1	6.1	11	7.1	17	10	17	8.2	5.7	44	6.0	29
26	6.1	6.0	9.6	6.6	15	9.7	15	8.1	5.4	15	5.9	41
27	6.1	6.1	9.0	6.6	14	9.5	13	7.7	5.4	19	6.5	66
28	6.1	12	8.5	6.6	14	9.8	12	7.6	5.4	46	6.2	16
29	5.9	13	8.0	6.6	13	11	12	7.5	6.0	51	6.0	13
30	5.7	8.4	7.5	6.6	---	9.8	11	7.2	5.8	14	6.7	10
31	5.8	---	7.7	6.5	---	9.1	---	7.2	---	46	5.9	---
TOTAL	189.4	194.6	269.4	207.3	4283.0	486.9	531.8	294.5	178.2	435.0	240.4	311.9
MEAN	6.11	6.49	8.69	6.69	148	15.7	17.7	9.50	5.94	14.0	7.75	10.4
MAX	6.8	13	28	7.3	1450	28	71	13	7.3	51	17	66
MIN	5.7	5.7	5.9	6.5	6.5	9.1	7.5	7.2	5.2	4.9	5.5	4.7
AC-FT	376	386	534	411	8500	966	1050	584	353	863	477	619
CAL YR 1975	TOTAL	6653.7	MEAN	18.2	MAX	236	MIN	5.7	AC-FT	13200		
WTR YR 1976	TOTAL	7622.4	MEAN	20.8	MAX	1450	MIN	4.7	AC-FT	15120		

PEAK DISCHARGE (BASE, 750 cfs).--Feb. 9 (1600) 3,820 cfs (9.03 ft).

09498500. SALT RIVER NEAR ROOSEVELT, ARIZ.

LOCATION.--Lat 33°37'10", long 110°55'15", in SE4NE4 sec.9, T.3 N., R.14 E. (unsurveyed), Gila County, in Tonto National Forest on left bank 100 ft (30 m) downstream from bridge on State Highway 288, 0.3 mi (0.5 km) downstream from Pinal Creek, 1 mi (2 km) upstream from diversion dam for power canal, 14 mi (23 km) east of village of Roosevelt, and 17 mi (27 km) upstream from Roosevelt Dam.

DRAINAGE AREA.--4,306 mi² (11,153 km²).

PERIOD OF RECORD.--January 1913 to current year (monthly discharge only January to September 1913) see WSP 1313.

GAGE.--Water-stage recorder. Datum of gage is 2,177.14 ft (663.592 m) above mean sea level. Prior to 1925, nonrecording gage at diversion dam about 1 mi (2 km) downstream at different datum. Nonrecording gage at present site and datum 1925 to Jan. 17, 1935. May 20, 1955, to July 30, 1959, supplementary water-stage recorder at diversion dam.

AVERAGE DISCHARGE.--63 years, 836 ft³/s (23.68 m³/s), 605,700 acre-ft/yr (747 hm³/yr); median of yearly mean discharges, 650 ft³/s (18.4 m³/s), 471,000 acre-ft/yr (580 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 16,000 ft³/s (453 m³/s) Feb. 10 (gage height, 15.15 ft or 4.618 m); minimum daily, 116 ft³/s (3.29 m³/s) July 11.

Period of record: Maximum discharge, 117,000 ft³/s (3,310 m³/s) Mar. 14, 1941 (gage height, 24.4 ft or 7.44 m), from rating curve extended above 55,000 ft³/s (1,600 m³/s) on basis of velocity-area studies and float-area measurements at 66,000 ft³/s (1,870 m³/s) and 102,000 ft³/s (2,890 m³/s); maximum gage height, 25.8 ft (7.86 m) Dec. 23, 1965; minimum discharge, 59 ft³/s (1.67 m³/s) all or part of each day, July 1-4, 7-12, 1955.

A discharge of about 42 ft³/s (1.19 m³/s) was reported Aug. 5, 1911.

REMARKS.--Records good. Several small diversions for irrigation of about 4,000 acres (16.2 km²) above station and 2 transbasin diversions above station, 1 into basin from Show Low Creek and 1 out of basin to Willow Creek. Records show inflow to Roosevelt Lake; Tonto Creek also contributes to Roosevelt Lake; see records elsewhere in this report.

REVISIONS (WATER YEARS).--WSP 1049: 1914, 1916, 1918-19, 1926. WSP 1343: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	165	147	232	182	220	402	676	1100	435	131	847	268
2	163	149	200	182	223	418	676	1050	418	139	652	244
3	161	152	185	158	226	465	784	1010	386	129	540	220
4	161	154	190	137	232	515	868	1050	374	125	426	229
5	161	152	200	152	412	510	966	1080	350	127	366	280
6	161	152	205	170	756	480	1090	1040	338	125	304	277
7	156	152	208	172	1160	455	1180	1040	322	123	274	241
8	154	152	208	188	875	455	1100	952	314	123	250	226
9	152	154	202	186	2320	470	1070	988	307	125	226	229
10	147	154	198	188	9250	475	1170	1040	286	122	220	229
11	143	154	195	192	4150	480	1270	1020	277	116	264	226
12	139	156	195	188	2300	485	1240	938	256	139	321	218
13	137	156	200	188	1470	495	1160	869	244	165	220	208
14	137	156	206	188	1230	480	1130	875	235	177	200	195
15	137	156	212	178	1100	440	1080	875	225	166	190	188
16	137	154	200	178	1020	440	1090	854	212	166	172	175
17	137	154	192	175	882	470	1090	861	205	166	170	165
18	137	156	178	182	777	480	980	868	198	166	165	156
19	139	156	175	180	694	510	861	861	188	166	152	147
20	141	156	175	185	616	575	1120	956	175	198	209	141
21	147	156	208	182	565	640	1580	889	170	259	319	139
22	152	163	241	188	530	688	1900	917	156	304	267	135
23	152	161	250	190	495	676	1930	945	152	344	308	161
24	152	154	244	195	470	676	1760	882	152	604	235	182
25	152	154	241	208	440	719	1640	749	147	634	288	345
26	152	152	235	218	430	791	1530	658	141	515	283	558
27	152	156	223	220	418	812	1400	598	133	426	247	385
28	149	160	215	215	402	861	1330	570	133	440	253	394
29	147	172	209	210	394	840	1270	525	133	566	259	280
30	147	171	208	211	---	854	1170	491	127	644	262	250
31	145	---	155	218	---	749	---	475	---	562	259	---
TOTAL	4612	4897	6427	5806	34057	17806	36111	27045	7189	9209	9148	7091
MEAN	149	163	207	187	1174	574	1204	872	240	297	295	236
MAX	165	172	250	220	9250	861	1930	1100	435	644	847	558
MIN	137	147	175	137	220	402	676	475	127	116	152	135
AC-FT	4150	9710	12750	11520	67550	35320	71630	53640	14260	18270	18150	14060

CAL YR 1975 TOTAL 255858 MEAN 783 MAX 5800 MIN 125 AC-FT 567000
WTR YR 1975 TOTAL 164398 MEAN 463 MAX 9250 MIN 116 AC-FT 336000

PEAK DISCHARGE (BASE, 4,000 CFS).--Feb. 10 (0045) 16,000 cfs (15.15 ft).

09498500. SALT RIVER NEAR ROOSEVELT, ARIZ.

LOCATION.--Lat 33°37'10", long 110°55'15", in SE¼NE¼ sec.9, T.3 N., R.14 E. (unsurveyed), Gila County, in Tonto National Forest, at gaging station 100 ft (30 m) downstream from bridge on State Highway 288, 0.3 mi (0.5 km) downstream from Pinal Creek, 1 mi (2 km) upstream from diversion dam for power canal, 14 mi (23 km) east of village of Roosevelt, and 17 mi (27 km) upstream from Roosevelt Dam.

DRAINAGE AREA.--4,306 mi² (11,153 km²).

PERIOD OF RECORD.--Chemical analyses: January 1976 to September 1976.

Water temperatures: April 1958 to October 1967.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	COD IN BOTTOM MATERIAL (MG/KG)	FECAL COLIFORM (COL. PER 100 ML)	HARDNESS (CA+MG) (MG/L)
JAN 28...	0930	214	4400	8.2	7.0	2	--	--	<1	360
MAR 04...	1500	565	2020	8.1	10.0	10	--	--	86	200
APR 14...	1500	1100	790	7.6	15.0	22	16	--	<1	110
MAY 27...	1330	599	1210	8.1	25.0	15	18	--	812	150
JUN 22...	1145	156	3200	8.2	28.0	--	--	8000	826	290
AUG 05...	1330	370	1730	7.8	25.0	110	--	--	160	210
SEP 02...	1400	270	2700	8.4	24.0	210	--	--	370	290
30...	1400	220	2600	7.7	22.0	410	--	--	1640	320

DATE	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)
JAN 28...	170	94	31	580	13	12	231	0	130	950
MAR 04...	38	69	7.1	270	8.3	7.0	199	0	38	420
APR 14...	26	30	8.5	110	4.6	3.7	102	0	38	170
MAY 27...	51	42	12	170	6.0	4.4	126	0	48	260
JUN 22...	150	75	26	480	12	12	174	0	110	780
AUG 05...	74	60	14	240	7.3	6.5	163	0	64	360
SEP 02...	100	81	21	400	10	10	226	0	76	640
30...	130	87	24	400	9.8	11	227	0	100	670

DATE	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHO. PHOSPHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
JAN 28...	.2	18	1970	1930	2.68	--	.00	.00	310	10
MAR 04...	.2	16	1020	926	1.39	.01	.01	.02	90	210
APR 14...	.1	15	422	426	.57	.00	.00	.01	140	30
MAY 27...	.2	15	620	614	.84	--	--	--	80	20
JUN 22...	.1	18	--	1590	2.16	--	--	--	50	0
AUG 05...	.2	20	847	846	1.15	--	.03	.05	150	10
SEP 02...	.2	20	1360	1360	1.85	--	.16	.02	220	20
30...	.2	17	1470	1420	2.00	--	.15	.01	220	20

< Actual value is known to be less than the value shown.
B Results based on non-ideal colony count.

09498500. SALT RIVER NEAR ROOSEVELT, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL KJEL- NITRO- GEN IN BOTTOM MAT. (MG/KG)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)
JAN 28...	0930	--	--	.01	.00	.39	--	.40	1.8	.00	.00
MAR 04...	1500	.01	.00	.01	.01	.29	--	.30	1.3	.03	.02
APR 14...	1500	.00	.00	.01	.00	.36	--	.37	1.6	.10	.01
MAY 27...	1330	--	--	.00	--	.30	--	.30	1.3	.04	--
JUN 22...	1145	--	--	.00	--	.31	6.0	.31	1.4	.02	--
AUG 05...	1330	--	--	.06	.03	.71	--	.77	3.4	.22	.05
SEP 02...	1400	--	--	.25	.16	.90	--	1.2	5.1	.24	.02
30...	1400	--	--	.15	.15	1.1	--	1.3	5.5	.29	.01

DATE	TIME	TOTAL ARSENIC IN BOTTOM MA- TERIAL (AS) (UG/L)	TOTAL ARSENIC IN BOTTOM MA- TERIAL (UG/G)	TOTAL BARIUM (BA) (UG/L)	TOTAL BARIUM IN BOTTOM MA- TERIAL (UG/G)	TOTAL BORON (B) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CADMIUM IN BOTTOM MA- TERIAL (UG/G)	TOTAL CHRO- MIUM (CH) (UG/L)
MAR 04...	1500	2	--	100	--	190	90	<10	1	--	0
APR 14...	1500	4	--	100	--	180	140	<10	1	--	0
MAY 27...	1330	3	--	--	--	80	80	--	0	--	--
JUN 22...	1145	--	1	300	20	70	50	<10	0	<10	10
AUG 05...	1330	9	--	100	--	190	150	<10	--	--	10
SEP 02...	1400	10	--	200	--	280	220	10	--	--	20
30...	1400	14	--	200	--	280	220	<10	--	--	10

DATE	TIME	TOTAL CHRO- MIUM IN BOTTOM MA- TERIAL (UG/G)	TOTAL COPPER (CU) (UG/L)	TOTAL COPPER IN BOTTOM MA- TERIAL (UG/G)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL LEAD IN BOTTOM MA- TERIAL (UG/G)	TOTAL MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL MERCURY IN BOTTOM MA- TERIAL (UG/G)
MAR 04...	--	<10	--	--	430	210	<100	--	70	20	.0	--
APR 14...	--	10	--	--	1500	30	<100	--	70	10	.1	--
MAY 27...	--	--	--	--	--	20	--	--	--	0	.5	--
JUN 22...	<10	5	<10	--	370	0	<100	10	60	10	.2	.0
AUG 05...	--	20	--	--	5500	10	<100	--	250	20	.0	--
SEP 02...	--	30	--	--	7900	20	<100	--	320	10	.0	--
30...	--	30	--	--	11000	20	100	--	500	10	.0	--

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

GILA RIVER BASIN

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09498500. SALT RIVER NEAR ROOSEVELT, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		TOTAL SELE- NIUM IN BOTTOM MA- TERIAL (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL SILVER IN BOTTOM MA- TERIAL (UG/G)	TOTAL ZINC (ZN) (UG/L)	TOTAL ZINC IN BOTTOM MA- TERIAL (UG/G)	TOTAL ORGANIC CARBON (C) (MG/L)	CYANIDE (CN) (MG/L)	TOTAL CYANIDE IN BOTTOM MA- TERIAL (UG/G)	PHENOLS (UG/L)	
DATE												
MAR 04...			0	--	<10	--	50	--	7.8	.00	--	1
APR 14...			0	--	<10	--	0	--	4.7	.00	--	1
MAY 27...			0	--	--	--	--	--	3.2	.00	--	0
JUN 22...			0	0	<10	<10	20	20	2.0	.00	0	0
AUG 05...			0	--	10	--	20	--	16	.00	--	2
SEP 02...			0	--	20	--	50	--	12	.00	--	2
30...			0	--	<10	--	60	--	13	.00	--	1
	TIME	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	DDE IN BOTTOM MA- TERIAL (UG/KG)	DDT IN BOTTOM MA- TERIAL (UG/KG)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	ETHION IN BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)	
DATE												
JUNE 22...	1145	.0	0	.0	.0	.0	.0	.0	.0	.0	.0	
	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG)	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG)	PCB IN BOTTOM MA- TERIAL (UG/KG)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG)	2,4-D IN BOTTOM MA- TERIAL (UG/KG)	2,4,5-T IN BOTTOM MA- TERIAL (UG/KG)	SILVEX IN BOTTOM MA- TERIAL (UG/KG)	
DATE												
JUNE 22...	.0	.0	.0	.0	.0	0	0	.0	0	0	0	

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

GILA RIVER BASIN

09498500. SALT RIVER NEAR ROOSEVELT, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MAR. 4, 1976
1500 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,100 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS		36	3	
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS				
	TOTALS	54 91	5 8	0.971=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		18	2	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
....ACHNANTHES		54	5	
...COCCONEIS		18	2	
...CYMBELLACEAE				
L ...EPITHEMIA			0	
...FRAGILARIACEAE				
....FRAGILARIA		36	3	
....SYNEDRA		18	2	
...GOMPHONEMACEAE				
....GOMPHONEMA		150	13	
...NAVICULACEAE	NAVICULOID			
....AMPHIPRORA		18	2	
L ...GYROSIGMA			0	
D ...NAVICULA		240	21	
L ...STAURONEIS			0	
...NITZSCHACEAE				
D ...NITZSCHIA		470	42	
...SURIRELLACEAE				
....SURIRELLA		18 1,000	2 94	2.305=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.404

CLASS 0.404

ORDER 0.600

FAMILY 2.422

GENERA 2.602

09498870. RYE CREEK NEAR GISELA, ARIZ.

LOCATION.--Lat 34°01'57", long 111°17'26", in SW¼ sec.13, T.8 N., R.10 E., Gila County, in Tonto National Forest, on right bank, 0.5 mi (0.8 km) upstream from mouth, 0.8 mi (1.3 km) downstream from bridge on county road, and 4.8 mi (7.7 km) south of Gisela.

DRAINAGE AREA.--122 mi² (316 km²).

PERIOD OF RECORD.--December 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,730 ft (832 m), from topographic map. Prior to Dec. 19, 1967, at datum 1.00 ft (0.305 m) higher.

AVERAGE DISCHARGE.--10 years, 15.3 ft³/s (0.433 m³/s), 11,080 acre-ft/yr (15.7 hm³/yr); median of yearly mean discharges, 8.9 ft³/s (0.25 m³/s), 6,400 acre-ft/yr (7.9 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 2,700 ft³/s (76.5 m³/s) Feb. 9 (gage height, 5.30 ft or 1.615 m); minimum daily, 1.0 ft³/s (0.028 m³/s) for many days.

Period of record: Maximum discharge, 44,400 ft³/s (1,260 m³/s) Sept. 5, 1970 (gage height, 14.1 ft or 4.30 m, in gage well, 18.7 ft or 5.70 m, from profile past gage), from rating curve extended above 850 ft³/s (24 m³/s) on basis of slope-area measurements at gage heights 9.0 and 14.1 ft (2.74 and 4.30 m), present datum; minimum daily, 0.20 ft³/s (0.006 m³/s) July 5, 6, 1970.

REMARKS.--Records poor.

REVISIONS (WATER YEARS).--WRD Ariz. 1969: 1967.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	1.0	1.0	1.1	1.1	7.1	6.3	6.8	4.3	2.7	2.5	1.8
2	1.1	1.0	1.0	1.1	1.1	6.8	6.3	6.6	4.3	2.7	2.5	1.8
3	1.1	1.0	1.0	1.1	1.1	6.8	6.3	6.8	4.1	2.6	2.3	1.8
4	1.1	1.0	1.0	1.1	1.3	7.4	6.0	7.7	3.9	2.6	2.2	1.8
5	1.1	1.0	1.0	1.1	418	6.8	6.0	7.4	3.7	2.7	2.2	2.8
6	1.1	1.0	1.0	1.1	336	6.6	6.0	6.8	3.5	2.8	2.1	2.0
7	1.1	1.0	1.0	1.1	90	6.6	6.0	6.6	3.4	2.8	2.1	2.6
8	1.1	1.0	1.0	1.1	38	6.6	6.0	6.6	3.5	2.7	2.1	1.9
9	1.1	1.0	1.0	1.1	936	6.3	6.0	6.3	3.5	2.6	2.1	1.8
10	1.1	1.0	1.0	1.1	370	6.6	6.0	6.3	3.5	2.6	2.1	1.8
11	1.1	1.0	1.0	1.1	176	6.6	6.0	6.0	3.4	2.7	2.1	2.1
12	1.1	1.0	1.0	1.1	85	6.8	6.0	6.0	3.4	2.7	2.1	1.8
13	1.0	1.0	1.0	1.1	52	6.8	6.3	5.8	3.4	2.1	2.0	1.7
14	1.0	1.0	1.0	1.1	43	6.8	7.1	5.8	3.4	2.1	2.0	1.7
15	1.0	1.0	1.0	1.1	35	6.8	6.8	5.8	3.5	2.1	2.0	1.7
16	1.0	1.0	1.0	1.1	32	6.8	42	5.8	3.5	2.1	2.0	1.7
17	1.0	1.0	1.0	1.1	24	6.6	44	5.8	3.4	2.0	2.0	1.7
18	1.0	1.0	1.0	1.1	20	6.6	36	5.8	3.2	2.0	1.9	1.7
19	1.0	1.0	1.0	1.1	17	6.6	76	5.5	3.1	2.0	1.9	1.7
20	1.0	1.0	1.0	1.1	14	6.6	138	5.3	3.1	1.9	1.9	1.7
21	1.0	1.0	2.3	1.1	12	6.6	142	5.3	3.1	1.8	1.9	1.7
22	1.0	1.0	4.7	1.1	10	6.6	104	5.2	3.0	1.8	1.9	1.7
23	1.0	1.0	2.7	1.1	9.5	6.6	58	4.9	3.0	2.1	1.9	2.1
24	1.0	1.0	1.8	1.1	9.1	6.6	33	4.9	2.8	2.1	1.9	4.1
25	1.0	1.0	1.2	1.1	8.2	6.6	22	4.9	2.8	2.5	1.9	32
26	1.0	1.0	1.1	1.1	7.9	6.6	16	4.9	2.8	2.5	1.8	135
27	1.0	1.0	1.1	1.1	7.4	6.6	14	4.9	2.8	2.6	1.8	2.2
28	1.0	2.9	1.1	1.1	7.4	6.6	12	4.7	2.8	2.3	1.9	1.8
29	1.0	1.6	1.1	1.1	7.1	6.6	9.9	4.7	2.7	18	1.8	1.7
30	1.0	1.1	1.1	1.1	---	6.6	7.7	4.3	2.7	7.5	1.8	1.7
31	1.0	---	1.1	1.1	---	6.6	---	4.3	---	2.7	1.8	---
TOTAL	32.7	32.6	39.3	34.1	2769.2	207.2	847.7	178.6	99.6	113.3	62.5	221.6
MEAN	1.05	1.09	1.27	1.10	95.5	6.68	28.3	5.75	3.32	3.65	2.02	7.39
MAX	1.6	2.9	4.7	1.1	936	7.4	142	7.7	4.3	21	2.5	135
MIN	1.0	1.0	1.0	1.1	1.1	6.3	6.0	4.3	2.7	1.8	1.8	1.7
AC-FT	65	65	78	68	5490	411	1680	354	198	225	124	440
CAL YR 1975 TOTAL	2630.7	MEAN	7.21	MAX	161	MIN	1.0	AC-FT	5220			
WTR YR 1976 TOTAL	4638.4	MEAN	12.7	MAX	936	MIN	1.0	AC-FT	9200			

PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-5	2000	3.50	750	9-26	0500	4.80	2,050
2-9	1100	5.30	2,700				

09499000. TONTO CREEK ABOVE GUN CREEK, NEAR ROOSEVELT, ARIZ.

LOCATION.--Lat 33°58'48", long 111°18'10", in SW¼NE¼ sec.2, T.7 N., R.10 E., Gila County, in Tonto National Forest, on left bank 600 ft (183 m) upstream from Gun Creek, 17 mi (27 km) upstream from high-water line of Roosevelt Lake, and 24 mi (39 km) northwest of Roosevelt.

DRAINAGE AREA.--675 mi² (1,750 km²).

PERIOD OF RECORD.--December 1940 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,523.14 ft (769.053 m) above mean sea level.

AVERAGE DISCHARGE.--35 years (1941-76), 115 ft³/s (3.257 m³/s), 83,320 acre-ft/yr (103 hm³/yr); median of yearly mean discharges, 83 ft³/s (2.35 m³/s), 60,100 acre-ft/yr (74 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 34,900 ft³/s (988 m³/s) Feb 9 (gage height, 15.10 ft or 4.602 m); minimum daily, 3.6 ft³/s (0.10 m³/s) July 9, 10.

Period of record: Maximum discharge, 53,000 ft³/s (1,500 m³/s) Sept. 5, 1970 (gage height, 18.2 ft or 5.55 m), from rating curve extended above 27,000 ft³/s (765 m³/s) on basis of slope-area measurement of peak flow; no flow at times.

REMARKS.--Records good. Small diversions above station for irrigation.

REVISIONS.--WSP 1283: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	9.7	30	26	17	91	60	73	16	7.2	37	10
2	6.2	8.7	25	22	18	96	63	65	15	7.2	21	9.3
3	5.4	9.7	26	22	18	97	63	60	14	7.2	15	8.5
4	5.4	9.2	28	23	36	124	65	97	14	6.0	12	8.5
5	5.4	8.2	24	23	2500	104	70	124	13	6.0	7.2	23
6	5.8	7.8	22	23	2630	104	68	97	13	5.4	6.6	58
7	7.0	8.7	18	23	955	110	53	88	13	4.8	6.0	28
8	5.4	11	21	21	385	118	53	85	13	4.0	6.0	24
9	5.8	13	20	20	11000	110	51	73	12	3.6	6.0	16
10	6.2	13	20	21	3740	110	53	63	12	3.6	6.0	16
11	7.8	12	19	20	1380	110	51	46	12	4.4	6.0	17
12	7.4	10	19	19	693	114	48	42	12	10	6.0	18
13	6.6	13	21	18	467	104	48	41	12	7.2	5.4	15
14	7.4	13	37	17	437	85	60	35	12	6.0	5.4	12
15	7.0	14	51	17	379	82	85	32	12	4.0	4.8	11
16	7.8	14	35	14	361	79	401	28	12	5.4	4.4	11
17	8.7	12	30	14	286	82	373	30	12	6.6	4.0	9.3
18	7.8	12	27	16	230	88	303	32	11	11	4.0	7.8
19	8.2	13	26	16	184	97	492	32	11	8.5	4.4	7.2
20	10	14	24	16	159	114	550	73	11	18	4.4	6.6
21	12	14	141	16	135	104	520	53	11	17	4.8	7.8
22	13	14	211	17	110	85	471	44	10	14	5.4	8.5
23	12	14	108	18	97	82	379	33	10	15	6.0	10
24	11	15	70	19	85	88	276	30	9.3	89	12	56
25	11	14	53	22	73	104	211	27	8.5	32	12	155
26	10	13	42	22	70	107	167	24	7.8	41	9.3	495
27	10	12	37	20	70	97	143	24	7.2	26	9.3	276
28	9.2	32	33	21	70	88	118	22	7.2	24	9.3	107
29	9.7	70	30	21	73	85	104	20	7.8	71	9.3	58
30	10	42	27	20	---	76	85	17	7.2	128	9.3	41
31	10	---	27	18	---	65	---	16	---	39	10	---
TOTAL	255.4	466.0	1302	605	26658	3000	5484	1526	338.0	632.1	268.3	1530.5
MEAN	8.24	15.5	42.0	19.5	919	96.8	183	49.2	11.3	20.4	8.65	51.0
MAX	13	70	211	26	11000	124	550	124	16	128	37	495
MIN	5.4	7.8	18	14	17	65	48	16	7.2	3.6	4.0	6.6
AC-FT	507	924	2580	1200	52880	5950	10880	3030	670	1250	532	3040
CAL YR 1975	TOTAL	27280.4	MEAN	74.7	MAX	1180	MIN	2.9	AC-FT	54110		
WTR YR 1976	TOTAL	42065.3	MEAN	115	MAX	11000	MIN	3.6	AC-FT	83440		

PEAK DISCHARGE (BASE, 1,700 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-5	1445	9.03	5,120	2-9	1600	15.10	34,900
2-6	1830	8.48	3,440	9-26	0630	6.30	1,940

09499000. TONTO CREEK ABOVE GUN CREEK, NEAR ROOSEVELT, ARIZ.

LOCATION.--Lat 33°58'48", long 111°18'10", in SW¼NE¼ sec.2, T.7 N., R.10 E., Gila County, in Tonto National Forest, at gaging station 600 ft (183 m) upstream from Gun Creek, 17 mi (27 km) upstream from high-water line of Roosevelt Lake, and 24 mi (39 km) northwest of village of Roosevelt.

DRAINAGE AREA.--675 mi² (1,750 km²).

PERIOD OF RECORD.--Chemical analyses: January 1976 to September 1976.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	COD IN BOTTOM MATERIAL (MG/KG)	FECAL COLIFORM (COL. PER 100 ML)	HARDNESS (CA+MG) (MG/L)
JAN 28...	1500	20	610	8.4	10.0	1	--	--	82	200
MAR 04...	1030	120	320	7.4	7.0	1	--	--	86	130
APR 14...	1100	85	370	7.6	13.0	1	4	--	816	140
MAY 27...	1015	26	460	8.1	23.0	1	14	--	818	160
JUN 22...	0830	10	455	8.0	24.0	--	--	4800	88	150
AUG 05...	1015	7.9	560	7.7	23.0	9	--	--	100	170
SEP 02...	0945	9.3	580	8.1	22.0	3	--	--	818	180
30...	1000	42	430	7.3	22.0	8	--	--	420	140

DATE	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)
JAN 28...	22	55	14	42	1.3	2.2	211	0	16	70
MAR 04...	13	38	8.9	16	.6	1.5	145	0	17	21
APR 14...	4	39	9.3	19	.7	1.7	161	0	15	29
MAY 27...	7	44	11	28	1.0	2.0	181	0	15	40
JUN 22...	14	42	11	31	1.1	2.0	166	0	13	47
AUG 05...	9	49	12	37	1.2	2.5	199	0	11	55
SEP 02...	23	49	13	46	1.5	2.6	186	0	16	73
30...	7	41	10	28	1.0	2.1	166	0	11	41

DATE	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHO-PHOSPHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
JAN 28...	.5	11	331	315	.45	--	.01	.00	60	0
MAR 04...	.3	11	194	186	.26	.19	.20	.02	0	50
APR 14...	.3	10	200	203	.27	.01	.01	.01	110	0
MAY 27...	.5	11	250	241	.34	--	--	--	50	40
JUN 22...	.4	9.9	--	240	.33	--	--	--	1500	0
AUG 05...	.4	16	286	281	.39	--	.01	.01	60	20
SEP 02...	.5	14	324	306	.44	--	.02	.00	80	10
30...	.5	15	236	231	.32	--	.11	.00	50	10

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

GILA RIVER BASIN

09499000. TONTO CREEK ABOVE GUN CREEK, NEAR ROOSEVELT, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL- NITRO- GEN (N) (MG/L)	TOTAL KJEL- NITRO- GEN IN BOTTOM MATERIAL (N) (MG/KG)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)
JAN 28...	1500	--	--	.01	.01	.11	--	.12	.53	.00	.00
MAR 04...	1030	.19	.01	.21	.20	.47	--	.68	3.0	.02	.02
APR 14...	1100	.01	.00	.01	.01	.06	--	.07	.31	.01	.01
MAY 27...	1015	--	--	.01	--	.71	--	.72	3.2	.01	--
JUN 22...	0830	--	--	.01	--	.34	160	.35	1.6	.00	--
AUG 05...	1015	--	--	.01	.01	.18	--	.19	.84	.03	.01
SEP 02...	0945	--	--	.04	.02	.12	--	.16	.71	.02	.00
30...	1000	--	--	.12	.11	.15	--	.27	1.2	.01	.00

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	TOTAL ARSENIC IN BOTTOM MATERIAL (UG/G)	TOTAL BARIUM (BA) (UG/L)	TOTAL BARIUM IN BOTTOM MATERIAL (UG/G)	TOTAL BORON (B) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CADMIUM IN BOTTOM MATERIAL (UG/G)	TOTAL CHRO- MIUM (CR) (UG/L)
MAR 04...	1030	1	--	100	--	70	0	<10	0	--	0
APR 14...	1100	2	--	100	--	180	110	<10	1	--	0
MAY 27...	1015	2	--	--	--	50	50	--	0	--	--
JUN 22...	0830	--	7	200	<10	1400	1500	<10	1	<10	10
AUG 05...	1015	4	--	100	--	90	60	<10	--	--	10
SEP 02...	0945	3	--	100	--	130	80	<10	--	--	0
30...	1000	4	--	100	--	70	50	<10	--	--	10

DATE	TIME	TOTAL CHRO- MIUM IN BOTTOM MATERIAL (UG/G)	TOTAL COPPER (CU) (UG/L)	TOTAL COPPER IN BOTTOM MATERIAL (UG/G)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL LEAD IN BOTTOM MATERIAL (UG/G)	TOTAL MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL MERCURY IN BOTTOM MATERIAL (UG/G)
MAR 04...	--	10	--	210	50	<100	--	30	10	.0	--	--
APR 14...	--	10	--	40	0	<100	--	10	0	.0	--	--
MAY 27...	--	--	--	--	40	--	--	--	0	.2	--	--
JUN 22...	<10	2	<10	90	0	<100	10	0	10	.1	.0	--
AUG 05...	--	10	--	790	20	<100	--	40	30	.1	--	--
SEP 02...	--	<10	--	190	10	<100	--	20	0	.0	--	--
30...	--	<10	--	630	10	<100	--	20	10	--	--	--

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

09499000. TONTO CREEK ABOVE GUN CREEK, NEAR ROOSEVELT, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SELE- NIUM IN BOTTOM MA- TERIAL (UG/G)	TOTAL SILVER (AG) (UG/L)	TOTAL SILVER IN BOTTOM MA- TERIAL (UG/G)	TOTAL ZINC (ZN) (UG/L)	TOTAL ZINC IN BOTTOM MA- TERIAL (UG/G)	TOTAL ORGANIC CARBON (C) (MG/L)	CYANIDE (CN) (MG/L)	TOTAL CYANIDE IN BOTTOM MA- TERIAL (UG/G)	PHENOLS (UG/L)
MAR 04...	0	--	<10	--	20	--	--	.00	--	4
APR 14...	0	--	<10	--	80	--	1.9	.03	--	0
MAY 27...	0	--	--	--	--	--	3.4	.00	--	0
JUN 22...	0	0	<10	<10	10	10	2.6	.00	0	2
AUG 05...	0	--	<10	--	0	--	1.7	.00	--	2
SEP 02...	0	--	<10	--	0	--	1.5	.00	--	2
30...	0	--	<10	--	10	--	2.0	.00	--	2

DATE	TIME	ALD- IN T- BOTTOM MA- TERIAL (UG/KG)	CHLOR- DANE IN T- BOTTOM MA- TERIAL (UG/KG)	IDE IN T- BOTTOM MA- TERIAL (UG/KG)	DDT IN T- BOTTOM MA- TERIAL (UG/KG)	DI- AZINON IN T- BOTTOM MA- TERIAL (UG/KG)	DI- ELDRIN IN T- BOTTOM MA- TERIAL (UG/KG)	ENDRIN IN T- BOTTOM MA- TERIAL (UG/KG)	ETHION IN T- BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR IN T- BOTTOM MA- TERIAL (UG/KG)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)
JUNE 22...	0820	.0	0	.0	.0	.0	.0	.0	.0	.0	.0

DATE	TIME	ETHANE IN T- BOTTOM MA- TERIAL (UG/KG)	MAL- THION IN T- BOTTOM MA- TERIAL (UG/KG)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG)	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)	PARA- THION IN T- BOTTOM MA- TERIAL (UG/KG)	PCB IN T- BOTTOM MA- TERIAL (UG/KG)	TOX- APHENE IN T- BOTTOM MA- TERIAL (UG/KG)	TRI- THION IN T- BOTTOM MA- TERIAL (UG/KG)	2,4-D IN T- BOTTOM MA- TERIAL (UG/KG)	2,4,5-T IN T- BOTTOM MA- TERIAL (UG/KG)	SILVEX IN T- BOTTOM MA- TERIAL (UG/KG)
JUNE 22...		.0	.0	.0	.0	.0	0	0	.0	0	0	0

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

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

MAR. 4, 1976
1030 HOURS

IDENTIFICATION OF PHYTOPLANKTON

200 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT
CHRYSOPHYTA			
.BACILLARIOPHYCEAE	DIATOMS		
.PENNALES	PENNATE		
...ACHNANTHACEAE			
....ACHNANTHES		24	12
...MERIDIONACEAE			
....MERIDION		12	6
...NAVICULACEAE	NAVICULOID		
....NAVICULA		24	12
...NITZSCHACEAE			
DNITZSCHIA		120	62
...SURIPELLACEAE			
....SURIPELLA			
TOTALS		12 200	6 98

1.674=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
FAMILY 1.674
GENERA 1.674

GILA RIVER BASIN

09501000. RESERVOIR SYSTEM ON SALT RIVER AT AND BELOW ROOSEVELT DAM, ARIZ.

LOCATION.--This system comprises four storage reservoirs created by four separate dams on Salt River: Roosevelt Lake, formed by Roosevelt Dam, in sec.20, T.4 N., R.12 E. (unsurveyed), on State Highway 88; Apache Lake, formed by Horse Mesa Dam, 17 mi (27 km) downstream from Roosevelt Dam; Canyon Lake, formed by Mormon Flat Dam, 27 mi (43 km) downstream from Roosevelt Dam; Saguaro Lake, formed by Stewart Mountain Dam, 37 mi (60 km) downstream from Roosevelt Dam. Contents given herein are combined contents of the four reservoirs.

DRAINAGE AREA.--6,211 mi² (16,086 km²), at Stewart Mountain Dam.

PERIOD OF RECORD.--April 1910 to current year. Prior to October 1934, monthend contents only, published in WSP 1313. Evaporation: April 1958 to June 1963.

GAGES.--Roosevelt Lake, water-stage indicator in powerplant connected to long distance transmitter on lake (water-stage recorder prior to Jan. 1, 1967); Apache Lake, water-stage indicator in powerplant connected to long distance transmitter on lake since April 1949 (prior to that date, nonrecording gage or reference mark); Canyon and Saguaro Lakes, mercury column gages.

EXTREMES.--Current year: Maximum contents of system, 1,231,000 acre-ft (1,520 hm³) May 12; minimum, 924,700 acre-ft (1,140 hm³) Sept. 25.

Period of record: Maximum contents of system, 1,764,000 acre-ft (2,180 hm³) May 22, 1941; minimum, 20,680 acre-ft (25.5 hm³) Sept. 16, 1940.

REMARKS.--Total capacity of the four reservoirs is 1,755,000 acre-ft (2,160 hm³), divided as follows: Roosevelt Lake, 1,382,000 acre-ft (1,700 hm³); Apache Lake, 245,000 acre-ft (302 hm³); Canyon Lake, 58,000 acre-ft (71.5 hm³); Saguaro Lake, 70,000 acre-ft (86.3 hm³). Dead storage negligible. Dams forming these reservoirs were built as follows: Roosevelt 1905-11; Horse Mesa 1924-27; Mormon Flat 1923-26; Stewart Mountain 1928-30. The four dams forming these reservoirs completely develop the fall in the Salt River from Roosevelt Lake to Stewart Mountain Dam. Elevation of water surface varies from 1,422.0 ft (433.43 m), sill of lowest outlet in Stewart Mountain Dam, to 2,136 ft (651.1 m), top of spillway gates in raised position on Roosevelt Dam. Since 1910, spill over Roosevelt Dam because of capacity or near capacity storage has occurred only during the following periods: Apr. 15 to June 21, 1915, Jan. 19 to May 30, 1916, Apr. 21 to June 7, 1917, Feb. 17 to June 3, 1920, Apr. 13 to July 24, 1941, Dec. 30, 1965, to Jan. 10, 1966, Feb. 16 to Apr. 26, 1968, and Mar. 18 to Apr. 24, Apr. 27 to May 1, May 3, 6, 8-11, 16-19, 21-24, 28, 1973; during each period a considerable amount of water was uncontrolled or released down the Salt River channel past the Stewart Mountain damsite and could not be diverted for irrigation. Records given herein represent usable contents. Water from this system is used for irrigation of Salt River Valley and for generation of power.

COOPERATION.--Records of daily contents furnished by Salt River Valley Water Users' Association.

REVISIONS.--WSP 1283: Drainage area. WRD Ariz. 1975: 1974.

CONTENTS, IN ACRE-FEET AT 0800*, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	CC1	CCV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1002000	984000	992400	1006000	1003000	1129000	1168000	1222000	1217000	1149000	1074000	983700
2	1000000	983100	992100	1006000	1002000	1130000	1168000	1223000	1215000	1147000	1072000	981700
3	997000	982400	992400	1006000	1001000	1131000	1167000	1225000	1213000	1145000	1070000	974800
4	995400	981700	992800	1006000	1001000	1133000	1168000	1226000	1211000	1144000	1067000	974100
5	993300	980500	992800	1006000	1001000	1133000	1168000	1226000	1215000	1140000	1066000	966600
6	991500	978700	993300	1006000	1008000	1135000	1169000	1226000	1216000	1138000	1062000	966200
7	989700	976900	993700	1006000	1014000	1136000	1169000	1227000	1216000	1136000	1059000	963800
8	987500	976100	993900	1007000	1018000	1138000	1170000	1227000	1215000	1134000	1057000	960300
9	985800	975300	994400	1007000	1022000	1138000	1171000	1228000	1213000	1131000	1054000	958900
10	983700	974500	994600	1007000	1024000	1139000	1172000	1229000	1204000	1129000	1051000	956600
11	983800	976300	994900	1008000	1083000	1141000	1171000	1230000	1201000	1127000	1048000	950500
12	983900	976200	995200	1008000	1092000	1142000	1172000	1231000	1198000	1126000	1045000	950200
13	983700	976000	995500	1009000	1098000	1144000	1173000	1230000	1196000	1121000	1042000	946600
14	983000	976400	996200	1009000	1102000	1145000	1174000	1230000	1194000	1115000	1038000	944500
15	983700	976000	996300	1009000	1106000	1146000	1175000	1230000	1191000	1115000	1035000	943100
16	983400	976300	996900	1010000	1099000	1147000	1177000	1229000	1189000	1112000	1031000	941000
17	983700	976600	997500	1010000	1112000	1148000	1179000	1229000	1185000	1109000	1027000	938600
18	983500	976000	997300	1010000	1115000	1149000	1182000	1229000	1183000	1105000	1023000	936400
19	983700	976300	997300	1011000	1117000	1150000	1185000	1228000	1180000	1103000	1020000	934000
20	983500	976000	997700	1011000	1118000	1151000	1186000	1228000	1177000	1100000	1017000	932100
21	983400	976700	999100	1011000	1120000	1153000	1191000	1228000	1174000	1096000	1014000	930300
22	984100	977000	999700	1011000	1120000	1154000	1195000	1226000	1171000	1094000	1011000	928800
23	983900	977500	1001000	1011000	1122000	1156000	1199000	1228000	1168000	1092000	1007000	926700
24	983100	977500	1001000	1010000	1123000	1157000	1203000	1227000	1166000	1089000	1005000	925300
25	984900	978500	1003000	1010000	1124000	1159000	1206000	1227000	1163000	1087000	1002000	924700
26	984200	978500	1003000	1008000	1126000	1160000	1210000	1225000	1161000	1085000	998600	924800
27	984300	978300	1003000	1007000	1127000	1162000	1212000	1224000	1159000	1084000	997200	925400
28	984700	978000	1004000	1006000	1128000	1164000	1215000	1224000	1157000	1081000	993600	926000
29	984600	978900	1004000	1005000	1129000	1166000	1218000	1221000	1154000	1079000	991200	926500
30	984500	978700	1004000	1004000	---	1166000	1221000	1219000	1151000	1077000	988800	926800
31	984800	---	1005000	1011000	---	1168000	---	1218000	---	1076000	986600	---
44*	1002000	991000	1005000	1011000	1129000	1168000	1221000	1231000	1217000	1149000	1074000	983700
11†	983000	984000	992100	1004000	1001000	1129000	1167000	1218000	1151000	1076000	986600	984700
(†)	-17400	+7800	+13600	-3000	+126000	+39000	+54000	-5000	-68000	-75000	-90300	-56600
CAL YR 1975	MAX 1354000		MIN 983000	+2000								
WTR YR 1976	MAX 1231000		MIN 924700	-74900								

* Prior to Oct. 1, 1972, contents were given at 2400.

† Change in contents, in acre-feet (from 0800 first of month).

NOTE.--Contents at 0800 Oct. 1, 1976, 927,100 acre-feet.

09502000. SALT RIVER BELOW STEWART MOUNTAIN DAM, ARIZ.

LOCATION.--Lat 33°35'10", long 111°34'33", in NW¼ sec. 6, T.2 N., R.8 E. (unsurveyed), Maricopa County, on left bank 3.5 mi (5.6 km) downstream from Stewart Mountain Dam and 6 mi (10 km) upstream from Verde River.

DRAINAGE AREA.--6,232 mi² (16,141 km²) of which 21 mi² (54 km²) is below Stewart Mountain Dam.

PERIOD OF RECORD.--March 1930 to current year. Monthly discharge only for some periods, published in WSP 1313. Published as "at Stewart Mountain Dam" 1934-41.

GAGE.--Water-stage recorder. Altitude of gage is 1,370 ft (418 m), from topographic map. Prior to Sept. 27, 1934, at site 3.2 mi (5.1 km) upstream at different datum. Sept. 27, 1934, to Jan. 20, 1950, at site 2.8 mi (4.5 km) upstream at datum 1,396.33 ft (425.601 m) above mean sea level.

AVERAGE DISCHARGE.--46 years, 829 ft³/s (23.48 m³/s), 600,600 acre-ft/yr (741 hm³/yr).

EXTREMES.--Current year: Maximum daily discharge, 1,810 ft³/s (51.3 m³/s) Aug. 3, 5; no flow Jan. 3-19.

Period of record: Maximum discharge, 51,600 ft³/s (1,460 m³/s) Jan. 1, 1966 (gage height, 22.4 ft or 6.83 m, from floodmarks); maximum daily discharge, 38,600 ft³/s (1,090 m³/s) Jan. 1, 1966; no flow at times in recent years.

REMARKS.--Records good. Flow regulated by four reservoirs above station. (See elsewhere in this report.) Entire flow (except during infrequent periods of extreme flooding) is diverted at Granite Reef Dam, 10 mi (16 km) downstream, for irrigation in Salt River Valley and for municipal use by the city of Phoenix. Records of chemical analyses and water temperatures for the current water year are published on following pages.

REVISIONS.--WSP 1343: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1200	1.7	1.6	.90	533	4.2	853	1.7	1120	1160	1540	1700
2	1240	1.8	1.4	.90	517	4.2	931	1.5	1180	1150	1600	1730
3	1240	1.6	1.3	1.0	532	4.8	799	598	1310	1150	1810	1730
4	1130	1.8	1.2	.90	478	4.6	685	1040	966	1160	1790	1730
5	983	1.6	1.3	.70	430	4.6	682	995	27	1150	1810	1690
6	858	1.8	1.3	.70	423	4.4	679	684	16	1130	1790	1600
7	966	1.6	1.2	.50	145	4.5	705	585	606	1150	1800	1600
8	990	1.8	1.0	.40	11	4.6	825	460	1350	1150	1800	1650
9	1000	1.6	1.0	.10	8.3	3.1	914	392	1470	1150	1780	1580
10	467	1.8	.99	.10	5.5	4.7	865	388	1520	1170	1780	1500
11	20	1.4	1.1	.10	4.3	5.3	757	574	1480	1170	1780	1320
12	9.2	1.3	1.1	.10	3.6	5.5	685	803	1410	1320	1780	1250
13	5.9	1.0	1.7	0	3.1	5.8	774	879	1340	1700	1760	1260
14	4.6	.94	1.6	0	2.9	5.6	704	905	1340	1720	1750	1250
15	3.5	1.1	1.4	0	2.5	6.0	598	918	1350	1720	1740	1310
16	3.0	1.1	1.2	0	2.4	6.0	480	909	1430	1690	1750	1310
17	2.7	1.1	1.1	0	2.2	6.1	29	882	1460	1730	1760	1390
18	2.6	.52	1.1	0	2.2	6.1	10	857	1530	1690	1750	1290
19	2.6	.78	.87	0	2.0	6.1	6.4	922	1570	1680	1740	1110
20	2.5	.77	.75	1.0	2.2	6.1	4.8	915	1490	1680	1750	1050
21	2.4	.77	1.8	1.6	2.1	5.9	3.9	877	1530	1670	1740	1230
22	2.3	.57	1.7	429	2.0	5.0	3.3	905	1600	1690	1750	1240
23	2.1	.37	1.2	663	1.8	5.0	2.8	904	1260	1700	1730	1220
24	1.9	.57	1.1	705	1.8	4.8	2.7	967	1230	1600	1740	1110
25	2.1	.61	1.0	697	1.9	5.0	2.6	1110	1240	1440	1720	740
26	1.9	.95	1.0	695	6.0	5.6	2.4	1180	1240	1390	1720	480
27	1.9	.89	.80	675	5.3	5.6	2.2	1210	1260	1430	1700	258
28	1.8	2.0	.80	583	4.2	5.3	2.1	1170	1250	1520	1730	337
29	1.7	2.7	.70	544	4.2	5.6	2.0	1090	1250	1570	1740	413
30	1.8	2.0	.70	566	---	118	1.9	990	1250	1590	1690	493
31	1.6	---	.70	562	---	312	---	1010	---	1560	1690	---
TOTAL	10151.9	37.54	35.91	6128.00	3139.5	580.1	12012.1	25122.2	37075	44780	54010	36571
MEAN	327	1.26	1.16	198	108	18.7	400	810	1236	1445	1742	1219
MAX	1240	2.7	1.8	705	533	312	931	1210	1600	1730	1810	1730
MIN	1.6	.37	.70	0	1.8	3.1	1.9	1.5	16	1130	1540	258
AC-FT	20140	75	71	12150	6230	1150	23830	49830	73540	88820	107100	72540
CAL YR 1975 TOTAL	272461.52			MEAN 746	MAX 1780	MIN 0	AC-FT 540400					
WTH YR 1976 TOTAL	229643.65			MEAN 627	MAX 1810	MIN 0	AC-FT 455500					

GILA RIVER BASIN

09502000. SALT RIVER BELOW STEWART MOUNTAIN DAM, ARIZ.
(National stream-quality accounting 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 mi (5.6 km) upstream from gaging station, and 9.5 mi (15.3 km) upstream from Verde River.

DRAINAGE AREA.--6,232 mi² (16,140 km²), at gaging station, of which 21 mi² (54 km²) is downstream from Stewart Mountain Dam.

PERIOD OF RECORD.--Chemical analyses: December 1950 to current year.

Water temperatures: December 1950 to current year.

EXTREMES.--Current year:

Specific conductance: Maximum daily, 1,290 micromhos on several days during October; minimum daily, 1,070 micromhos Jan. 23, 24, 28.
Water temperatures: Maximum, 22.0°C July 27, 30; minimum, 12.0°C on several days during January.

Period of record:

Specific conductance: Maximum daily, 2,490 micromhos Aug. 20, 1951; minimum daily, 615 micromhos on several days during April 1974.
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 Oct. 11 to Jan. 22, Feb. 7 to Mar. 31, Apr. 17 to May 3.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)	HARDNESS (CA+MG) (MG/L)	NON-CALCIUM HARDNESS (MG/L)
OCT										
08...	0800	1020	1140	7.3	20.0	2	85	81	210	77
JAN										
29...	0900	530	960	7.6	11.0	4	<1	82	190	50
MAR										
02...	1030	2.0	1180	7.7	12.0	5	<1	84	190	58
APR										
13...	1430	810	1190	7.6	14.0	1	<1	810	190	56
MAY										
25...	1800	1080	1240	7.5	17.0	2	<1	220	190	62
JUN										
23...	1250	1230	1240	7.7	20.0	2	82	84	190	60
AUG										
03...	1200	1770	1360	7.6	21.0	3	84	812	190	57
31...	1530	1700	1230	7.4	25.0	3	86	44	200	77
SEP										
29...	0800	320	1200	8.0	20.0	2	88	816	190	69

DATE	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)
OCT										
08...	59	15	150	4.5	4.9	161	0	65	240	.3
JAN										
29...	51	14	150	4.8	4.9	154	5	62	240	.3
MAR										
02...	53	15	150	4.7	4.4	166	0	61	240	.2
APR										
13...	52	15	140	4.4	5.2	165	0	62	220	.2
MAY										
25...	52	15	160	5.0	4.6	158	0	56	240	.5
JUN										
23...	52	14	160	5.1	4.6	156	0	59	250	.4
AUG										
03...	51	14	160	5.1	5.2	156	0	72	220	.3
31...	54	16	160	4.9	5.0	151	0	44	280	.3
SEP										
29...	54	14	160	5.0	5.3	150	0	60	250	.3

B Results based on non-ideal colony count.

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

GILA RIVER BASIN

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09502000. SALT RIVER BELOW STEWART MOUNTAIN DAM, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SILICA (SI02) (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)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTH0. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT 06...	15	623	629	.85	--	.06	.01	100	0
JAN 29...	14	631	618	.86	--	.09	.01	110	--
MAR 02...	6.4	628	612	.85	.04	.04	.00	100	--
APR 13...	7.1	630	583	.86	--	.04	.00	100	--
MAY 25...	17	648	623	.88	--	.08	.01	80	--
JUN 23...	17	640	634	.87	--	.02	.01	120	20
AUG 03...	15	658	615	.89	.06	.06	.02	130	--
SEP 31...	11	650	646	.88	--	.24	.03	110	--
SEP 29...	17	655	635	.89	--	.06	.03	110	20

DATE	TIME	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N03) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTH0. PHOS- PHORUS (P) (MG/L)
OCT 04...	0800	--	.01	.06	.06	.31	.37	1.6	.03	.01
JAN 29...	0900	--	.00	.09	.09	.80	.89	3.9	.01	.01
MAR 02...	1030	.04	.00	.04	.04	.58	.62	2.7	.01	.00
APR 13...	1430	--	.00	.03	.04	.30	.33	1.5	.04	.00
MAY 25...	1800	--	.01	.01	.08	.19	.20	.89	.02	.01
JUN 23...	1250	--	.01	.01	.02	.24	.25	1.1	.01	.01
AUG 03...	1200	.06	.00	.04	.06	.16	.20	.89	.02	.02
SEP 31...	1530	--	.01	.34	.24	.35	.69	3.1	.02	.03
SEP 29...	0800	--	--	.06	.06	.25	.31	1.4	.04	.03

GILA RIVER BASIN

09502000. SALT RIVER BELOW STEWART MOUNTAIN DAM, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)
OCT 08...	0800	4	4	100	10	0	10	10
JUN 23...	1250	--	3	120	<10	0	0	0
26...	1250	--	--	--	--	--	--	--
SEP 29...	0800	5	3	110	<10	0	0	0

DATE	TOTAL COBALT (CO) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)
OCT 08...	<50	1	0	4	240	0	<100	1	80
JUN 23...	0	<50	4	2	120	20	<100	0	30
26...	<50	0	--	--	--	--	--	--	--
SEP 29...	<50	0	<10	6	130	20	<100	2	150

DATE	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT 08...	10	.0	.0	0	0	20	10	6.9
JUN 23...	10	.0	.0	--	0	100	120	3.2
26...	--	--	--	--	--	--	--	--
SEP 29...	90	.0	.0	0	0	10	10	2.2

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

09502000. SALT RIVER BELOW STEWART MOUNTAIN DAM, ARIZ.--CONTINUED

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1290			---	1100		1160	---	1120	1190	1200	1190
2	1290			---	1100		1170	---	1120	1190	1210	1180
3	1290			---	1100		1160	---	1130	1200	1210	1180
4	1300			---	1100		1160	1120	1120	1180	1140	1190
5	1290			---	1100		1170	1120	---	1180	1190	1190
6	1290			---	1100		1160	1120	---	1190	1210	1190
7	1280			---	---		1160	1120	---	1200	1220	1190
8	1280			---	---		1170	1120	1110	1210	1220	1190
9	1290			---	---		1170	1110	1080	1200	1220	1180
10	1290			---	---		1160	1110	1100	1190	1210	1190
11	---			---	---		1160	1120	1100	1210	1120	1190
12	---			---	---		1160	1120	1120	1190	1220	1180
13	---			---	---		1160	1120	1120	1200	1220	1180
14	---			---	---		1160	1120	1120	1190	1220	1180
15	---			---	---		1160	1110	1110	1210	1220	1180
16	---			---	---		1160	1120	1110	1210	1130	1180
17	---			---	---		---	1120	1110	1240	1230	1180
18	---			---	---		---	1120	1120	1210	1220	1180
19	---			---	---		---	1120	1120	1210	1210	1180
20	---			---	---		---	1120	1120	1200	1230	1180
21	---			---	---		---	1120	1120	1200	1120	1180
22	---			---	---		---	1120	1120	1210	1210	1180
23	---			1070	---		---	1120	1120	1210	1210	1180
24	---			1070	---		---	1110	1120	1220	1120	1190
25	---			1090	---		---	1120	1130	1220	1220	1190
26	---			1090	---		---	1120	1130	1230	1160	1180
27	---			1080	---		---	1110	1140	1250	1210	1180
28	---			1070	---		---	1110	1140	1250	1210	1180
29	---			1090	---		---	1110	1130	1240	1210	1180
30	---			1090	---		---	1110	1130	1220	1210	1180
31	---			1090	---		---	1120	---	1230	1200	---
MEAN	---			---	---		---	1120	1120	1210	1200	1180

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0			---	13.0		13.0	---	18.0	20.0	20.0	20.0
2	19.0			---	13.0		13.0	---	18.0	20.0	20.0	20.0
3	19.0			---	13.0		15.0	---	---	20.0	20.0	20.0
4	19.0			---	13.0		16.0	15.0	17.0	20.0	20.0	20.0
5	19.0			---	13.0		15.0	15.0	---	20.0	20.0	20.0
6	19.0			---	13.0		14.0	15.0	---	20.0	20.0	20.0
7	18.0			---	---		15.0	14.0	---	20.0	20.0	20.0
8	18.0			---	---		15.0	15.0	18.0	20.0	20.0	20.0
9	18.0			---	---		14.0	15.0	18.0	20.0	20.0	20.0
10	18.0			---	---		---	15.0	18.0	20.0	20.0	20.0
11	---			---	---		13.0	15.0	18.0	20.0	20.0	20.0
12	---			---	---		13.0	15.0	17.0	20.0	20.0	20.0
13	---			---	---		13.0	15.0	18.0	20.0	20.0	20.0
14	---			---	---		14.0	15.0	18.0	21.0	20.0	20.0
15	---			---	---		13.0	15.0	18.0	21.0	20.0	20.0
16	---			---	---		13.0	16.0	18.0	21.0	20.0	20.0
17	---			---	---		---	15.0	18.0	19.0	20.0	20.0
18	---			---	---		---	15.0	18.0	20.0	20.0	20.0
19	---			---	---		---	15.0	18.0	20.0	20.0	20.0
20	---			---	---		---	16.0	18.0	20.0	20.0	19.0
21	---			---	---		---	16.0	18.0	20.0	21.0	19.0
22	---			---	---		---	17.0	18.0	20.0	20.0	20.0
23	---			12.0	---		---	17.0	18.0	20.0	21.0	20.0
24	---			12.0	---		---	17.0	18.0	21.0	20.0	19.0
25	---			12.0	---		---	17.0	18.0	21.0	21.0	20.0
26	---			12.0	---		---	17.0	20.0	21.0	20.0	20.0
27	---			12.0	---		---	17.0	20.0	22.0	20.0	20.0
28	---			12.0	---		---	17.0	20.0	21.0	20.0	20.0
29	---			12.0	---		---	18.0	20.0	21.0	20.0	20.0
30	---			13.0	---		---	19.0	20.0	22.0	20.0	20.0
31	---			13.0	---		---	18.0	---	20.0	20.0	---
MEAN	---			---	---		---	16.0	18.5	20.5	20.0	20.0

GILA RIVER BASIN

09502000. SALT RIVER BELOW STEWART MOUNTAIN DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAR. 5, 1975
1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,200 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
DCHLORELLA		170	15	
...KIRCHNERIELLA		60	5	
...TETRAEDRON		20	2	
...SCENEDESMACEAE				
...CRUCIGENIA		10	1	
...SCENEDESMUS		130	11	
..ZYGNEMATALES				
...DESMIDIACEAE	PLACODERM DESMIDS			
...COSMARIUM		10	1	
TOTALS		400	35	1.944=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
..COSCINODISCACEAE				
...CYCLOTELLA		81	7	
..PENNALES	PENNATE			
...FRAGILARIACEAE				
...SYNEDRA		10	1	
...NITZSCHIACEAE				
...NITZSCHIA		60	5	
TOTALS		150	13	1.273=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
..CHROOCOCCACEAE				
DANACYSTIS		290	25	
..OSCILLATORIALES	FILAMENTOUS			
...NOSTOCACEAE				
...ANABAENA		60	5	
...OSCILLATORIAACEAE				
DLYNGBYA		250	22	
TOTALS		600	52	1.365=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.403
 CLASS 1.403
 ORDER 2.113
 FAMILY 2.659
 GENERA 2.958

09502000. SALT RIVER BELOW STEWART MOUNTAIN DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

APR. 2, 1975
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

910 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
...ANKISTRODESMUS		22	2	
...KIRCHNERIELLA		67	7	
...TETRAEDRON		22	2	
...SCENEDESMACEAE				
...CRUCIGENIA		22	2	
...SCENEDESMUS		89	10	
..VOLVOCALES				
...VOLVOCAEAE				
(1) ...PANDORINA				
TOTALS		360 580	39 62	1.748=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
(1) ...CYCLOTELLA		200	22	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...COCCONEIS		45	5	
...NITZSCHIAEAE				
...NITZSCHIA		45	5	
...SURIRELLACEAE				
...CYMATOPLEURA				
TOTALS		22 310	2 34	1.484=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
....EUGLENA				
TOTALS		22 22	2 2	0.000=DIVERSITY

NOTE: 1) - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:PHYL/DIV 1.077
CLASS 1.077
ORDER 2.007
FAMILY 2.437
GENERA 2.692

09502000. SALT RIVER BELOW STEWART MOUNTAIN DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAY 13, 1975
0930 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,200 CELLS/ML

ORGANISM__NAME_____	COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...COELASTRACEAE				
n ...COELASTRUM		200	17	
...HYDRODICTYACEAE				
...PEDIASTRUM		130	10	
...OOCYSTACEAE				
...ANKISTRODESMUS		51	4	
...TETRAEDRON		51	4	
...SCENEDESMACEAE				
...SCENEDESMUS		130	10	
..VOLVOCALES				
n ...PHACOTACEAE				
...PTEROMONAS				
	TOTALS	<u>250</u> 810	<u>21</u> 66	2.361=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
...CYCLOTELLA		25	2	
..PENNIALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		25	2	
...NITZSCHIA				
...NITZSCHIA		<u>130</u> 180	<u>10</u> 14	1.149=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...NOSTOCACEAE				
n ...ANABAENA		<u>200</u> 200	<u>17</u> 17	0.000=DIVERSITY
PYRRHOPHYTA	FIRE ALGAE			
..DINOPHYCEAE	DINOFALGELLATES			
...PERIDINIALES				
...CERATIACEAE				
...CERATIUM		<u>25</u> 25	<u>2</u> 2	0.000=DIVERSITY

NOTE: D = DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:PHYL/DIV 1.342
CLASS 1.342
ORDER 2.026
FAMILY 3.001
GENERA 3.084

GILA RIVER BASIN

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09502000. SALT RIVER BELOW STEWART MOUNTAIN DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JUNE 10, 1975
0900 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1.700 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS		180	11	
....CHODATELLA		23	1	
....KIRCHNERIELLA		23	1	
....TETRAEDRON		46	3	
...SCENEDESMACFAE				
....CRUCIGENIA		91	5	
...SCENEDESMUS		110	7	
..VOLVOCELES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS		23	1	
...PHACOTACEAE				
....PTEROMONAS				
	TOTALS	<u>140</u> 640	<u>8</u> 37	2.625=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		180	11	
....MELOSIRA		46	3	
...PENNALES	PENNATE			
....ACHNANTHACEAE				
....ACHNANTHES		23	1	
...NAVICULACEAE	NAVICULOID			
....NAVICULA		23	1	
...NITZSCHIACEAE				
....NITZSCHIA				
	TOTALS	<u>23</u> 300	<u>1</u> 17	1.700=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...NOSTOCACEAE				
DAPHANIZOMENON		640	38	
...OSCILLATORIAACEAE				
....PHORMIDIUM				
	TOTALS	<u>91</u> 730	<u>5</u> 43	0.544=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER • 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.495
 CLASS 1.495
 ORDER 1.945
 FAMILY 2.589
 GENERA 3.043

GILA RIVER BASIN

09502000. SALT RIVER BELOW STEWART MOUNTAIN DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JULY 30, 1975
0845 HOURS

IDENTIFICATION OF PHYTOPLANKTON

370 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PLR_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS		22	6	
...PHACOTACEAE				
1PHACOTUS				
	TOTALS	<u>88</u> 110	<u>24</u> 30	0.722=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		44	12	
...PENNIALES	PENNATE			
...ACHNANTHACEAE				
LRHOICOSPHEA			0	
...DIATOMACEAE				
LDIATOMA			0	
...NAVICULACEAE	NAVICULOID			
....NAVICULA		22	6	
...NITZSCHIAEAE				
DNITZSCHIA				
	TOTALS	<u>200</u> 260	<u>53</u> 71	1.041=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...NOSTOCACEAE				
LANABAENA			0	
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
LTRACHELOMONAS			0	
PYRRHOPHYTA	FIRE ALGAE			
..DINOPHYCEAE	DINOFLAGELLATES			
...PERIDINIALES				
...CERATIACEAE				
LCERATIUM			0	

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%

L - LESS THAN 1%: MAY NOT HAVE BEEN ACTUALLY COUNTED

SAMPLING METHOD: PLASTIC SLIDES, RANDOM

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.874

CLASS 0.874

ORDER 1.333

FAMILY 1.821

GENERA 1.821

09502000. SALT RIVER BELOW STEWART MOUNTAIN DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

SEP. 10, 1975
0845 HOURS

IDENTIFICATION OF PHYTOPLANKTON

490 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...HYDRODICTYACEAE				
...PEDIASTRUM		59	12	
...OOCYSTACEAE				
...TETRAEDRON		45	9	
...SCENEDESMACEAE				
D ...SCENEDESMUS		180	36	
..VOLVOCALES				
...PHACOTACEAE				
...PHACOTUS				
	TOTALS	<u>15</u> 300	<u>3</u> 60	1.533=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCAEAE				
...CYCLOTELLA		15	3	
..PENNALES	PENNATE			
...FRAGILARIACEAE				
L ...SYNEDRA			0	
...NAVICULACEAE	NAVICULOID			
...NAVICULA		30	6	
...NITZSCHIAEAE				
...NITZSCHIA				
	TOTALS	<u>59</u> 100	<u>12</u> 21	1.379=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...RIVULARIACEAF				
D ...RAPHIIDOPSIS				
	TOTALS	<u>89</u> 89	<u>18</u> 18	0.000=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
L ...TRACHELOMONAS			0	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.360

CLASS 1.360

ORDER 1.659

FAMILY 2.581

GENERA 2.581

GILA RIVER BASIN

09502000. SALT RIVER BELOW STEWART MOUNTAIN DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

OCT. 8, 1975
0800 HOURS

IDENTIFICATION OF PHYTOPLANKTON

200 CELLS/ML

	__ORGANISM__NAME__	__COMMON__NAME__	CELLS/ML	PER_CENT	
	CHLOROPHYTA	GREEN ALGAE			
	..CHLOROPHYCEAE				
	..CHLOROCOCCALES				
	..OOCYSTACEAE				
L	ANKISTRODESMUS			0	
L	TETRAEDRON			0	
	SCENEDESMACEAE				
L	SCENEDESMUS			0	
	CHRYSOPHYTA				
	..BACILLARIOPHYCEAE	DIATOMS			
	..CENTRALES	CFNTRIC			
	..COSCINODISCACEAE				
D	CYCLOTELLA		49	25	
	..PENNALES	PENNATE			
	..FRAGILARIACEAE				
	SYNEDRA		25	12	
	..NAVICULACEAE	NAVICULOID			
L	NAVICULA			0	
	..NITZSCHACEAE				
D	NITZSCHIA				
		TOTALS	<u>120</u> 200	<u>62</u> 99	1.299=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

ORDER 0.811

FAMILY 1.299

GENERA 1.299

GILA RIVER BASIN

421

09502000. SALT RIVER BELOW STEWART MOUNTAIN DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAR. 2, 1976
1030 HOURS

IDENTIFICATION OF PHYTOPLANKTON

600 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...HYDRODICTYACEAE				
....PEDIASTRUM		81	14	
...OOCYSTACEAE				
...ANKISTRODESMUS		30	5	
...CHLORELLA		20	3	
...KIRCHNERIELLA		41	7	
...SCENEDESMACEAE				
....SCENEDESMUS		120	20	
....TETRASTRUM		41	7	
...VOLVOCALES				
...PHACOTACEAE				
....PHACOTUS				
	TOTALS	20 350	3 59	2.507=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAF	DIATOMS			
..CFNTRALES	CENTRIC			
...COSCINODISCAEAE				
....CYCLOTELLA		61	10	
....MELOSIRA		20	3	
..PENNALES	PENNATE			
...ACHNANTHACEAF				
....ACHNANTHES		10	2	
L ...RHOICOSPHENIA			0	
...CYMBELLACEAE				
....CYMBELLA		10	2	
...DIATOMACEAE				
....DIATOMA		10	2	
...FRAGILARIACEAE				
L ...SYNEDRA			0	
...GOMPHONEMACEAE				
....GOMPHONEMA		41	7	
...NAVICULACEAE	NAVICULOID			
....NAVICULA		20	3	
....NEIDIUM		10	2	
...NITZSCHACEAE				
....NITZSCHIA				
	TOTALS	61 240	10 41	2.792=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
LEUGLENA			0	
LTRACHELUMONAS			0	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.975
 CLASS 0.975
 ORDER 1.536
 FAMILY 2.988
 GENERA 3.598

GILA RIVER BASIN

09502000. SALT RIVER BELOW STEWART MOUNTAIN DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

APR. 13, 1976
1430 HOURS

IDENTIFICATION OF PHYTOPLANKTON

570 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
..HYDRODICTYACEAE				
L ..PEDESTRASTRUM			0	
..NOCTASTACEAE				
..ANKISTRODESMUS		17	3	
..SCENEDESMACEAE				
D ..SCENEDESMUS		200	35	
L ..TETRASTRUM			0	
..VOLVOCALES				
..CHLAMYDOMONADACEAE				
L ..CHLAMYDOMONAS				
	TOTALS	220	38	0.391=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
..COSCINODISCEACEAE				
..CYCLOTELLA		68	12	
..PENNIALES	PENNATE			
..FRAGILARIACEAE				
L ..FRAGILARIA			0	
..NAVICULACEAE	NAVICULOID			
L ..NAVICULA			0	
..NITZSCHIA				
D ..NITZSCHIA		190	32	
	TOTALS	250	44	0.837=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..CRYPTOPHYCEAE	CRYPTOMONADS			
..CRYPTOMONIDALES				
..CRYPTOMONODACEAE				
..CRYPTOMONAS		17	3	
	TOTALS	17	3	0.000=DIVERSITY
PYRRHOPHYTA	FIRE ALGAE			
..DINOPHYCEAE	DINOFLAGELLATES			
..PERIDINIALES				
..CFRATIAEAE				
L ..CERATIUM			0	
..GLENODINIACEAE				
..GLENODINIUM		17	3	
..PERIDINIACEAE				
..PERIDINIUM		68	12	
	TOTALS	84	15	0.722=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.608
 CLASS 1.608
 ORDER 1.977
 FAMILY 2.232
 GENERA 2.232

09502000. SALT RIVER BELOW STEWART MOUNTAIN DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JUNE 23, 1976
1250 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,800 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...HYDRODICTYACEAE				
...PEDIASTRUM		180	10	
...OOCYSTACEAE				
...ANKISTRODESMUS		88	5	
...TETRAEDRON		44	2	
...SCENEDESMACEAE				
D ...SCENEDESMUS		260	15	
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
...CARTERIA		44	2	
...CHLAMYDOMONAS		44	2	
TOTALS		660	36	2.206=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISACEAE				
D ...CYCLOTELLA		290	16	
D ...MELOSIPIA		370	21	
..PENNIALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		22	1	
...CYMBELLACEAE				
...CYMBELLA		22	1	
...NITZSCHACEAE				
...NITZSCHIA		130	7	
TOTALS		830	46	1.745=DIVERSITY
..CHRYSOPHYCEAE	YELLOW-BROWN ALGAE			
...CHRYSOMONADALES				
...OCHROMONADACEAE				
...OCHROMONAS		44	2	
TOTALS		44	2	0.000=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
...ANACYSTIS		180	10	
TOTALS		180	10	0.000=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..CRYPTOPHYCEAE	CRYPTOMONADS			
...CRYPTOMONIDALES				
...CRYPTOMONODACEAE				
...CRYPTOMONAS		22	1	
TOTALS		22	1	0.000=DIVERSITY
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
...EUGLENA		22	1	
...TRACHELOMONAS		22	1	
TOTALS		44	2	1.000=DIVERSITY
PYRRHOPHYTA	FIRE ALGAE			
..DINOPHYCEAE	DINOFLAGELLATES			
...PERIDINIALES				
...PERIDINIACEAE				
...PERIDINIUM		22	1	
TOTALS		22	1	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.616
CLASS 1.789
ORDER 2.340
FAMILY 2.928
GENERA 3.429

09502000. SALT RIVER BELOW STEWART MOUNTAIN DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JUNE 25, 1976
1800 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,300 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
..HYDRODICTYACEAE				
LPEDIASTRUM			0	
..OOCYSTACEAE				
..ANKISTRODESMUS		13	1	
..KIRCHNFRIELLA		39	3	
..TETRAEDRON		140	11	
..SCENEDESMACEAE				
..CRUCIGENIA		52	4	
DSCENEDESMUS		350	28	
..TETRASTRUM		100	8	
..VOLVOCALES				
..PHACOTACEAE				
..PHACOTUS				
	TOTALS	52 760	4 59	2.217=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
..COSCINODISCAEAE				
..CYCLOTELLA		39	3	
..PENNATAE	PENNATE			
..FRAGILARIACEAE				
..FRAGILARIA		140	11	
..SYNEURA		13	1	
..NITZSCHIAEAE				
..NITZSCHIA				
	TOTALS	120 310	9 24	1.613=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
..CHROOCOCCACEAE				
..ANACYSTIS		100	8	
..OSCILLATORIALES	FILAMENTOUS			
..NOSTOCACEAE				
..ANABAENOPSIS				
	TOTALS	92 200	7 15	0.997=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..CRYPTOPHYCEAE	CRYPTOMONADS			
..CRYPTOMONIDALES				
..CRYPTOMONODACEAE				
..CRYPTOMONAS				
	TOTALS	13 13	1 1	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%
 L - LESS THEN 1%: MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.427
 CLASS 1.427
 ORDER 1.927
 FAMILY 2.608
 GENERA 3.286

09502000. SALT RIVER BELOW STEWART MOUNTAIN DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

AUG. 3, 1976
1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

670 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
..OCYSTACEAE				
1) ...ANKISTRODESMUS		270	41	
....DICTYOSPHAERIUM		36	5	
....TETRAEDRON		27	4	
....SCENEDESMACEAE				
....CRUCIGENIA		36	5	
....SCENEDESMUS		54	8	
..VOLVOCALES				
..CHLAMYDOMONADACEAE				
..CHLAMYDOMONAS				
	TOTALS	<u>9</u> 430	<u>1</u> 64	1.763=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
..COSCINODISCEACEAE				
..CYCLOTELLA		82	12	
..PENNALES	PENNATE			
....ACHNANTHACEAE				
....ACHNANTHES		9	1	
....CYMBELLACEAE				
....EPITHEMIA		9	1	
....FRAGILARIACEAE				
....FRAGILARIA		18	3	
....SYNEDRA		9	1	
..NAVICULACEAE	NAVICULOID			
....GYROSIGMA		9	1	
..NITZSCHACEAE				
1)NITZSCHIA		<u>100</u> 240	<u>15</u> 34	2.063=DIVERSITY
	TOTALS			
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
..OSCILLATORIA				
1)OSCILLATORIA			0	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.935
 CLASS 0.935
 ORDER 1.357
 FAMILY 2.192
 GENERA 2.803

GILA RIVER BASIN

09502000. SALT RIVER BELOW STEWART MOUNTAIN DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

AUG. 31, 1976
1530 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,900 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....TETRAEDRON				
	TOTALS	<u>38</u> 38	<u>1</u> 1	0.000=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...GOSCINODISCACEAE				
L.CYCLOTELLA			0	
...PENNIALES	PENNATE			
...ACHNANTHACEAE				
L.COCCONEIS			0	
...NITZSCHIAEAE				
....NITZSCHIA				
	TOTALS	<u>38</u> 57	<u>1</u> 1	1.252=DIVERSITY
..CHRYSOPHYCEAE	YELLOW-BROWN ALGAE			
...CHRYSOMONADALES				
...MALLOMONADACEAE				
L.MALLOMONAS			0	
	TOTALS	<u>9</u>	<u>0</u> 0	0.000=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...NOSTOCACEAE				
...CYLINDROSPERMUM		290	10	
...OSCILLATORIAEAE				
D.OSCILLATORIA				
	TOTALS	<u>2,500</u> 2,700	<u>85</u> 95	0.489=DIVERSITY
PYRRHOPHYTA	FIRE ALGAE			
..DINOPHYCEAE	DINOFLAGELLATES			
...PERIDINIALES				
...PERIDINIAEAE				
....PERIDINIUM				
	TOTALS	<u>28</u> 28	<u>1</u> 1	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.337

CLASS 0.351

ORDER 0.364

FAMILY 0.842

GENERA 0.842

09502800. WILLIAMSON VALLEY WASH NEAR PAULDEN, ARIZ.

LOCATION.--Lat 34°52'00", long 112°36'45", in SE¼Sec. 7, T.17 N., R.3 W., Yavapai County, on left bank 3.6 mi (5.8 km) north of Simmons and 8.5 mi (13.7 km) west of Paulden.

DRAINAGE AREA.--255 mi² (660 km²).

PERIOD OF RECORD.--March 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,447 ft (1,355.4 m) above mean sea level. Prior to Oct. 1, 1970, at datum 1.00 ft (0.305 m) higher.

AVERAGE DISCHARGE.--11 years, 14.1 ft³/s (0.399 m³/s), 6,430 acre-ft/yr (7.93 hm³/yr); median of yearly mean discharges, 4.7 ft³/s (0.13 m³/s), 3,400 acre-ft/yr (4.2 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,910 ft³/s (111 m³/s) Feb. 9 (gage height, 7.58 ft or 2.310 m); no flow June 8 to July 14, July 18, 21, 22.

Period of record: Maximum discharge, 3,910 ft³/s (111 m³/s) Feb. 9, 1976 (gage height, 7.58 ft or 2.310 m), from rating curve extended above 500 ft³/s (14 m³/s) on basis of slope-area measurement at gage height 7.38 ft (2.249 m) present datum; no flow at times in most years.

REMARKS.--Records poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	2.2	3.8	3.6	5.1	3.8	2.3	1.8	.12	0	.96	.12
2	1.5	2.2	3.4	4.0	5.2	4.3	2.2	1.9	.15	0	.86	.18
3	1.5	2.2	3.2	4.4	5.3	4.6	2.2	1.9	.10	0	.71	.29
4	1.5	2.2	3.2	4.9	5.8	4.0	2.3	2.2	.10	0	.51	.29
5	1.6	2.4	3.2	5.1	146	3.6	2.3	2.2	.08	0	.51	.78
6	1.6	2.4	3.1	4.9	986	3.8	2.4	2.2	.06	0	.39	1.6
7	1.6	2.6	3.3	4.6	210	3.8	2.3	2.6	.04	0	.34	.78
8	1.6	2.6	3.4	4.6	54	3.8	2.4	3.4	.02	0	.45	.86
9	1.6	2.6	3.4	4.6	2080	3.4	2.3	2.6	0	0	.39	.78
10	1.6	2.6	3.4	4.6	565	3.4	2.5	2.2	0	0	.86	.86
11	1.7	2.6	3.4	4.4	132	3.4	2.4	2.2	0	0	.78	.86
12	1.7	2.6	3.6	4.5	61	3.0	2.5	2.1	0	0	.57	.86
13	1.7	2.6	3.9	4.4	44	2.8	2.7	2.1	0	0	.34	.71
14	1.7	2.7	3.8	4.4	54	2.8	3.2	1.9	0	0	.15	.64
15	1.7	2.7	3.2	4.5	19	2.6	3.0	1.6	0	1.1	.18	.51
16	1.7	2.8	3.5	4.6	12	2.6	3.6	1.4	0	4.7	.25	.51
17	1.9	2.8	3.9	4.8	7.4	2.6	17	1.3	0	.12	.25	.45
18	1.9	2.9	3.8	5.0	5.8	2.4	17	1.6	0	0	.25	.45
19	1.9	2.9	3.8	5.0	5.5	2.4	11	2.2	0	.32	.15	.45
20	1.9	2.9	3.9	4.9	5.2	2.5	6.1	2.8	0	.04	.21	.39
21	1.9	2.7	5.1	4.9	4.3	2.3	4.1	2.2	0	0	.51	.30
22	1.9	2.7	4.4	5.2	4.6	2.3	2.7	1.9	0	0	.34	.30
23	1.9	2.7	4.2	5.3	4.3	2.2	2.6	1.5	0	.31	.29	.30
24	2.0	2.8	4.0	5.4	4.3	2.3	2.4	1.2	0	7.8	.15	.30
25	2.0	2.8	4.1	5.0	4.3	2.3	2.4	1.1	0	10	.25	.30
26	2.1	2.7	4.1	4.9	4.3	2.4	2.2	.96	0	3.4	.06	.40
27	2.1	3.2	4.1	4.8	4.3	2.3	2.2	.86	0	1.2	.01	.40
28	2.1	6.6	4.3	4.9	4.0	2.4	2.0	.57	0	.78	.08	.40
29	2.1	3.5	4.0	5.1	3.8	2.3	2.0	.45	0	.71	.15	.40
30	2.2	3.2	4.2	5.0	---	2.2	2.0	.45	0	.78	.18	.40
31	2.2	---	4.0	5.2	---	2.2	---	.34	---	.96	.18	---
TOTAL	55.9	84.4	116.7	147.5	4446.5	90.8	116.3	53.73	.67	32.22	11.31	15.87
MEAN	1.80	2.81	3.76	4.76	153	2.93	3.88	1.73	.022	1.04	.36	.53
MAX	2.2	6.6	5.1	5.4	2080	4.6	17	3.4	.15	10	.96	1.6
MIN	1.5	2.2	3.1	3.6	3.8	2.2	2.0	.34	0	0	.01	.12
AC-FT	111	167	231	293	8820	180	231	107	1.3	64	22	31
CAL YR 1975 TOTAL	870.41			MEAN 2.38	MAX 11	MIN .45	AC-FT 1730					
WTR YR 1976 TOTAL	5171.90			MEAN 14.1	MAX 2080	MIN 0	AC-FT 10260					

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-6	0215	5.79	1,730	7-25	1415	3.39	124
2-9	1330	7.58	3,910				

09503700. VERDE RIVER NEAR PAULDEN, ARIZ.

LOCATION.--Lat 34°53'42", long 112°20'26", in SW¼SW¼ sec.35, T.18 N., R.1 W., Yavapai County, in Prescott National Forest, on right bank 0.5 mi (0.5 km) upstream from Verde Valley Ranch, 7 mi (11 km) east of Paulden, 8 mi (13 km) upstream from Hell Canyon, 8 mi (13 km) downstream from Granite Creek, and 10 mi (16 km) downstream from Sullivan Lake.

DRAINAGE AREA.--2,530 mi² (6,550 km²), approximately (includes 373 mi² or 966 km² in Aubrey Valley Playa, a closed basin).

PERIOD OF RECORD.--July 1963 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,100 ft (1,250 m), from topographic map.

AVERAGE DISCHARGE.--15 years, 33.1 ft³/s (0.937 m³/s), 23,980 acre-ft/yr (29.6 hm³/yr); median of yearly mean discharges, 27 ft³/s (0.76 m³/s), 19,600 acre-ft/yr (24 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 4,340 ft³/s (123 m³/s) Feb. 9 (gage height, 7.76 ft or 2.365 m), from rating curve extended as explained below; minimum daily, 20 ft³/s (0.57 m³/s) Feb. 1-3, July 7, 8, 10.
Period of record: Maximum discharge, 6,130 ft³/s (174 m³/s) Dec. 30, 1965 (gage height, 8.48 ft or 2.585 m), from rating curve extended above 420 ft³/s (12 m³/s) on basis of slope-area measurements at gage heights 5.40, 5.96, and 8.48 ft (1.646, 1.817, and 2.585 m); minimum daily, 15 ft³/s (0.42 m³/s) May 13-23, 1964.

REMARKS.--Records good. Diversions and storage above station for irrigation and municipal use.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	25	24	23	20	25	23	24	22	21	28	22
2	24	25	24	23	20	25	23	23	22	21	25	22
3	24	25	25	23	20	25	24	23	22	21	24	22
4	24	25	24	23	21	25	23	24	22	21	23	22
5	24	25	25	23	23	25	23	23	22	21	23	24
6	23	25	24	23	412	25	23	23	22	21	23	24
7	23	25	24	23	440	25	23	23	22	20	23	22
8	23	26	24	22	90	25	23	23	22	20	22	22
9	23	26	24	23	1350	25	23	23	22	49	23	22
10	23	26	24	22	1110	25	23	23	23	20	36	22
11	23	25	24	23	369	25	23	23	23	21	23	22
12	23	25	24	22	112	24	23	23	23	21	22	22
13	23	25	25	23	65	25	23	23	22	21	22	22
14	23	25	24	22	51	25	24	23	23	21	22	21
15	23	25	24	23	51	25	24	23	23	21	22	21
16	24	26	24	22	33	25	25	23	23	22	22	21
17	24	26	23	23	29	25	24	23	22	22	22	21
18	24	25	24	23	27	25	24	23	22	23	22	21
19	24	25	24	22	26	25	23	24	22	23	22	21
20	25	26	24	22	25	25	23	25	22	22	22	21
21	25	26	24	22	25	25	23	23	22	22	23	21
22	25	26	24	22	25	24	23	23	22	23	24	21
23	24	26	24	22	25	24	23	23	22	23	22	22
24	24	25	24	22	25	24	24	22	22	28	22	22
25	25	25	24	22	25	24	24	22	21	32	22	23
26	25	25	24	22	25	24	23	22	21	24	22	22
27	25	25	24	21	24	24	23	22	21	24	22	21
28	25	27	23	21	24	24	24	22	21	23	22	21
29	25	26	23	21	24	23	24	22	21	112	22	21
30	25	25	23	21	---	23	23	22	21	45	22	22
31	24	---	23	21	---	23	---	22	---	47	22	---
TOTAL	743	762	742	690	4516	761	701	710	660	855	716	653
MEAN	24.0	25.4	23.9	22.3	156	24.5	23.4	22.9	22.0	27.6	23.1	21.8
MAX	25	27	25	23	1350	25	25	25	23	112	36	24
MIN	23	25	23	21	20	23	23	22	21	20	22	21
AC-FT	1470	1510	1470	1370	8960	1510	1390	1410	1310	1700	1420	1300
CAL YR 1975	TOTAL	9322	MEAN 25.5	MAX 38	MIN 23	AC-FT 18490						
WTR YR 1976	TOTAL	12509	MEAN 34.2	MAX 1350	MIN 20	AC-FT 24810						

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-6	1330	4.86	900	7-9	1545	3.77	430
2-9	2115	7.76	4,340	7-29	1845	4.47	708

09504000. VERDE RIVER NEAR CLARKDALE, ARIZ.

LOCATION.--Lat 34°51'05", long 112°03'55", in SE¼NW¼ sec.17, T.17 N., R.3 E., Yavapai County, in Prescott National Forest, on left bank 1.7 mi (2.7 km) downstream from Sycamore Creek and 5.6 mi (9.0 km) north of Clarkdale.

DRAINAGE AREA.--3,520 mi² (9,120 km²), approximately (includes 373 mi² or 966 km² in Aubrey Valley Playa, a closed basin).

PERIOD OF RECORD.--June 1915 to October 1916, June 1917 to June 1921, April 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,520 ft (1,073 m), from topographic map. June 1915 to June 1921 at site 2.5 mi (4.0 km) downstream at different datum.

AVERAGE DISCHARGE.--15 years (1915-16, 1917-20, 1965-76), 184 ft³/s (5.211 m³/s), 133,300 acre-ft/yr (164 hm³/yr); median of yearly mean discharges, 150 ft³/s (4.25 m³/s), 109,000 acre-ft/yr (134 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 18,000 ft³/s (510 m³/s) Feb. 9 (gage height, 14.10 ft or 4.298 m); minimum daily, 68 ft³/s (1.93 m³/s) Aug. 20.

Period of record: Maximum discharge, 50,600 ft³/s (1,430 m³/s) Feb. 21, 1920 (gage height, 19.1 ft or 5.82 m, site and datum then in use), from rating curve extended above 2,500 ft³/s (71 m³/s) on basis of float-area measurement at 35,000 ft³/s (990 m³/s); minimum daily, 55 ft³/s (1.56 m³/s) Aug. 31, Sept. 1, 1920.

REMARKS.--Records good except those for periods of no gage-height record, which are fair.

REVISIONS (WATER YEARS).--WSP 1213: 1917, 1920.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80	83	81	81	80	170	79	74	71	76	87	74
2	80	84	80	80	80	200	79	73	71	73	80	74
3	80	84	79	81	80	370	78	73	70	72	77	74
4	80	84	79	81	82	300	76	76	72	72	76	74
5	80	84	80	81	83	270	76	74	72	71	75	74
6	80	83	79	81	99	240	75	73	72	71	72	74
7	80	82	79	81	511	250	75	73	71	71	72	74
8	80	83	79	80	250	270	75	76	71	73	72	74
9	81	83	79	81	9200	310	75	75	71	81	73	74
10	81	81	75	81	4570	320	75	74	71	101	105	74
11	81	82	79	80	1190	310	73	73	71	78	100	74
12	81	82	79	80	679	290	73	72	72	97	75	74
13	81	82	60	79	510	220	75	72	71	77	73	74
14	82	82	81	79	460	160	83	72	71	75	72	74
15	82	82	79	80	420	140	79	71	71	81	70	74
16	82	83	80	80	380	130	82	71	71	76	70	74
17	82	81	80	80	350	120	79	71	70	95	70	74
18	82	81	80	80	290	110	76	73	70	107	70	74
19	82	81	80	80	250	108	118	75	71	80	70	74
20	83	81	80	80	200	143	1020	129	71	77	68	74
21	83	82	82	80	210	128	1340	175	71	75	69	74
22	83	81	82	80	200	105	682	89	71	75	70	74
23	83	82	81	82	180	96	312	80	70	78	73	74
24	83	82	81	82	160	91	189	75	70	107	70	74
25	83	80	81	80	140	90	126	72	71	81	70	400
26	83	80	81	80	130	86	97	72	72	87	70	280
27	83	81	81	80	120	86	83	71	72	88	70	160
28	83	84	81	80	130	84	78	72	72	78	70	90
29	83	83	80	80	140	82	77	72	72	181	70	80
30	83	81	81	80	---	79	75	72	76	259	74	78
31	83	---	81	80	---	79	---	72	---	102	74	---
TOTAL	2533	2464	2484	2490	21174	5437	5580	2442	2138	2815	2307	2864
MEAN	81.4	80.1	80.1	80.3	730	175	186	78.8	71.3	90.8	74.4	95.5
MAX	83	84	82	82	9200	370	1340	175	76	259	105	400
MIN	80	80	79	79	80	79	73	71	70	71	68	74
AC-FI	5020	4950	4930	4940	42000	10780	11070	4840	4240	5580	4580	5680

CAL YR 1975 TOTAL 35093 MEAN 96.1 MAX 897 MIN 67 AC-FI 69610
 FOR YR 1976 TOTAL 34728 MEAN 150 MAX 9200 MIN 68 AC-FI 108600

PEAK DISCHARGE (BASE, 2,000 CFS).--Feb. 9 (1500) 18,000 cfs (14.10 ft); Apr. 21 (0115) 2,310 cfs (5.34 ft).

NOTE.--No gage-height record Feb. 13 to Mar. 19, Sept. 5 to 30.

GILA RIVER BASIN

09504000. VERDE RIVER NEAR CLARKDALE, ARIZ.

LOCATION.--Lat 34°51'05", long 112°03'55", in SE¼NW¼ sec.17, T.17 N., R.3 E., Yavapai County, in Prescott National Forest, at gaging station 1.7 mi (2.7 km) downstream from Sycamore Creek and 5.6 mi (9.0 km) north of Clarkdale.

DRAINAGE AREA.--3,250 mi² (9,120 km²), approximately (includes 373 mi² or 966 km² in Aubrey Valley Playa, a closed basin).

PERIOD OF RECORD.--Chemical analyses: March 1976 to September 1976.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	CHEM- ICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	CHEM- ICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	FECAL COLI- FORM (COL. PER 100 ML)	HARD- NESS (CA+MG) (MG/L)
MAR											
24...	1230	79	485	8.0	17.0	10	9.2	--	2	<1	230
APR											
20...	1230	1000	130	7.9	14.0	46	7.9	--	30	220	61
MAY											
24...	1300	74	545	8.0	22.0	35	8.0	--	11	27	240
JUN											
29...	1230	72	490	8.1	25.0	2	8.8	--	27	3	220
JUL											
29...	1300	76	540	8.2	27.0	35	--	--	--	110	210
AUG											
31...	1400	76	470	8.2	24.5	10	8.9	11	--	81	210
SEP											
30...	1330	76	475	8.2	21.5	20	--	--	--	120	220

DATE	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	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										
24...	0	56	23	19	.5	2.0	295	0	8.1	14
APR										
20...	0	16	5.0	4.7	.3	1.4	85	0	4.8	2.2
MAY										
24...	0	55	24	22	.6	2.2	305	0	11	13
JUN										
29...	0	49	24	23	.7	2.0	299	0	9.1	13
JUL										
29...	0	49	21	23	.7	2.3	315	0	9.1	15
AUG										
31...	0	46	24	25	.7	2.2	292	0	9.6	15
SEP										
30...	31	52	23	25	.7	2.3	236	0	8.5	14

DATE	DIS- SOLVED FLOU- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (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)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
MAR										
24...	.2	16	272	284	.37	.08	.08	.01	140	10
APR										
20...	.1	14	115	92	.16	--	.15	.04	50	110
MAY										
24...	.3	20	288	298	.39	--	--	--	120	0
JUN										
29...	.3	19	274	287	.37	--	.05	.00	110	20
JUL										
29...	.3	20	211	296	.29	--	.30	.03	90	40
AUG										
31...	.3	19	285	295	.39	--	.23	.02	160	20
SEP										
30...	.3	20	285	264	.39	--	.46	.01	160	10

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

B Results based on non-ideal colony count.

GILA RIVER BASIN

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09504000. VERDE RIVER NEAR CLARKDALE, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)
MAR 24...	1230	.08	.00	.10	.08	.22	.32	1.4	.00	.01
APR 20...	1230	--	--	.16	.15	1.5	1.7	7.3	.23	.04
MAY 24...	1300	--	--	.24	--	.31	.55	2.4	.12	--
JUN 24...	1230	--	--	.03	.05	.06	.09	.40	.04	.00
JUL 24...	1300	--	--	.26	.30	.25	.51	2.3	.17	.03
AUG 31...	1400	--	--	.36	2.3	.20	.56	2.5	.02	.02
SEP 30...	1330	--	--	.59	.46	.75	1.3	5.9	.11	.01

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	TOTAL BARIUM (BA) (UG/L)	TOTAL BORON (B) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
MAR 24...	1230	13	100	240	140	<10	3	0	<10	80	10
APR 20...	1230	6	100	360	50	<10	1	0	10	3800	110
MAY 24...	1300	16	0	170	120	<10	0	10	<10	1800	0
JUN 29...	1230	19	100	110	110	<10	0	20	<10	--	20
JUL 24...	1300	7	100	170	90	<10	--	0	10	730	40
AUG 31...	1400	17	200	200	160	<10	--	10	10	530	20
SEP 30...	1330	15	200	200	160	<10	--	10	10	1300	10

DATE	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)
MAR 24...	<100	20	20	.0	0	<10	0	2.4	.00	0
APR 20...	<100	140	960	.0	1	<10	20	11	.00	4
MAY 24...	<100	60	30	.1	--	<10	10	1.8	.00	1
JUN 29...	<100	20	10	.3	0	<10	60	5.0	.00	0
JUL 24...	<100	50	20	.4	0	<10	10	--	.00	8
AUG 31...	<100	50	10	.0	0	<10	70	3.4	.00	2
SEP 30...	<100	60	20	.0	0	<10	20	1.1	.02	1

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

09504000. VERDE RIVER NEAR CLARKDALE, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll ^a (mg/m ²)	Chlorophyll ^b (mg/m ²)	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight				
June 29	36	19.6	13.5	49.7	2.56	120	Polyethylene strip

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

JUNE 29, 1976

1230 HOURS

IDENTIFICATION OF PHYTOPLANKTON

980 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OCYSTACEAE				
...SELENASTRUM		7	1	
...SCENEDESMACEAE				
...SCENEDESMUS		59	6	
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
...CHLAMYDOMONAS		22	2	
...PHACOTACEAE				
....PHACOTUS		7	1	
TOTALS		95	10	1.489=DIVERSITY
CHRYSPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
...CYCLOTELLA		15	1	
..PENNALES	PENNALE			
...ACHNANTHACEAE				
....ACHNANTHES		59	6	
....COCCONEIS		59	6	
...CYMBELLACEAE				
....AMPHORA		7	1	
..CYMBELLA		180	18	
..DIATOMACEAE				
...DIATOMA		22	2	
...FRAGILARIACEAE				
...SYNEDRA		22	2	
...ROMPHONEMATACEAE				
....ROMPHONEMA		73	7	
...NAVICULACEAE	NAVICULOID			
...GYROSIGMA		7	1	
..NAVICULA		200	20	
..NITZSCHIA				
TOTALS		760	76	2.850=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIACEAE				
....OSCILLATORIA		73	7	
TOTALS		73	7	0.000=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..CRYPTOPHYCEAE	CRYPTOMONADS			
...CRYPTOMONIDAE				
...CRYPTOMONODACEAE				
....CRYPTOMONAS		29	3	
TOTALS		29	3	0.000=DIVERSITY
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
....TRACHELOMONAS		22	2	
TOTALS		22	2	0.000=DIVERSITY
PYRPHOPHYTA	FIRE ALGAE			
..DINOPHYCEAE	DINOFAGELLATES			
...GYMNODINIALES				
...GYMNODINIACEAE				
....GYMNODINIUM		7	1	
TOTALS		7	1	0.000=DIVERSITY

NOTE: D = DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.173
 CLASS 1.224
 ORDER 1.417
 FAMILY 3.348
 GENERA 3.560

GILA RIVER BASIN

433

09504500. OAK CREEK NEAR CORNVILLE, ARIZ.

LOCATION.--Lat 34°45'56", long 111°53'24", in NW¼SE¼ sec.23, T.16 N., R.4 E., Yavapai County, near left bank on downstream side of pier of county highway bridge, 0.2 mi (0.3 km) upstream from Page Springs, 4 mi (6 km) northeast of Cornville, and 15 mi (24 km) upstream from mouth.

DRAINAGE AREA.--357 mi² (925 km²).

PERIOD OF RECORD.--July 1940 to September 1945, April 1948 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,470 ft (1,058 m), from topographic map. *

AVERAGE DISCHARGE.--33 years, 82.8 ft³/s (2.345 m³/s), 59,990 acre-ft/yr (74.0 hm³/yr); median of yearly mean discharges, 71 ft³/s (2.01 m³/s), 51,400 acre-ft/yr (63 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 12,500 ft³/s (354 m³/s) Feb. 9 (gage height, 12.38 ft or 3.773 m); minimum daily, 15 ft³/s (0.42 m³/s) June 23, 30, July 3.

Period of record: Maximum discharge, 24,700 ft³/s (700 m³/s) Sept. 5, 1970 (gage height, 16.48 ft or 5.023 m); minimum, 6 ft³/s (0.17 m³/s) July 27, 1940.

Maximum stage since at least 1885, 23 ft (7.0 m) in March 1938, from floodmarks (upstream side of bridge).

REMARKS.--Records good. Regulation during low flow by several small diversions for irrigation above station.

REVISIONS (WATER YEARS).--WSP 1149: 1948(M). WRD Ariz. 1974: 1973.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	33	37	39	38	141	60	49	23	16	28	17
2	25	33	37	39	38	371	61	46	21	16	22	17
3	27	32	36	39	38	309	66	44	21	15	19	17
4	25	32	36	39	41	153	67	48	21	17	18	17
5	26	30	35	39	345	114	67	48	21	17	16	17
6	25	33	35	39	1030	104	69	49	23	17	16	16
7	24	33	35	39	518	102	59	46	22	17	16	16
8	24	33	35	39	354	114	56	52	19	17	18	16
9	26	33	37	39	4660	191	56	112	20	17	17	16
10	26	33	36	39	1610	264	54	102	18	20	19	16
11	27	32	37	38	508	237	54	64	18	29	19	20
12	27	34	35	39	346	169	52	50	19	168	17	17
13	27	34	37	39	277	130	50	40	21	39	17	16
14	26	34	39	38	309	108	50	36	18	34	16	16
15	28	34	37	38	229	108	50	32	18	35	18	16
16	28	34	35	38	186	110	47	31	17	27	17	16
17	28	35	35	38	157	120	47	28	18	25	17	16
18	28	34	35	39	146	148	100	27	17	25	16	16
19	29	35	36	40	144	234	600	30	18	89	18	16
20	30	36	36	39	155	221	928	39	18	41	19	16
21	31	35	37	38	135	164	1080	35	18	27	19	16
22	31	35	37	38	104	133	1100	31	17	39	29	16
23	31	35	37	39	88	144	567	28	15	54	24	16
24	30	37	37	39	81	164	237	29	16	28	18	16
25	31	37	37	42	76	171	160	25	20	31	16	350
26	32	38	38	40	74	171	115	24	21	31	17	150
27	32	37	38	38	72	135	86	22	18	29	17	80
28	30	65	38	38	82	108	67	22	16	26	20	50
29	31	57	38	38	96	89	58	21	16	23	21	36
30	30	40	38	39	---	76	52	23	15	31	20	35
31	31	---	38	38	---	67	---	25	---	29	18	---
TOTAL	869	1083	1134	1203	11937	4870	6115	1258	563	1029	582	1095
MEAN	28.0	36.1	36.6	38.8	412	157	204	40.6	18.8	33.2	18.8	36.5
MAX	32	65	39	42	4660	371	1100	112	23	168	29	350
MIN	23	30	35	38	38	67	47	21	15	15	16	16
AC-FT	1720	2150	2250	2390	23680	9660	12130	2500	1120	2040	1150	2170

CAL YR 1975 TOTAL 21528 MEAN 59.0 MAX 774 MIN 17 AC-FT 42700
WTR YR 1976 TOTAL 31738 MEAN 86.7 MAX 4660 MIN 15 AC-FT 62950

PEAK DISCHARGE (BASE, 1,300 cfs).--Feb. 9 (1530) 12,500 cfs (12.38 ft); Apr. 20 (2400) 2,020 cfs (6.72 ft).

GILA RIVER BASIN

09504500. OAK CREEK NEAR CORNVILLE, ARIZ.

LOCATION.--Lat 34°45'56", long 111°53'24", in NW¼SE¼ sec.23, T.16 N., R.4 E., Yavapai County, at gaging station at county highway bridge, 0.2 mi (0.3 km) upstream from Page Springs, 4 mi (6 km) northeast of Cornville, and 15 mi (24 km) upstream from mouth.

DRAINAGE AREA.--357 mi² (925 km²).

PERIOD OF RECORD.--Chemical analyses: March 1976 to September 1976.

Water temperatures: June 1954 to May 1966.

WATER QUALITY DATA WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS-CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICHO-MMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	CHEMICAL OXYGEN DEMAND (LOW LEVEL) (MG/L)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	HARDNESS (CA, MG)
MAR 24...	1630	298	180	8.0	15.0	10	8.4	--	11	90	80
APR 20...	1600	383	110	7.9	14.0	28	8.4	--	19	30	55
MAY 24...	1800	27	360	8.2	22.5	1	7.9	--	2	530	180
JUN 29...	1630	12	420	8.0	26.0	1	8.0	--	20	1300	210
JUL 30...	1130	23	382	8.2	24.0	20	--	--	--	220	190
AUG 31...	1800	16	405	8.1	23.0	15	6.4	7	--	180	210
SEP 29...	1400	37	355	8.3	22.0	25	--	--	--	400	180

DATE	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)
MAR 24...	7	18	8.4	3.3	.2	1.0	88	0	3.7	2.7
APR 20...	0	13	5.4	2.5	.1	.9	70	0	3.5	1.2
MAY 24...	3	41	19	7.8	.3	1.3	217	0	2.4	9.0
JUN 29...	1	46	22	11	.3	1.4	249	0	3.7	14
JUL 30...	0	45	20	8.3	.3	1.4	239	0	2.4	11
AUG 31...	0	48	22	11	.3	1.6	291	0	5.0	14
SEP 29...	0	42	19	8.0	.3	1.6	223	0	5.0	8.2

DATE	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHO. PHOSPHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
MAR 24...	.1	13	103	94	.14	.01	.01	.02	10	80
APR 20...	.1	11	92	73	.13	--	.07	.01	30	40
MAY 24...	.2	13	198	201	.27	--	--	--	30	60
JUN 29...	.2	17	254	241	.35	--	.73	.01	10	30
JUL 30...	.1	15	223	234	.30	--	2.8	.03	30	20
AUG 31...	.1	15	244	261	.33	--	.13	.02	30	10
SEP 29...	.1	15	200	209	.27	--	.02	.01	30	10

GILA RIVER BASIN

435

09504500. OAK CREEK NEAR CORNVILLE, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)
MAR 24...	1630	.01	.00	.01	.01	.21	.22	.97	.03	.02
APR 20...	1600	--	--	.07	.07	.20	.27	1.2	.08	.01
MAY 24...	1800	--	--	.03	--	.19	.22	.97	.06	--
JUN 29...	1630	--	--	.10	.73	.19	.29	1.3	.05	.01
JUL 30...	1130	--	--	.34	2.8	.38	.72	3.2	.07	.03
AUG 31...	1800	--	--	.33	.13	.43	.76	3.4	.04	.02
SEP 29...	1400	--	--	.08	.02	.62	.70	3.1	.08	.01

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	TOTAL BARIUM (BA) (UG/L)	TOTAL BORON (B) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
MAR 24...	1630	2	0	10	10	<10	1	0	<10	300	80
APR 20...	1600	2	0	250	30	<10	1	0	10	2000	40
MAY 24...	1800	8	0	40	30	<10	0	10	<10	70	60
JUN 29...	1630	11	500	40	10	<10	0	20	8	--	30
JUL 30...	1130	14	200	210	30	<10	--	0	20	2100	20
AUG 31...	1800	10	200	70	30	<10	--	0	20	350	10
SEP 29...	1400	7	100	30	30	<10	--	10	10	1200	10

DATE	TOTAL LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)
MAR 24...	<100	20	10	.0	0	<10	0	7.3	.00	1
APR 20...	<100	60	90	.0	0	<10	10	6.8	.00	2
MAY 24...	<100	<10	10	.2	--	<10	20	2.2	.00	2
JUN 29...	<100	20	20	.2	0	<10	50	4.8	.00	0
JUL 30...	<100	80	20	.0	0	30	10	14	.00	4
AUG 31...	<100	30	20	.0	0	<10	60	3.0	.00	2
SEP 29...	<100	70	20	--	0	<10	20	2.4	.00	2

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

09504500. OAK CREEK NEAR CORNVILLE, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll ^a	Chlorophyll ^b	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight	(mg/m ²)	(mg/m ²)		
June 29	36	36.1	26.8	25.4	.632	370	Polyethylene strip

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

JUNE 29, 1976
1630 HOURS

IDENTIFICATION OF PHYTOPLANKTON

950 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
...ANKISTRODESMUS		43	5	
L ...CHLORELLA			0	
I ...SELENASTRUM			0	
...SCENEDESMACEAE				
...SCENEDESMUS		68	7	
..ZYGNEMATALES				
...DESMIDIACEAE	PLACODERM DESMIDS			
L ...COSMARUM				
	TOTALS	120	12	1.448=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCEAE				
...CYCLOTELLA		86	9	
...MELOSIRA		29	3	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
L ...ACHNANTHES			0	
...COCCONEIS		14	2	
...CYMBELLACEAE				
L ...CYMBELLA			0	
I ...RHOPALODIA			0	
...FRAGILARIACEAE				
L ...SYNEDRA			0	
...GOMPHONEMACEAE				
...GOMPHONEMA		14	2	
...NAVICULACEAE	NAVICULOID			
...NAVICULA		11	1	
...NITZSCHACEAE				
...NITZSCHIA		25	3	
	TOTALS	190	20	2.524=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
...AGMENELLUM		58	6	
..OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIA				
D ...OSCILLATORIA		540	57	
	TOTALS	600	63	0.456=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..CRYPTOPHYCEAE	CRYPTOMONADS			
..CRYPTOMONIDALES				
...CRYPTOMONODACEAE				
...CRYPTOMONAS		32	3	
	TOTALS	32	3	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-WAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.433
 CLASS 1.433
 ORDER 1.946
 FAMILY 2.266
 GENERA 2.424

GILA RIVER BASIN

437

09505000. VERDE RIVER AT CAMP VERDE, ARIZ.

LOCATION.--Lat 34°34'25", long 111°51'25", in SE¼ sec.30, T.14 N., R.5 E., Yavapai County, at highway bridge 600 ft (180 m) upstream from Beaver Creek and 1 mi (1.6 km) north of Camp Verde.

DRAINAGE AREA (REVISED).--4,234 mi² (10,966 km²), including 373 mi² (966 km²) in Aubrey Valley Playa, a closed basin.

PERIOD OF RECORD.--December 1912 (gage heights and discharge measurements only), January 1913 to March 1920 (discontinued).

GAGE.--Nonrecording gage. Altitude of gage is 3,070 ft (936 m), from topographic map. Prior to Nov. 12, 1915, at datum 1.80 ft (0.549 m) lower.

AVERAGE DISCHARGE.--6 years (1913-19), 435 ft³/s (12.32 m³/s), 315,200 acre-ft/yr (389 hm³/yr).

EXTREMES.--1913-20: Maximum discharge not determined, probably exceeded 60,000 ft³/s (1,700 m³/s) Feb. 21, 1920, by comparison with related stations (figure published in WSP 509 and 1049 considered to be in error); minimum observed, 31 ft³/s (0.88 m³/s) June 28, 29, 1914.

CORRECTION.--The maximum discharge for water year 1915 is 6,600 ft³/s (187 m³/s) May 5, 1915 (gage height, 8.8 ft or 2.68 m); the previously published figure was not the maximum.

REMARKS.--About 10,000 acres (40 km²) above station are irrigated by surface water and ground water; irrigated acreage was less during period of these records.

REVISIONS (WATER YEARS).--WSP 1213: 1914-15, 1917-20. The daily discharge for May 6, 1915, has been revised to 2,560 ft³/s (72.5 m³/s), superseding figure published in WSP 409. The maximum daily discharge for May 1915 and for water year 1915 has been corrected to 4,800 ft³/s (136 m³/s), superseding figures published in WSP 409, 1049, and 1313.

09505200. WET BEAVER CREEK NEAR RIMROCK, ARIZ.

LOCATION.--Lat 34°40'29", long 111°40'17", in NW¼SW¼ sec.24, T.15 N., R.6 E., Yavapai County, in Coconino National Forest, on right bank 4.5 mi (7.2 km) northeast of Rimrock and 5.7 mi (9.2 km) upstream from Red Tank Draw.

DRAINAGE AREA.--111 mi² (287 km²).

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,020 ft (1,225 m), from topographic map.

AVERAGE DISCHARGE.--15 years, 32.0 ft³/s (0.906 m³/s), 23,180 acre-ft/yr (28.6 hm³/yr); median of yearly mean discharges, 26 ft³/s (0.74 m³/s), 18,800 acre-ft/yr (23 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 6,880 ft³/s (195 m³/s) Feb. 9 (gage height, 11.95 ft or 3.642 m, from high-water mark in gage well); minimum daily, 6.0 ft³/s (0.17 m³/s) Aug. 16, 19, 20.
Period of record: Maximum discharge, 7,670 ft³/s (217 m³/s) Sept. 5, 1970 (gage height, 12.41 ft or 3.783 m); minimum, 5.4 ft³/s (0.15 m³/s) Aug. 14, 1962, July 1, 2, 5, 8, 9, 12, 21, 1967.

REMARKS.--Records fair. No known diversion or regulation above station.

REVISIONS.--WRD Ariz. 1969: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	7.3	7.6	7.6	7.6	48	40	7.6	7.2	6.8	6.5	6.2
2	7.0	7.3	7.6	7.6	7.6	66	64	7.5	7.1	6.6	6.4	6.2
3	7.0	7.3	7.6	7.6	7.6	66	63	7.5	7.1	6.5	6.3	6.2
4	7.0	7.3	7.6	7.6	7.6	25	48	8.4	7.1	6.5	6.3	6.2
5	7.0	7.3	7.6	7.6	330	15	47	7.8	7.1	6.6	6.2	6.2
6	7.0	7.3	7.6	7.6	270	22	28	7.6	7.1	6.6	6.2	6.2
7	7.0	7.3	7.6	7.6	210	28	17	7.5	7.1	6.6	6.3	6.2
8	7.0	7.3	7.6	7.6	160	69	18	8.5	7.0	6.6	6.6	6.2
9	7.0	7.3	7.6	7.6	2000	152	19	133	7.1	6.7	7.0	6.2
10	7.0	7.3	7.6	7.6	500	111	17	79	7.1	6.7	6.5	6.2
11	7.0	7.3	7.6	7.6	89	79	12	30	7.1	6.7	6.4	6.2
12	7.0	7.3	7.6	7.6	85	47	10	15	7.2	7.7	6.3	6.2
13	7.2	7.3	7.9	7.6	116	28	8.4	10	7.1	6.8	6.2	6.2
14	7.2	7.4	8.8	7.6	102	27	9.5	8.3	7.0	6.7	6.1	6.2
15	7.1	7.4	7.6	7.6	58	37	8.8	7.6	7.0	6.6	6.2	6.2
16	7.1	7.5	7.6	7.6	52	53	11	7.5	7.0	6.6	6.0	6.2
17	7.1	7.5	7.6	7.6	40	55	16	7.3	7.0	6.8	6.1	6.2
18	7.0	7.5	7.6	7.6	33	66	98	7.4	7.0	6.9	6.1	6.2
19	7.0	7.5	7.6	7.6	36	111	395	7.5	7.0	6.9	6.0	6.2
20	7.7	7.6	7.6	7.6	45	91	592	7.7	6.9	6.7	6.0	6.2
21	7.5	7.6	8.4	7.6	32	64	560	7.5	7.0	6.6	6.3	6.2
22	7.3	7.5	7.6	7.6	22	61	346	7.3	7.0	7.5	6.2	6.2
23	7.3	7.6	7.6	7.6	19	93	176	7.3	7.0	7.6	6.1	6.2
24	7.3	7.5	7.6	7.6	17	124	62	7.3	7.0	7.0	6.1	6.2
25	7.3	7.5	7.6	7.6	14	130	33	7.3	7.0	7.4	6.3	6.2
26	7.3	7.5	7.6	7.6	13	117	20	7.3	6.9	7.1	6.2	6.2
27	7.3	7.6	7.6	7.6	1	78	13	7.2	6.7	7.1	6.2	6.2
28	7.3	9.9	7.6	7.6	21	41	10	7.2	6.8	9.4	6.2	6.2
29	7.2	8.5	7.6	7.6	27	26	8.5	7.2	6.8	8.1	6.2	6.2
30	7.2	7.7	7.6	7.6	---	17	7.9	7.3	6.8	6.9	6.2	6.2
31	7.3	---	7.6	7.6	---	13	---	7.2	---	6.7	6.2	---
TOTAL	221.7	226.2	237.9	235.6	4336.4	1960	2758.1	462.8	210.3	216.0	193.9	186.0
MEAN	7.15	7.54	7.67	7.60	150	63.2	91.9	14.9	7.01	6.97	6.25	6.20
MAX	7.7	9.9	8.8	7.6	2000	152	592	133	7.2	9.4	7.0	6.2
MIN	7.0	7.3	7.6	7.6	7.6	13	7.9	7.2	6.7	6.5	6.0	6.2
AC-FT	440	449	472	467	8600	3890	5470	918	417	428	385	369

CAL YR 1975 TOTAL 9177.5 MEAN 25.1 MAX 410 MIN 6.9 AC-FT 18200
WTR YR 1976 TOTAL 11244.9 MEAN 30.7 MAX 2000 MIN 6.0 AC-FT 22300

PEAK DISCHARGE (BASE, 600 CFS).--Feb. 9 (time unknown) 6,880 cfs (11.95 ft); April 20 (2000) 1,490 cfs (7.54 ft).

NOTE.--No gage-height record Dec. 22 to Feb. 11, Sept. 2-30.

09505250. RED TANK DRAW NEAR RIMROCK, ARIZ.

LOCATION.--Lat 34°41'43", long 111°42'49", in SE¼NE¼ sec.16, T.15 N., R.6 E., Yavapai County, in Coconino National Forest, on left bank 2.5 mi (4.0 km) downstream from confluence of Rarick and Mullican Canyons, and 3.5 mi (5.6 km) northeast of Rimrock.

DRAINAGE AREA.--49.4 mi² (128 km²).

PERIOD OF RECORD.--April 1957 to current year.

GAGE.--Water-stage recorder. Concrete control prior to Sept. 5, 1970. Altitude of gage is 3,920 ft (1,195 m), from topographic map. Prior to Sept. 5, 1970, at datum 0.29 ft (0.088 m) higher.

AVERAGE DISCHARGE.--19 years, 6.87 ft³/s (0.195 m³/s), 4,980 acre-ft/yr (6.14 hm³/yr); median of yearly mean discharges, 4.6 ft³/s (0.13 m³/s) 3,300 acre-ft/yr (4.1 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 1,800 ft³/s (51.0 m³/s) Feb. 9 (gage height, 7.9 ft or 2.41 m, from high-water mark in gage well); no flow for many days.

Period of record: Maximum discharge, 10,500 ft³/s (297 m³/s) Sept. 5, 1970 (recorded gage height, 12.69 ft or 3.868 m, about 13.3 ft or 4.05 m, from profile), from rating curve extended above 1,100 ft³/s (31 m³/s), on basis of slope-area measurement of peak flow; no flow for many days in each year.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0	1.4	1.0	1.4	.30			
2					0	1.3	1.0	1.4	.30			
3					0	1.4	.90	1.3	.20			
4					0	1.4	.80	1.4	.20			
5					0	1.5	.80	1.3	.10			
6					0	3.5	.80	1.2	.10			
7					0	8.1	.80	1.2	.10			
8					0	41	.70	1.3	0			
9					500	83	.70	1.2	0			
10					140	59	.70	1.1	0			
11					30	30	.70	1.0	0			
12					16	17	.60	1.0	0			
13					28	12	.70	1.0	0			
14					20	7.3	.80	1.0	0			
15					13	6.2	.80	.90	0			
16					11	5.0	1.2	.80	0			
17					9.4	4.8	1.1	.70	0			
18					6.2	3.6	33	.70	0			
19					4.2	3.1	176	.80	0			
20					3.1	3.0	152	.80	0			
21					3.0	2.7	115	.80	0			
22					2.7	2.2	52	.70	0			
23					2.2	1.9	15	.70	0			
24					2.0	1.8	7.0	.60	0			
25					1.8	1.7	3.6	.60	0			
26					1.7	1.5	2.6	.50	0			
27					1.6	1.4	2.2	.50	0			
28					1.5	1.4	1.9	.40	0			
29					1.4	1.2	1.8	.40	0			
30					---	1.2	1.6	.40	0			
31		---			---	1.1	---	.40	---			---
TOTAL	0	0	0	0	798.8	311.7	577.80	27.50	1.30	0	0	0
MEAN	0	0	0	0	27.5	10.1	19.3	.89	.043	0	0	0
MAX	0	0	0	0	500	83	176	1.4	.30	0	0	0
MIN	0	0	0	0	0	1.1	.60	.40	0	0	0	0
AC-FT	0	0	0	0	1580	618	1150	55	2.6	0	0	0

CAL YR 1975 TOTAL 1347.46 MEAN 3.69 MAX 140 MIN 0 AC-FT 2670
WTR YR 1976 TOTAL 1717.10 MEAN 4.69 MAX 500 MIN 0 AC-FT 3410

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-9	1500	7.9	1,800	4-19	1830	5.80	542
3-8	2200	4.75	214				

NOTE.--No gage-height record Dec. 26 to Feb. 11.

GILA RIVER BASIN

09505300. RATTLESNAKE CANYON NEAR RIMROCK, ARIZ.

LOCATION.--Lat 34°46'01", Long 111°40'23", in NW¼SW¼ sec.24, T.16 N., R.6 E., Yavapai County, in Coconino National Forest, on left bank 2.6 mi (4.2 km) upstream from mouth, 7 mi (11 km) northeast of Beaver Creek Ranger Station, and 9 mi (14 km) northeast of Rimrock.

DRAINAGE AREA.--24.6 mi² (63.7 km²).

PERIOD OF RECORD.--June 1957 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,870 ft (1,484 m), from topographic map.

AVERAGE DISCHARGE.--19 years, 7.17 ft³/s (0.203 m³/s), 5,190 acre-ft/yr (6.40 hm³/yr); median of yearly mean discharges, 5.1 ft³/s (0.14 m³/s), 3,700 acre-ft/yr (4.6 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 1,200 ft³/s (34.0 m³/s) Feb. 9 (gage height, 8.03 ft or 2.448 m); no flow for most of year.

Period of record: Maximum discharge, 3,590 ft³/s (102 m³/s) Sept. 5, 1970 (gage height, 11.50 ft or 3.505 m), from rating curve extended above 1,100 ft³/s (31 m³/s) on basis of computation of peak flow over weir at gage height 8.50 ft (2.591 m) and slope-area measurement at gage height 11.50 ft (3.505 m); no flow for many days in each year.

REMARKS.--Records fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0	24	11	.19				
2					0	25	16	.16				
3					0	20	16	.16				
4					0	11	14	.16				
5					0	13	14	.16				
6					0	13	9.7	.16				
7					40	19	6.4	.14				
8					44	47	6.4	1.9				
9					443	56	7.3	25				
10					98	30	5.0	10				
11					32	24	3.2	3.9				
12					28	18	.88	.96				
13					30	13	.68	.34				
14					29	14	.62	.24				
15					21	13	.62	.24				
16					20	16	3.9	.24				
17					16	20	4.6	.10				
18					14	28	33	0				
19					16	36	125	0				
20					18	26	175	0				
21					13	18	144	0				
22					8.5	19	98	0				
23					8.0	25	49	0				
24					7.5	28	22	0				
25					8.3	29	13	0				
26					11	25	7.8	0				
27					15	19	4.2	0				
28					14	13	1.4	0				
29					18	9.7	.38	0				
30					---	7.0	.21	0				
31		---			---	5.6	---	0	---			---
TOTAL	0	0	0	0	952.3	664.3	793.29	44.05	0	0	0	0
MEAN	0	0	0	0	32.8	21.4	26.4	1.42	0	0	0	0
MAX	0	0	0	0	443	56	175	25	0	0	0	0
MIN	0	0	0	0	0	5.6	.21	0	0	0	0	0
AC-FT	0	0	0	0	1890	1320	1570	87	0	0	0	0
CAL YR 1975	TOTAL	2047.04	MEAN	5.61	MAX	119	MIN	0	AC-FT	4060		
WTR YR 1976	TOTAL	2453.94	MEAN	6.70	MAX	443	MIN	0	AC-FT	4870		

PEAK DISCHARGE (BASE, 150 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-9	1200	8.03	1,200	4-20	1615	5.67	428
3-8	1830	4.36	177				

NOTE.--No gage-height record Nov. 28 to Feb. 7.

09505350. DRY BEAVER CREEK NEAR RIMROCK, ARIZ.

LOCATION.--Lat 34°43'43", long 111°46'30", in NE¼NW¼ sec.1, T.15 N., R.5 E., Yavapai County, in Coconino National Forest, on left upstream abutment of abandoned highway bridge, 400 ft (122 m) upstream from present State Highway 179 and 5.5 mi (8.8 km) north of Rimrock.

DRAINAGE AREA.--142 mi² (368 km²).

PERIOD OF RECORD.--October 1960 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 3,694.38 ft (1,126.047 m) above mean sea level (Arizona Highway Department bench mark).

AVERAGE DISCHARGE.--16 years, 36.4 ft³/s (1.031 m³/s), 26,370 acre-ft/yr (32.5 hm³/yr); median of yearly mean discharges, 28 ft³/s (0.79 m³/s), 20,300 acre-ft/yr (25 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 7,020 ft³/s (199 m³/s) Feb. 9 (gage height, 8.64 ft or 2.633 m); no flow for many days. Period of record: Maximum discharge, 26,600 ft³/s (753 m³/s) Sept. 5, 1970 (gage height, 14.35 ft or 4.374 m), from rating curve extended above 6,000 ft³/s (170 m³/s) on basis of computation of peak flow over weir at gage heights 9.07 ft (2.765 m) and 9.69 ft (2.954 m) and slope-area measurement at gage height 14.35 ft (4.374 m); no flow for many days each year.

REMARKS.--Records fair. No known diversions above station.

REVISIONS.--WRD Ariz. 1969: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0	120	42	2.9		0	0	0
2					0	194	91	1.7		0	0	0
3					0	127	103	1.0		0	0	0
4					0	39	96	1.0		0	0	0
5					217	28	94	.73		0	0	0
6					695	38	50	.52		0	0	0
7					301	38	31	.73		0	0	0
8					224	85	34	1.6		0	0	0
9					2540	208	39	156		0	0	0
10					568	172	32	68		0	0	0
11					180	121	22	31		0	0	1.4
12					129	66	16	13		0	0	0
13					152	43	12	5.6		0	0	0
14					147	37	11	2.7		0	0	0
15					85	35	11	1.3		0	0	0
16					65	44	23	.62		0	0	0
17					53	61	13	0		0	0	0
18					46	85	46	0		0	0	0
19					51	163	323	0		0	0	0
20					64	130	738	0		0	0	0
21					44	94	812	0		0	0	0
22					24	96	624	0		12	0	0
23					14	136	360	0		2.5	0	0
24					11	172	157	0		.03	0	.31
25					13	197	81	0		0	0	2.4
26					18	186	48	0		0	0	.09
27					29	123	28	0		0	0	0
28					36	66	16	0		0	.87	0
29					48	40	8.5	0		0	.06	0
30					---	25	5.1	0		0	0	0
31		---			---	16	---	0	---	0	0	---
TOTAL	0	0	0	0	5754	2985	3966.6	288.40	0	14.53	.93	4.20
MEAN	0	0	0	0	198	96.3	132	9.30	0	.47	.030	.14
MAX	0	0	0	0	2540	208	812	156	0	12	.87	2.4
MIN	0	0	0	0	0	16	5.1	0	0	0	0	0
AC-FT	0	0	0	0	11410	5920	7870	572	0	29	1.8	8.3
CAL YR 1975	TOTAL	8532.77	MEAN 23.4	MAX 525	MIN 0	AC-FT 16920						
WTR YR 1976	TOTAL	13013.66	MEAN 35.6	MAX 2540	MIN 0	AC-FT 25810						

PEAK DISCHARGE (BASE, 600 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-6	0245	5.27	1,420	4-20	1930	5.62	1,810
2-9	1315	8.64	7,020				

GILA RIVER BASIN

09505550. VERDE RIVER BELOW CAMP VERDE, ARIZ.

LOCATION.--Lat 34°33'02", long 111°51'02", in SW¼NW¼ sec.5, T.13 N., R.5 E., Yavapai County, on downstream side of bridge on county highway, 0.5 mi (0.8 km) southeast of Camp Verde, and 2.2 mi (3.5 km) downstream from Beaver Creek.

DRAINAGE AREA.--4,670 mi² (12,100 km²), approximately (includes 373 mi² or 966 km² in Aubrey Valley Playa, a closed basin).

PERIOD OF RECORD.--November 1971 to current year.

GAGE.--Water-stage recorder. Datum of gage is 3,045.10 ft (928.146 m) above mean sea level.

EXTREMES.--Current year: Maximum discharge, 30,100 ft³/s (852 m³/s) Feb. 9 (gage height, 16.44 ft or 5.011 m); minimum daily, 13 ft³/s (0.37 m³/s) July 6, 7.

Period of record: Maximum discharge, 40,600 ft³/s (1,150 m³/s) Oct. 20, 1972 (gage height, 18.51 ft or 5.642 m recorded, 19.0 ft or 5.79 m, top of surge in gage well and from profile past gage); minimum daily, 13 ft³/s (0.37 m³/s) July 6, 7, 1976.

Flood of Sept. 5-6, 1970, reached a stage of about 19.0 ft (5.79 m), estimated on basis of stage of 19.5 ft (5.94 m), from profile past gage (discharge, 43,000 ft³/s or 1,220 m³/s). A peak discharge of 97,000 ft³/s (2,750 m³/s) was recorded at former gaging station at site 8.5 mi (13.7 km) downstream (below West Clear Creek) on Mar. 3, 1938, and is the highest near this site since at least 1924.

REMARKS.--Records good. About 10,000 acres (40 km²) above station are irrigated by surface water and ground water.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	67	150	153	126	269	153	113	40	17	116	24
2	32	75	148	151	130	585	185	109	51	16	96	26
3	30	75	147	136	132	809	225	99	53	20	72	25
4	31	76	144	115	146	624	201	113	47	20	49	22
5	30	71	142	117	169	375	191	119	40	15	30	22
6	35	70	139	114	1800	309	188	113	38	13	20	63
7	37	76	137	113	1710	293	153	113	43	13	18	68
8	37	75	134	111	1220	309	131	125	39	16	18	49
9	39	74	130	112	10400	591	125	239	40	17	20	43
10	41	78	132	114	12800	923	121	370	29	22	22	41
11	43	79	131	112	3500	756	115	234	21	24	61	53
12	44	68	129	113	1880	591	108	160	23	219	57	81
13	44	72	131	115	1450	434	102	123	22	168	31	74
14	47	69	142	111	1360	313	111	93	21	120	22	63
15	51	73	165	113	1060	262	129	78	19	110	21	54
16	50	75	163	111	809	247	163	70	16	102	22	41
17	47	74	161	112	643	262	201	66	16	89	23	29
18	45	76	158	110	542	293	179	51	17	100	22	23
19	46	83	159	110	480	428	542	57	16	121	19	26
20	58	128	157	112	468	548	2520	90	14	150	18	28
21	64	115	170	109	480	456	4680	108	14	99	19	34
22	67	109	169	107	390	356	4050	113	14	81	19	36
23	66	110	166	108	321	370	2160	84	14	217	22	37
24	65	107	164	108	277	462	1000	78	15	94	24	48
25	60	108	159	109	247	535	560	67	14	76	23	545
26	64	110	158	113	232	554	343	59	14	71	29	418
27	71	117	157	113	221	417	228	53	14	83	25	224
28	76	165	156	111	228	293	171	49	15	124	26	199
29	64	179	153	106	239	239	142	44	15	95	32	170
30	65	159	154	98	---	198	125	37	14	160	35	159
31	64	---	152	112	---	176	---	34	---	197	27	---
TOTAL	1540	2815	4657	3549	43460	13277	19302	3261	748	2669	1038	2725
MEAN	49.7	93.8	150	114	1499	428	643	105	24.9	86.1	33.5	90.8
MAX	71	179	170	153	12800	923	4680	370	53	219	116	545
MIN	30	67	129	98	126	176	102	34	14	13	18	22
AC-FT	3050	5580	9240	7040	86200	26330	38290	6470	1480	5290	2060	5410
CAL YR 1975	TOTAL	62589	MEAN 171	MAX 2400	MIN 15	AC-FT 124100						
WTR YR 1976	TOTAL	95041	MEAN 271	MAX 12800	MIN 13	AC-FT 196400						

PEAK DISCHARGE (BASE, 3,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-9	2215	16.44	30,100	9-25	2145	7.14	3,050
4-21	0915	9.08	6,200				

GILA RIVER BASIN

443

09505800. WEST CLEAR CREEK NEAR CAMP VERDE, ARIZ.

LOCATION.--Lat 34°32'19", long 111°41'36", in NW¼NW¼ sec.11, T.13 N., R.6 E., Yavapai County, in Coconino National Forest, on left bank at Bull Pen Ranch, 9 mi (14 km) upstream from mouth, and 9 mi (14 km) east of Camp Verde.

DRAINAGE AREA.--241 mi² (624 km²).

PERIOD OF RECORD.--December 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,630 ft (1,106 m), from topographic map.

AVERAGE DISCHARGE.--11 years, 58.2 ft³/s (1.648 m³/s), 42,170 acre-ft/yr (52.0 hm³/yr); median of yearly mean discharges, 46 ft³/s (1.30 m³/s), 33,700 acre-ft/yr (41 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 8,130 ft³/s (230 m³/s) Feb. 9 (gage height, 8.90 ft or 2.713 m); minimum daily, 13 ft³/s (0.37 m³/s) Sept. 15-21.

Period of record: Maximum discharge, 11,300 ft³/s (320 m³/s) Oct. 19, 1972 (gage height, 9.61 ft or 2.929 m), from rating curve extended above 2,100 ft³/s (60 m³/s), on basis of slope-area measurement at gage height 8.3 ft (2.53 m); minimum daily, 12 ft³/s (0.34 m³/s) at times during summer months in 1966, 1968-70, 1974.

REMARKS.--Records good except for periods of no gage-height record, which are fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	17	22	21	21	50	35	38	19	16	16	15
2	15	17	22	19	21	85	33	36	18	15	16	15
3	15	17	22	20	21	138	34	34	18	14	15	16
4	15	17	22	20	26	95	38	35	18	14	15	16
5	15	17	22	21	311	59	44	40	18	14	15	16
6	15	17	22	21	522	50	44	36	18	14	15	16
7	15	17	21	21	181	50	41	34	17	15	15	16
8	16	18	21	21	151	58	37	36	17	16	15	16
9	15	18	21	21	3180	109	35	35	16	16	15	15
10	15	18	21	21	1250	133	35	70	16	15	15	15
11	15	18	22	21	363	135	34	64	17	15	15	16
12	15	18	22	21	245	99	32	50	17	18	15	14
13	16	18	24	21	223	68	32	38	16	17	15	14
14	15	18	25	21	213	52	37	32	16	17	15	14
15	15	18	24	21	146	51	40	29	16	16	15	13
16	16	18	22	21	118	65	47	26	16	15	15	13
17	16	19	21	21	93	75	44	26	15	16	15	13
18	16	19	21	21	68	146	25	15	15	16	15	13
19	16	19	21	21	61	123	467	41	15	23	15	13
20	18	19	21	21	64	133	721	30	15	17	15	13
21	18	19	23	21	62	103	949	33	15	16	15	13
22	17	19	26	21	47	80	557	28	15	17	15	14
23	17	20	23	21	37	72	332	26	15	17	15	14
24	17	20	22	21	32	76	203	23	15	16	15	16
25	17	20	21	21	29	82	133	22	15	20	15	18
26	17	20	21	21	27	89	99	22	15	20	15	17
27	17	21	21	21	26	83	75	22	14	20	15	17
28	17	28	21	21	27	70	59	20	14	20	15	16
29	17	30	21	21	36	59	50	20	15	21	15	16
30	17	16	20	21	---	48	44	20	16	18	15	14
31	17	---	21	21	---	40	---	20	---	17	15	---
TOTAL	497	580	679	647	7601	2513	4477	1011	482	521	467	447
MEAN	16.0	19.3	21.9	20.9	262	81.1	149	32.6	16.1	16.8	15.1	14.9
MAX	18	30	26	21	3180	138	949	70	19	23	16	18
MIN	15	17	20	19	21	40	32	20	14	14	15	13
AC-FT	986	1150	1350	1280	15080	4980	8880	2010	956	1030	926	887

CAL YR 1975 TOTAL 17127 MEAN 46.9 MAX 1240 MIN 13 AC-FT 33970
WTR YR 1976 TOTAL 15922 MEAN 54.4 MAX 3180 MIN 13 AC-FT 39520

PEAK DISCHARGE (BASE, 1,000 CFS)--Feb. 9 (1350) 8,130 cfs (8.90 ft); Apr. 21 (0045) 1,980 cfs (6.29 ft).

NOTE.--No gage-height record Jan. 7 to Feb. 4, Aug. 3 to Sept. 1.

GILA RIVER BASIN

09507500. FOSSIL CREEK DIVERSIONS TO CHILDS POWERPLANT, NEAR CAMP VERDE, ARIZ.

LOCATION.--Lat 34°22'06", long 111°39'56", in NE¼SW¼ sec.20, T.11½ N., R.7 E., Yavapai County, at head of Stehr Lake, 2.3 mi (3.7 km) northeast of Childs powerplant, 4.4 mi (7.1 km) by flume downstream from Irving powerplant, and 17 mi (27 km) southeast of Camp Verde.

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

GAGE.--Water-stage recorder and weir in concrete flume. Datum of gage is 3,716.2 ft (1,132.70 m) above mean sea level.

AVERAGE DISCHARGE.--24 years, 42.9 ft³/s (1.21 m³/s), 31,080 acre-ft/yr (38.3 hm³/yr).

EXTREMES.--Period of record: Maximum daily discharge, 51 ft³/s (1.44 m³/s) Apr. 17-21, 1952, Jan. 17, 18, 1965; no flow at times in most years.

REMARKS.--Records good. Record is obtained at the head of Stehr Lake, a regulatory basin, and shows the water used by Childs powerplant. Most of the flow originates at Fossil Springs, which are fairly constant. Diversion is made from Fossil Creek 8 mi (13 km) upstream from this station and is first used by Irving powerplant. A second diversion from Fossil Creek enters the flume below Irving powerplant. Based on estimates and records for previous years, the flow through the Irving powerplant is estimated to be about 99 percent of the record published herewith.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	44	45	42	44	41	41	37	43	44	44	40
2	43	44	45	42	44	41	41	40	43	45	44	42
3	43	44	44	42	44	41	41	37	41	45	44	43
4	43	39	44	42	44	40	41	41	46	45	44	43
5	43	45	44	42	34	40	41	42	46	45	44	43
6	43	45	44	42	43	41	41	41	46	45	44	43
7	43	45	44	42	42	41	41	42	47	45	44	43
8	44	45	43	42	43	41	41	42	47	45	44	43
9	40	44	27	42	44	39	41	41	46	45	44	42
10	44	44	44	42	41	40	41	43	46	44	44	42
11	44	45	44	41	35	41	41	42	46	45	44	42
12	44	45	44	42	33	41	41	42	46	46	44	42
13	44	45	44	41	42	41	41	42	46	46	44	35
14	44	45	44	39	41	41	40	43	46	45	43	38
15	44	45	44	41	42	41	40	37	46	45	43	42
16	44	45	44	41	41	40	40	41	46	45	44	43
17	44	45	43	43	41	40	41	43	45	45	44	41
18	44	45	43	43	42	40	41	42	42	45	44	41
19	44	45	43	40	36	41	41	42	42	44	44	42
20	45	45	43	33	41	40	39	39	42	44	44	41
21	45	45	43	38	40	41	42	41	44	45	44	41
22	44	45	43	44	40	41	42	43	44	44	45	41
23	44	45	43	43	41	41	42	43	44	44	45	41
24	44	44	43	43	41	37	42	43	44	44	44	42
25	44	44	43	43	39	36	41	44	44	44	45	41
26	44	44	43	43	40	41	42	44	44	44	44	41
27	44	44	43	43	41	41	42	44	44	41	45	40
28	44	45	43	43	41	41	43	44	45	46	44	41
29	44	45	43	43	41	41	41	44	45	45	41	41
30	44	45	43	43	---	41	38	39	45	44	41	41
31	44	---	43	43	---	41	---	43	---	44	42	---
TOTAL	1355	1355	1333	1293	1183	1253	1230	1291	1341	1383	1358	1241
MEAN	43.7	44.5	43.0	41.7	40.8	40.4	41.0	41.6	44.7	44.6	43.8	41.4
MAX	45	45	45	44	44	41	43	44	47	46	45	43
MIN	40	39	27	33	33	36	38	37	41	41	41	35
AC-FT	2690	2650	2640	2560	2350	2490	2440	2560	2660	2740	2690	2480
CAL YR 1975	TOTAL	15721.9	MEAN	43.1	MAX	47	MIN	0	AC-FT	31180		
WTR YR 1976	TOTAL	15596.	MEAN	42.6	MAX	47	MIN	27	AC-FT	30930		

GILA RIVER BASIN

445

09507580. EAST VERDE RIVER DIVERSION FROM EAST CLEAR CREEK, NEAR PINE, ARIZ.

LOCATION.--Lat 34°25'10", long 111°15'50", in NW¼NE¼ sec.23, T.12 N., R.10 E. (unsurveyed), Gila County, at confluence of Mail Creek and East Verde River, 0.9 mi (1.4 km) southeast of Washington Park, and 11 mi (18 km) east of Pine.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder and weir in concrete flume. Altitude of gage is 5,774 ft (1,760.0 m), from Phelps Dodge Corporation reference mark.

EXTREMES.--Period of record: Maximum daily discharge, 34 ft³/s (0.96 m³/s) Apr. 19, 29, May 5-7, 10, 12, 15, 18, June 2, 1969; no flow for long periods each year.

REMARKS.--Records good. Diversion is 9.5 mi (15.3 km) northeast, from Blue Ridge Reservoir on East Clear Creek, in the Little Colorado River basin, to the East Verde River in the Gila River basin.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	26			0	29	30	27	29	28	23	26
2	27	26			0	28	30	27	28	28	23	27
3	26	26			0	28	30	27	28	28	23	27
4	27	26			0	25	30	26	28	28	23	27
5	27	26			0	.57	30	27	28	28	23	27
6	27	26			0	8.9	30	26	28	28	18	27
7	27	26			0	27	30	26	28	28	23	26
8	27	26			0	28	30	26	28	26	23	27
9	26	26			0	28	30	26	28	24	23	27
10	27	26			0	28	30	27	28	23	23	27
11	26	26			0	28	30	25	28	23	23	27
12	27	26			0	29	30	25	28	26	14	27
13	26	26			0	29	30	25	28	27	23	27
14	27	15			8.5	29	30	27	28	20	23	27
15	26	6.1			28	28	31	25	28	19	23	27
16	27	0			29	28	31	25	28	19	23	27
17	27	0			28	29	30	25	28	23	27	28
18	26	0			28	29	31	25	28	23	28	28
19	27	0			28	29	30	26	28	23	28	28
20	26	0			28	29	30	26	28	20	27	27
21	26	0			27	29	31	26	28	17	28	27
22	27	0			27	29	30	26	28	17	27	28
23	27	0			28	29	31	26	28	11	28	27
24	26	0			28	29	30	19	28	20	27	28
25	26	0			28	29	31	29	28	23	28	28
26	26	0			28	30	30	30	28	23	28	28
27	26	0			28	30	29	30	28	23	27	24
28	26	0			29	29	29	30	28	23	28	24
29	26	0			29	30	29	30	28	23	28	24
30	26	0			---	30	29	30	28	23	27	26
31	26	---			---	30	---	30	---	23	26	---
TOTAL	821	359.1	0	0	429.5	841.47	902	825	841	718	766	805
MEAN	26.5	12.0	0	0	14.8	27.1	30.1	26.6	28.0	23.2	24.7	26.8
MAX	27	26	0	0	29	30	31	30	29	28	28	28
MIN	26	0	0	0	0	.57	29	19	28	11	14	24
AC-FT	1630	712	0	0	852	1670	1790	1640	1670	1420	1520	1600
CAL YR 1975	TOTAL	6649.60	MEAN	18.2	MAX	29	MIN	0	AC-FT	13190		
WTR YR 1976	TOTAL	7308.07	MEAN	20.0	MAX	31	MIN	0	AC-FT	14500		

GILA RIVER BASIN

09507980. EAST VERDE RIVER NEAR CHILDS, ARIZ.

LOCATION.--Lat 34°17'00", long 111°38'50", in sec.21, T.11 N., R.7 E. (unsurveyed), Gila County, in Tonto National Forest, on left bank 1.3 mi (2.1 km) upstream from mouth and 6 mi (10 km) southeast of Childs.

DRAINAGE AREA.--328 mi² (850 km²).

PERIOD OF RECORD.--September 1961 to December 1965, May 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,500 ft (760 m), from topographic map. Sept. 1, 1961, to Dec. 15, 1965, at site 1 mi (2 km) upstream at altitude 2,600 ft (790 m), datum raised 0.38 ft (0.116 m) Oct. 4, 1963. May 25, 1967, to July 20, 1972, at present site at datum 1.29 ft (0.393 m) higher.

EXTREMES.--Current year: Maximum discharge, 11,400 ft³/s (323 m³/s) Feb. 9 (gage height, 13.8 ft or 4.206 m, from high-water mark in gage well), from rating curve extended above 960 ft³/s (27 m³/s) on basis of slope-area measurements at gage heights 8.82 and 19.2 ft (2.688 and 5.85 m); minimum daily, 5.1 ft³/s (0.144 m³/s) Nov. 26.

Period of record: Maximum discharge, 23,500 ft³/s (666 m³/s) Sept. 5, 1970 (gage height, 19.2 ft or 5.85 m, from profile past gage), from rating curve extended above 960 ft³/s (27 m³/s) on basis of slope-area measurements at gage heights 8.82 and 19.2 ft (2.688 and 5.85 m); minimum daily, 0.20 ft³/s (0.006 m³/s) June 19 to July 8, 1963, July 21-28, 1971.

REMARKS.--Records good except those for period of no gage-height record, which are poor. Records include transbasin diversions from East Clear Creek to headwaters of East Verde River. (See sta 09507580.)

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NCV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	27	12	8.5	6.1	58	42	50	31	26	38	28
2	25	27	10	7.5	6.0	63	41	48	30	25	29	27
3	25	27	9.5	7.3	5.9	66	41	45	29	24	26	26
4	25	27	8.8	7.6	13	72	43	52	29	23	25	30
5	25	27	8.5	8.0	2500	60	42	59	29	24	23	79
6	25	27	8.3	8.1	1000	45	43	51	29	25	23	59
7	24	25	7.7	7.9	400	36	41	46	28	24	22	39
8	25	26	7.2	7.5	200	42	39	49	27	25	22	39
9	25	27	7.1	7.3	4000	50	39	48	27	24	25	37
10	26	27	6.7	7.7	2500	51	39	44	27	23	25	36
11	25	27	6.6	7.7	407	53	39	42	27	22	25	37
12	25	27	6.4	7.6	210	53	39	40	28	35	25	35
13	26	26	12	7.5	166	52	37	37	27	33	24	33
14	26	27	14	7.5	135	49	52	36	26	28	16	31
15	27	27	13	7.3	112	48	68	36	26	36	21	29
16	27	18	11	7.3	122	47	345	35	25	31	21	29
17	27	14	9.8	7.2	106	48	232	34	25	34	22	29
18	26	11	9.0	7.0	89	48	230	33	25	34	23	28
19	26	8.3	8.4	7.0	78	52	332	33	25	29	26	29
20	28	7.2	8.1	6.8	73	60	307	43	26	26	26	29
21	30	6.7	18	6.5	68	58	229	38	26	25	27	30
22	28	6.2	36	6.5	61	54	235	35	25	24	27	31
23	27	5.9	30	6.8	55	53	230	33	25	23	27	31
24	27	5.7	20	7.1	54	55	170	30	25	93	25	38
25	27	5.6	15	8.3	52	56	134	29	25	86	27	50
26	27	5.1	13	7.8	51	57	110	28	26	61	26	219
27	27	5.4	11	7.3	51	57	88	32	26	59	26	88
28	27	16	10	6.8	52	54	72	32	25	44	29	45
29	27	25	9.6	6.6	55	50	63	31	25	30	28	34
30	27	17	9.1	6.4	---	48	56	32	26	50	28	30
31	27	---	9.0	6.4	---	44	---	32	---	47	28	---
TOTAL	814	558.1	364.8	226.8	12628.0	1639	3478	1213	800	1093	785	1305
MEAN	26.3	18.6	11.8	7.32	435	52.9	116	39.1	26.7	35.3	25.3	43.5
MAX	30	27	36	8.5	4000	72	345	59	31	93	38	219
MIN	24	5.1	6.4	6.4	5.9	36	37	28	25	22	16	26
AC-FT	1610	1110	724	450	25050	3250	6900	2410	1590	2170	1560	2590
CAL YR 1975	TOTAL	13115.9	MEAN	35.9	MAX	535	MIN	5.1	AC-FT	26020		
WTR YR 1976	TOTAL	24904.7	MEAN	68.0	MAX	4000	MIN	5.1	AC-FT	49400		

PEAK DISCHARGE (BASE, 300 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-5	Unknown	--	Unknown	7-25	1830	4.35	652
2-9	Unknown	13.8	11,400	7-27	2000	3.77	337
4-16	1200	4.15	535	9-26	0630	4.40	694

NOTE.--No gage-height record Feb. 5-10.

09508300. WET BOTTOM CREEK NEAR CHILDS, ARIZ.
(Hydrologic bench-mark station)

LOCATION.--Lat 34°09'39", long 111°41'32", in sec.36, T.9½ N., R.6 E. (unsurveyed), Gila County, in Tonto National Forest, on right bank 1.4 mi (2.3 km) upstream from mouth and 13 mi (21 km) south of Childs.

DRAINAGE AREA.--36.4 mi² (94.3 km²).

PERIOD OF RECORD.--June 1967 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,320 ft (707 m), from topographic map.

AVERAGE DISCHARGE.--9 years, 10.3 ft³/s (0.292 m³/s), 7,460 acre-ft/yr (9.20 km³/yr).

EXTREMES.--Current year: Maximum discharge, 5,940 ft³/s (168 m³/s) Feb. 9 (gage height, 11.36 ft or 3.463 m), from rating curve extended above 300 ft³/s (8.5 m³/s) on basis of slope-area measurements at gage heights 9.77, 11.00, and 14.18 ft (2.978, 3.353, and 4.322 m); no flow for many days.

Period of record: Maximum discharge, 5,940 ft³/s (168 m³/s) Feb. 9, 1976 (gage height, 11.36 ft or 3.463 m), from rating curve extended above 300 ft³/s (8.5 m³/s) on basis of slope-area measurements at gage heights 9.77, 11.00, and 14.18 ft (2.978, 3.353, and 4.322 m); maximum gage height, 14.18 ft (4.322 m), in gage well, Sept. 5, 1970; no flow at times.

REMARKS.--Records fair. Records of chemical analyses, suspended-sediment loads, and water temperatures for the current year are published on following pages.

REVISIONS.--WRD Ariz. 1970: 1968(M).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.07	.29	2.1	.33	1.3	.34	1.4	.11	0	0	1.1
2	0	.07	.29	1.7	.33	1.1	.29	1.1	.10	0	0	.72
3	0	.08	.29	1.5	.34	1.4	.29	.84	.08	0	0	.47
4	0	.09	.30	1.3	1.4	3.0	.25	1.3	.07	0	0	.34
5	0	.09	.31	.96	722	3.3	.25	1.3	.06	0	0	.34
6	0	.09	.30	.84	322	4.5	.25	1.2	.05	0	0	1.1
7	0	.10	.92	.72	146	8.6	.20	.84	.04	0	0	2.1
8	0	.11	1.1	.60	71	9.3	.16	.96	.03	0	0	1.3
9	0	.12	.99	.60	1260	8.6	.16	1.8	.03	0	0	1.4
10	0	.13	.89	.60	248	8.0	.16	1.7	.02	0	0	1.4
11	0	.14	.80	.53	101	8.0	.16	1.3	.02	0	0	2.5
12	0	.15	.73	.51	63	7.7	.16	.72	.02	0	0	1.4
13	0	.15	2.1	.50	49	7.0	.16	.51	.01	0	0	.72
14	0	.15	.46	.46	36	6.4	.56	.42	.01	0	0	.49
15	0	.16	.25	.46	29	5.4	14	.29	.01	0	0	.38
16	0	.16	.14	.44	26	4.2	196	.20	0	0	0	.29
17	0	.16	.11	.42	20	3.6	114	.15	0	0	0	.22
18	0	.16	8.8	.42	16	2.7	118	.15	0	0	0	.16
19	0	.16	6.7	.40	13	2.1	130	.15	0	0	0	.16
20	0	.20	5.8	.38	10	1.6	89	.15	0	0	0	.15
21	0	.20	.45	.37	8.5	1.4	58	.15	0	0	0	.15
22	0	.19	.46	.38	7.4	1.2	31	.15	0	0	0	.16
23	0	.20	.22	.38	6.1	1.1	18	.15	0	0	0	.15
24	0	.20	.14	.38	4.8	.84	13	.15	0	0	0	.18
25	.03	.22	.11	.38	3.6	.72	9.6	.14	0	0	0	.36
26	.05	.22	8.3	.34	2.7	.56	7.1	.14	0	0	0	87
27	.06	.26	7.0	.34	2.1	.51	5.8	.14	0	0	0	64
28	.06	.40	5.1	.33	1.6	.47	4.2	.13	0	13	0	17
29	.07	.41	4.2	.34	1.6	.42	3.0	.13	0	0	7.4	9.9
30	.07	.30	3.3	.34	---	.42	1.7	.12	0	0	4.5	5.7
31	.07	---	2.7	.33	---	.38	---	.12	---	---	2.1	---
TOTAL	.41	5.14	295.21	19.35	3172.80	105.82	815.79	18.00	.66	0	27.0	201.34
MEAN	.013	.17	9.52	.62	109	3.41	27.2	.58	.022	0	.87	6.71
MAX	.07	.41	.46	2.1	1260	9.3	196	1.8	.11	0	13	87
MIN	0	.07	.29	.33	.33	.38	.16	.12	0	0	0	.15
AC-FT	.8	10	586	38	6290	210	1620	36	1.3	0	54	399
CAL YR 1975	TOTAL	1971.97	MEAN	5.40	MAX	134	MIN	0	AC-FT	3910		
WTR YR 1976	TOTAL	4661.52	MEAN	12.7	MAX	1260	MIN	0	AC-FT	9250		

PEAK DISCHARGE (BASE, 100 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
12-21	1430	5.02	108	4-16	0515	5.93	392
2- 5	1215	7.90	1,640	9-26	1300	5.43	217
2- 9	1245	11.36	5,940				

GILA RIVER BASIN

09508300. WET BOTTOM CREEK NEAR CHILDS, ARIZ.
(Hydrologic bench-mark station)

LOCATION.--Lat 34°09'39", long 111°41'32", in sec.36, T.9½ N., R.6 E. (unsurveyed), Gila County in Tonto National Forest, at gaging station, 1.4 mi (2.2 km) upstream from mouth, and 13 mi (21 km) south of town of Childs.

DRAINAGE AREA.--36.4 mi² (94.3 km²).

PERIOD OF RECORD.--Chemical analyses: August 1968 to current year.
Sediment records: August 1968 to current year.

REMARKS.--No flow for extended periods each year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG/L)
NOV 14...	1330	.15	435	8.0	18.0	170	0	47	13
DEC 15...	1400	22	120	7.2	8.0	40	6	11	3.0
JAN 12...	1400	.50	254	7.6	8.0	92	0	25	7.1
FEB 11...	1400	108	66	7.9	9.0	31	12	9.0	2.0
MAR 12...	1400	7.2	103	7.6	11.0	41	5	9.9	3.9
APR 21...	1300	52	60	7.0	17.0	22	2	5.8	1.9
SEP 10...	1030	1.5	220	8.3	20.0	78	0	21	6.1

DATE	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SiO2) (MG/L)
NOV 14...	33	1.1	1.4	266	0	7.3	17	2.0	33
DEC 15...	7.6	.5	1.0	41	0	13	5.3	.6	15
JAN 12...	17	.8	.9	130	0	11	7.4	1.8	25
FEB 11...	3.1	.2	.9	23	0	11	3.2	.3	12
MAR 12...	12	.8	1.0	44	0	11	9.2	.7	17
APR 21...	3.4	.3	.8	25	0	7.7	4.2	.4	13
SEP 10...	17	.8	1.2	121	0	6.4	7.2	1.6	31

DATE	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	TOTAL FILTERABLE RESIDUE (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	TOTAL NON-FILTERABLE RESIDUE (MG/L)	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)	DISSOLVED ORTHO-PHOSPHORUS (P) (MG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED IRON (FE) (UG/L)
NOV 14...	263	280	285	.36	<1	.05	.03	30	70
DEC 15...	73	--	78	.10	--	.25	.01	40	30
JAN 12...	158	--	159	.21	--	.02	.00	40	20
FEB 11...	56	--	54	.08	--	.16	.00	40	60
MAR 12...	91	--	87	.12	--	.01	.00	20	40
APR 21...	62	--	50	.08	--	.01	.00	20	40
SEP 10...	140	--	151	.19	--	.01	.02	40	30

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

GILA RIVER BASIN

449

09508300. WET BOTTOM CREEK NEAR CHILDS, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	HEXA- VALENT CHRO- MIUM (CR6) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)		
DATE	TIME								
NOV 14...	1330	12	30	0	0	1	7		
APR 21...	1300	1	20	0	0	2	3		
DATE	TIME	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED MOLYB- DENUM (MO) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	CYANIDE (CN) (MG/L)		
NOV 14...	70	3	.0	0	0	10	--		
APR 21...	40	2	.1	0	0	0	.00		
DATE	TIME	DIS- SOLVED GROSS ALPHA AS U-NAT. (UG/L)	SUS- PENDE GROSS ALPHA AS U-NAT. (UG/L)	DIS- SOLVED GROSS BETA AS CS-137 (PC/L)	SUS- PENDE GROSS BETA AS CS-137 (PC/L)	DIS- SOLVED GROSS BETA AS AS SR90 /Y90 (PC/L)	SUS- PENDE GROSS BETA AS AS SR90 /Y90 (PC/L)	DIS- SOLVED RA-226 (RADON METHOD) (PC/L)	DIS- SOLVED URANIUM (U) (UG/L)
NOV 14...	1330	12	<.4	5.7	<.4	4.7	<.4	.03	2.4
		DATE	DIS- CHARGE (CFS)	SUS- PENDE SEDI- MENT (MG/L)	SUS- PENDE SEDI- MENT DIS- CHARGE (T/DAY)				
		NOV 14...	.20	0	.00				
		DEC 15...	22	0	.00				
		JAN 12...	.50	0	.00				
		FEB 11...	108	4	1.2				
		MAR 12...	7.3	1	.02				
		APR 21...	52	6	.84				
		SEP 10...	1.6	0	.00				

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

09508500. VERDE RIVER BELOW TANGLE CREEK, ABOVE HORSESHOE DAM, ARIZ.

LOCATION.--Lat 34°04'23", long 111°42'56", in sec.35, T.9 N., R.6 E. (unsurveyed), Yavapai County, in Tonto National Forest, on right bank 1.3 mi (2.1 km) downstream from Tangle Creek and 9 mi (14 km) upstream from Horseshoe Dam.

DRAINAGE AREA.--5,872 mi² (15,208 km²), includes 373 mi² (966 km²) in Aubrey Valley Playa, a closed basin.

PERIOD OF RECORD.--August 1945 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,029.0 ft (618.44 m) above mean sea level.

AVERAGE DISCHARGE.--31 years, 472 ft³/s (13.37 m³/s), 342,000 acre-ft/yr (422 hm³/yr); median of yearly mean discharges, 370 ft³/s (10.5 m³/s), 268,000 acre-ft/yr (330 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 39,900 ft³/s (1,130 m³/s) Feb. 10 (gage height, 17.00 ft or 5.182 m); minimum daily, 102 ft³/s (2.89 m³/s) July 9.

Period of record: Maximum discharge, 81,600 ft³/s (2,310 m³/s) Dec. 31, 1951 (gage height, 17.62 ft or 5.371 m), from rating curve extended above 42,000 ft³/s (1,190 m³/s); maximum gage height, 19.00 ft (5.791 m) Oct. 20, 1972; minimum discharge, 48 ft³/s (1.36 m³/s) June 17, 1950, July 18, 19, 1958, caused by power regulation on Fossil Creek; minimum daily, 61 ft³/s (1.73 m³/s) July 18, 1958.

Maximum discharge since at least 1924, 100,000 ft³/s (2,830 m³/s) Mar. 3, 1938 (gage height, 19.0 ft or 5.79 m, from floodmarks), based on comparison with peak discharge at other stations on Verde River.

REMARKS.--Records good. About 12,500 acres (50.6 km²) above station are irrigated by surface water and ground water. Low flow slightly regulated by powerplant 32 mi (51 km) above station, using water from Fossil Creek. This station is above all major reservoirs on Verde River.

REVISIONS.--WSP 1283: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	146	199	295	263	259	429	348	320	162	113	350	160
2	150	201	278	263	259	486	309	290	159	105	280	151
3	150	206	271	259	259	860	326	276	156	105	250	145
4	148	208	269	259	294	1090	374	271	160	105	223	152
5	145	212	269	255	3930	837	372	267	162	107	199	189
6	145	214	267	255	5390	628	372	265	154	112	172	210
7	140	208	263	255	3850	531	372	259	150	107	160	222
8	154	214	252	255	1960	514	334	254	140	104	148	248
9	157	221	252	255	14400	542	304	282	144	102	144	236
10	162	217	257	250	24800	902	298	420	139	106	160	215
11	162	219	250	252	6660	1100	295	570	136	107	140	242
12	162	221	250	252	3270	1030	293	471	133	110	144	236
13	165	219	263	255	2440	850	293	380	129	192	172	219
14	177	217	289	257	2080	694	307	316	126	284	164	210
15	178	214	288	252	1920	573	369	282	122	223	145	192
16	182	208	284	250	1530	524	873	263	120	219	139	192
17	177	210	271	248	1250	517	993	244	118	208	133	184
18	164	210	267	250	1050	545	859	234	115	215	128	177
19	178	214	263	250	890	584	1690	229	112	204	122	168
20	190	221	261	250	760	784	2940	291	110	223	122	164
21	197	227	298	252	650	900	5460	284	106	240	144	154
22	212	234	337	238	600	880	5110	252	105	219	129	164
23	212	231	316	238	550	850	3640	229	105	265	135	180
24	212	234	298	255	520	850	2280	217	106	329	170	187
25	212	231	286	259	480	860	1430	208	107	367	157	232
26	210	234	276	252	443	870	1000	206	106	334	142	889
27	204	235	271	252	423	854	748	200	110	254	145	931
28	206	263	267	261	411	726	570	187	111	280	168	492
29	201	324	265	259	411	580	465	178	110	345	167	380
30	196	314	263	257	---	484	380	172	107	291	168	332
31	184	---	263	254	---	404	---	167	---	286	168	---
TOTAL	5478	6780	8499	7862	81739	22278	33404	8484	3820	6261	5188	7853
MEAN	177	226	274	254	2819	719	1113	274	127	202	167	262
MAX	212	324	337	263	24800	1100	5460	570	162	367	350	931
MIN	140	199	250	238	259	404	293	167	105	102	122	145
AC-FT	10870	13450	16860	15590	162100	44190	66260	16830	7580	12420	10290	15580

CAL YR 1975 TOTAL 130878 MEAN 359 MAX 4360 MIN 105 AC-FT 259600
WTR YR 1976 TOTAL 197646 MEAN 540 MAX 24800 MIN 102 AC-FT 392000

PEAK DISCHARGE (BASE, 4,000 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2- 5	2330	12.21	10,400	4-21	1030	10.52	6,520
2-10	0600	17.00	39,900				

09509500. RESERVOIR SYSTEM ON VERDE RIVER AT AND BELOW HORSESHOE DAM, ARIZ.

LOCATION.--This system comprises two storage reservoirs created by Horseshoe and Bartlett Dams on Verde River. Gages on Horseshoe Reservoir, formed by Horseshoe Dam, lat 33°59'05", long 111°42'35", in sec.2, T.7 N., R.6 E. (unsurveyed); and Bartlett Reservoir, formed by Bartlett Dam, lat 33°49'05", long 111°37'52", in sec.34, T.6 N., R.7 E. (unsurveyed).

DRAINAGE AREA.--6,185 mi² (16,019 km²), at Bartlett Dam.

PERIOD OF RECORD.--July 1939 to current year. Prior to 1946 published as Bartlett Reservoir at Bartlett Dam.

GAGE.--Water-stage recorders on dam structures. Datum of gage on Horseshoe Reservoir is 1,900.00 ft (579.120 m) and on Bartlett Reservoir 1,599.46 ft (487.515 m) above mean sea level. Prior to Oct. 14, 1964, Bartlett Reservoir gage datum was 10.00 ft (3.048 m) higher.

EXTREMES.--Current year: Maximum contents of system, 172,000 acre-ft (212 hm³) Feb. 20; minimum, 22,900 acre-ft (28.2 hm³) Jan. 21. Period of record: Maximum contents of system, 318,000 acre-ft (392 hm³) May 9, 1973; no storage at times when natural flow of river was passed through reservoir system.

REMARKS.--Horseshoe Reservoir is formed by earthfill and rockfill dam; dam completed and storage began Nov. 15, 1945. Bartlett Reservoir is formed by concrete multiple-arch dam; dam completed May 1939 and storage began Feb. 5, 1939. Total capacity of the two reservoirs (capacity tables dated January 1965, based on survey in 1963) is 317,700 acre-ft (392 hm³) divided as follows: Horseshoe Reservoir, 159,200 acre-ft (172 hm³) between elevations 1,915.0 (583.69 m)—sill of outlet gate—and 2,026.0 ft (617.52 m)—top of spillway gates; Bartlett Reservoir, 178,500 acre-ft (220 hm³) between elevations 1,619.46 ft (493.611 m)—10 ft (3.0 m) above sill of outlet gates—and 1,797.46 ft (547.866 m)—top of spillway gates. No dead storage. Records given herein represent usable contents. Water is used for irrigation of Salt River Valley and for municipal supply.

COOPERATION.--Capacity tables furnished by Salt River Valley Water Users' Association.

REVISIONS.--WSP 1283: Drainage area.

CONTENTS. IN ACRF-FFFT, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66180	61140	44250	33940	27910	160300	135200	152900	147500	117300	89950	71170
2	66380	61040	44190	33550	28420	159400	134600	150300	147200	114700	90270	70140
3	66560	60820	44030	33160	28870	159400	134200	149300	147200	112300	89960	69340
4	66720	60390	43870	32750	29690	160000	133800	149000	145400	110500	89370	68760
5	66850	59930	43680	32360	38140	160400	133500	149500	142400	108800	88440	68480
6	67000	59480	43730	31840	49640	160400	133200	149900	139900	107100	88060	68610
7	67120	59020	44300	31070	56750	160700	132800	150300	139400	105400	87590	68950
8	67260	57760	44740	30250	60250	160700	132400	150700	139300	103500	86980	69440
9	67310	56410	45120	29520	60500	160200	131700	151100	139100	100900	86350	69820
10	66650	55880	45440	28840	140300	160200	131200	151600	138700	98450	85930	70200
11	66100	54580	45680	28180	152500	160400	130500	152400	138400	96010	85290	70690
12	65830	52750	45180	27370	158100	161000	129500	152700	138100	94800	84460	71090
13	65470	51300	44280	26550	161100	160900	128800	152200	137800	94280	83620	71410
14	65050	50230	43820	25900	164100	160700	128500	151800	137400	94130	82980	71720
15	64840	49330	43420	25330	167000	159800	128600	151500	137200	93730	82560	71990
16	64570	48580	42860	24770	168800	158800	129900	150800	136800	92930	82170	72310
17	64340	48010	42250	24280	170400	157300	131200	149300	136600	91840	81640	72640
18	64030	47500	41590	23940	171400	155800	132100	147900	136200	90780	80970	72850
19	63810	47000	40790	23600	172000	154200	134600	147100	136000	89650	80310	73150
20	63610	46550	39950	23230	172000	152900	139600	146900	135600	88290	79520	73340
21	63420	46150	39470	22900	172000	152000	150400	147100	135200	87040	79010	73580
22	63300	45800	39290	23160	171900	150600	158600	147000	134600	85930	78390	73790
23	63190	45500	39040	23580	171500	148800	163300	147500	132900	85190	77940	74060
24	62970	45140	38960	24140	170300	146800	165700	147800	131200	85750	77200	74290
25	62910	44680	38910	24690	168700	144900	166100	148000	129400	86470	76310	74790
26	62860	44150	38460	25160	166800	142900	165200	148100	127800	87080	75180	76990
27	62730	43790	37660	25570	164900	141200	163500	148200	126400	87430	74250	78680
28	62400	43880	36690	26010	162900	139600	161200	148100	124600	87790	73300	79250
29	62050	44090	35670	26480	161300	137900	158600	147800	122400	88430	72800	79510
30	61650	44180	34770	26960	---	136700	156000	147700	120000	88900	72350	80010
31	61270	---	34350	27400	---	135600	---	147600	---	89310	71860	---
MAX	67310	61140	45680	33940	172000	161000	166100	152900	147500	117300	90270	80010
MIN	61270	43790	34350	22900	27910	135600	128500	146900	120000	85190	71860	68480
(†)	-4790	-17090	-9830	-6950	+133900	-25700	+20400	-8400	-27600	-30690	-17450	+8150

CAL YR 1975 MAX 128300 MIN 34350 † -18,130
WTR YR 1976 MAX 172000 MIN 22900 † +13,950

† Change in contents, in acre-feet.

09510000. VERDE RIVER BELOW BARTLETT DAM, ARIZ.

LOCATION.--Lat 33°49'03", long 111°38'08", in SE¼ sec.33, T.6 N., R.7 E. (unsurveyed), Maricopa County, in Tonto National Forest, on right bank 1,300 ft (400 m) downstream from Bartlett Dam, 5.9 mi (9.5 km) upstream from Camp Creek, and 18 mi (29 km) east of town of Cave Creek.

DRAINAGE AREA.--6,185 mi² (16,019 km²).

PERIOD OF RECORD.--August 1888 to current year. (Monthly discharge only August 1888 to December 1903, and January 1910 to September 1913. For some periods prior to December 1903 gage heights, discharge measurements, and daily discharge hydrograph are published in reports of the Geological Survey.) Prior to October 1941, published under different names as follows: "near Fort McDowell," "at mouth," "above Salt River," "at McDowell," "at McDowell near Lehi," "near McDowell," and "above Camp Creek, near McDowell."

GAGE.--Water-stage recorder at present site and datum since Mar. 4, 1975, at present site and at datum 2.00 ft (0.610 m) higher, Oct. 1, 1973, to Mar. 3, 1975, and 3.00 ft (0.914 m) higher, Oct. 1, 1961, to Dec. 29, 1965, and Mar. 11, 1971, to Sept. 30, 1973. Altitude of gage is 1,600 ft (488 m), from topographic map. Prior to Feb. 17, 1925, nonrecording gages at several sites about 20 mi (32 km) downstream at various datums. Feb. 17, 1925, to Dec. 31, 1941, water-stage recorder at two sites within 0.5 mi (0.8 km) upstream from Camp Creek, at various datums. Dec. 31, 1941, to Sept. 30, 1961, and Dec. 30, 1965, to Mar. 10, 1971, water-stage recorder at site 1.9 mi (3.1 km) downstream at datum 1,572.34 ft (479.249 m) above mean sea level. Since Feb. 18, 1975, supplementary water-stage recorder at site 30 ft upstream from main gage at same datum.

AVERAGE DISCHARGE (adjusted for storage in Bartlett and Horseshoe Reservoirs).--88 years, 657 ft³/s (18.61 m³/s), 476,000 acre-ft/yr (587 hm³/yr); median of yearly mean discharge, 540 ft³/s (15.3 m³/s), 391,000 acre-ft/yr (480 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 2,920 ft³/s (82.7 m³/s) Apr. 28 (gage height, 7.47 ft or 2.277 m); minimum daily, 0.30 ft³/s (0.01 m³/s) Dec. 7.

1888-1939: Maximum discharge not determined, probably over 150,000 ft³/s (4,250 m³/s) Feb. 24, 1891; minimum daily, 29 ft³/s (0.82 m³/s) July 11, 13, 1901. Floods of Nov. 27, 1905, and Mar. 4, 1938, reached maximum discharges of 96,000 ft³/s (2,720 m³/s) and 95,000 ft³/s (2,690 m³/s), respectively.

1939-76: Maximum discharge, 45,800 ft³/s (1,300 m³/s) Mar. 15, 1941; no flow at Bartlett Dam at times when gates in dam were closed.

REMARKS.--Records good. About 12,500 acres (50.6 km²) above station are irrigated by surface water and ground water. Flow completely regulated by Bartlett Reservoir since Feb. 5, 1939, and Horseshoe Reservoir since Nov. 15, 1945 (see preceding page), except during periods of spill. Water diverted downstream for municipal supply of city of Phoenix, and for irrigation in Fort McDowell Indian Reservation. Remainder (except during infrequent periods of extreme flooding) is diverted at Granite Reef Dam on Salt River 27 mi (43 km) downstream for irrigation in Salt River Valley, and for municipal use by the city of Phoenix. Records of chemical analyses and water temperatures for the current water year are published on following pages.

REVISIONS (WATER YEARS).--WSP 1049: 1893, 1913-14, 1917-18, 1926-27, 1929. WSP 1213: 1915-16. WSP 1283: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	262	280	414	9.0	895	542	1880	205	1540	20	512
2	49	276	297	446	9.0	888	542	1710	205	1380	95	572
3	49	337	336	446	9.7	879	542	825	205	1240	310	536
4	47	422	336	446	10	824	542	356	1070	986	470	458
5	47	470	336	446	5.0	576	542	1.1	1730	965	524	316
6	47	452	242	494	117	470	548	.52	1510	944	437	182
7	47	422	.30	596	319	464	548	.56	344	951	376	34
8	49	825	15	626	269	524	548	.49	160	1120	410	2.3
9	120	650	58	602	194	748	554	.46	247	1430	416	1.9
10	470	744	81	566	182	869	554	.41	248	1320	378	1.7
11	394	879	114	560	385	930	554	.36	248	1250	470	1.8
12	288	1070	486	614	470	874	560	131	247	916	590	1.6
13	306	993	764	603	488	839	560	365	247	458	638	1.6
14	328	762	556	573	428	811	488	506	248	548	518	1.6
15	290	647	518	530	385	986	222	542	250	685	307	1.7
16	321	560	552	524	325	1050	159	632	251	784	298	1.7
17	303	500	584	482	347	1230	446	759	252	776	384	1.7
18	321	446	594	403	400	1290	360	676	252	727	437	1.8
19	284	452	658	400	530	1390	464	488	252	713	452	1.9
20	291	458	678	401	650	1470	602	284	252	846	432	1.9
21	277	440	602	399	678	1310	644	216	253	846	400	2.5
22	264	395	500	140	644	1440	776	213	286	785	426	2.7
23	280	385	433	1.2	832	1610	993	44	797	614	348	28
24	265	422	333	1.0	1130	1720	1110	44	958	315	560	95
25	242	464	313	1.0	1300	1790	1220	44	965	1.3	699	95
26	245	458	474	30	1410	1820	1420	93	860	1.0	734	95
27	273	395	664	48	1450	1660	1600	213	790	.90	678	93
28	362	355	750	34	1470	1460	1780	212	965	6.8	671	97
29	374	291	790	23	1250	1350	1860	213	1220	20	440	97
30	380	291	694	21	---	1140	1850	208	1380	20	396	99
31	333	---	392	18	---	951	---	204	---	20	411	---
TOTAL	7395	15523	13430.30	10888.2	15695.7	34258	23130	10861.90	16897	22209.00	13725	3337.4
MEAN	239	517	433	351	541	1105	771	350	563	716	443	111
MAX	470	1070	790	626	1470	1820	1860	1880	1730	1540	734	572
MIN	47	262	.30	1.0	5.0	464	159	.36	160	.90	20	1.6
AC-FT	14670	30790	26640	21600	31130	67950	45880	21540	33520	44050	27220	6620
CAL YR 1975	TOTAL	136216.90	MEAN 373	MAX 1620	MIN 0	AC-FT 270200						
WTR YR 1976	TOTAL	187350.50	MEAN 512	MAX 1880	MIN .30	AC-FT 371600						

09510000. VERDE RIVER BELOW BARTLETT DAM, ARIZ.
(National stream-quality accounting network station)

LOCATION.--Lat 33°49'03", long 111°38'08", in SE¼ sec.33, T.6 N., R.7 E. (unsurveyed), Maricopa County, at gaging station in Tonto National Forest, 1,300 ft (400 m) downstream from Bartlett Dam, 5.9 mi (9.5 km) upstream from Camp Creek, and 18 mi (29 km) east of town of Cave Creek.

DRAINAGE AREA.--6,185 mi² (16,019 km²).

PERIOD OF RECORD.--Chemical analyses: December 1950 to current year.
Water temperatures: December 1950 to current year.

EXTREMES.--Current year:

Specific conductance: Maximum daily, 690 micromhos Nov. 28; minimum daily, 232 micromhos Feb. 28, 29.
Water temperatures: Maximum, 25.0°C Sept. 1, 3; minimum, 7.0°C on several days during January.

Period of record:

Specific conductance: Maximum daily, 958 micromhos Nov. 10, 1956; minimum daily, 195 micromhos May 13, 14, 1973.
Water temperatures: Maximum, 32.0°C July 18, Aug. 14, 1951; minimum, 5.0°C Jan. 30, 1952.

REMARKS.--No flow Sept. 7-23.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICHO-MMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)	HARDNESS (CA, MG (MG/L))	NON-CARBONATE HARDNESS (MG/L)
OCT										
08...	0930	51	580	8.1	22.0	3	21	86	220	22
NOV										
11...	1015	960	590	8.2	19.0	5	82	84	220	19
DEC										
17...	0945	584	575	8.2	10.0	7	<1	81	240	12
JAN										
27...	0945	48	700	8.1	9.0	9	<1	<1	260	8
MAR										
03...	1000	925	245	7.6	10.0	70	82	88	110	5
APR										
13...	1015	570	310	7.3	12.0	18	<1	88	140	9
MAY										
25...	1200	50	440	8.2	15.0	5	82	96	170	17
JUN										
23...	1010	890	380	7.9	17.0	9	82	84	160	11
AUG										
04...	0930	395	395	7.8	20.0	4	82	816	170	7
31...	1030	400	525	7.7	25.0	4	82	<1	210	21
SEP										
29...	1115	68	470	7.8	23.0	15	8168	480	190	11

DATE	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)
OCT										
08...	39	29	33	1.0	3.5	238	0	65	19	.2
NOV										
11...	40	29	36	1.1	3.4	232	6	65	23	.3
DEC										
17...	43	31	38	1.1	3.2	272	0	64	20	.3
JAN										
27...	50	32	37	1.0	3.1	303	0	69	24	.3
MAR										
03...	25	11	9.8	.4	2.0	125	0	21	5.7	.2
APR										
13...	31	14	12	.5	2.3	154	0	24	7.2	.2
MAY										
25...	40	18	18	.6	2.3	192	0	38	18	.3
JUN										
23...	37	17	16	.5	2.2	184	0	28	9.6	.2
AUG										
04...	40	18	18	.6	2.4	204	0	29	11	.3
31...	44	24	27	.8	3.1	229	0	53	26	.3
SEP										
29...	38	24	31	1.0	3.5	223	0	62	19	.3

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

B Results based on non-ideal colony count.

GILA RIVER BASIN

09510000. VERDE RIVER BELOW BARTLETT DAM, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SILICA (SiO ₂) (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)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT 08...	17	320	323	.44	.01	.02	.01	170	--
NOV 11...	9.1	338	326	.46	--	.01	.00	190	20
DEC 17...	8.7	364	343	.50	.04	.05	.03	180	--
JAN 27...	16	367	381	.50	--	.06	.02	160	--
MAR 03...	12	155	150	.21	.29	.30	.01	70	30
APR 13...	7.9	200	176	.27	--	.25	.01	90	--
MAY 25...	17	266	247	.36	--	.16	.01	90	--
JUN 23...	16	220	217	.30	--	.11	.02	70	10
AUG 04...	16	248	236	.34	.16	.16	.05	100	--
SEP 31...	19	296	309	.40	--	.00	.05	150	--
SEP 29...	20	309	309	.42	--	.13	.03	150	20

DATE	TIME	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL- NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO ₃) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)
OCT 08...	0930	.01	.01	.04	.02	.26	.30	1.3	.03	.01
NOV 11...	1015	--	.01	.01	.01	.26	.27	1.2	.00	.00
DEC 17...	0945	.04	.01	.08	.05	.47	.55	2.4	.00	.03
JAN 27...	0945	--	.03	.12	.06	.46	.58	2.6	.02	.02
MAR 03...	1000	.29	.01	.31	.30	.86	1.2	5.2	.16	.01
APR 13...	1015	--	.02	.41	.25	.38	.79	3.5	.23	.01
MAY 25...	1200	--	.00	.15	.16	.21	.36	1.6	.04	.01
JUN 23...	1010	--	.00	.10	.11	.26	.36	1.6	.03	.02
AUG 04...	0930	.16	.00	.13	.16	.33	.46	2.0	.06	.05
SEP 31...	1030	--	.01	.06	.00	.42	.48	2.1	.06	.05
SEP 29...	1115	--	--	.20	.13	.46	.66	2.9	.08	.03

09510000. VERDE RIVER BELOW BARTLETT DAM, ARIZ.--CONTINUED

WATER QUALITY DATA. WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)
NOV 11...	1015	18	16	190	<10	0	10	2
MAR 03...	1000	11	9	70	<10	1	10	0
JUN 23...	1010	--	9	70	<10	0	10	0
SEP 29...	1115	14	14	150	<10	1	0	0

DATE	TOTAL COBALT (CU) (UG/L)	DIS- SOLVED COBALT (CU) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)
NOV 11...	<50	1	<10	2	220	20	<100	4	30
MAR 03...	<50	0	10	7	2700	30	<100	3	120
JUN 23...	<50	0	5	3	410	10	<100	0	50
SEP 29...	<50	2	10	2	820	20	100	3	230

DATE	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
NOV 11...	10	.1	.1	0	2	10	10	4.4
MAR 03...	0	.2	.2	1	0	40	0	--
JUN 23...	30	.6	.0	--	0	20	10	5.8
SEP 29...	170	.0	.0	1	1	20	0	2.7

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

DATE	SUS- PENDED SEDI- MENT (MG/L)	SUS- SED. SIEVE DIAM. * FINER THAN .062 MM
OCT 08...	15	78
DEC 12...	42	77
JAN 27...	24	78
MAR 03...	123	65
APR 13...	29	64
MAY 25...	19	59
AUG 04...	5	79
SEP 29...	54	66

GILA RIVER BASIN

09510000. VERDE RIVER BELOW BARTLETT DAM, ARIZ.--CONTINUED

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	630	635	560	510	568	246	295	348	375	300	365	458
2	625	650	555	515	575	244	295	340	370	360	316	443
3	625	635	565	500	585	239	297	355	366	360	405	495
4	635	635	565	505	585	258	297	349	359	355	380	490
5	615	645	565	480	570	268	300	---	357	363	376	467
6	620	640	565	535	---	283	299	---	359	358	350	495
7	615	650	---	540	560	269	299	---	---	300	395	---
8	605	645	---	560	560	269	302	---	377	328	350	---
9	605	640	580	560	565	267	303	---	371	325	420	---
10	610	645	585	560	---	259	302	---	375	330	430	---
11	545	645	585	560	555	266	301	---	370	359	443	---
12	605	645	580	520	520	263	301	---	371	357	428	---
13	610	650	515	560	435	271	302	354	375	360	425	---
14	605	655	560	560	385	270	304	356	369	310	350	---
15	610	650	570	540	310	271	305	353	367	365	340	---
16	610	655	575	565	293	270	310	351	366	300	370	---
17	615	655	575	500	268	270	308	351	368	365	450	---
18	625	660	500	480	262	269	304	359	370	363	380	---
19	630	660	575	500	274	268	309	355	369	295	370	---
20	625	660	530	515	273	268	309	369	361	370	460	---
21	625	615	510	550	305	269	310	368	367	305	463	---
22	625	660	530	550	278	270	319	368	362	390	370	---
23	630	635	505	---	276	270	328	371	369	398	470	---
24	625	615	580	---	276	268	328	370	362	391	395	560
25	615	685	580	---	263	269	340	369	358	---	480	545
26	615	680	580	---	249	271	342	370	357	---	480	510
27	620	685	580	575	258	270	341	354	352	---	445	500
28	625	690	575	575	232	273	340	350	347	---	405	500
29	605	680	570	495	232	277	344	353	350	365	460	505
30	630	675	565	525	---	278	352	355	348	400	408	510
31	635	---	565	560	---	277	---	360	---	405	480	---
MEAN	617	653	560	533	389	267	313	---	364	351	408	---
YEAR	MAX	690	MIN	232	MEAN	442						

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.0	19.0	11.0	9.0	8.0	10.0	10.0	14.0	15.0	18.0	---	25.0
2	21.0	19.0	11.0	9.0	8.0	10.0	10.0	14.0	15.0	18.0	19.0	24.0
3	21.0	19.0	12.0	9.0	8.0	10.0	10.0	14.0	15.0	18.0	20.0	25.0
4	20.0	19.0	11.0	9.0	---	8.0	10.0	14.0	15.0	18.0	20.0	24.0
5	20.0	18.0	11.0	9.0	10.0	8.0	11.0	---	15.0	18.0	20.0	24.0
6	20.0	18.0	11.0	9.0	---	9.0	11.0	---	15.0	18.0	20.0	24.0
7	20.0	18.0	---	9.0	10.0	9.0	10.0	---	---	19.0	20.0	---
8	20.0	18.0	---	8.0	10.0	8.0	10.0	---	16.0	19.0	20.0	---
9	20.0	17.0	11.0	7.0	10.0	9.0	11.0	---	16.0	19.0	20.0	---
10	20.0	17.0	11.0	7.0	---	9.0	11.0	---	15.0	19.0	21.0	---
11	20.0	17.0	10.0	7.0	9.0	9.0	11.0	---	15.0	19.0	22.0	---
12	20.0	17.0	10.0	7.0	9.0	9.0	11.0	---	15.0	19.0	22.0	---
13	21.0	16.0	10.0	7.0	10.0	9.0	11.0	15.0	15.0	20.0	22.0	---
14	21.0	15.0	10.0	7.0	10.0	9.0	11.0	15.0	15.0	20.0	22.0	---
15	21.0	15.0	10.0	7.0	10.0	9.0	11.0	15.0	16.0	20.0	22.0	---
16	19.0	15.0	10.0	9.0	10.0	9.0	10.0	14.0	16.0	20.0	22.0	---
17	19.0	14.0	10.0	9.0	---	10.0	10.0	14.0	17.0	20.0	22.0	---
18	19.0	14.0	10.0	9.0	10.0	10.0	11.0	15.0	17.0	20.0	22.0	---
19	19.0	13.0	---	9.0	9.0	9.0	12.0	15.0	17.0	20.0	22.0	---
20	19.0	13.0	10.0	10.0	8.0	10.0	12.0	15.0	17.0	20.0	23.0	---
21	19.0	13.0	10.0	10.0	9.0	9.0	13.0	15.0	18.0	20.0	23.0	---
22	18.0	13.0	10.0	10.0	8.0	10.0	13.0	15.0	18.0	---	23.0	---
23	18.0	---	10.0	9.0	10.0	10.0	13.0	15.0	18.0	---	23.0	---
24	18.0	13.0	10.0	9.0	8.0	10.0	13.0	15.0	18.0	---	24.0	24.0
25	18.0	---	9.0	9.0	8.0	10.0	13.0	16.0	18.0	---	24.0	24.0
26	18.0	13.0	9.0	9.0	8.0	10.0	13.0	17.0	18.0	---	24.0	24.0
27	18.0	12.0	9.0	8.0	9.0	10.0	13.0	16.0	18.0	---	24.0	24.0
28	18.0	13.0	9.0	8.0	9.0	10.0	13.0	16.0	18.0	---	24.0	24.0
29	18.0	12.0	9.0	8.0	9.0	11.0	13.0	15.0	18.0	20.0	24.0	24.0
30	18.0	11.0	9.0	8.0	---	11.0	14.0	15.0	18.0	20.0	24.0	22.0
31	19.0	---	9.0	8.0	---	11.0	---	15.0	---	20.0	24.0	---
MEAN	19.5	15.5	10.0	8.5	9.0	9.5	11.5	---	16.5	---	22.0	---
YEAR	MAX	25.0	MIN	7.0	MEAN	14.5						

09510000. VERDE RIVER BELOW BARTLETT DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll a (mg/m ²)	Chlorophyll b (mg/m ²)	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight				
Apr. 13	43	23.8	11.5	89.0	1.75	140	Polyethylene strip

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JAN. 6, 1975

1145 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,500 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
..HYDRODICTYACEAE				
D ..PELITASTRUM		440	18	
..OOCYSTACEAE				
..OOCYSTIS		300	12	
..TETRAEDRON		180	7	
..SCENEDESMACEAE				
..CHUCIGENIA		74	3	
..SCENEDESMUS		260	10	
TOTALS		1,300	50	2.138=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
..COSCINODISCACEAE				
..CYCLOTELLA		200	8	
D ..MELOSIRA		890	35	
..PENNALIS	PENNATE			
..ACHNANTHACEAE				
..COCCONEIS		18	1	
..DIATOMACEAE				
..DIATOMA		74	3	
..FRAGILARIACEAE				
..SYNEDRA		18	1	
..SURIPELLACEAE				
..SURIPELLA		55	2	
TOTALS		1,300	50	1.398=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.000
 CLASS 1.000
 ORDER 1.282
 FAMILY 2.182
 GENERA 2.768

FEB. 5, 1975

0900 HOURS

IDENTIFICATION OF PHYTOPLANKTON

5,400 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
..COSCINODISCACEAE				
D ..CYCLOTELLA		3,100	58	
D ..MELOSIRA		2,100	38	
..PENNALIS	PENNATE			
..NAVICULACEAE	NAVICULOID			
..NAVICULA		83	2	
..NITZSCHACEAE				
..NITZSCHIA		120	2	
TOTALS		5,400	100	1.206=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 ORDER 0.235
 FAMILY 0.273
 GENERA 1.206

GILA RIVER BASIN

09510000. VERDE RIVER BELOW BARTLETT DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAR. 5, 1975
0945 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,100 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...SCENEDESMACEAE				
...SCENEDESMUS		39	2	
...VOLVOCALES				
...VOLVOCAEAE				
...PANDORINA				
	TOTALS	<u>160</u> 200	<u>7</u> 9	0.722=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
...CYCLOTELLA		39	2	
D ...MELOSIRA		350	17	
..PENNALES	PENNATE			
...FRAGILARIACEAE				
...SYNEDRA		29	1	
...NAVICULACEAE	NAVICULOID			
L ...NAVICULA				
	TOTALS	<u>430</u>	<u>0</u> 20	0.940=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
D ...OSCILLATORIA				
	TOTALS	<u>1,500</u> 1,500	<u>70</u> 70	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.148
 CLASS 1.148
 ORDER 1.306
 FAMILY 1.321
 GENERA 1.409

APR. 1, 1975
0830 HOURS

IDENTIFICATION OF PHYTOPLANKTON

870 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...HYDRODICTYACEAE				
D ...PEDIASTRUM				
	TOTALS	<u>220</u> 220	<u>25</u> 25	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
D ...CYCLOTELLA		260	30	
D ...MELOSIRA		320	37	
..PENNALES	PENNATE			
...DIATOMACEAE				
...DIATOMA		14	2	
...FRAGILARIACEAE				
...SYNEDRA		14	2	
...NITZSCHIAEAE				
...NITZSCHIA		14	2	
...SURIPELLACEAE				
...SURIPELLA				
	TOTALS	<u>28</u> 650	<u>3</u> 76	1.581=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.818
 CLASS 0.818
 ORDER 1.182
 FAMILY 1.335
 GENERA 1.997

09510000. VERDE RIVER BELOW BARTLETT DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAY 13, 1975
0000 HOURS

IDENTIFICATION OF PHYTOPLANKTON

320 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...NOCTYSTACEAE				
....ANKISTRODESMUS		11	3	
....TETRAEDRON		11	3	
TOTALS		21	6	1.000=DIVERSITY
CHRYSDOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCAEAE				
(1) ...CYCLOTELLA		63	20	
(1) ...MELOSIRA		84	27	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...RHODICOSPHEA		11	3	
...CYMBELLACEAE				
...CYMBELLA		11	3	
...DIATOMACEAE				
...DIATOMA		11	3	
...GOMPHONEMACEAE				
...GOMPHONEMA		11	3	
...NAVICULACEAE	NAVICULOID			
...NAVICULA		21	7	
...NITZSCHIAEAE				
(1) ...NITZSCHIA		53	17	
...SURIRELLACEAE				
...SURIRELLA		11	3	
TOTALS		270	86	2.657=DIVERSITY
PYRRHOPHYTA	FIRE ALGAE			
..DINOPHYCEAE	DINOFAGELLATES			
..PERIDINIALES				
...PERIDINIACEAE				
....PERIDINIUM		21	7	
TOTALS		21	7	0.000=DIVERSITY

NOTE: (1) - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER * 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:PHYL/DIV 0.700
CLASS 0.700
ORDER 1.563
FAMILY 2.543
GENERA 3.070JUNE 10, 1975
1000 HOURS

IDENTIFICATION OF PHYTOPLANKTON

240 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHRYSDOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCAEAE				
...CYCLOTELLA		11	5	
(1) ...MELOSIRA		110	48	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		11	5	
...COCCONEIS		11	5	
...CYMBELLACEAE				
...CYMBELLA		11	5	
...GOMPHONEMACEAE				
...GOMPHONEMA		34	14	
...NAVICULACEAE	NAVICULOID			
(1) ...NAVICULA		46	19	
TOTALS		240	101	2.203=DIVERSITY

NOTE: (1) - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER * 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:ORDER 0.998
FAMILY 1.878
GENERA 2.203

GILA RIVER BASIN

09510000. VERDE RIVER BELOW BARTLETT DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JULY 29, 1975
0930 HOURS

IDENTIFICATION OF PHYTOPLANKTON

310 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
...TETRAEDRON		29	9	
...SCENEDESMACEAE				
nSCENEDESMUS				
	TOTALS	<u>98</u> 130	<u>31</u> 40	0.779=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCEAE				
...CYCLOTELLA		29	9	
nMELOSIRA		69	22	
..PENNALES	PENNATE			
...DIATOMACEAE				
...DIATOMA		29	9	
...NITZSCHIAEAE				
nNITZSCHIA				
	TOTALS	<u>59</u> 190	<u>19</u> 59	1.897=DIVERSITY
PYRRHOPHYTA	FIRE ALGAE			
..DINOPHYCEAE	DINOFLAGELLATES			
..PERIDINIALES				
...PERIDINIACEAE				
LPERIDINIUM			0	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

SAMPLING METHOD: PLASTIC SLIDES, RANDOM

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.974

CLASS 0.974

ORDER 1.567

FAMILY 2.142

GENERA 2.417

09510000. VERDE RIVER BELOW BARTLETT DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

SEP. 8, 1975
1230 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1.600 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS		41	3	
....CHLORELLA		21	1	
....DICTYOSPHAERIUM		83	5	
....OOCYSTIS		41	3	
....TETRAEDRON		21	1	
...SCENEDESMACEAE				
....SCENEDESMUS		41	3	
...ZYGNEMATALES				
...DFSMIDIACEAE	PLACODERM DESMIDS	21	1	
...COSMARIUM				
....STAURASTRUM		21	1	
	TOTALS	330	21	2.828=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCEACEAE				
....MELOSIRA		41	3	
..PENNALES	PENNATE			
...CYMBELLACEAE				
ICYMBELLA			0	
...NAVICULACEAE	NAVICULOID	230	15	
DNAVICULA		270	18	0.619=DIVERSITY
	TOTALS			
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
....ANACYSTIS		83	5	
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIA		850	55	
DOSCILLATORIA		930	60	0.433=DIVERSITY
	TOTALS			
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
....PHACUS		21	1	
	TOTALS	21	1	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%
 L - LESS THAN 1%: MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.439
 CLASS 1.439
 ORDER 1.979
 FAMILY 2.083
 GENERA 2.409

GILA RIVER BASIN

09510000. VERDE RIVER BELOW BARTLETT DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

OCT. 8, 1975
0930 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,100 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
..OOCYSTACEAE				
....KIRCHNERIELLA		31	3	
DTETRAEDRON		190	16	
....SCENEDESMACEAE				
DSCENEDESMUS				
	TOTALS	<u>740</u> 960	<u>65</u> 84	0.904=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
..COSCINODISCACEAE				
....CYCLOTELLA		62	5	
....MELOSIRA		31	3	
..PENNALES	PENNATE			
..ACHNANTHACEAE				
LCOCCONEIS			0	
LRHOICOSPHENIA			0	
....NAVICULACEAE	NAVICULOID			
....NAVICULA		31	3	
....NITZSCHIA				
	TOTALS	<u>62</u> 190	<u>5</u> 16	1.918=DIVERSITY
PYRRHOPHYTA	FIRE ALGAE			
..DINOPHYCEAE	DINOFLAGELLATES			
..PERIDINIALES				
..PERIDINIACEAE				
LPERIDINIUM			0	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.639
 CLASS 0.639
 ORDER 0.802
 FAMILY 1.522
 GENERA 1.708

09510000. VERDE RIVER BELOW BARTLETT DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

NOV. 11, 1975
1015 HOURS

IDENTIFICATION OF PHYTOPLANKTON

5,400 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
..OOCYSTACEAE				
....ANKISTRODESMUS		220	4	
....KIRCHNERIELLA		110	2	
....TETRAEDRON		380	7	
....SCENEDESMACEAE				
....SCENEDESMUS		540	10	
....TETRASTRUM			0	
	TOTALS	1,200	23	1.790=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
..COSCINODISCEAE				
....CYCLOTELLA		700	13	
....MELOSIIRA		480	9	
..PENNALES	PENNATE			
..NAVICULACEAE	NAVICULOID			
....NAVICULA		54	1	
..NITZSCHIA				
....NITZSCHIA		270	5	
	TOTALS	1,500	28	1.656=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCOCOTD			
....CHROOCOCCACEAE				
....AGMENELLUM		2,600	48	
	TOTALS	2,600	48	0.000=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALFS				
..EUGLENACEAE				
....PHACUS		54	1	
	TOTALS	54	1	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%
 L - LESS THEN 1% MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.577
 CLASS 1.577
 ORDER 1.786
 FAMILY 2.053
 GENERA 2.452

DEC. 17, 1975
0945 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,400 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
..OOCYSTACEAE				
....CHODATELLA		39	3	
....SCENEDESMACEAE				
....SCENEDESMUS		690	50	
....TETRASTRUM		150	11	
	TOTALS	890	64	0.912=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
..COSCINODISCEAE				
....CYCLOTELLA		350	25	
....MELOSIIRA		120	8	
..PENNALES	PENNATE			
..NITZSCHIA				
....NITZSCHIA		39	3	
	TOTALS	500	36	1.140=DIVERSITY

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.944
 CLASS 0.944
 ORDER 1.085
 FAMILY 1.250
 GENFRA 1.938

GILA RIVER BASIN

09510000. VERDE RIVER BELOW BARTLETT DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JAN. 27, 1976
0945 HOURS

IDENTIFICATION OF PHYTOPLANKTON

840 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...SCENEDESMACEAE				
DCRUCIGENIA		180	21	
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
LCHLAMYDOMONAS				
	TOTALS	180	21	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		89	11	
....MELOSIRA		89	11	
	TOTALS	180	22	1.000=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
DTRACHELONAS		490	58	
	TOTALS	490	58	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.403
 CLASS 1.403
 ORDER 1.403
 FAMILY 1.403
 GENERA 1.614

MAR. 3, 1976
1000 HOURS

IDENTIFICATION OF PHYTOPLANKTON

55 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
DMELOSIRA		22	40	
..PENNALES	PENNATE			
...FRAGILARIACEAE				
DSYNEDRA		11	20	
...NITZSCHACEAE				
DNITZSCHIA		11	20	
	TOTALS	44	80	1.500=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
DTRACHELONAS		11	20	
	TOTALS	11	20	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.722
 CLASS 0.722
 ORDER 1.522
 FAMILY 1.922
 GENERA 1.922

09510000. VERDE RIVER BELOW BARTLETT DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

APR. 13, 1976
1015 HOURS

IDENTIFICATION OF PHYTOPLANKTON

6 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
L ...MELOSIRA			0	
..PENNATES	PENNATE			
...GOMPHONEMATACEAE				
L ...GOMPHONEMA			0	
...NAVICULACEAE	NAVICULOID			
L ...NAVICULA			0	
...NITZSCHIAEAE				
D ...NITZSCHIA				
	TOTALS	6	100	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

JUNE 23, 1976
1010 HOURS

IDENTIFICATION OF PHYTOPLANKTON

630 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
...ANKISTRODESMUS		45	7	
...KIRCHNERIELLA		45	7	
...SCENEDESMACEAE				
D ...SCENEDESMUS		110	17	
...TETRASTRUM		72	11	
	TOTALS	270	42	1.899=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
D ...CYCLOTELLA		99	16	
...MELOSIRA		72	11	
..PENNATES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		27	4	
...CYMBELLACEAE				
...CYMBELLA		9	1	
...GOMPHONEMATACEAE				
...GOMPHONEMA		9	1	
...NAVICULACEAE	NAVICULOID			
...NAVICULA		36	6	
...NITZSCHIAEAE				
...NITZSCHIA		90	14	
	TOTALS	340	53	2.405=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
...EUGLENA		9	1	
	TOTALS	9	1	0.000=DIVERSITY
PYRRHOPHYTA	FIRE ALGAE			
..DINOPHYCEAE	DINOFLAGELLATES			
..PERIDINIALES				
...PERIDINIAEAE				
...PERIDINIUM		9	1	
	TOTALS	9	1	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.177
 CLASS 1.177
 ORDER 1.720
 FAMILY 2.610
 GENERA 3.297

GILA RIVER BASIN

09510000. VERDE RIVER BELOW BARTLETT DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JUNE 25, 1976

1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,200 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS		53	4	
....DICTYOSPHAERIUM		70	6	
....KIRCHNERIELLA		88	7	
...OOCYSTIS		9	1	
...SCENEDESMACEAE				
D)SCENEDESMUS		230	19	
D)TETRASTRUM		250	21	
	TOTALS	690	58	2.132=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCEAE				
...MELOSIRA		70	6	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...RHODICOSPHEA		26	2	
..DIATOMACEAE				
...DIATOMA		9	1	
...FRAGILARIACEAE				
...SYNEDRA		9	1	
...NAVICULACEAE	NAVICULOID			
...NAVICULA		61	5	
...NITZSCHIACEAE				
...NITZSCHIA		88	7	
	TOTALS	260	22	2.186=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
...ANACYSTIS		88	7	
..OSCILLATORIALES	FILAMENTOUS			
...NOSTOCACEAE				
...ANABAENA				
	TOTALS	130	11	0.971=DIVERSITY
EUGLENOPHYTA	EUGLENIDS			
..CRYPTOPHYCEAE	CRYPTOMONADS			
...CRYPTOMONIDAE				
...CRYPTOCHRYSIDACEAE				
...CHROOMONAS		9	1	
	TOTALS	9	1	0.000=DIVERSITY
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENAEAE				
...TRACHELOMONAS		9	1	
	TOTALS	9	1	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.475
 CLASS 1.490
 ORDER 1.853
 FAMILY 2.673
 GENFRA 3.389

GILA RIVER BASIN

467

09510000. VERDE RIVER BELOW BARTLETT DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

AUG. 4, 1976
0930 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,800 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS		35	2	
....CHLORELLA		21	1	
....SELENASTRUM		28	2	
LTETRAEDRON			0	
...SCENEDESMACEAE				
....SCENEDESMUS		56	3	
...VOLVOCALES				
...PHACOTACEAE				
LPHACOTUS				
	TOTALS	<u>150</u>	<u>0</u> 8	2.089=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
LMELOSIRA			0	
..PENNALES	PENNATE			
...NITZSCHIAEAE				
....NITZSCHIA				
	TOTALS	<u>90</u> 97	<u>5</u> 5	0.371=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
DOSCILLATORIA				
	TOTALS	<u>1,500</u> 1,500	<u>86</u> 86	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1% MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.704
 CLASS 0.704
 ORDER 0.747
 FAMILY 0.822
 GENERA 0.895

GILA RIVER BASIN

09510000. VERDE RIVER BELOW BARTLETT DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

AUG. 31, 1976
1030 HOURS

IDENTIFICATION OF PHYTOPLANKTON

3,700 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....TETRAEDRON			0	
...SCENEDESMACEAE				
....SCENEDESMUS		190	5	
...VOLVOCALES				
...PHACOTACEAE				
....PHACOTUS				
	TOTALS	47 230	1 6	0.722=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....MELOSIRA			0	
..PENNALES	PENNATE			
...NAVICULACEAE	NAVICULOID			
...NAVICULA		47	1	
...NITZSCHACEAE				
....NITZSCHIA				
	TOTALS	47 93	1 2	1.000=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
....ANACYSTIS		47	1	
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIA				
....OSCILLATORIA		3,100	85	
....SPIRULINA		190	5	
	TOTALS	3,400	91	0.414=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.508

CLASS 0.508

ORDER 0.650

FAMILY 0.676

GENERA 0.957

09510000. VERDE RIVER BELOW BARTLETT DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

SEP. 29, 1976
1115 HOURS

IDENTIFICATION OF PHYTOPLANKTON

4,600 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...CHARACIACEAE				
....SCHROEDERIA		70	2	
...COELASTRACEAE				
....COELASTRUM		140	3	
...OOCYSTACEAE				
....TETRAEDRON		70	2	
...SCENEDESMACEAE				
....CRUCIGENIA		70	2	
TOTALS		350	9	1.922=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCAEAE				
....CYCLOTELLA		100	2	
..PENNALES	PENNATE			
...NITZSCHIACEAE				
....NITZSCHIA		70	2	
TOTALS		170	4	0.971=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
....LYNGBYA		170	4	
DOSCILLATORIA		3,800	83	
TOTALS		4,000	87	0.258=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
....EUGLENA		35	1	
....TRACHELOMONAS		70	2	
TOTALS		100	3	0.918=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.763
CLASS 0.763
ORDER 0.800
FAMILY 0.944
GENERA 1.188

GILA RIVER BASIN

09510000. VERDE RIVER BELOW BARTLETT DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

NOV. 2, 1976
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1.800 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...CHARACIACEAE				
I ...SCHROEDERIA			0	
...HYDRODICTYACEAE				
...PEDIASTRUM		14	1	
...MICRACTINIACEAE				
I ...GOLENKINIA			0	
...OOCYSTACEAE				
...ANKISTRODESMUS		28	2	
...TETRAEDRON		78	4	
...SCENEDESMACEAE				
...CRUCIGENIA		140	8	
...SCENEDESMUS		240	14	
...TETRASTRUM		28	2	
...VOLVOCALES				
..CHLAMYDOMONADACEAE				
...CHLAMYDOMONAS		14	1	
...PHACOTACEAE				
L ...PHACOTUS			0	
	TOTALS	570	32	2.354=DIVERSITY
CHRYSDOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCEAE				
I) ...CYCLOTELLA		480	27	
...MELOSTRA		230	13	
...PENNALES	PENNATE			
...FRAGILARIACEAE				
...SYNEDRA		21	1	
...GOMPHONEMACEAE				
I ...GOMPHONEMA			0	
...NAVICULACEAE	NAVICULOID			
L ...NAVICULA			0	
...NITZSCHACEAE				
D) ...NITZSCHIA		380	21	
	TOTALS	1,100	62	1.726=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..CRYPTOPHYCEAE	CRYPTOMONADS			
...CRYPTOMONADALES				
...CRYPTOMONADACEAE				
L ...CRYPTOMONAS			0	
	TOTALS	7	0	0.000=DIVERSITY
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
...TRACHELOMONAS		64	4	
	TOTALS	64	4	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.128
 CLASS 1.147
 ORDER 1.825
 FAMILY 2.294
 GENERA 3.006

09510100. EAST FORK SYCAMORE CREEK NEAR SUNFLOWER, ARIZ.

LOCATION.--Lat 33°56'58", long 111°27'39", in NE¼SE¼ sec.18, T.7 N., R.9 E., Maricopa County, in Tonto National Forest, on left bank 1.7 mi (2.7 km) upstream from confluence with West Fork and 6.0 mi (9.7 km) north of Sunflower.

DRAINAGE AREA.--4.49 mi² (11.6 km²).

PERIOD OF RECORD.--July 1961 to current year. Low-flow records not equivalent prior to Nov. 10, 1964, owing to undetermined amount of underflow between sites.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,140 ft (1,262 m), from topographic map. Prior to Nov. 10, 1964, at site 0.2 mi (0.3 km) downstream at different datum.

AVERAGE DISCHARGE.--15 years, 0.600 ft³/s (0.0170 m³/s), 435 acre-ft/yr (536,000 m³/yr); median of yearly mean discharges, 0.29 ft³/s (0.0082 m³/s), 210 acre-ft/yr (259,000 m³/yr).

EXTREMES.--Current year: Maximum discharge, 150 ft³/s (4.25 m³/s) Feb. 9 (gage height, 3.57 ft or 1.088 m); no flow for many days.
Period of record: Maximum discharge, 1,940 ft³/s (54.9 m³/s) Sept. 5, 1970 (gage height, 9.50 ft or 2.896 m, from profile past gage), from rating curve extended above 130 ft³/s (3.7 m³/s) on basis of slope-area measurements of peak flow; no flow at times each year.

REMARKS.--Records good. No storage or diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.01	.01	.01	.01	.20	.11	.32	.06	0	.01	0
2	0	.01	.01	.01	.01	.20	.11	.28	.06	0	.01	0
3	0	.01	.01	.01	.01	.24	.11	.32	.06	0	.01	0
4	0	.01	.01	.01	.03	.28	.11	.51	.05	0	.01	0
5	0	.01	.01	.01	8.2	.24	.11	.43	.05	0	.01	0
6	0	.01	.01	.01	4.7	.24	.11	.36	.05	0	.01	0
7	0	.01	.01	.01	1.7	.24	.11	.36	.05	0	.01	0
8	0	.01	.01	.01	.82	.24	.11	.39	.04	0	.01	0
9	0	.01	.01	.01	44	.20	.10	.32	.04	0	.01	0
10	0	.01	.01	.01	11	.20	.10	.24	.04	0	.01	0
11	0	.01	.01	.01	1.8	.20	.10	.16	.04	0	0	0
12	0	.01	.01	.01	.86	.20	.09	.16	.03	0	0	0
13	0	.01	.01	.01	.64	.16	.10	.14	.03	0	0	0
14	0	.03	.01	.01	.64	.16	.36	.14	.03	0	0	0
15	0	.01	.01	.01	.60	.15	.39	.14	.03	0	0	0
16	0	.01	.01	.01	.51	.15	3.0	.14	.02	0	0	0
17	0	.01	.01	.01	.47	.14	1.7	.14	.02	0	0	0
18	0	.01	.01	.01	.43	.14	4.1	.15	.02	0	0	0
19	0	.01	.01	.01	.36	.14	6.2	.13	.01	0	0	0
20	0	.01	.01	.01	.32	.13	5.4	.13	.01	0	0	0
21	0	.04	.01	.01	.32	.13	3.0	.11	.01	0	0	0
22	0	.02	.01	.01	.28	.12	1.7	.10	.01	0	0	0
23	0	.02	.01	.01	.28	.12	1.1	.10	.01	0	0	0
24	0	.01	.01	.01	.28	.12	.91	.08	.01	.05	0	0
25	0	.01	.01	.01	.24	.12	.73	.08	0	.01	0	0
26	0	.01	.01	.01	.24	.12	.64	.08	0	.01	0	.80
27	0	.01	.01	.01	.24	.12	.55	.08	0	.01	1.0	.10
28	.01	.01	.01	.01	.24	.12	.51	.07	0	.17	.01	.05
29	.02	.01	.01	.01	.20	.12	.47	.07	0	.06	.01	.01
30	.01	.01	.01	.01	---	.11	.36	.07	0	.02	0	0
31	---	.01	.01	.01	---	.11	---	.06	---	.01	0	---
TOTAL	0	.04	.38	.31	79.43	5.16	32.49	5.86	.78	.34	1.12	.96
MEAN	0	.001	.012	.010	2.74	.17	1.08	.19	.026	.011	.036	.032
MAX	0	.02	.04	.01	44	.28	6.2	.51	.06	.17	1.0	.80
MIN	0	0	.01	.01	.01	.11	.09	.06	0	0	0	0
AC-FT	0	.08	.8	.6	158	10	64	12	1.5	.7	2.2	1.9
CAL YR 1975	TOTAL	55.35	MEAN .16	MAX	5.2	MIN 0	AC-FT 118					
WTR YR 1976	TOTAL	126.87	MEAN .35	MAX	44	MIN 0	AC-FT 252					

PEAK DISCHARGE (BASE, 20 CFS)-- Feb. 5 (1530) 24 cfs (2.22 ft); Feb. 9 (1300) 150 cfs (3.57 ft).

09510150. SYCAMORE CREEK NEAR SUNFLOWER, ARIZ.

LOCATION.--Lat 33°51'05", long 111°27'09", in NE¼ sec.20, T.6 N., R.9 E., Maricopa County, in Tonto National Forest, on right bank 1.1 mi (1.8 km) upstream from Boulder Creek, 1.2 mi (1.9 km) north of Crabtree Butte, and 1.2 mi (1.9 km) southeast of Sunflower.

DRAINAGE AREA.--52.3 mi² (135.5 km²).

PERIOD OF RECORD.--October 1961 to September 1976 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 3,309.6 ft (1,008.77 m). Prior to Oct. 1, 1970, at datum 1.66 ft (0.506 m) lower.

AVERAGE DISCHARGE.--15 years, 7.70 ft³/s (0.218 m³/s), 5,580 acre-ft/yr (6.88 hm³/yr); median of yearly mean discharges, 4.1 ft³/s (0.12 m³/s), 2,970 acre-ft/yr (3.7 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 6,000 ft³/s (170 m³/s) Feb. 9 (gage height, 6.72 ft or 2.048 m), from rating curve extended above 350 ft³/s (9.9 m³/s) on basis of slope-area measurement at gage height 22.0 ft (6.71 m); minimum daily, 0.12 ft³/s (0.003 m³/s) Oct. 1, 6-13.

Period of record: Maximum discharge, 16,100 ft³/s (456 m³/s) Sept. 5, 1970 (gage height, 22.0 ft or 6.71 m, from profile past gage), from rating curve extended above 350 ft³/s (9.9 m³/s) on basis of slope-area measurement of peak flow; no flow at times.

REMARKS.--Records poor.

REVISIONS.--WRD Ariz. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.12	.20	.50	.50	.26	1.5	2.1	3.0	1.6	.41	.24	2.5
2	.13	.20	.50	.50	.27	1.5	2.1	3.0	1.3	.32	.21	.30
3	.13	.20	.50	.50	.25	1.9	1.9	3.0	1.0	1.3	.21	.24
4	.13	.20	.50	.50	.52	2.8	1.9	4.4	.90	5.7	.21	.88
5	.13	.20	.50	.50	96	2.1	1.7	3.0	.83	6.6	.19	1.1
6	.12	.30	.50	.50	66	2.3	1.7	3.0	.83	3.5	.19	.30
7	.12	.30	.50	.50	30	3.1	1.5	2.8	.82	1.0	.21	.30
8	.12	.30	.50	.40	12	4.8	1.5	3.0	.83	.80	.21	.30
9	.12	.30	.50	.40	1500	4.8	1.5	3.0	.81	.60	.19	.30
10	.12	.30	.50	.40	550	4.4	1.5	3.0	.82	.50	.19	.33
11	.12	.30	.50	.40	60	5.2	1.5	2.6	.81	.40	.19	.35
12	.12	.30	.50	.40	30	4.8	1.5	2.4	.92	.40	.19	.33
13	.12	.30	.80	.40	21	4.8	1.5	2.3	1.0	.30	.19	.33
14	.13	.30	1.0	.40	23	4.7	3.9	2.1	1.0	.30	.17	.30
15	.13	.40	.80	.40	21	4.2	5.2	2.1	1.1	.30	.17	.30
16	.13	.40	.70	.30	16	4.0	62	2.1	1.1	.30	.17	.30
17	.13	.40	.60	.30	14	3.8	30	2.1	.86	.20	.18	.27
18	.13	.40	.60	.30	11	3.9	29	1.9	1.1	.20	.17	.29
19	.15	.40	.60	.30	9.7	3.4	32	2.0	1.0	.20	.17	.27
20	.15	.40	.60	.30	7.4	3.0	28	1.9	1.1	.18	.17	.24
21	.16	.40	1.5	.30	5.6	3.0	21	1.9	.90	.18	.18	.27
22	.16	.40	3.0	.30	4.8	2.8	14	1.9	.76	.17	.19	.24
23	.13	.40	2.0	.30	4.4	2.8	11	2.1	.69	.24	.20	.24
24	.13	.40	1.0	.31	3.4	2.6	9.2	2.0	.69	8.6	.21	.35
25	.16	.40	.70	.30	2.8	2.6	7.5	1.9	.64	.56	.21	.31
26	.16	.40	.50	.29	2.6	2.6	6.6	1.9	.50	.41	.23	20
27	.16	.40	.50	.29	2.3	2.4	5.7	1.9	.39	.35	13	.90
28	.16	.90	.50	.28	2.1	2.4	5.2	1.8	.35	5.0	.24	.24
29	.16	2.0	.50	.28	1.7	2.3	4.3	1.8	.41	5.7	.21	.21
30	.16	1.0	.50	.27	---	2.3	3.9	1.6	.46	.48	.21	.19
31	.19	---	.50	.27	---	2.1	---	1.6	---	.27	.21	---
TOTAL	4.28	12.80	22.90	11.39	2498.10	98.9	300.4	73.1	25.52	45.47	18.91	32.48
MEAN	.14	.43	.74	.37	86.1	3.19	10.0	2.36	.85	1.47	.61	1.08
MAX	.19	2.0	3.0	.50	1500	5.2	62	4.4	1.6	8.6	13	20
MIN	.12	.20	.50	.27	.25	1.5	1.5	1.6	.35	.17	.17	.19
AC-FT	8.5	25	45	23	4950	196	596	145	51	90	38	64
CAL YR 1975	TOTAL	687.31	MEAN	1.88	MAX	.45	MIN	.03	AC-FT	1360		
WTR YR 1976	TOTAL	3144.25	MEAN	8.59	MAX	1500	MIN	.12	AC-FT	6240		

PEAK DISCHARGE (BASE, 200 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-5	1400	2.79	216	8-27	0015	2.88	252
2-9	Unknown	6.72	6,000				

NOTE.--No gage-height record Nov. 3 to Jan. 23.

09510200. SYCAMORE CREEK NEAR FORT MCDOWELL, ARIZ.

LOCATION.--Lat 33°41'39", long 111°32'28", in sec.16, T.4 N., R.8 E. (unsurveyed), Maricopa County, in Tonto National Forest, on right bank 0.7 mi (1.1 km) southwest of Sugarloaf Mountain, 9 mi (14 km) northeast of Fort McDowell, 10 mi (16 km) upstream from mouth, and 25 mi (40 km) northeast of Scottsdale.

DRAINAGE AREA.--164 mi² (425 km²).

PERIOD OF RECORD.--December 1960 to current year. Prior to Oct. 1, 1963, published as "near McDowell."

GAGE.--Water-stage recorder. Datum of gage is 1,759.33 ft (536.244 m) above mean sea level. Prior to Oct. 1, 1970, at datum 0.16 ft (0.049 m) lower.

AVERAGE DISCHARGE.--15 years (1961-76, 18.7 ft³/s (0.530 m³/s), 13,550 acre-ft/yr (16.7 hm³/yr); median of yearly mean discharges, 8.6 ft³/s (0.24 m³/s), 6,200 acre-ft/yr (7.6 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 5,470 ft³/s (155 m³/s) Feb. 9 (gage height, 7.84 ft or 2.390 m); minimum daily, 0.01 ft³/s (<0.001 m³/s) for many days.

Period of record: Maximum discharge, 24,200 ft³/s (685 m³/s) Sept. 5, 1970 (gage height, 19.7 ft or 6.00 m, from profile past gage), from rating curve extended above 3,600 ft³/s (102 m³/s) on basis of slope-area measurements at gage heights 15.0 and 19.7 ft (4.57 and 6.00 m); no flow at times in most years.

REMARKS.--Records fair.

REVISIONS.--WRD Ariz. 1970: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.02	.09	.40	.44	6.4	4.3	13	1.1	.05	2.5	.04
2	.04	.01	.03	.40	.30	5.7	4.3	10	.88	.05	.45	.26
3	.04	.01	.02	.40	.29	7.1	3.7	9.9	.79	.05	.10	.04
4	.04	.01	.02	.40	5.3	13	3.4	15	.71	.06	.05	.04
5	.05	.01	.01	.40	158	12	3.3	20	.62	.06	.04	2.8
6	.09	.01	.02	.40	157	11	3.3	12	.42	.08	.04	1.3
7	.09	.01	.02	.40	62	9.6	3.2	9.3	.17	.07	.04	.04
8	.09	.01	.01	.40	29	9.1	3.0	8.6	.17	.06	.04	.04
9	.09	.01	.01	.40	1580	9.4	2.9	8.8	.16	.07	.04	.04
10	.09	.01	.02	.40	609	9.5	2.8	7.6	.16	.05	.04	.04
11	.05	.01	.02	.40	150	8.4	2.6	5.7	.13	.06	.04	.03
12	.02	.01	.02	.40	81	8.3	2.5	4.4	.13	.06	.04	.15
13	.02	.01	.24	.40	55	8.0	2.6	3.8	.13	.06	.04	.03
14	.02	.01	1.4	.40	58	7.3	7.9	3.2	.12	.05	.04	.03
15	.02	.01	.47	.40	48	7.0	14	2.6	.10	.05	.04	.03
16	.01	.01	.33	.40	52	6.4	168	2.5	.09	.04	.04	.03
17	.01	.01	.33	.40	33	6.4	136	2.5	.09	.06	.04	.03
18	.02	.01	.24	.40	26	6.4	93	2.5	.09	.06	.04	.03
19	.01	.01	.24	.40	22	6.2	103	2.9	.07	.05	.05	.03
20	.02	.01	.28	.33	21	5.8	94	2.7	.07	.06	.03	.03
21	.02	.01	1.7	.33	14	5.4	57	2.1	.07	.06	.03	.03
22	.02	.01	4.9	.38	11	5.0	45	2.2	.07	.07	.40	.03
23	.02	.02	2.6	.45	9.3	4.8	34	2.2	.06	.07	.13	.09
24	.02	.02	1.2	1.3	9.2	4.7	28	2.1	.07	.08	.03	.13
25	.01	.02	.82	1.4	8.5	4.5	23	1.9	.07	1.4	.02	24
26	.01	.02	.76	.99	8.1	4.4	20	1.8	.07	.11	.05	364
27	.01	.02	.65	.98	6.6	4.4	22	1.7	.05	1.4	25	74
28	.01	3.4	.47	.64	7.0	4.4	19	1.5	.05	.07	3.5	4.3
29	.01	4.9	.40	.39	7.2	4.2	18	1.2	.06	113	.13	2.0
30	.01	.89	.55	.40	---	4.0	16	1.1	.07	22	.04	1.2
31	.01	---	.51	.41	---	3.9	---	1.2	---	10	.04	---
TOTAL	1.00	9.52	18.38	15.60	3228.23	212.7	939.8	166.0	6.84	149.41	33.11	474.84
MEAN	.032	.32	.59	.50	111	6.86	31.3	5.35	.23	4.82	1.07	15.8
MAX	.09	4.9	4.9	1.4	1580	13	168	20	1.1	113	25	364
MIN	.01	.01	.01	.33	.29	3.9	2.5	1.1	.05	.04	.02	.03
AC-FT	2.0	19	36	31	6400	422	1860	329	14	296	66	942
CAL YR 1975	TOTAL	1907.09	MEAN	5.22	MAX	160	MIN	.01	AC-FT	3780		
WTR YR 1976	TOTAL	5255.43	MEAN	14.4	MAX	1580	MIN	.01	AC-FT	10420		

PEAK DISCHARGE (BASE, 400 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-5	2030	2.30	410	7-29	0100	3.10	865
2-9	1530	7.84	5,470	9-26	1330	4.72	2,140

09511300. VERDE RIVER NEAR SCOTTSDALE, ARIZ.

LOCATION.--Lat 33°34'52", long 111°40'12", in NE¼ sec.30, T.3 N., R.7 E., Maricopa County, on pier near left bank on downstream side of bridge on State Highway 87, in Fort McDowell Indian Reservation, 2.5 mi (4.0 km) upstream from mouth, 3.8 mi (6.1 km) downstream from Fort McDowell, and 16 mi (26 km) northeast of Scottsdale.

DRAINAGE AREA.--6,600 mi² (17,090 km²), approximately.

PERIOD OF RECORD.--February 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,351.35 ft (411.891 m) above mean sea level.

AVERAGE DISCHARGE.--15 years, 534 ft³/s (15.12 m³/s), 386,900 acre-ft/yr (477 hm³/yr); median of yearly mean discharges, 430 ft³/s (12.2 m³/s), 312,000 acre-ft/yr (380 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 4,420 ft³/s (125 m³/s) Feb. 9 (gage height, 6.75 ft or 2.057 m); no flow Sept. 18-24.
Period of record: Maximum discharge, 31,300 ft³/s (886 m³/s) Dec. 31, 1965 (gage height, 12.75 ft or 3.886 m); no flow Nov. 8-19, 1961, June 4-22, 1970, Mar. 20-22, 1971, Apr. 2-15, 1974, Sept. 18-24, 1976.

REMARKS.--Records good. Flow regulated by Bartlett and Horseshoe Reservoirs (see sta 09509500) except during periods of spill or floodflow below Bartlett Dam. About 12,500 acres (50.6 km²) above reservoirs are irrigated by surface water and groundwater. Below reservoirs water is diverted for municipal supply of city of Phoenix, and for irrigation of an undetermined acreage in Fort McDowell Indian Reservation. Remainder (except during infrequent periods of extreme flooding) is diverted at Granite Reef Dam on Salt River, 6 mi (10 km) downstream, for irrigation in Salt River Valley and for municipal use by the city of Phoenix.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	247	253	356	20	924	727	1810	170	1420	35	437
2	14	226	246	399	16	882	629	1810	169	1360	30	545
3	14	253	293	399	13	908	573	1200	169	1230	78	538
4	14	318	301	398	64	820	531	514	522	1010	258	468
5	14	375	303	395	31	657	531	189	1490	910	330	360
6	13	387	304	399	39	475	531	95	1450	917	335	286
7	12	358	138	520	154	434	531	73	850	885	298	128
8	13	669	61	597	203	461	531	66	113	986	294	56
9	13	591	45	584	1060	636	531	61	198	1290	326	31
10	207	709	62	559	294	777	531	61	206	1270	294	26
11	347	810	71	517	295	888	531	59	204	1150	306	23
12	260	951	170	608	420	830	531	57	201	1160	386	18
13	238	1000	749	601	542	837	531	161	201	448	454	15
14	280	858	533	601	455	734	784	383	201	430	428	13
15	257	676	494	517	458	940	375	419	200	583	306	8.0
16	264	563	501	517	327	982	182	528	201	675	226	5.0
17	245	491	561	510	350	1130	360	689	204	695	278	1.0
18	278	421	561	410	357	1210	375	716	204	671	330	0
19	247	413	619	404	482	1300	398	465	204	627	370	0
20	241	414	671	398	587	1400	521	376	204	750	381	0
21	249	410	654	386	671	1280	585	234	205	771	338	0
22	217	379	518	340	601	1330	663	205	202	744	381	0
23	236	339	460	92	727	1470	903	147	654	608	311	0
24	240	374	367	52	1050	1570	1020	75	846	537	392	0
25	211	408	256	37	1260	1610	1110	64	884	175	554	31
26	206	435	376	27	1390	1670	1300	58	854	61	625	154
27	203	370	583	26	1420	1590	1460	113	703	55	749	120
28	269	367	682	40	1470	1430	1660	159	867	66	638	46
29	310	274	760	35	1320	1320	1810	167	1070	77	463	44
30	314	265	762	28	---	1190	1810	170	1240	45	403	44
31	307	---	421	23	---	1020	---	169	---	40	392	---
TOTAL	5745	14371	12775	10775	16076	32705	22555	11293	14886	21646	10989	3397.0
MEAN	185	419	412	348	554	1055	752	364	496	698	354	113
MAX	347	1000	762	608	1470	1670	1810	1810	1490	1420	749	545
MIN	12	226	45	23	13	434	182	57	113	40	30	0
AC-FT	11400	28500	25340	21370	31890	64870	44740	22400	29530	42930	21800	6740
CAL YR 1975	TOTAL	126174.7	MEAN 346	MAX 1550	MIN 9.7	AC-FT	250300					
WTR YR 1976	TOTAL	177213.0	MEAN 484	MAX 1810	MIN 0	AC-FT	351500					

09512100. INDIAN BEND WASH AT SCOTTSDALE, ARIZ.

LOCATION.--Lat 33°32'19", long 111°54'57", in SW¼SE¼ sec.2, T.2 N., R.4 E., Maricopa County, on upstream side of ford on Indian Bend Road, in Scottsdale.

DRAINAGE AREA.--62 mi² (161 km²) approximately, since October 1975. Prior to October 1975, 139 mi² (360 km²) revised; reduction caused by cutoff of upper portion of basin by diversion canal and detention dike (also see REMARKS).

PERIOD OF RECORD.--January 1961 to current year. Prior to October 1972 published as "near Scottsdale."

GAGE.--Water-stage recorder. Datum of gage is 1,280.29 ft (390.232 m) above mean sea level.

AVERAGE DISCHARGE.--14 years (1961-75), 2.67 ft³/s (0.0756 m³/s), 1,930 acre-ft/yr (2.38 hm³/yr), representing flow from 139 mi² (360 km²) revised; median of yearly mean discharges, 0.30 ft³/s (0.008 m³/s), 220 acre-ft/yr (0.27 hm³/yr).

EXTREMES.--Current year: Maximum discharge, about 3,500 ft³/s (99 m³/s) Sept. 25 (gage height, 3.65 ft or 1.113 m); no flow for most of year.

Period of record: Maximum discharge, 21,000 ft³/s (595 m³/s) June 22, 1972 (gage height, 4.90 ft or 1.494 m), from rating curve extended above 7,000 ft³/s (200 m³/s) on basis of partial discharge measurement at gage height 4.2 ft (1.28 m) and slope-conveyance method at gage height 4.90 ft (1.494 m); no flow for most of time each year.

REMARKS.--Records poor. Natural flow of wash affected by urbanization and partly regulated by artificial lakes upstream. Upper portion of basin (about 77 mi² or 199 km²) cut off by diversion canal and detention dike in October 1975. Release of excess flood waters may occasionally pass canal into lower portion of basin.

REVISIONS.--WRD Ariz., 1972: 1968, 1970 (revised figures of daily discharge for water years 1968 and 1970 were inadvertently omitted from WSP 2126).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0		0	0	0	0	0	0		0
2			0		0	0	0	0	0	0		0
3			0		0	0	0	0	0	0		0
4			0		0	0	0	9.5	0	0		0
5			0		0	0	0	21	0	0		.10
6			0		0	0	0	2.9	0	0		0
7			0		0	0	0	0	0	0		0
8			0		0	0	0	0	0	0		0
9			0		.20	0	0	0	0	0		0
10			0		0	0	0	0	0	0		0
11			0		0	0	0	0	0	0		0
12			0		0	0	0	0	0	0		0
13			.60		0	0	0	0	0	0		0
14			.10		0	0	1.9	0	0	0		0
15			0		0	0	.50	0	0	0		0
16			0		0	0	2.9	0	0	0		0
17			0		0	0	1.5	0	.30	0		0
18			0		0	0	.70	0	0	0		0
19			0		0	0	.20	0	.50	0		0
20			0		0	.10	0	0	0	0		0
21			.10		0	0	0	0	0	0		0
22			0		0	0	0	0	0	0		0
23			0		0	0	0	0	0	0		0
24			0		0	0	0	0	0	30		.20
25			0		0	0	0	0	0	19		603
26			.10		0	0	0	0	0	1.5		23
27			0		0	0	0	0	0	0		4.3
28			0		0	0	0	0	0	0		.30
29			0		0	0	0	0	0	0		0
30			0		---	0	0	0	0	0		0
31		---	0		---	0	---	0	---	0		---
TOTAL	0	0	.90	0	.20	.10	7.70	33.4	.80	50.5	0	630.90
MEAN	0	0	.029	0	.007	.003	.26	1.08	.027	1.63	0	21.0
MAX	0	0	.60	0	.20	.10	2.9	21	.50	.30	0	603
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	1.8	0	.4	.2	15	66	1.6	100	0	1250
CAL YR 1975	TOTAL	0.90	MEAN .003	MAX	.60	MIN 0	AC-FT	1.8				
WTR YR 1976	TOTAL	724.50	MEAN 1.98	MAX	603	MIN 0	AC-FT	1440				

PEAK DISCHARGE (BASE, 20 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
4-14	1700	1.25	22	7-24	1600	1.44	88
5-4	1800	1.60	172	9-25	0630	3.65	*3,500

* About.

GILA RIVER BASIN

09512200. SALT RIVER TRIBUTARY IN SOUTH MOUNTAIN PARK, AT PHOENIX, ARIZ.

LOCATION.--Lat 33°20'49", long 112°05'03", in NE¼NE¼ sec.18, T.1 S., R.3 E., Maricopa County, in South Mountain Park, on left bank 6.5 mi (10.5 km) south of Phoenix main post office.

DRAINAGE AREA.--1.75 mi² (4.53 km²).

PERIOD OF RECORD.--January 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,405.20 ft (428.305 m) above mean sea level.

AVERAGE DISCHARGE.--15 years, 0.011 ft³/s (0.0003 m³/s), 8.0 acre-ft/yr (9,860 m³/yr); median of yearly mean discharges, 0.004 ft³/s (0.0001 m³/s), 3 acre-ft/yr (3,700 m³/yr).

EXTREMES.--Current year: Maximum discharge, 70 ft³/s (1.98 m³/s) Sept. 23 (gage height, 3.95 ft or 1.204 m); no flow for most of year. Period of record: Maximum discharge, 670 ft³/s (19.0 m³/s) Sept. 4, 1965 (gage height, 9.70 ft or 2.957 m, from floodmarks), from rating curve extended above 31 ft³/s (0.88 m³/s) on basis of measurements of peak flow through culvert at gage heights 5.80, 9.09, and 9.52 ft (1.768, 2.771, and 2.902 m); no flow for most of time each year.

REMARKS.--Records poor. No storage or diversion above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												0
2												0
3												0
4												0
5												0
6												0
7												0
8												0
9												0
10												0
11												0
12												0
13												0
14												0
15												0
16												0
17												0
18												0
19												0
20												0
21												0
22												.80
23												1.2
24												0
25												0
26												0
27												0
28												0
29												0
30												0
31		---			---		---		---			---
TOTAL	0	0	0	0	0	0	0	0	0	0	0	2.00
MEAN	0	0	0	0	0	0	0	0	0	0	0	.067
MAX	0	0	0	0	0	0	0	0	0	0	0	1.2
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	0	0	0	4.0
CAL YR 1975	TOTAL 0	MEAN 0	MAX 0	MIN 0	AC-FT 0							
WTR YR 1976	TOTAL 2.00	MEAN .006	MAX 1.2	MIN 0	AC-FT 4.0							

PEAK DISCHARGE (BASE, 20 CFS).--Sept. 22 (2100) 56 cfs (3.65 ft); Sept. 23 (0200) 70 cfs (3.95 ft).

GILA RIVER BASIN

477

09512400. CAVE CREEK AT PHOENIX, ARIZ.

LOCATION.--Lat 33°34'56", long 112°06'43", in SW¼ sec.24, T.3 N., R.2 E., Maricopa County, on downstream side of bridge at Peoria Avenue in Phoenix, 0.7 mi (1.1 km) upstream from Arizona Canal.

DRAINAGE AREA.--252 mi² (653 km²).

PERIOD OF RECORD.--October 1957 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,236.37 ft (376.846 m) above mean sea level (from Salt River Valley Water Users' Association temporary bench mark). Prior to July 31, 1974, at site 60 ft (18 m) upstream at datum 6.93 ft (2.112 m) higher.

AVERAGE DISCHARGE.--19 years, 2.86 ft³/s (0.0810 m³/s), 2,070 acre-ft/yr (2.55 hm³/yr); median of yearly mean discharges, 1.0 ft³/s (0.028 m³/s), 720 acre-ft/yr (0.89 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 196 ft³/s (5.55 m³/s) Feb. 10 (gage height, 3.23 ft or 0.984 m); no flow for most of year. Period of record: Maximum discharge, 4,080 ft³/s (116 m³/s)—including 345 ft³/s (9.77 m³/s) released from Cave Creek Dam—Dec. 19, 1967 (gage height, 11.23 ft or 3.423 m, present datum); no flow for most of time each year.

REMARKS.--Records poor. Peak flow regulated from 161 mi² (417 km²) by Cave Creek Dam 12 mi (19 km) upstream. Flow probably affected by urbanization.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
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					5.1					0		0
10					67					0		0
11					4.6					0		0
12					0					0		0
13					0					0		0
14					0					0		0
15					0					0		0
16					0					0		0
17					0					0		0
18					0					0		0
19					0					0		0
20					0					0		0
21					0					0		0
22					0					0		0
23					0					0		0
24					0					9.7		0
25					0					0		.50
26					0					0		0
27					0					0		0
28					0					0		0
29					0					0		0
30					---					0		0
31		---			---		---		---	0		---
TOTAL	0	0	0	0	76.7	0	0	0	0	9.7	0	.50
MEAN	0	0	0	0	2.64	0	0	0	0	.31	0	.017
MAX	0	0	0	0	67	0	0	0	0	9.7	0	.50
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	152	0	0	0	0	19	0	1.0
CAL YR 1975	TOTAL	1.00	MEAN .003	MAX	1.0	MIN 0	AC-FT	2.0				
WTR YR 1976	TOTAL	85.90	MEAN .24	MAX	67	MIN 0	AC-FT	172				

09512500. AGUA FRIA RIVER NEAR MAYER, ARIZ.

LOCATION.--Lat 34°18'55", long 112°05'48", in NW¼SE¼ sec.20, T.11 N., R.3 E., Yavapai County, on left bank at Sycamore damsite, 700 ft (210 m) downstream from Big Bug Creek and 12 mi (19 km) southeast of Mayer.

DRAINAGE AREA.--588 mi² (1,523 km²).

PERIOD OF RECORD.--January 1940 to current year.

GAGE.--Water-stage recorder. Datum of gage is 3,434 ft (1,046.7 m), levels by Maricopa County Municipal Water Conservation District No. 1.

AVERAGE DISCHARGE.--56 years (unadjusted for diversions to Perry Canal), 16.7 ft³/s (0.473 m³/s), 12,100 acre-ft/yr (14.9 hm³/yr); median of yearly mean discharges, 12 ft³/s (0.34 m³/s), 8,700 acre-ft/yr (11 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 9,700 ft³/s (275 m³/s) Feb. 9 (gage height, 10.35 ft or 3.155 m); minimum daily, 0.20 ft³/s (0.006 m³/s) Jan. 10-19, Jan. 30 to Feb. 3.

Period of record: Maximum discharge, 19,800 ft³/s (561 m³/s) Sept. 5, 1970 (gage height, 14.90 ft or 4.542 m), from rating curve extended above 1,600 ft³/s (45 m³/s) on basis of slope-area measurement of peak flow; negligible flow at times during the summer months in most years when entire flow was diverted to Perry Canal above station and flow past gage was seepage only.

REMARKS.--Records fair. Diversions above station for mining and irrigation of about 600 acres (2.4 km²). Diversion by Perry Canal, which heads 300 ft (90 m) above the gage, was from late October or early November to Feb. 5 and was measured at 0.07 ft³/s (0.002 m³/s) Nov. 6, 0.58 ft³/s (0.016 m³/s) Dec. 5, and 1.12 ft³/s (0.032 m³/s) Jan. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.40	.40	.40	.30	.20	5.8	3.9	2.8	.80	.50	2.1	1.5
2	.40	.40	.40	.30	.20	5.0	4.2	2.3	.90	.50	1.9	1.5
3	.40	.40	.40	.30	.20	5.8	5.4	2.1	.90	.50	1.7	1.0
4	.40	.40	.40	.30	.30	6.8	5.8	2.8	.90	.50	1.5	1.0
5	.40	.40	.40	.30	953	6.8	5.8	6.3	.90	.50	1.4	20
6	.40	.40	.40	.30	745	6.3	5.8	5.0	.90	.50	1.5	340
7	.40	.40	.40	.30	155	5.4	5.0	3.9	.80	.50	1.7	4.0
8	.40	.50	.30	.30	24	4.6	5.0	5.0	.60	.50	1.9	2.0
9	.40	.50	.30	.30	3390	3.6	5.0	3.9	.60	93	5.4	1.0
10	.40	.50	.30	.20	300	4.6	5.0	2.5	.60	.80	2.5	1.0
11	.40	.50	.30	.20	30	5.0	5.0	1.7	.60	.60	2.3	1.4
12	.40	.40	.30	.20	20	5.4	5.0	1.7	.60	.60	2.3	.50
13	.40	.40	.30	.20	15	5.4	5.0	1.4	.60	.50	2.3	.30
14	.40	.40	.30	.20	12	5.0	6.3	1.4	.70	.50	2.1	.30
15	.40	.40	.30	.20	9.3	4.6	7.3	1.4	.60	.50	2.1	.30
16	.40	.40	.30	.20	8.8	4.2	16	1.2	.60	.50	2.3	.30
17	.40	.40	.30	.20	8.8	4.6	21	1.0	.60	.50	2.3	.30
18	.40	.40	.30	.20	9.3	3.6	21	.90	.60	.50	2.8	.30
19	.40	.50	.30	.20	8.8	4.2	105	1.0	.60	.50	2.3	.40
20	.50	.50	.30	.30	8.3	4.2	55	1.2	.60	.40	2.5	.40
21	.50	.50	.40	.30	7.8	3.6	62	1.1	.60	.40	2.3	.50
22	.60	.50	.40	.30	7.8	3.3	57	1.1	.50	2.5	2.3	.80
23	.60	.50	.40	.30	8.3	3.3	33	1.2	.50	8.0	2.3	1.0
24	.40	.50	.40	.30	8.3	3.6	18	1.2	.50	130	2.3	.90
25	.40	.50	.40	.30	7.8	3.6	12	1.0	.50	10	2.3	1.1
26	.40	.40	.40	.30	6.8	3.6	6.8	1.0	.50	1.5	2.1	1.6
27	.40	.40	.40	.30	6.8	3.9	5.4	1.0	.50	1.0	2.1	1.9
28	.40	.60	.30	.30	6.8	3.9	4.2	1.0	.50	.80	36	.70
29	.40	.40	.30	.30	6.3	4.6	3.6	.90	.50	30	27	.60
30	.40	.40	.30	.20	---	3.9	3.6	.80	.50	30	5.0	.60
31	.40	---	.30	.20	---	4.6	---	.80	---	50	2.0	---
TOTAL	13.00	13.30	10.70	8.10	5764.90	142.8	503.1	60.60	19.10	367.10	130.6	387.20
MEAN	.42	.44	.35	.26	199	4.61	16.8	1.95	.64	11.8	4.21	12.9
MAX	.60	.60	.40	.30	3390	6.8	105	6.3	.90	130	36	340
MIN	.40	.40	.30	.20	.20	3.3	3.6	.80	.50	.40	1.4	.30
AC-FT	26	26	21	16	11430	283	998	120	38	728	259	768
CAL YR 1975 TOTAL	1067.60		MEAN 2.92	MAX 203	MIN .20	AC-FT 2120						
WTR YR 1976 TOTAL	7420.50		MEAN 20.3	MAX 3390	MIN .20	AC-FT 14720						

PEAK DISCHARGE (BASE, 2,300 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-5	1900	5.98	2,720	7-9	1700	5.75	2,400
2-9	1400	10.35	9,700	9-6	0200	5.85	2,640

GILA RIVER BASIN

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09512800. AGUA FRIA RIVER NEAR ROCK SPRINGS, ARIZ.

LOCATION.--Lat 34°00'56", long 112°10'02", in NW¼NW¼ sec.28, T.8 N., R.2 E., Yavapai County, on right bank 2.5 mi (4.0 km) south-west of Rock Springs and 10 mi (16 km) upstream from Lake Pleasant. Prior to Oct. 1, 1974, at site 600 ft (180 m) upstream.

DRAINAGE AREA.--1,130 mi² (2,930 km²), approximately.

PERIOD OF RECORD.--January 1970 to current year (monthly discharge only, October 1973 to September 1974). Low-flow records not equivalent prior to Oct. 1, 1974, due to spring flow in streambed between sites in use.

GAGE.--Water-stage recorder. Altitude of gage is 1,800 ft (549 m), from topographic map. Prior to Oct. 1, 1974, at site 600 ft (180 m) upstream at datum 10.00 ft (3.048 m) higher (now used as supplementary gage).

AVERAGE DISCHARGE.--6 years, 47.4 ft³/s (1.34 m³/s), 34,340 acre-ft/yr (42.3 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 24,700 ft³/s (700 m³/s) Feb. 9 (gage height, 20.37 ft or 6.209 m); minimum daily, 0.10 ft³/s (0.003 m³/s) Oct. 7 to Nov. 27.

Period of record: Maximum discharge, 40,100 ft³/s (1,140 m³/s) Sept. 5, 1970 (gage height, 20.62 ft or 6.285 m, site and datum then in use; 25.3 ft or 7.71 m, present site and datum, from profile past gage); no flow at times each year prior to October 1974; minimum daily discharge since October 1974, 0.10 ft³/s (0.003 m³/s) Oct. 7 to Nov. 27, 1975.

REMARKS.--Records poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	.10	.20	.20	.30	20	3.3	25	1.7	.80	63	16
2	.20	.10	.20	.20	.30	20	2.7	20	1.6	.80	25	10
3	.20	.10	.20	.20	.30	20	2.2	15	1.6	.80	15	6.0
4	.20	.10	.20	.20	.40	20	2.1	35	1.4	.80	8.0	4.0
5	.20	.10	.20	.20	2160	20	2.1	30	1.3	.80	6.0	8.0
6	.20	.10	.20	.20	2650	20	1.9	25	1.2	.80	4.0	241
7	.10	.10	.20	.20	657	20	1.9	20	1.2	.80	3.0	57
8	.10	.10	.20	.20	262	20	1.9	15	1.0	.80	3.0	28
9	.10	.10	.20	.20	6480	20	1.9	12	1.0	1.8	11	5.0
10	.10	.10	.20	.20	1900	20	1.7	10	1.0	109	7.0	2.0
11	.10	.10	.20	.20	494	20	1.4	8.0	.90	6.2	5.0	1.0
12	.10	.10	.20	.20	362	19	1.3	7.0	.90	2.2	4.0	1.0
13	.10	.10	.20	.20	320	19	1.2	6.0	.90	3.3	3.0	1.0
14	.10	.10	.20	.20	274	19	2.1	5.0	1.0	1.4	3.0	1.0
15	.10	.10	.20	.20	244	19	7.7	4.0	1.0	1.0	3.0	.90
16	.10	.10	.20	.20	239	19	314	3.0	1.0	.90	2.0	.80
17	.10	.10	.20	.20	192	18	173	3.0	1.0	.80	2.0	.80
18	.10	.10	.20	.20	117	18	175	2.7	1.0	.80	2.0	.80
19	.10	.10	.20	.20	45	17	211	2.6	1.0	.80	2.0	.70
20	.10	.10	.20	.20	40	16	289	2.9	1.0	.80	2.0	.70
21	.10	.10	.20	.20	35	15	320	8.4	.90	.80	2.0	.60
22	.10	.10	.20	.20	30	13	250	7.7	.90	2.7	2.0	.60
23	.10	.10	.20	.20	25	12	200	4.2	.80	49	2.0	.60
24	.10	.10	.20	.20	25	11	150	3.4	.80	52	1.0	.60
25	.10	.10	.20	.20	25	10	100	2.2	.80	160	1.0	42
26	.10	.10	.20	.30	25	7.7	80	2.1	.80	81	1.0	210
27	.10	.10	.20	.30	25	6.2	60	1.9	.80	95	1.0	55
28	.10	.20	.20	.30	20	6.0	45	1.8	.80	76	1.0	26
29	.10	.20	.20	.30	20	5.2	35	1.7	.80	118	24	15
30	.10	.20	.20	.30	---	4.5	30	1.7	.80	75	48	8.0
31	.10	---	.20	.30	---	4.0	---	1.7	---	79	31	---
TOTAL	3.70	3.30	6.20	6.80	16667.30	478.6	2467.4	288.0	30.90	923.90	287.0	744.10
MEAN	.12	.11	.20	.22	575	15.4	82.2	9.29	1.03	29.8	9.26	24.8
MAX	.20	.20	.20	.30	6480	20	320	35	1.7	160	63	241
MIN	.10	.10	.20	.20	.30	4.0	1.2	1.7	.80	.80	1.0	.60
AC-FT	7.3	6.5	12	13	33060	949	4890	571	61	1830	569	1480

CAL YR 1975 TOTAL 768.98 MEAN 2.11 MAX 139 MIN .10 AC-FT 1530
WTR YR 1976 TOTAL 21907.20 MEAN 59.9 MAX 6480 MIN .10 AC-FT 43450

PEAK DISCHARGE (BASE, 1800 CFS).--Feb. 5 (1930) 6,340 cfs (13.30 ft); Feb. 9 (1400) 24,700 cfs (20.37 ft).

09513000. AGUA FRIA RIVER AT WADDELL DAM, ARIZ.

LOCATION.--Lat 33°51'20", long 112°15'58", in SW¼ sec.16, T.6 N., R.1 E., Maricopa County, at left upstream end of Waddell Dam, and 22 mi (35 km) northwest of Glendale.

DRAINAGE AREA.--1,459 mi² (3,779 km²).

PERIOD OF RECORD.--November 1910 to September 1914 (gage heights only), October 1914 to September 1919, October 1919 to September 1924 (gage heights only), October 1933 to current year (monthly discharge only). Published as "near Glendale" prior to 1920, and as "at Lake Pleasant Dam" 1920 to September 1962.

GAGE.--Nonrecording gage on Lake Pleasant read once daily. Datum of gage is 1,431.2 ft (436.23 m) above mean sea level. Prior to Sept. 30, 1924, nonrecording gage or water-stage recorder at several sites in the vicinity of diversion dam 1.5 mi (2.4 km) downstream from Waddell Dam, at different datum.

AVERAGE DISCHARGE.--48 years (1914-19, 1933-76), 80.0 ft³/s (2.266 m³/s), 57,960 acre-ft/yr (71.5 hm³/yr); median of yearly mean discharges, 40 ft³/s (1.13 m³/s), 29,000 acre-ft/yr (36 hm³/yr).

EXTREMES.--Period of record: Maximum discharge, about 105,000 ft³/s (2,970 m³/s) Jan. 28, 1916 (gage height, 30 ft or 9.1 m, same datum as in 1919, from floodmarks), Nov. 27, 1919 (gage height, 33 ft or 10.1 m, datum then in use, from floodmarks), from rating curve extended above 13,000 ft³/s (370 m³/s) on basis of velocity-area studies (on basis of comparative gage heights, the flood of Nov. 27, 1919, is believed to have been the greater); no flow during spring and summer of several years.

REMARKS.--Records fair. Figures given herein represent flow into Lake Pleasant. Inflow computed on basis of three factors as follows: 1. Change in contents of Lake Pleasant and in contents of small reservoir behind diversion dam 1.5 mi (2.4 km) downstream from Lake Pleasant. 2. (a) Release from Lake Pleasant, computed from twice-daily readings by Clausen-Pierce weir rule in Beardsley Canal, checked by current-meter measurements by U.S. Geological Survey. (b) Spill from Lake Pleasant, measured over diversion dam based on staff-gage readings. See tables of diversions and spill below. 3. Effect of rainfall and evaporation on lake; evaporation assumed as 0.85 of that measured once daily in 3-ft-square (0.9-m-square) land pan buried 1½ ft (½ m) in ground near left end of Waddell Dam. Effect of bank storage and bank release in Lake Pleasant is not taken into account. For months when inflow to lake is small and other factors relatively large, discordant figures of runoff may appear. Such discrepancies that may be attributed to inaccuracies in the capacity table, or to the fact that bank storage and bank release are not taken into account, result in quantities too large for periods of falling stage, but tend to be compensated for by quantities too small for periods of rising stage. Inaccuracies in figures of release and evaporation, which may be within reasonable limits within themselves, may result in disproportionately large inaccuracies in small figures of inflow computed as residuals. Diversions for irrigation above Lake Pleasant of probably not over 1,000 acres (4.0 km²). Spill occurred in 1941, 1966, and 1968 water years.

COOPERATION.--Records collected and prepared in cooperation with Maricopa County Municipal Water Conservation District No. 1.

REVISIONS (WATER YEARS).--WSP 1213: 1915-16, 1918-19. WSP 1343: Drainage area. WSP 1513: 1956.

MONTHLY INFLOW TO LAKE PLEASANT; SPILL AND DIVERSIONS BELOW LAKE PLEASANT, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

Month	Inflow to Lake Pleasant		Diversions in acre-feet	Spill in acre-feet
	Mean (cfs)	Runoff in acre-feet		
October.....	2.20	135	0	0
November.....	2.17	129	0	0
December.....	2.50	154	0	0
CAL YR 1975.....	8.36	6,060	34,150	0
January.....	1.74	107	32	0
February.....	568	32,680	36	0
March.....	23.4	1,440	1,930	0
April.....	102	6,080	3,940	0
May.....	16.8	1,030	2,140	0
June.....	11.3	675	2,760	0
July.....	30.1	1,850	4,970	0
August.....	9.56	588	5,740	0
September.....	67.2	4,000	2,970	0
WTR YR 1976.....	67.5	48,870	24,520	0

09513500. LAKE PLEASANT AT WADDELL DAM, ARIZ.

LOCATION.--Lat 35°51'20", long 112°15'58", in SW¼ sec.16, T.6 N., R.1 E., Maricopa County, at left upstream end of Waddell Dam on Agua Fria River.

DRAINAGE AREA.--1,459 mi² (3,779 km²).

PERIOD OF RECORD.--February 1928 to current year (annual figures only prior to 1939). Prior to October 1963 published as "at Lake Pleasant Dam."

GAGE.--Nonrecording gage read once daily. Datum of gage is 1,431.2 ft (436.23 m) above mean sea level.

EXTREMES.--Current year: Maximum contents, 51,000 acre-ft (62.9 hm³) Mar. 17, 18 (gage height, 127.99 ft or 39.011 m); minimum, 18,290 acre-ft (22.6 hm³) Feb. 1-3 (gage height, 102.92 ft or 31.370 m).

Period of record: Maximum contents, 178,500 acre-ft (220 hm³) Apr. 19, 1941, of which 500 acre-ft (616,000 m³) was uncontrolled storage; maximum gage height, 170.28 ft (51.901 m) Feb. 9, 1966; no storage Sept. 5, 1933, July 19 to Aug. 13, 1940.

REMARKS.--Lake is formed by concrete multiple-arch dam; dam completed and storage began in 1927. Capacity, 157,600 acre-ft (194 hm³), of which 86,870 acre-ft (107 hm³) is between gage heights 62 ft (18.9 m)—28 ft (8.5 m) above centerline of outlet works—and 146.0 ft (44.50 m), crest of spillway, and 70,730 acre-ft (87.2 hm³) between 146.0 ft (44.50 m) and 170.0 ft (51.82 m), top of spillway gates. There is no storage below gage height 62 ft (18.9 m) because of accumulated sediment. Water released from reservoir flows down river channel 1.5 mi (2.4 km) to diversion dam where it is diverted for irrigation near Beardsley. Figures given herein represent usable contents in Lake Pleasant (based on 1965 capacity table). Contents of small reservoir formed by diversion dam is not included.

COOPERATION.--Gage-height record furnished by Maricopa County Municipal Water Conservation District No. 1.

Capacity table (gage height, in feet, and usable contents, in acre-feet)

103	18,360	120	38,590
106	21,320	125	46,140
110	25,670	130	54,440
115	31,770		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
INSTANTANEOUS OBSERVATIONS AT 1700

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19610	19100	18800	18660	18290	50640	49120	50430	48000	44110	39700	33230
2	19590	19090	18790	18640	18290	50640	49000	50340	47820	43930	39540	33010
3	19580	19070	18790	18640	18290	50690	48830	50240	47760	43740	39350	32800
4	19550	19060	18780	18450	18320	50760	48670	50180	47680	43540	39160	32610
5	19530	19050	18780	18450	18620	50760	48510	50180	47600	43360	38980	32370
6	19510	19040	18780	18440	26300	50770	48360	50130	47450	43180	38800	32270
7	19500	19040	18770	18440	28590	50810	48200	50060	47320	43020	38520	32370
8	19480	19020	18760	18440	29980	50820	48050	49980	47240	42830	38230	32220
9	19470	19020	18750	18440	33610	50860	47890	49900	47160	42650	38120	32010
10	19450	19000	18750	18430	46320	50890	47790	49820	47040	42470	37890	31800
11	19430	18950	18740	18430	48070	50920	47560	49770	46920	42270	37680	31590
12	19410	18960	18740	18430	48780	50920	47400	49700	46810	42090	37470	31390
13	19400	18930	18750	18420	49270	50940	47230	49620	46700	41890	37210	31170
14	19390	18910	18740	18420	49630	50950	47180	49540	46600	41680	36990	30940
15	19350	18910	18730	18420	49850	50950	47000	49470	46490	41500	36720	30820
16	19320	18900	18720	18410	50050	50990	47400	49400	46360	41310	36490	30820
17	19300	18890	18710	18410	50180	51000	47920	49300	46220	41120	36310	30770
18	19290	18880	18700	18410	50290	51000	48210	49210	46090	40920	36130	30720
19	19270	18870	18690	18410	50380	50950	48460	49120	45970	40730	35950	30680
20	19260	18860	18690	18400	50440	50820	48780	49090	45830	40540	35680	30670
21	19250	18840	18720	18400	50480	50690	49240	49030	45730	40350	35550	30620
22	19240	18830	18720	18380	50510	50540	49800	48930	45610	40150	35320	30600
23	19230	18820	18720	18360	50540	50440	50280	48880	45460	40100	35080	30590
24	19220	18810	18710	18350	50580	50290	50410	48780	45310	40170	34890	30640
25	19190	18800	18710	18350	50590	50150	50580	48690	45150	40390	34660	30720
26	19160	18790	18710	18350	50590	50010	50640	48590	44990	40350	34450	32710
27	19140	18790	18700	18340	50610	49900	50640	48510	44820	40200	34290	33770
28	19140	18790	18690	18340	50620	49750	50620	48460	44630	40120	34080	33820
29	19130	18810	18680	18330	50640	49600	50580	48360	44460	40080	33860	33820
30	19120	18810	18680	18310	---	49420	50490	48230	44310	40000	33660	33810
31	19110	---	18680	18300	---	49260	---	48100	---	39860	33440	---
MAX	19610	19100	18800	18660	50640	51000	50640	50430	48000	44110	39700	33820
MIN	19110	18790	18680	18300	18290	49260	47000	48100	44310	39860	33440	30590
(†)	103.79	103.47	103.33	102.93	127.77	126.93	127.68	126.22	123.83	120.87	116.27	116.55
(‡)	-520	-300	-130	-380	+32340	-1380	+1230	-2390	-3790	-4450	-6420	+370

CAL YR 1975 MAX 56850 MIN 18680 † -38,190
WTR YR 1976 MAX 51000 MIN 18290 ‡ +14,180

† Gage height, in feet, at 1700 on last day of month.

‡ Change in contents, in acre-feet.

09513780. NEW RIVER NEAR ROCK SPRINGS, ARIZ.

LOCATION.--Lat 33°58'27", long 112°05'54", in SW¼SW¼ sec.6, T.7 N., R.3 E., Maricopa County, on right bank 180 ft (55 m) upstream from road crossing and 6 mi (10 km) southeast of Rock Springs.

DRAINAGE AREA.--67.3 mi² (174 km²).

PERIOD OF RECORD.--Water years 1962-65 (annual maximums only), October 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,310 ft (704 m), from topographic map. Jan. 2, 1964, to Sept. 30, 1965, crest-stage gage, and Oct. 28, 1965, to Nov. 16, 1967, water-stage recorder, at same site at datum 1.00 ft (0.305 m) higher.

AVERAGE DISCHARGE.--11 years, 7.49 ft³/s (0.212 m³/s), 5,430 acre-ft/yr (6.70 hm³/yr); median of yearly mean discharges, 4.4 ft³/s (0.12 m³/s), 3,200 acre-ft/yr (3.9 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 3,230 ft³/s (91.5 m³/s) Feb. 9 (gage height, 5.50 ft or 1.676 m); no flow for many days.
Period of record: Maximum discharge, 18,600 ft³/s (527 m³/s) Sept. 5, 1970 (gage height, 13.5 ft or 4.11 m, from profile past gage), from rating curve extended above 380 ft³/s (11 m³/s) on basis of slope-area measurements at gage heights 3.6, 4.75, 7.3, 10.7, and 13.5 ft (1.10, 1.442, 2.23, 3.26, and 4.11 m); no flow for most of time most years.

REMARKS.--Records poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0	1.4	.10	1.6	.10	0		0
2					0	1.3	.10	1.4	.10	0		0
3					0	1.8	.10	1.3	.10	0		0
4					0	3.5	.10	2.4	0	0		0
5					474	2.8	.10	2.8	0	0		0
6					131	2.4	.10	2.2	0	0		0
7					39	2.1	.10	1.6	0	0		0
8					20	1.9	.10	1.6	0	0		0
9					717	1.8	.10	1.9	0	0		0
10					147	1.5	.10	1.5	0	0		0
11					52	1.4	.10	1.0	0	0		0
12					25	1.4	.10	.80	0	0		0
13					19	1.2	.10	.50	0	0		0
14					13	1.0	.68	.50	0	0		0
15					11	1.0	1.5	.50	0	0		0
16					8.7	.90	18	.20	0	0		0
17					6.8	.90	44	.50	0	0		0
18					5.8	.90	32	.50	0	0		0
19					5.4	.90	15	.50	0	0		0
20					4.0	.80	9.3	.80	0	0		0
21					3.5	.60	7.2	.50	0	0		0
22					3.0	.50	5.4	.20	0	0		0
23					2.8	.20	4.4	.20	0	0		0
24					2.6	.20	3.7	.20	0	10		0
25					2.2	.20	3.5	.10	0	0		0
26					1.9	.10	2.8	.10	0	0		9.2
27					1.8	.10	2.4	.10	0	0		.60
28					1.5	.10	2.2	.10	0	.30		.50
29					1.5	.10	2.1	.10	0	0		.20
30					---	.10	1.8	.10	0	0		.20
31					---	.10	---	.10	---	0		---
TOTAL	0	0	0	0	1699.5	33.20	163.40	25.90	.30	10.30	0	10.70
MEAN	0	0	0	0	58.6	1.07	5.45	.84	.010	.33	0	.36
MAX	0	0	0	0	717	3.5	44	2.8	.10	10	0	9.2
MIN	0	0	0	0	0	.10	.10	.10	0	0	0	0
AC-FI	0	0	0	0	3370	66	324	51	.6	20	0	21

CAL YR 1975 TOTAL 98.20 MEAN .27 MAX 5.4 MIN 0 AC-FI 195
ATM YR 1976 TOTAL 1543.30 MEAN 5.31 MAX 717 MIN 0 AC-FI 3850

PEAK DISCHARGE (BASE, 200 CFS).--Feb. 5 (1300) 1,300 cfs (4.10 ft); Feb. 9 (1330) 3,230 cfs (5.50 ft).

GILA RIVER BASIN

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09513800. NEW RIVER AT NEW RIVER, ARIZ.

LOCATION.--Lat 33°54'41", long 112°08'26", in NW¼ sec.34, T.7 N., R.2 E., Maricopa County, near center of downstream side of bridge on east frontage road of Interstate Highway 17, 0.5 mi (0.8 km) southwest of village of New River and 10 mi (16 km) south of Rock Springs.

DRAINAGE AREA.--83.3 mi² (215.7 km²).

PERIOD OF RECORD.--December 1960 to current year. Prior to October 1965, published as "near Black Canyon."

GAGE.--Water-stage recorder. Datum of gage is 1,984.02 ft (604.729 m) above mean sea level. Prior to Feb. 1, 1972, at site 0.3 mi (0.5 km) downstream at datum 10.86 ft (3.310 m) lower (now used as supplementary gage).

AVERAGE DISCHARGE.--15 years (1961-76), 7.14 ft³/s (0.202 m³/s), 5,170 acre-ft/yr (6.37 hm³/yr); median of yearly mean discharges, 3.8 ft³/s (0.11 m³/s), 2,800 acre-ft/yr (3.5 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 7,050 ft³/s (200 m³/s) Feb. 9 (gage height, 6.63 ft or 2.021 m); no flow for most of year.

Period of record: Maximum discharge, 19,500 ft³/s (552 m³/s) Sept. 5, 1970 (gage height, 9.98 ft or 3.042 m), from rating curve extended above 1,300 ft³/s (37 m³/s) on basis of slope-area measurements at gage heights 5.57, 7.33, 9.12, and 9.98 ft (1.698, 2.234, 2.780, and 3.042 m); no flow for many days each year.

REMARKS.--Records fair. No storage or diversion above station.

REVISIONS (WATER YEARS).--WRD Ariz. 1972: Drainage area (former site).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0	0	0	0		0	0	0
2					0	0	0	0		0	0	0
3					0	.10	0	0		0	0	0
4					0	.20	0	.10		0	0	0
5					602	0	0	0		0	0	0
6					150	0	0	0		0	0	0
7					37	.10	0	0		0	0	0
8					13	.20	0	0		0	0	0
9					1160	.10	0	0		0	0	0
10					154	0	0	0		0	0	0
11					46	0	0	0		0	0	2.8
12					22	0	0	0		0	0	0
13					13	0	0	0		0	0	0
14					6.9	0	0	0		0	0	0
15					3.8	0	0	0		0	0	0
16					2.4	0	1.5	0		0	0	0
17					1.8	0	13	0		0	0	0
18					.90	0	15	0		0	0	0
19					.50	0	5.4	0		0	0	0
20					.30	0	2.1	0		0	0	0
21					.10	0	1.5	0		0	0	0
22					0	0	.90	0		0	0	0
23					0	0	.30	0		0	0	0
24					0	0	.20	0		0	0	0
25					0	0	.10	0		.70	0	.10
26					0	0	0	0		0	0	72
27					0	0	0	0		0	0	0
28					0	0	0	0		3.3	0	0
29					0	0	0	0		0	4.2	0
30					---	0	0	0		0	0	0
31		---			---	0	---	0	---	0	11	---
TOTAL	0	0	0	0	2213.70	.70	40.00	.10	0	4.00	15.2	74.90
MEAN	0	0	0	0	76.3	.023	1.33	.003	0	.13	.49	2.50
MAX	0	0	0	0	1160	.20	15	.10	0	3.3	11	72
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	4390	1.4	79	.2	0	7.9	30	149
CAL YR 1975	TOTAL	0.50	MEAN	.001	MAX	.50	MIN	0	AC-FT	1.0		
WTR YR 1976	TOTAL	2348.60	MEAN	6.42	MAX	1160	MIN	0	AC-FT	4660		

PEAK DISCHARGE (BASE, 500 CFS).--Feb. 5 (1430) 2,040 cfs (5.14 ft); Feb. 9 (1400) 7,050 cfs (6.63 ft).

GILA RIVER BASIN

09513835. NEW RIVER AT BELL ROAD, NEAR PEORIA, ARIZ.

LOCATION.--Lat 33°38'18", long 112°14'22", in NE¼NE¼ sec.3, T.3 N., R.1 E., Maricopa County, on downstream side of bridge at Bell Road, 1.6 mi (2.6 km) upstream from Skunk Creek, 3.1 mi (5.0 km) north of Peoria, and 9 mi (14 km) upstream from mouth.

DRAINAGE AREA.--187 mi² (484 km²).

PERIOD OF RECORD.--Water years 1963, 1965-67 (annual maximums only), October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,190.00 ft (362.712 m) above mean sea level (Arizona State Highway Department bench mark). Oct. 1, 1965, to Sept. 30, 1967, crest-stage gage at present site and at site 50 ft (15 m) upstream, at datum 5.00 ft (1.524 m) higher.

AVERAGE DISCHARGE.--9 years, 5.56 ft³/s (0.157 m³/s), 4,028 acre-ft/yr (4.97 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 2,280 ft³/s (64.6 m³/s) Feb. 9 (gage height, 6.37 ft or 1.942 m); no flow for most of year. Period of record: Maximum discharge, 14,600 ft³/s (413 m³/s) Dec. 19, 1967 (gage height, 13.5 ft or 4.11 m), from rating curve extended above 680 ft³/s (19.3 m³/s) on basis of slope-area measurement of peak flow; no flow for most of time each year.

REMARKS.--Records poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0							0
2					0							0
3					0							0
4					0							0
5					0							0
6					450							0
7					17							0
8					0							0
9					362							0
10					216							0
11					29							0
12					3.5							0
13					.20							0
14					0							0
15					0							0
16					0							0
17					0							0
18					0							0
19					0							0
20					0							0
21					0							0
22					0							0
23					0							0
24					0							0
25					0							0
26					0							9.8
27					0							44
28					0							0
29					0							0
30					---							0
31					---							---
TOTAL	0	0	0	0	1077.70	0	0	0	0	0	0	53.8
MEAN	0	0	0	0	37.2	0	0	0	0	0	0	1.79
MAX	0	0	0	0	450	0	0	0	0	0	0	44
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	2140	0	0	0	0	0	0	107
CAL YR 1975	TOTAL	0	MEAN	0	MAX	0	MIN	0	AC-FT	0		
WTR YR 1976	TOTAL	1131.50	MEAN	3.09	MAX	450	MIN	0	AC-FT	2240		

PEAK DISCHARGE (BASE, 300 CFS).--Feb. 6 (0200) 1,130 cfs (5.67 ft); Feb. 9 (1900) 2,280 cfs (6.37 ft).

GILA RIVER BASIN

485

09515860. SKUNK CREEK NEAR PHOENIX, ARIZ.

LOCATION.--Lat 33°45'44", long 112°07'12", in SE¼ sec.35, T.5 N., R.2 E., Maricopa County, on downstream side of right end of bridge on east frontage road of Interstate Highway 17, 3 mi (5 km) north of Adobe and 20 mi (32 km) north of city hall in Phoenix.

DRAINAGE AREA.--64.6 mi² (167.3 km²).

PERIOD OF RECORD.--Water years 1960-67 (annual maximums only), October 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,459.95 ft (444.993 m) above mean sea level. May 1961 to Sept. 30, 1967, crest-stage gage at site 100 ft (30 m) downstream at datum 5.99 ft (1.826 m) higher.

AVERAGE DISCHARGE.--9 years, 1.23 ft³/s (0.0348 m³/s), 891 acre-ft/yr (1.10 km³/yr).

EXTREMES.--Current year: Maximum discharge, 13 ft³/s (0.368 m³/s) July 28 (gage height, 6.18 ft or 1.884 m); maximum gage height, 6.57 ft (2.003 m) Sept. 26; no flow for most of year.

Period of record: Maximum discharge, 11,500 ft³/s (326 m³/s) Aug. 1, 1964 (gage height, 10.48 ft or 3.194 m, present datum), from rating curve extended above 6,200 ft³/s (180 m³/s); maximum gage height, 12.24 ft (3.731 m) Sept. 5, 1970; no flow for most of each year.

REMARKS.--Records poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								0		0		0
2								0		0		0
3								0		0		0
4								1.0		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								0		0		0
15								0		0		0
16								0		0		0
17								0		0		0
18								0		0		0
19								0		0		0
20								0		0		0
21								0		0		0
22								0		0		0
23								0		0		0
24								0		0		0
25								0		0		0
26								0		0		.20
27								0		0		0
28								0		.40		0
29								0		.10		0
30								0		0		0
31		---			---		---	0	---	0		---
TOTAL	0	0	0	0	0	0	0	1.0	0	.50	0	.20
MEAN	0	0	0	0	0	0	0	.032	0	.016	0	.007
MAX	0	0	0	0	0	0	0	1.0	0	.40	0	.20
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	2.0	0	1.0	0	.4
CAL YR 1975	TOTAL 0	MEAN 0	MAX 0	MIN 0	AC-FT 0							
WTR YR 1976	TOTAL 1.70	MEAN .005	MAX 1.0	MIN 0	AC-FT 3.4							

PEAK DISCHARGE (BASE, 100 CFS).--No peak above base.

GILA RIVER BASIN

09513970. AGUA FRIA RIVER AT AVONDALE, ARIZ.

LOCATION.--Lat 33°26'06", long 112°19'59", in NW¼ sec.14, T.1 N., R.1 W., Maricopa County, on downstream side of bridge on U.S. Highway 80, 0.5 mi (0.8 km) east of Avondale, and 3 mi (5 km) upstream from mouth.

DRAINAGE AREA.--2,013 mi² (5,214 km²), of which 1,459 mi² (3,779 km²) above Lake Pleasant is noncontributing except during periods of spill from Waddell Dam. Flood water from drainage area of 247 mi² (640 km²) above McMicken Dam may be diverted into Agua Fria River basin above station.

PERIOD OF RECORD.--Water years 1960-67, 1973 (annual maximums only), October 1967 to September 1972, October 1973 to current year.

GAGE.--Water-stage recorder since Jan. 7, 1974, with supplementary crest-stage gage. Datum of gage is 952.92 ft (290.450 m) above mean sea level (Arizona Highway Department bench mark). Apr. 26, 1961, to Sept. 30, 1967, crest-stage gage; Oct. 1, 1967, to July 21, 1972, water-stage recorder (with supplementary crest-stage gage from Mar. 10 to July 22, 1972) at present site at datum 2.92 ft (0.890 m) lower. July 22, 1972, to Jan. 6, 1974, crest-stage gage only, at railroad bridge upstream at datum 2.92 ft (0.890 m) lower.

AVERAGE DISCHARGE.--8 years (1968-72, 1973-76), 4.29 ft³/s (0.121 m³/s), 3,110 acre-ft/yr (3.83 hm³/yr).

EXTREMES.--Current year: No flow for entire year.

Period of record: Maximum discharge, 20,600 ft³/s (583 m³/s) Sept. 6, 1970 (gage height, 11.21 ft or 3.417 m), from rating curve extended above 1,500 ft³/s (42 m³/s) on basis of slope-area measurement of peak flow; maximum gage height, 12.70 ft (3.871 m) Dec. 20, 1967; no flow for most of time each year.

REMARKS.--No flow since spring of 1973. Flow partly regulated by Lake Pleasant, 35 mi (56 km) upstream. (See elsewhere in this report.) Records at times may include waste water from the Arizona Canal of the Salt River Project. Excess flood water released from McMicken Dam on Tribly Wash may enter Agua Fria River basin above station; this amount generally is negligible.

GILA RIVER BASIN

487

09515500. HASSAYAMPA RIVER AT BOX DAMSITE, NEAR WICKENBURG, ARIZ.

LOCATION.--Lat 34°02'42", long 112°42'33", in SW¼SE¼ sec.7, T.8 N., R.4 W., Yavapai County, on right bank at Box damsite, 5.5 mi (8.8 km) northeast of Wickenburg.

DRAINAGE AREA.--417 mi² (1,080 km²).

PERIOD OF RECORD.--January to June 1938, May 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,236.12 ft (681.569 m) above mean sea level. January to June 1938 at site 1 mi (2 km) downstream at datum 23.76 ft (7.242 m) lower. May 1, 1946, to Nov. 17, 1949, at present site at datum 2.16 ft (0.658 m) higher.

AVERAGE DISCHARGE.--30 years (1946-76), 14.3 ft³/s (0.405 m³/s), 10,360 acre-ft/yr (12.8 hm³/yr); median of yearly mean discharges, 8.1 ft³/s (0.23 m³/s), 5,900 acre-ft/yr (7.3 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 4,560 ft³/s (129 m³/s) Feb. 9 (gage height, 9.00 ft or 2.743 m); minimum daily, 0.60 ft³/s (0.017 m³/s) Oct. 8-11.

Period of record: Maximum discharge, 58,000 ft³/s (1,640 m³/s) Sept. 5, 1970 (gage height, 34.6 ft or 10.55 m, from profile past gage), by slope-area measurement of peak flow; no flow for many days in 1964 and 1965.

REMARKS.--Records poor. Small diversions for irrigation and mining above station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.70	1.1	2.9	1.0	1.5	1.5	2.0	14	1.7	1.7	2.0	2.3
2	.70	1.1	2.3	1.1	1.3	1.7	1.5	12	1.9	1.5	2.0	2.3
3	.80	1.1	1.7	1.1	1.3	1.7	1.1	10	1.9	1.5	1.9	2.3
4	.80	1.1	1.1	1.1	1.3	1.7	1.1	12	2.1	1.3	2.1	2.3
5	.80	1.1	.80	1.1	1040	1.7	1.1	11	1.9	1.1	1.9	4.3
6	.70	1.1	.70	1.1	654	1.7	1.3	10	1.7	1.0	1.9	441
7	.70	1.1	.70	1.1	118	1.8	1.5	10	1.9	1.9	1.9	3.6
8	.60	1.5	.70	1.1	30	1.8	1.7	9.1	2.1	1.7	9.6	2.6
9	.60	1.9	.70	1.3	1390	1.8	1.9	9.1	1.9	1.9	3.6	2.3
10	.60	2.1	.80	1.5	293	1.8	2.1	8.5	2.1	1.9	2.1	2.3
11	.60	2.3	.80	1.5	70	1.8	2.3	8.5	2.1	1.9	2.1	2.3
12	.80	2.3	1.0	1.5	48	1.8	2.3	6.9	1.7	1.9	2.1	2.1
13	1.0	2.3	1.0	1.5	36	1.8	1.9	6.0	1.7	2.3	2.1	1.9
14	1.0	2.3	1.0	1.5	24	1.8	1.3	5.5	1.9	2.6	2.1	1.9
15	1.0	2.3	1.0	1.5	17	1.8	2.6	5.1	1.9	2.3	2.3	1.9
16	1.0	2.3	1.1	1.5	11	1.8	103	5.1	2.1	2.1	2.3	1.7
17	1.0	2.3	1.1	1.5	6.4	1.9	7.4	4.7	1.9	2.1	2.3	1.7
18	1.0	2.3	1.1	1.5	6.4	1.9	4.3	4.3	1.9	2.1	2.1	1.7
19	1.1	2.3	1.1	1.7	5.1	1.9	4.3	3.6	1.9	1.9	2.1	1.7
20	1.1	2.3	1.1	1.7	5.1	1.9	9.1	3.9	1.9	1.9	2.1	1.5
21	1.0	2.3	1.1	1.5	3.2	1.9	27	3.6	1.9	1.5	2.1	1.5
22	.80	2.1	1.1	1.5	2.9	1.9	45	3.2	1.9	1.7	2.1	1.3
23	.80	2.1	1.0	1.5	2.3	1.9	50	2.9	1.9	2.6	2.1	1.3
24	.70	2.1	1.0	1.5	2.1	1.9	45	2.6	1.7	1.9	2.1	1.3
25	1.0	2.1	.80	1.5	2.1	1.9	35	2.6	1.7	1.9	2.1	22
26	1.0	2.1	.80	1.5	1.7	1.9	30	1.9	1.7	15	2.1	5.0
27	1.0	2.1	.70	1.5	1.5	2.0	24	1.5	1.7	10	9.1	1.5
28	1.0	34	.80	1.7	1.5	2.0	20	1.7	1.5	5.0	2.3	1.5
29	1.0	23	.80	1.7	1.9	2.0	17	2.1	1.5	3.0	2.1	1.5
30	1.0	6.4	.80	1.7	---	2.0	15	1.3	1.7	2.0	2.1	1.5
31	1.1	---	1.0	1.5	---	2.0	---	1.3	---	2.0	2.1	---
TOTAL	27.00	114.5	32.60	44.0	3778.6	57.0	461.8	184.0	55.4	83.2	80.9	522.1
MEAN	.87	3.82	1.05	1.42	130	1.84	15.4	5.94	1.85	2.68	2.61	17.4
MAX	1.1	34	2.9	1.7	1390	2.0	103	14	2.1	15	9.6	441
MIN	.60	1.1	.70	1.0	1.3	1.5	1.1	1.3	1.5	1.0	1.9	1.3
AC-FT	54	227	65	87	7490	113	916	365	110	165	160	1040
CAL YR 1975	TOTAL	723.60	MEAN	1.98	MAX	50	MIN	.60	AC-FT	1440		
WTR YR 1976	TOTAL	5441.10	MEAN	14.9	MAX	1390	MIN	.60	AC-FT	10790		

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
2-5	1830	8.20	2,740	4-16	0600	6.19	752
2-9	1300	9.00	4,560	9- 6	0300	8.60	3,350

GILA RIVER BASIN

09517500. CENTENNIAL WASH NEAR ARLINGTON, ARIZ.

LOCATION.--Lat 33°16'12", long 112°47'50", in sec.7, T.2 S., R.5 W., Maricopa County, on upstream side of ford on former U.S. Highway 80, 3.0 mi (4.8 km) upstream from Gillespie Dam and 4.4 mi (7.1 km) southwest of Arlington.

DRAINAGE AREA.--1,810 mi² (4,690 km²), approximately.

PERIOD OF RECORD.--January 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 773.22 ft (235.677 m) above mean sea level.

AVERAGE DISCHARGE.--15 years, 3.56 ft³/s (0.101 m³/s), 2,580 acre-ft/yr (3.18 hm³/yr); median of yearly mean discharges, 2.1 ft³/s (0.060 m³/s), 1,500 acre-ft/yr (1.85 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 7,800 ft³/s (221 m³/s) Sept. 26 (gage height, 4.38 ft or 1.335 m), from rating curve extended above 5,500 ft³/s (160 m³/s); no flow most of time.
Period of record: Maximum discharge, 14,500 ft³/s (411 m³/s) July 23, 1961 (gage height, 4.70 ft or 1.433 m), from rating curve extended above 5,500 ft³/s (160 m³/s); maximum gage height, 4.71 ft (1.436 m) Sept. 5, 1970; no flow for most of time each year.

REMARKS.--Records poor. Flow regulated by several small retention dams in upper end of basin. Records do not include irrigation return flow past station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1												0
2												0
3												0
4												0
5												0
6												0
7												0
8												0
9												0
10												0
11												0
12												0
13												0
14												0
15												0
16												0
17												0
18												0
19												0
20												0
21												0
22												0
23												0
24												11
25												280
26												1750
27												584
28												10
29												0
30												0
31		---			---		---		---			---
TOTAL	0	0	0	0	0	0	0	0	0	0	0	2635
MEAN	0	0	0	0	0	0	0	0	0	0	0	87.8
MAX	0	0	0	0	0	0	0	0	0	0	0	1750
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	0	0	0	5230
CAL YR 1975 TOTAL	4.50											
WTH YR 1976 TOTAL	2635.00											
MEAN	.012											
MAX	7.20											
MIN	0											
AC-FT	5230											

PEAK DISCHARGE (BASE, 1,000 CFS).--Sept. 26 (1930) 7,800 cfs (4.38 ft).

09518000. GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, ARIZ.

LOCATION.--Lat 33°13'45", long 112°46'00", in SE¼NE¼ sec.28, T.2 S., R.5 W., Maricopa County, at Gillespie Dam, 8 mi (13 km) downstream from Hassayampa River. Gila Bend Canal diverts from left end, and Enterprise Canal diverts from right end, of Gillespie Dam.

DRAINAGE AREA.--49,650 mi² (128,600 km²).

PERIOD OF RECORD.--June 1935 to November 1939 (monthly discharge only published in WSP 1313), December 1939 to September 1971 (published with records for sta 09519500, Gila River below Gillespie Dam), 1972 and 1973 (water year estimates only, listed in REMARKS for sta 09519500), October 1973 to September 1976. Low-flow records prior to October 1970 are not equivalent as leakage less than 5 ft³/s (0.14 m³/s) is not included.

09518500. Gila Bend Canal: May 1935 to September 1971, October 1973 to September 1976 (since October 1941, monthly discharge only).

09519000. Enterprise Canal: June 1935 to September 1939 (discharge measurements and monthly estimates only), October 1939 to September 1971, April 1974 to September 1976 (since October 1941, monthly discharge only). Published as "Gillespie Canal" prior to 1951.

GAGE.--Gila Bend Canal: Water-stage recorder 200 ft (60.9 m) downstream from headgates.

Enterprise Canal: Water-stage recorder 600 ft (180 m) downstream from intake at dam.

AVERAGE DISCHARGE.--41 years, 177 ft³/s (5.013 m³/s), 128,200 acre-ft/yr (158 hm³/yr); median of yearly mean discharges, 61 ft³/s (1.73 m³/s), 44,200 acre-ft/yr (54 hm³/yr).

EXTREMES.--Current year: Maximum daily discharge, 1,230 ft³/s (34.8 m³/s) Sept. 27; minimum daily, 18 ft³/s (0.51 m³/s) Oct. 2.

Period of record: Maximum daily discharge, 48,900 ft³/s (1,380 m³/s) Jan. 2, 1966; no flow except for possible leakage of less than 5 ft³/s (0.14 m³/s) Nov. 24-27, 1966, July 14, 1967.

REMARKS.--Records fair. Record is obtained by combining, on a daily basis, the flows of Gila Bend Canal, Enterprise Canal, and Gila River below Gillespie Dam (see sta 09519500).

Many large diversions above station for irrigation, municipal, and industrial use. Flow of Gila River and tributaries above this station is regulated by San Carlos Reservoir on Gila River—capacity, 948,600 acre-ft (1,170 hm³); by a series of reservoirs on Salt River—capacity, 1,755,000 acre-ft (2,160 hm³); by Bartlett and Horseshoe Reservoirs on Verde River—capacity, 317,700 acre-ft (392 hm³); and by Lake Pleasant on Agua Fria River—capacity, 157,600 acre-ft (194 hm³). Records of chemical analyses and water temperatures for the current water year are published on following pages.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	40	40	54	76	56	63	50	35	29	37	33
2	18	45	39	55	77	54	62	52	39	31	38	32
3	23	48	42	55	69	55	58	72	35	33	36	35
4	28	40	46	55	65	52	58	65	41	27	34	34
5	36	42	45	55	68	60	49	61	36	21	43	30
6	35	34	41	53	76	63	44	56	31	24	40	31
7	31	30	39	50	82	63	39	50	38	31	41	44
8	31	31	49	51	73	61	40	54	37	37	43	48
9	30	33	44	46	74	56	42	47	32	28	46	48
10	29	35	48	49	73	59	45	50	34	21	47	41
11	28	37	53	51	83	61	49	54	33	22	46	40
12	31	30	61	51	85	64	49	56	32	21	53	36
13	33	29	61	44	80	68	50	66	35	21	40	45
14	35	29	67	44	76	67	57	59	43	21	37	48
15	35	34	61	35	69	67	64	43	35	27	40	46
16	35	39	62	35	70	61	67	38	41	21	40	45
17	36	40	68	34	68	61	68	43	28	25	40	44
18	34	43	59	35	65	61	58	47	29	26	41	41
19	34	39	49	48	62	56	52	56	31	23	36	42
20	36	35	50	41	62	56	55	55	29	23	35	51
21	35	37	50	58	63	58	55	45	33	19	35	71
22	35	41	52	69	62	58	52	46	37	23	34	71
23	33	41	55	76	59	58	48	47	40	35	35	73
24	42	42	56	79	51	58	46	49	32	45	35	85
25	43	32	55	78	54	63	53	47	29	35	34	121
26	44	30	55	80	61	63	56	39	30	36	34	706
27	45	34	55	78	66	63	59	47	34	35	34	1230
28	39	41	54	69	65	62	59	42	32	32	34	377
29	46	48	54	68	57	67	54	39	27	35	34	132
30	37	40	54	72	---	67	49	42	26	45	33	113
31	37	---	54	73	---	67	---	40	---	43	33	---
TOTAL	1054	1119	1618	1741	1991	1885	1600	1557	1014	895	1188	3793
MEAN	34.0	37.3	52.2	56.2	68.7	60.8	53.3	50.2	33.8	28.9	38.3	126
MAX	46	48	68	80	85	68	68	72	43	45	53	1230
MIN	18	29	39	34	51	52	39	38	26	19	33	30
AC-FT	2090	2220	3210	3450	3950	3740	3170	3090	2010	1780	2360	7520
(†)	0	0	0	0	0	0	0	0	0	0	0	111
(‡)	1670	1550	1860	1640	1260	1340	946	1170	1630	1380	1520	1290

CAL YR 1975	TOTAL	18055	MEAN	49.5	MAX	91	MIN	16	AC-FT	35810	†	0	‡	16980
WTR YR 1976	TOTAL	19455	MEAN	53.2	MAX	1230	MIN	18	AC-FT	38590	†	111	‡	17270

† Diversions, in acre-feet, to Gila Bend Canal (sta 09518500). For records prior to 1972, see sta 09519500.

‡ Diversions, in acre-feet, to Enterprise Canal (sta 09519000). For records prior to 1972, see sta 09519500.

GILA RIVER BASIN

09518000. GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, ARIZ.
(National stream-quality accounting network and pesticide station)

LOCATION.--Lat 33°13'45", long 112°46'00", in SE¼NE¼ sec.28, T.2 S., R.5 W., Maricopa County, at Gillespie Dam, 8 mi (13 km) downstream from Hassayampa River.

DRAINAGE AREA.--49,650 mi² (128,600 km²).

PERIOD OF RECORD.--Chemical analyses: December 1950 to September 1971, March 1974 to current year.

Water temperatures: December 1950 to September 1971, April 1974 to current year.

Prior to October 1967, published as 09519500, Gila River below Gillespie Dam, Ariz.

EXTREMES.--Current year:

Specific conductance: Maximum daily, 7,900 micromhos Nov. 14; minimum daily, 310 micromhos Sept. 28.

Water temperatures: Maximum, 30.0°C July 7-9; minimum, 6.0°C Jan. 3.

Period of record:

Specific conductance: Maximum daily, 13,200 micromhos July 10, 11, 1966; minimum daily, 236 micromhos Dec. 28, 1967.

Water temperatures: Maximum, 36.5°C July 8, 1958, July 22, 1959, Aug. 5, 8, 1966; minimum, 1.5°C Jan. 1, 1951.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	FECAL COLIFORM (COL PER 100 ML)	STREPTOCOCCI (COL UNIES PER 100 ML)	HAZARDOUSNESS (CA, MG/L)	NON-HAZARDOUSNESS (MG/L)
OCT 07...	1145	33	6750	8.3	24.0	40	8800	1200	1300	1000
NOV 12...	1415	28	6200	8.1	15.0	10	430	760	1300	980
DEC 16...	1200	57	5350	7.9	10.0	35	880	2100	900	630
JAN 26...	1045	81	4000	7.4	12.0	30	87100	780	940	670
MAR 01...	1330	56	6500	8.1	15.0	30	8530	8400	1300	980
APR 12...	1445	46	5350	8.0	20.0	29	1000	8750	990	730
MAY 24...	1315	44	7400	8.2	26.0	80	460	440	1300	990
JUN 21...	1145	33	7000	8.1	28.0	70	2400	260	1300	1000
AUG 02...	1200	42	7800	8.2	29.0	30	--	--	1100	800
SEP 01...	1245	33	7000	7.9	27.5	55	3700	360	1200	1000
26...	1330	334	320	7.5	23.0	20	3900	14200	81	0

DATE	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)
OCT 07...	320	120	950	12	10	334	0	940	1400	2.1
NOV 12...	300	130	970	12	9.3	368	0	1000	1500	1.6
DEC 16...	210	91	690	10	13	330	0	610	1000	1.9
JAN 26...	210	100	730	10	12	327	0	690	1100	2.0
MAR 01...	300	130	1100	13	11	369	0	1100	1600	1.4
APR 12...	230	100	860	12	11	316	0	830	1200	1.6
MAY 24...	300	130	990	12	10	355	0	980	1400	2.4
JUN 21...	300	130	980	12	12	316	0	1000	1500	2.3
AUG 02...	260	100	910	12	11	317	0	900	1300	2.8
SEP 01...	300	120	940	12	11	298	0	950	1400	2.2
26...	27	3.2	32	1.6	8.4	138	0	22	20	.5

B Results based on non-ideal colony count.

09518000. GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED SILICA (SiO ₂) (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)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT 07...	19	4090	3980	5.56	11	12	.65	2800	20
NOV 12...	13	4360	4160	5.93	12	12	.13	710	--
DEC 16...	18	3120	2840	4.24	9.4	10	1.7	2100	--
JAN 26...	20	3130	3070	4.26	--	9.4	2.1	2200	--
MAR 01...	13	4700	4470	6.39	6.8	7.2	.25	3300	10
APR 12...	13	3570	3450	4.86	--	11	.19	2600	--
MAY 24...	28	4270	4070	5.81	--	12	.62	1400	--
JUN 21...	23	4230	4160	5.75	--	13	.48	200	20
AUG 02...	24	3720	3720	5.06	11	12	.35	2700	--
SEP 01...	23	4100	3950	5.58	--	12	.25	3100	--
28...	9.5	202	195	.27	--	.83	.11	170	60

DATE	TIME	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	TOTAL NITRATE PLUS NITRITE (N) (MG/L)	DIS- SOLVED NITRATE PLUS NITRITE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO ₃) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)
OCT 07...	1145	11	.73	12	12	2.0	14	62	1.1	.65
NOV 12...	1415	12	.16	11	12	1.1	12	54	.28	.13
DEC 16...	1200	9.4	.56	17	10	10	27	120	2.7	1.7
JAN 26...	1045	--	.96	11	9.4	6.9	18	79	2.7	2.1
MAR 01...	1330	6.8	.40	7.8	7.2	2.0	9.8	43	.86	.25
APR 12...	1445	--	.42	11	11	1.8	13	57	.93	.19
MAY 24...	1315	--	.55	12	12	1.3	13	59	1.1	.62
JUN 21...	1145	--	.55	12	13	2.1	14	62	1.1	.48
AUG 02...	1200	11	.51	12	12	1.3	13	59	.64	.35
SEP 01...	1245	--	.25	13	12	2.0	15	66	.56	.25
28...	1330	--	--	.86	.83	1.3	2.2	9.6	1.1	.11

GILA RIVER BASIN

09518000. GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)
OCT 07...	1145	12	12	2800	10	0	20	10
MAR 01...	1330	13	11	3300	10	1	20	0
JUN 21...	1145	--	9	200	<10	0	20	0
SEP 28...	1330	19	6	170	<10	1	20	20

DATE	TOTAL COBALT (CO) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)
OCT 07...	100	2	20	2	3300	20	<100	0	180
MAR 01...	50	2	20	8	2100	10	200	2	240
JUN 21...	<50	0	27	4	5400	20	<100	0	300
SEP 28...	<50	0	30	9	24000	60	100	5	650

DATE	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT 07...	40	.2	.2	11	7	60	10	8.2
MAR 01...	160	.0	.1	19	14	40	10	8.8
JUN 21...	70	.3	.3	13	13	40	0	9.4
SEP 28...	10	.0	.0	1	1	100	0	12

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TIME	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDT (UG/L)	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDE (UG/L)	DDE IN BOTTOM MA- TERIAL (UG/KG)	P,P' DDE IN BOTTOM MA- TERIAL (UG/KG)
MAR 12...	1130	ND	ND	ND	ND	ND	ND	ND	13	.0

DATE	TOTAL DDT (UG/L)	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- AZINON (UG/L)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- ELDRIN (UG/L)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ETHION (UG/L)	ETHION IN BOTTOM MA- TERIAL (UG/KG)
MAY 12...	ND	ND	ND	ND	ND	.5	ND	ND	ND	ND

< Actual value is known to be less than the value shown.
 ND Material specifically analyzed for but not detected.

09518000. GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1974 TO SEPTEMBER 1975

DATE	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL LINDANE (UG/L)	LINDANE IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	MALA- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL METH- OXY- CHLOR (UG/L)	METHOX- YCHLOR IN BOT- TOM MA- TERIAL (UG/KG)
MAY 12...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

DATE	TOTAL METHYL PARA- THION (UG/L)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL METHYL TRI- THION (UG/L)	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL PAPA- THION (UG/L)	PARA- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL TOX- APHENE (UG/L)	TOX- APHENE IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)
MAY 12...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

DATE	TIME	TOTAL ALDRIN (UG/L)	ALDRIN IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL ATRA- ZINE (UG/L)	ATRA- ZINE IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL DDE (UG/L)
OCT 07...	1145	ND	ND	--	--	ND	ND	ND	ND	ND
MAR 01...	1330	ND	--	ND	--	ND	--	ND	--	ND
MAY 24...	1315	ND	ND	ND	ND	ND	ND	ND	ND	ND
SEP 04...	1200	ND	--	ND	--	ND	--	ND	--	ND

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DDE IN BOT- TOM MA- TERIAL (UG/KG)	P,P' DDE IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL DDT (UG/L)	DDT IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL DI- AZINON (UG/L)	DI- AZINON IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL DI- ELDRIN (UG/L)	DI- ELDRIN IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOT- TOM MA- TERIAL (UG/KG)
OCT 07...	--	15	ND	ND	ND	ND	ND	ND	ND	ND
MAR 01...	--	--	ND	--	ND	--	ND	--	ND	--
MAY 24...	19	--	ND	ND	ND	ND	ND	.5	ND	ND
SEP 04...	--	--	ND	--	ND	--	ND	--	ND	--

DATE	TOTAL ETHION (UG/L)	ETHION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL LINDANE (UG/L)	LINDANE IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	MALA- THION IN BOT- TOM MA- TERIAL (UG/KG)
OCT 07...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MAR 01...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY 24...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SEP 04...	ND	--	ND	--	ND	--	ND	--	ND	--

ND Material specifically analyzed for but not detected.

GILA RIVER BASIN

09518000. GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL METH- OXY- CHLOR (UG/L)	METHOX- YCHLOR IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL METHYL PARA- THION (UG/L)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL METHYL THION (UG/L)	METHYL THI- ON IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL PARA- THION (UG/L)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG)	SIMA- ZINE TOTAL (UG/L)	SIMA- ZINE IN BOTTOM MATERI- AL (UG/ KG DRY SOLIDS)
OCT 07...	ND	ND	ND	ND	ND	ND	ND	ND	--	--
NOV 01...	ND	--	ND	--	ND	--	ND	--	--	--
NOV 24...	ND	ND	ND	ND	ND	ND	ND	ND	--	ND
SEP 04...	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	TOTAL TOX- APHENE (UG/L)	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TRI- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL 2,4-D (UG/L)	2,4-D IN BOTTOM MA- TERIAL (UG/KG)	TOTAL 2,4,5-T (UG/L)	2,4,5-T IN BOTTOM MA- TERIAL (UG/KG)	TOTAL SILVEX (UG/L)	SILVEX IN BOTTOM MA- TERIAL (UG/KG)
OCT 07...	ND	ND	ND	ND	--	--	--	--	--	--
NOV 01...	ND	--	ND	--	ND	--	ND	--	ND	--
NOV 24...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SEP 04...	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	SUS- PENDED SEDI- MENT (MG/L)	SUS- SED. SIEVE DIAM. % FINER THAN .062 MM
OCT 07...	201	68
NOV 12...	175	39
DEC 16...	180	85
JAN 26...	91	76
MAR 01...	269	42
APR 12...	72	97
MAY 24...	264	95
JUN 21...	161	95
AUG 02...	81	87
SEP 01...	154	89
SEP 28...	600	91

ND Material specifically analyzed for but not detected.

09518000. GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, ARIZ.--CONTINUED

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7100	6600	6500	---	---	7100	5200	6800	7100	7000	---	7000
2	6800	---	7200	6200	5700	7000	5700	---	7400	6900	6000	5900
3	7200	5700	6700	5300	6000	6300	5800	6500	7300	6600	6400	5450
4	7000	6500	5900	---	---	7000	---	6600	6700	---	6500	5450
5	---	6700	5700	5800	6400	6700	6300	6400	7100	---	5800	---
6	5900	7250	5900	6200	5800	6200	6200	6500	---	7300	6100	---
7	6000	7600	---	6300	5600	---	5900	6700	6100	6200	6150	4450
8	5700	7800	5250	6500	---	6600	5500	6200	6200	6200	---	4500
9	5650	---	6000	6800	5100	6500	5400	---	7000	6800	5900	5350
10	6600	6900	5300	7000	6100	6500	5800	6800	7400	6900	5850	5700
11	---	6800	5200	---	3500	6100	---	6500	7300	---	6200	5800
12	---	7200	4500	6500	4900	6250	5300	6600	7500	6900	5200	---
13	6600	7500	---	6700	5300	6350	5800	6300	---	6200	6400	5300
14	6400	7900	---	6600	5700	---	5000	6800	7300	7000	6300	5150
15	6200	7250	4500	6400	---	5900	5200	6800	6800	6400	---	5200
16	5350	---	---	---	5100	6200	4800	---	6300	7000	5700	5200
17	6300	7800	5150	7100	5900	6200	4700	7300	7300	5750	6100	5200
18	6100	7850	5400	---	5700	6600	---	7000	6900	---	5600	5050
19	---	7200	6000	6500	6200	6700	5700	6900	6900	6500	5750	---
20	6300	7200	5900	6300	6600	6900	4700	6700	---	6700	5400	4550
21	7000	7250	---	6000	6300	---	4200	6600	7200	6800	6000	5000
22	6800	7400	6000	6700	---	5900	5600	7200	6400	7000	---	5000
23	7000	---	4700	5100	6300	6200	6000	---	6700	5500	6150	5000
24	6800	7200	4700	4750	7200	7000	6000	7200	6600	3800	6200	3500
25	6300	7300	---	---	7200	7250	---	6400	6900	---	5900	---
26	---	7800	4600	4950	6700	5350	5800	6800	7100	6000	6000	---
27	---	---	5000	4750	6000	6600	5400	6300	---	6300	6400	---
28	6150	7700	---	5600	6600	---	5600	---	6600	6700	6300	310
29	6400	6800	5800	5500	---	5700	5700	7000	7300	6400	4350	1850
30	6350	---	6000	6000	---	5500	6000	---	7400	---	6200	2350
31	---	---	6000	5900	---	5500	---	---	---	5150	6000	---
MEAN	---	7220	---	6060	5910	6370	5510	---	6950	6400	5960	---
YEAR	MAX	7900	MIN	310	MEAN	6160						

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.0	16.0	10.0	---	---	15.0	17.0	21.0	24.0	29.0	---	27.0
2	24.0	---	10.0	7.0	13.0	16.0	16.0	---	25.0	27.0	26.0	26.0
3	25.0	15.0	11.0	6.0	13.0	15.0	17.0	23.0	25.0	27.0	25.0	26.0
4	25.0	15.0	11.0	---	15.0	12.0	---	21.0	25.0	---	25.0	27.0
5	---	16.0	11.0	8.0	15.0	13.0	17.0	22.0	24.0	---	26.0	---
6	22.0	16.0	12.0	8.0	15.0	14.0	17.0	22.0	---	27.0	24.0	---
7	22.0	15.0	---	9.0	15.0	---	17.0	20.0	24.0	30.0	25.0	23.0
8	20.0	14.0	12.0	9.0	---	15.0	18.0	20.0	24.0	30.0	---	25.0
9	22.0	---	12.0	9.0	18.0	14.0	18.0	---	25.0	30.0	26.0	25.0
10	22.0	14.0	12.0	10.0	15.0	15.0	17.0	23.0	24.0	29.0	27.0	24.0
11	20.0	13.0	13.0	---	14.0	14.0	---	24.0	23.0	---	29.0	24.0
12	---	13.0	12.0	9.0	15.0	15.0	18.0	25.0	23.0	28.0	28.0	---
13	16.0	13.0	---	10.0	16.0	14.0	17.0	25.0	---	29.0	25.0	24.0
14	18.0	11.0	---	10.0	15.0	---	16.0	25.0	24.0	29.0	24.0	24.0
15	18.0	13.0	10.0	10.0	---	14.0	16.0	25.0	24.0	28.0	---	24.0
16	18.0	---	---	11.0	9.0	15.0	15.0	---	23.0	28.0	24.0	24.0
17	17.0	12.0	9.0	13.0	15.0	16.0	14.0	25.0	24.0	27.0	25.0	22.0
18	17.0	14.0	9.0	---	15.0	15.0	---	25.0	25.0	---	25.0	22.0
19	---	13.0	11.0	12.0	15.0	16.0	17.0	25.0	26.0	28.0	25.0	---
20	20.0	12.0	11.0	13.0	14.0	15.0	17.0	25.0	---	27.0	26.0	22.0
21	---	11.0	---	12.0	14.0	---	22.0	25.0	27.0	26.0	26.0	25.0
22	20.0	12.0	14.0	14.0	---	17.0	20.0	24.0	26.0	27.0	---	25.0
23	19.0	---	13.0	15.0	13.0	16.0	20.0	---	25.0	28.0	28.0	25.0
24	16.0	11.0	13.0	14.0	12.0	18.0	20.0	23.0	25.0	28.0	28.0	24.0
25	14.0	11.0	---	---	12.0	17.0	---	22.0	25.0	---	27.0	---
26	---	11.0	11.0	12.0	13.0	16.0	20.0	24.0	25.0	29.0	27.0	---
27	---	---	11.0	11.0	15.0	15.0	19.0	25.0	---	29.0	28.0	---
28	18.0	14.0	---	12.0	15.0	---	19.0	---	28.0	29.0	29.0	24.0
29	17.0	13.0	10.0	11.0	---	15.0	14.0	24.0	28.0	29.0	27.0	24.0
30	17.0	---	10.0	12.0	---	16.0	20.0	---	29.0	---	27.0	24.0
31	---	---	9.0	13.0	---	15.0	---	---	---	29.0	27.0	---
MEAN	---	13.5	---	11.0	14.0	15.0	17.5	---	25.0	28.5	26.5	---
YEAR	MAX	30.0	MIN	6.0	MEAN	19.0						

GILA RIVER BASIN

09518000. GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll a (mg/m ²)	Chlorophyll b (mg/m ²)	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight				
Apr. 12	42	38.8	31.8	81.2	7.54	86	Polyethylene strip

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

DEC. 3, 1974
1015 HOURS

IDENTIFICATION OF PHYTOPLANKTON

4,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
.CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS		27	1	
...SCENEDESMACEAE				
....CRUCIGENIA		110	3	
....SCENEDESMUS		110	3	
	TOTALS	250	7	1.392=DIVERSITY
CHRYSOPHYTA				
.BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCAEAE				
DCYCLOTELLA		2,300	59	
..PENNALES	PENNATE			
...CYMBELLACEAE				
....CYMBELLA		27	1	
...NAVICULACEAE	NAVICULOID			
....AMPHIPRORA		410	10	
....NAVICULA		110	3	
...NITZSCHACEAE				
DNITZSCHIA		850	21	
	TOTALS	3,700	94	1.463=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.336
 CLASS 0.336
 ORDER 1.231
 FAMILY 1.641
 GENFRA 1.794

GILA RIVER BASIN

497

09518000. GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JAN. 6, 1975
1215 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,400 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...SCENEDESMACEAE				
....SCENEDESMUS				
	TOTALS	83	6	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		100	8	
..PENNALES	PENNATE			
...NAVICULACEAE	NAVICULOID			
...AMPHIPRORA		150	11	
...NAVICULA		190	14	
...NITZSCHIAEAE				
D ...HANTZSCHIA		210	15	
D ...NITZSCHIA		410	30	
...SURIRELLACEAE				
....SURIRELLA				
	TOTALS	21	2	2.250=DIVERSITY
		1,100	80	
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
DEUGLENA				
	TOTALS	210	15	0.000=DIVERSITY
		210	15	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.929
CLASS 0.929
ORDER 1.288
FAMILY 2.044
GENERA 2.701

GILA RIVER BASIN

09518000. GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

FEB. 4, 1975
1045 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,900 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOOPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....CHLORELLA		44	2	
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS				
	TOTALS	<u>110</u> 150	<u>6</u> 8	0.863=DIVERSITY
CHRYSTOPHYTA	DIATOMS			
..BACILLARIOPHYCEAE	CENTRIC			
..CENTRALES				
...COSCINODISCACEAE				
DCYCLOTELLA		730	39	
..PENNIALES	PENNATE			
...FRAGILARIACEAE				
....SYNEDRA		44	2	
...NAVICULACEAE	NAVICULOID			
....AMPHIPRORA		180	9	
....NAVICULA		130	7	
...NITZSCHIACEAE				
....HANTZSCHIA		22	1	
DNITZSCHIA				
	TOTALS	<u>550</u> 1,700	<u>29</u> 87	1.908=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
....ANACYSTIS				
	TOTALS	<u>22</u> 22	<u>1</u> 1	0.000=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
....EUGLENA				
	TOTALS	<u>44</u> 44	<u>2</u> 2	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.659
CLASS 0.659
ORDER 1.603
FAMILY 2.179
GENERA 2.413

09518000. GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAR. 4, 1975
1030 HOURS

IDENTIFICATION OF PHYTOPLANKTON

11,000 CELLS/ML

__ORGANISM__NAME_____	__COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
....OOCYSTACEAE				
....CHLORELLA		81	1	
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS				
	TOTALS	<u>1,400</u> 1,500	<u>13</u> 14	0.310=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCEACEAE				
DCYCLOTELLA		7,900	73	
..PENNALES	PENNATE			
...FRAGILARIACEAE				
....SYNEDRA		160	1	
...GOMPHONEMACEAE				
....GOMPHONEMA		81	1	
...NAVICULACEAE	NAVICULOID			
....NAVICULA		81	1	
...NITZSCHIACEAE				
....NITZSCHIA		<u>490</u> 8,700	<u>4</u> 80	0.591=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...CHROOCOCCALES	COCROID			
...CHROOCOCCACEAE				
....ANACYSTIS		<u>650</u> 650	<u>6</u> 6	0.000=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
....EUGLENA		<u>81</u> 81	<u>1</u> 1	0.000=DIVERSITY

NOTE: D = DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:PHYL/DIV 0.939
CLASS 0.939
ORDER 1.336
FAMILY 1.453
GENERA 1.453

09518000. GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

APP. 1, 1975
1045 HOURS

IDENTIFICATION OF PHYTOPLANKTON

13,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...MICRACTINIACEAE				
D ...MICRACTINIUM		2,300	18	
...SCENEDESMACEAE				
...SCENEDESMUS				
	TOTALS	<u>420</u> 2,700	<u>3</u> 21	0.619=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
D ...CYCLOTELLA		8,900	67	
..PENNALES	PENNATE			
...NITZSCHIA				
...NITZSCHIA				
	TOTALS	<u>1,200</u> 10,000	<u>9</u> 76	0.517=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
...EUGLENA				
	TOTALS	<u>420</u> 420	<u>3</u> 3	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:PHYL/DIV 0.931
CLASS 0.931
ORDER 1.324
FAMILY 1.453
GENERA 1.453MAY 12, 1975
1130 HOURS

IDENTIFICATION OF PHYTOPLANKTON

16,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...SCENEDESMACEAE				
D ...SCENEDESMUS				
	TOTALS	<u>5,700</u> 5,700	<u>36</u> 36	0.000=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
D ...CYCLOTELLA		6,100	39	
..PENNALES	PENNATE			
...CYMBELLACEAE				
...AMPHORA		360	2	
...NAVICULACEAE	NAVICULOID			
...AMPHIPRORA		1,100	7	
...NAVICULA		360	2	
...NITZSCHIA				
...NITZSCHIA		360	2	
...SURIRELLACEAE				
...SURIRELLA				
	TOTALS	<u>360</u> 8,600	<u>2</u> 54	1.492=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
...EUGLENA		360	2	
...TRACHFLOMONAS				
	TOTALS	<u>1,100</u> 1,400	<u>7</u> 9	0.811=DIVERSITY

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:PHYL/DIV 1.322
CLASS 1.322
ORDER 1.797
FAMILY 2.062
GENERA 2.210

GILA RIVER BASIN

501

09518000. GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JUNE 9, 1975
1000 HOURS

IDENTIFICATION OF PHYTOPLANKTON

71,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...MICRACTINIACEAE				
...GOLLENKINIA		2,300	3	
...MICRACTINIUM		1,500	2	
...OOCYSTACEAE				
...ANKISTRODESMUS		380	1	
...SCENEDESMACEAE				
D ...ACTINASTRUM		11,000	16	
...CRUCIGENIA		1,500	2	
...SCENEDESMUS		7,200	10	
...TETRASPORALES				
...PALMELLACEAE				
...SPHAEROCYSTIS				
	TOTALS	<u>3,000</u> 27,000	<u>4</u> 38	2.233=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
D ...CYCLOTELLA		24,000	34	
..PENNALES	PENNATE			
...CYMBELLACEAE				
...CYMBELLA				
	TOTALS	<u>380</u> 25,000	<u>1</u> 35	0.115=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
...ANACYSTIS		1,500	2	
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIACEAE				
D ...LYNGBYA		<u>17,000</u> 19,000	<u>25</u> 27	0.402=DIVERSITY

NOTE: D = DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:PHYL/DIV 1.569
CLASS 1.569
ORDER 1.910
FAMILY 2.162
GENERA 2.576

GILA RIVER BASIN

09518000. GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JULY 28, 1975
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

68,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...COELASTRACEAE				
...COELASTRUM		2,200	3	
...MICRACTINIACEAF				
L ...MICRACTINIUM			0	
...OOCYSTACEAE				
L ...ANKISTRODESMUS			0	
...SCENEDESMACEAE				
...SCENEDESMUS				
	TOTALS	<u>2,200</u> 4,400	<u>3</u> 6	1.000=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
D ...CYCLOTELLA		52,000	77	
..PENNALES	PENNATE			
...NAVICULACEAE	NAVICULOID			
L ...AMPHIPRORA			0	
...NAVICULA		560	1	
L ...TROPIDONEIS			0	
...NITZSCHIA				
	TOTALS	<u>830</u> 54,000	<u>1</u> 79	0.198=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIA				
D ...OSCILLATORIA				
	TOTALS	<u>10,000</u> 10,000	<u>15</u> 15	0.000=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
L ...EUGLENA			0	
PYRRHOPHYTA	FIRE ALGAE			
..DINOPHYCEAE	DINOFLAGELLATES			
...PERIDINIALES				
...GLENODINIACEAE				
L ...GLENODINIUM			0	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

SAMPLING METHOD: PLASTIC SLIDES, RANDOM

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.932

CLASS 0.932

ORDER 1.069

FAMILY 1.153

GENERA 1.153

09518000. GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

SEP. 9, 1975
1300 HOURS

IDENTIFICATION OF PHYTOPLANKTON

23,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...COELASTRACEAE				
LCOELASTRUM			0	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
DCYCLOTELLA		22,000	95	
..PENNACEAE	PENNATE			
...NAVICULACEAE	NAVICULOID			
LGYROSIGMA			0	
....NAVICULA			5	
	TOTALS	23,000	100	0.297=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...NOSTOCACEAE				
LANABAENA			0	
...OSCILLATORIA			0	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 ORDER 0.297
 FAMILY 0.297
 GENERA 0.297

OCT. 7, 1975
1145 HOURS

IDENTIFICATION OF PHYTOPLANKTON

18,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS		260	1	
...SCENEDESMACEAE				
LSCENEDESMUS			0	
	TOTALS	260	1	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
DCYCLOTELLA		12,000	66	
..PENNACEAE	PENNATE			
...NAVICULACEAE	NAVICULOID			
LGYROSIGMA			0	
....NAVICULA		520	3	
...NITZSCHIA				
....NITZSCHIA			1	
	TOTALS	13,000	70	0.395=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...NOSTOCACEAE				
DANABAENA		5,100	29	
...OSCILLATORIA				
LOSCILLATORIA			0	
	TOTALS	5,100	29	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.967
 CLASS 0.967
 ORDER 1.202
 FAMILY 1.242
 GENERA 1.242

GILA RIVER BASIN

09518000. GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

NOV. 12, 1975

1415 HOURS

IDENTIFICATION OF PHYTOPLANKTON

4,700 CELLS/ML

ORGANISM__NAME_____	COMMON__NAME_____	CELLS/ML	PER_CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCONODISCACEAE				
D ...CYCLOTELLA		2,500	54	
D ...MELOSIRA		950	20	
..PENNALES	PENNATE			
...NAVICULACEAE	NAVICULOID			
...AMPHIPRORA		34	1	
...NAVICULA		34	1	
...NITZSCHACEAE				
...NITZSCHIA		170	4	
...SURIPELLACEAE				
L ...SURIPELLA				
	TOTALS	3,700	80	1.205=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...NOSTOCACEAE				
D ...ANABAENA		1,000	21	0.000=DIVERSITY
	TOTALS	1,000	21	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%: MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.750
 CLASS 0.750
 ORDER 1.018
 FAMILY 1.061
 GENERA 1.697

DEC. 16, 1975

1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,500 CELLS/ML

ORGANISM__NAME_____	COMMON__NAME_____	CELLS/ML	PER_CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCONODISCACEAE				
D ...CYCLOTELLA		250	17	
..PENNALES	PENNATE			
...GOMPHONEMATACEAE				
...GOMPHONEMA		50	3	
...NAVICULACEAE	NAVICULOID			
...AMPHIPRORA		100	7	
...FRUSTULIA		50	3	
...GYROSIGMA		50	3	
D ...NAVICULA		250	17	
...NITZSCHACEAE				
D ...NITZSCHIA		600	40	
...SURIPELLACEAE				
...CYMATOPLEURA		50	3	
...SURIPELLA		50	3	
	TOTALS	1,500	96	2.505=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
...EUGLENA		50	3	0.000=DIVERSITY
	TOTALS	50	3	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.211
 CLASS 0.211
 ORDER 0.852
 FAMILY 2.068
 GENERA 2.632

GILA RIVER BASIN

505

09518000. GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JAN. 26, 1976
1045 HOURS

IDENTIFICATION OF PHYTOPLANKTON

4,600 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
....MICRACTINIACEAE				
....MICRACTINIUM				
	TOTALS	<u>270</u> 270	<u>6</u> 6	0.000=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCEAE				
....CYCLOTELLA		640	14	
....MELOSIRA		410	9	
..PENNALES	PENNATE			
...CYMBELLACEAE				
....AMPHORA		68	1	
...NAVICULACEAE	NAVICULOID			
....AMPHIPRORA		170	4	
....NAVICULA		540	12	
...NITZSCHIAEAE				
DNITZSCHIA		910	20	
...SURIRELLACEAE				
....SURIRELLA				
	TOTALS	<u>34</u> 2,800	<u>1</u> 61	2.337=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
....OSCILLATORIAEAE				
DLYNGBYA		850	18	
....OSCILLATORIA		<u>610</u>	<u>13</u>	
	TOTALS	1,500	31	0.981=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
....EUGLENA		100	2	
....TRACHELOMONAS		<u>34</u>	<u>1</u>	
	TOTALS	140	3	0.811=DIVERSITY

NOTE: D = DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.356
CLASS 1.356
ORDER 1.929
FAMILY 2.415
GENERA 3.086

09518000. GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAR. 1, 1976
1330 HOURS

IDENTIFICATION OF PHYTOPLANKTON

8,100 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...SCENEDESMACEAE				
L ...SCENEDESMUS			0	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
D ...CYCLOTELLA		5,200	64	
..PENNIALES	PENNATE			
...NAVICULACEAE	NAVICULOID			
D ...AMPHIPRORA		1,600	20	
...NITZSCHIAEAE				
...NITZSCHIA		540	7	
...SURIPELLACEAE				
...SURIPELLA				
TOTALS		<u>7,400</u>	<u>95</u>	1.329=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
...EUGLENA				
TOTALS		<u>360</u>	<u>4</u>	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.262
 CLASS 0.262
 ORDER 1.132
 FAMILY 1.533
 GENERA 1.533

APR. 12, 1976
1445 HOURS

IDENTIFICATION OF PHYTOPLANKTON

9,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
L ...ANKISTRODESMUS			0	
...SCENEDESMACEAE				
...SCENEDESMUS				
TOTALS		<u>940</u>	<u>11</u>	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
D ...CYCLOTELLA		5,900	66	
..PENNIALES	PENNATE			
...NAVICULACEAE	NAVICULOID			
L ...AMPHIPRORA			0	
L ...NAVICULA			0	
...NITZSCHIAEAE				
D ...NITZSCHIA		1,400	16	
...SURIPELLACEAE				
L ...SURIPELLA			0	
TOTALS		<u>7,300</u>	<u>82</u>	0.709=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
L ...OSCILLATORIA			0	
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
...EUGLENA				
TOTALS		<u>710</u>	<u>8</u>	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.871
 CLASS 0.871
 ORDER 1.449
 FAMILY 1.449
 GENERA 1.449

09518000. GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAY 24, 1976
1315 HOURS

IDENTIFICATION OF PHYTOPLANKTON

35,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...CHARACIACEAE				
...SCHROEDERIA		570	2	
...OOCYSTACEAE				
...ANKISTRODESMUS		280	1	
...DICTYOSPHAERIUM		1,100	3	
...SCENEDESMACEAE				
...CRUCIGENIA		1,100	3	
D ...SCENEDESMUS		7,400	21	
...TETRASTRUM		1,100	3	
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
...CHLAMYDOMONAS		<u>1,400</u>	<u>4</u>	
	TOTALS	13,000	37	2.049=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCEACEAE				
D ...CYCLOTELLA		9,100	26	
..PENNALES	PENNATE			
...FRAGILARIACEAE				
...SYNEIDRA		280	1	
...NAVICULACEAE	NAVICULOID			
...NAVICULA		570	2	
...NITZSCHACEAE				
...NITZSCHIA		<u>3,100</u>	<u>9</u>	
	TOTALS	13,000	38	1.175=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
D ...ANACYSTIS		<u>7,900</u>	<u>23</u>	
	TOTALS	7,900	23	0.000=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
...EUGLENA		<u>850</u>	<u>2</u>	
	TOTALS	850	2	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.678
 CLASS 1.678
 ORDER 2.195
 FAMILY 2.572
 GENERA 2.884

GILA RIVER BASIN

09518000. GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JUNE 21, 1976
1145 HOURS

IDENTIFICATION OF PHYTOPLANKTON

21,000 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...SCENEDESMACEAE				
....SCENEDESMUS				
		TOTALS	<u>1,900</u> 1,900	<u>9</u> 9
				0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
D ...CYCLOTELLA		18,000	88	
..PENNALES	PENNATE			
...NAVICULACEAE	NAVICULOID			
....NAVICULA				
		TOTALS	<u>480</u> 19,000	<u>2</u> 90
				0.172=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.446
CLASS 0.446
ORDER 0.603
FAMILY 0.603
GENERA 0.603

AUG. 2, 1976
1200 HOURS

IDENTIFICATION OF PHYTOPLANKTON

39,000 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...MICRACTINIACEAE		2,800	7	
....MICRACTINIUM				
...SCENEDESMACEAE		2,300	6	
....SCENEDESMUS				
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS				
		TOTALS	<u>570</u> 5,700	<u>1</u> 14
				1.361=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
D ...CYCLOTELLA		16,000	41	
..PENNALES	PENNATE			
...NAVICULACEAE	NAVICULOID			
....TROPIDONEIS		570	1	
...NITZSCHIA				
....NITZSCHIA				
		TOTALS	<u>4,000</u> 20,000	<u>10</u> 52
				0.885=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIA				
DOSCILLATORIA				
		TOTALS	<u>12,000</u> 12,000	<u>32</u> 32
				0.000=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
....TRACHELOMONAS				
		TOTALS	<u>570</u> 570	<u>1</u> 1
				0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.508
CLASS 1.508
ORDER 1.975
FAMILY 2.167
GENERA 2.167

09518000. GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

SEP. 1, 1976
1245 HOURS

IDENTIFICATION OF PHYTOPLANKTON

46,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
....OCYSTACEAE				
....ANKISTRODESMUS				
	TOTALS	670 670	1 1	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINOIDISACEAE				
D ..CYCLOTELLA		44,000	96	
..PENNACEAE	PENNATE			
...DIATOMACEAE				
...DIATOMA		330	1	
...NAVICULACEAE	NAVICULOID			
....NAVICULA				
	TOTALS	330 45,000	1 98	0.126=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
....TRACHELOMONAS				
	TOTALS	330 330	1 1	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER + 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.171
CLASS 0.171
ORDER 0.280
FAMILY 0.294
GENERA 0.294

SEP. 28, 1976
1330 HOURS

IDENTIFICATION OF PHYTOPLANKTON

22,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER_CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..PENNACEAE	PENNATE			
...DIATOMACEAE				
....DIATOMA				
	TOTALS	190 190	1 1	0.000=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIA				
D ..OSCILLATORIA		21,000	98	
	TOTALS	21,000 21,000	98 98	0.000=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
....EUGLENA				
	TOTALS	190 190	1 1	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER + 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.147
CLASS 0.147
ORDER 0.147
FAMILY 0.147
GENERA 0.147

09519500. GILA RIVER BELOW GILLESPIE DAM, ARIZ.

LOCATION.--Lat 33°13'45", long 112°46'00", in SE¼NE¼ sec.28, T.2 S., R.5 W., Maricopa County, at left end of Gillespie Dam, 8 mi (13 km) downstream from Hassayampa River.

DRAINAGE AREA.--49,650 mi² (128,600 km²).

PERIOD OF RECORD.--August 1921 to current year. Low-flow records prior to October 1970 are not equivalent as leakage of less than 5 ft³/s (0.14 m³/s) not included, and from October 1971 to September 1973, when no leakage was included. Annual estimate of leakage was listed in REMARKS for the 1972 water year. Prior to 1939, published as "at Gillespie Dam."

GAGE.--Water-stage recorder since July 28, 1924. Datum of gage is 9.95 ft (3.033 m) below average elevation of crest of dam, which is 753.46 ft (229.655 m) above mean sea level. Prior to Nov. 11, 1924, depth of water read on crest at left end of dam. Nov. 11, 1924, to July 22, 1932, datum of gage was at average elevation of dam crest. July 23, 1932, to Apr. 27, 1955, datum of gage was 5.00 ft (1.524 m) below average elevation of crest of dam. Since Apr. 2, 1974, supplementary water-stage recorder and concrete control 70 ft (21.3 m) downstream from crest of dam at datum 5.64 ft (1.719 m) lower than datum of base gage.

EXTREMES.--Current year: Maximum discharge, 1,920 ft³/s (54.4 m³/s) Sept. 27 (gage height, 10.51 ft or 3.203 m), which includes about 60 ft³/s (1.70 m³/s) flowing through dam; minimum daily, 1.0 ft³/s (0.028 m³/s) Oct. 1, 2.

Period of record: Maximum discharge observed, 85,000 ft³/s (2,400 m³/s) Dec. 28, 1923 (gage height, 16.0 ft or 4.88 m, present datum); maximum gage height, 16.1 ft (4.91 m) Jan. 2, 1966; probably no flow at times—periods of no flow unknown due to not publishing leakage of less than 5 ft³/s (0.14 m³/s).

Maximum discharge since at least 1891, 250,000 ft³/s (7,100 m³/s), estimated, in February 1891.

REMARKS.--Records fair. Flow consists of water passing over the dam, and through the dam, but does not include water diverted to Gila Bend or Enterprise Canals. See sta 09518000, Gila River above diversions, at Gillespie Dam, for records of flow reaching dam, and of diversions to Gila Bend and Enterprise Canals.

For diversions and regulation above station, see REMARKS for sta 09518000.

REVISIONS (WATER YEARS).--WSP 1213: 1939. WSP 1243: 1924(M). WSP 1926: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	10	14	20	55	35	40	36	7.1	4.8	12	10
2	1.0	15	14	20	54	33	40	38	8.7	6.3	13	9.4
3	1.0	19	17	20	46	33	36	56	7.2	8.3	11	12
4	2.9	13	21	20	42	30	36	50	10	3.8	8.6	12
5	7.6	15	20	20	45	38	27	47	7.0	1.4	18	9.3
6	7.2	7.0	16	20	53	41	22	44	4.0	1.8	15	9.6
7	4.3	3.5	14	20	59	41	17	39	8.3	5.6	16	22
8	3.9	4.6	24	20	50	40	18	43	7.7	11	18	25
9	3.8	5.7	19	17	51	35	20	37	4.7	5.0	21	25
10	3.2	7.7	23	18	50	38	23	40	5.7	2.3	22	19
11	2.5	9.8	27	19	60	40	27	44	5.2	1.8	21	18
12	4.8	5.2	34	20	63	43	33	46	4.6	1.6	28	15
13	6.0	4.0	33	18	58	46	39	56	6.6	2.1	15	24
14	7.2	4.7	35	20	54	45	45	50	12	2.0	12	28
15	6.6	8.9	27	13	47	45	51	37	6.9	5.3	15	26
16	7.1	13	28	13	49	40	54	32	11	2.2	15	25
17	7.7	14	33	12	46	40	55	38	2.6	4.1	15	24
18	6.8	17	25	12	43	40	46	37	2.7	5.1	15	22
19	6.5	14	18	23	41	35	40	21	4.3	3.1	10	23
20	7.5	10	19	19	41	35	43	21	3.3	2.8	10	32
21	7.4	12	19	35	42	35	43	15	5.3	1.4	10	51
22	7.1	16	20	46	41	35	40	15	7.0	2.8	10	51
23	5.9	16	20	53	38	35	36	16	10	9.5	10	50
24	12	17	20	56	30	35	34	17	6.2	20	10	60
25	12	7.3	20	55	33	40	41	16	4.2	10	10	78
26	13	5.0	20	57	39	40	44	11	4.7	11	10	661
27	13	9.1	20	55	45	40	47	17	9.1	10	10	1200
28	8.9	15	20	46	44	40	47	13	6.6	6.6	10	351
29	14	22	20	46	36	45	42	11	3.6	9.6	10	107
30	7.5	14	20	50	---	45	37	12	3.1	20	10	89
31	8.3	---	20	52	---	45	---	10	---	18	10	---
TOTAL	208.1	334.5	680	915	1355	1208	1123	965	189.4	199.3	420.6	3088.3
MEAN	6.71	11.2	21.9	29.5	46.7	39.0	37.4	31.1	6.31	6.43	13.6	103
MAX	14	22	35	57	63	46	55	56	12	20	28	1200
MIN	1.0	3.5	14	12	30	30	17	10	2.6	1.4	8.6	9.3
AC-FT	413	663	1350	1810	2690	2400	2230	1910	376	395	834	6130

CAL YR 1975 TOTAL 9484.51 MEAN 26.0 MAX 73 MIN .91 AC-FT 18810
WTR YR 1976 TOTAL 10686.20 MEAN 29.2 MAX 1200 MIN 1.0 AC-FT 21200

PEAK DISCHARGE (BASE, 1,000 CFS).--Sept. 27 (0345) 1,920 cfs (10.51 ft).

GILA RIVER BASIN

511

09519800. GILA RIVER BELOW PAINTED ROCK DAM, ARIZ.

LOCATION.--Lat 33°04'30", long 113°00'50", in SE¼ sec.18, T.4 S., R.7 W., Maricopa County, on left bank 0.3 mi (0.5 km) downstream from Painted Rock Dam and 19 mi (31 km) northeast of Sentinel.

DRAINAGE AREA.--50,910 mi² (131,860 km²), approximately.

PERIOD OF RECORD.--October 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 518.69 ft (158.097 m) above mean sea level (levels by Corps of Engineers). Supplementary gage May 5, 1969, to Mar. 30, 1973, at site 0.3 mi (0.5 km) upstream, at datum 2.87 ft (0.875 m) higher.

EXTREMES.--Current year: Maximum discharge, 226 ft³/s (6.40 m³/s) Aug. 29 (gage height, 5.92 ft or 1.804 m); no flow for many days.
Period of record: Maximum discharge, 2,860 ft³/s (81.0 m³/s) Apr. 5, 1973 (gage height, 10.29 ft or 3.136 m); no flow for many days in most years.

REMARKS.--Records poor. Many diversions above station for irrigation. Flow above station regulated by reservoirs at and above Painted Rock Dam. (See REMARKS for sta 09518000, Gila River above diversions, at Gillespie Dam.)

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.0	.50	.50	.40	.50	.20	0	0	28	.60	3.7	25
2	10	.50	.50	.40	.50	.20	0	0	1.4	.60	3.7	20
3	1.0	.50	.50	.40	.50	.20	0	27	1.4	.60	3.7	14
4	1.0	.50	.50	.40	.50	.10	0	1.0	1.3	.50	3.7	10
5	1.0	.50	.50	.40	.50	.10	0	.50	1.3	.50	3.7	8.0
6	1.0	.50	.50	.40	.50	.10	41	.50	1.3	.50	3.7	7.3
7	1.0	.50	.50	.40	.50	0	2.0	.60	27	.40	3.7	6.3
8	1.0	.50	.50	.40	.50	0	1.0	.60	1.2	.40	3.9	5.2
9	1.0	.50	.50	.40	.50	0	.50	.60	1.2	.40	3.9	4.5
10	1.0	.50	.50	.40	.50	0	.50	29	1.2	.40	3.9	4.0
11	1.0	.50	.50	.40	.50	0	.50	.70	1.2	.30	3.9	3.5
12	1.0	.50	.50	.40	.50	24	.50	.70	1.1	.30	3.7	3.1
13	1.0	.50	.50	.40	.50	1.0	.50	.80	1.1	.30	3.7	2.9
14	3.0	.50	.50	.40	.50	.50	.50	.80	1.1	.20	3.7	2.7
15	1.0	.50	.50	24	.50	.50	.50	.80	1.0	.20	3.9	2.3
16	1.0	.50	.50	.50	.50	.50	.50	.90	1.0	.20	3.9	2.2
17	1.0	.50	.50	.50	.50	.20	.50	24	1.0	.10	3.9	2.0
18	1.0	.50	.50	.50	22	.20	.50	.90	1.0	.10	3.9	2.0
19	1.0	.50	.50	.50	.50	.20	29	.90	.90	.10	61	1.7
20	1.0	.50	.50	.50	.50	.10	1.0	1.0	.90	0	90	1.7
21	1.0	.50	.50	.50	.50	.10	.50	1.0	.90	0	30	1.7
22	1.0	.50	.50	.50	.50	0	.50	1.0	.80	0	30	1.3
23	3.0	.50	.50	.50	.50	0	.50	1.1	.80	0	30	1.0
24	.50	29	.50	.50	.50	37	.50	25	.80	0	25	38
25	.50	.50	.50	.50	.50	1.0	0	1.1	.80	0	25	40
26	.50	.50	.50	.50	.50	1.0	0	1.2	.70	0	130	8.2
27	.50	.50	.50	.50	24	.50	0	1.2	.70	0	200	7.8
28	.50	.50	.50	.50	.20	.50	0	1.2	.70	0	200	7.3
29	.50	.50	19	.50	.20	.20	0	1.3	.60	1.6	220	6.5
30	.50	.50	26	31	---	.20	0	1.3	.60	3.7	190	5.7
31	.50	---	.50	.50	---	0	---	1.3	---	3.7	65	---
TOTAL	80.00	71.00	61.50	68.10	62.90	68.60	81.00	128.00	83.00	15.70	1364.2	245.9
MEAN	2.60	2.37	1.98	2.20	2.17	2.21	2.70	4.13	2.77	.51	44.0	8.20
MAX	36	29	28	31	28	37	41	29	28	3.7	220	40
MIN	.50	.50	.50	.40	.20	0	0	0	.60	0	3.7	1.0
AC-FT	159	141	122	135	125	136	161	254	165	31	2710	488
CAL YR 1975	TOTAL	500.80	MEAN	2.47	MAX	52	MIN	.50	AC-FT	1790		
WTR YR 1976	TOTAL	2229.30	MEAN	6.37	MAX	220	MIN	0	AC-FT	4620		

GILA RIVER BASIN

09520170. RIO CORNEZ NEAR AJO, ARIZ.

LOCATION.--Lat 32°29'58", long 112°52'50", in SE¼ sec.4, T.11 S., R.6 W., Pima County, on downstream side of bridge on State Highway 85, and 8 mi (13 km) north of Ajo.

DRAINAGE AREA.--243 mi² (629 km²).

PERIOD OF RECORD.--January 1967 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,309.45 ft (399.120 m) above mean sea level.

AVERAGE DISCHARGE.--9 years, 3.99 ft³/s (0.113 m³/s), 2,890 acre-ft/yr (3.56 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 8,030 ft³/s (227 m³/s) Sept. 4 (gage height, 10.41 ft or 3.173 m), from rating curve extended above 520 ft³/s (15 m³/s) on basis of slope-area measurement at gage height 9.70 ft (2.957 m); no flow for most of year.
Period of record: Maximum discharge, 8,030 ft³/s (227 m³/s) Sept. 4, 1976 (gage height, 10.41 ft or 3.173 m), from rating curve extended above 520 ft³/s (15 m³/s) on the basis of slope-area measurement at gage height 9.70 ft (2.957 m); no flow for most of each year.

REMARKS.--Records poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								0		0	0	0
2								0		0	0	0
3								0		0	0	0
4								249		0	0	631
5								.01		0	0	865
6								0		0	0	0
7								0		0	0	0
8								0		0	99	0
9								0		0	60	0
10								0		0	0	0
11								0		0	0	0
12								0		0	0	0
13								0		0	0	0
14								0		0	0	0
15								0		0	0	0
16								0		0	0	0
17								0		0	0	0
18								0		0	0	0
19								0		0	0	0
20								0		0	0	0
21								0		0	0	0
22								0		0	0	0
23								0		15	0	0
24								0		325	0	749
25								0		605	0	438
26								0		77	0	0
27								0		0	0	0
28								0		0	0	0
29								0		72	26	0
30								0		0	0	0
31		---			---		---	0	---	0	0	---
TOTAL	0	0	0	0	0	0	0	249.01	0	1094	185	2683
MEAN	0	0	0	0	0	0	0	8.03	0	35.3	5.97	89.4
MAX	0	0	0	0	0	0	0	249	0	605	99	865
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	494	0	2170	367	5320
CAL YR 1975	TOTAL	812.10	MEAN	2.22	MAX	434	MIN	0	AC-FT	1610		
WTR YR 1976	TOTAL	4211.01	MEAN	11.5	MAX	865	MIN	0	AC-FT	8350		

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
5- 4	1430	8.08	2,420	8- 8	2230	7.44	1,520
7-24	2315	9.35	5,120	9- 4	2330	10.41	8,030
7-25	2100	7.90	2,160	9-24	0715	8.23	2,640
7-29	0430	6.66	659				

GILA RIVER BASIN

513

09520360. GILA RIVER NEAR MOHAWK, ARIZ.

LOCATION.--Lat 32°47'20", long 113°45'50", on section line between sec.25 and 26, T.7 S., R.15 W., in center of channel, 70 ft (21 m) upstream from Avenue 51E, and 4.0 mi (6.4 km) north of Mohawk.

DRAINAGE AREA.--55,430 mi² (143,560 km²), approximately.

PERIOD OF RECORD.--February to April 1966 (published in WSP 1850-C), April 1973 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 310 ft (94.5 m) from topographic map.

EXTREMES.--Current year: No flow for entire year.

Period of record: Maximum discharge, 1,730 ft³/s (49.0 m³/s) June 2, 1973 (gage height, 7.44 ft or 2.268 m); no flow for most of each year.

REMARKS.--No flow since Oct. 6, 1974. Flow regulated by Painted Rock Dam. Nearly all flow is release flow from Painted Rock Dam (see sta 09519800).

09520500. GILA RIVER NEAR DOME, ARIZ.

LOCATION.--Lat 32°45'39", long 114°25'11", in SW¼ sec.4, T.8 S., R.21 W., Yuma County, on right bank 440 ft (134 m) upstream from McPhal bridge on old route of State Highway 95, 3 mi (5 km) west of Dome, and 12 mi (19 km) upstream from mouth.

DRAINAGE AREA.--57,850 mi² (149,800 km²), approximately--includes 373 mi² (966 km²) in Aubrey Valley Playa, a closed basin, but excludes all other closed basins.

PERIOD OF RECORD.--January 1903 to current year. Monthly discharge only for some periods, published in WSP 1313. Published as "at Yuma and Gila City" 1903, as "near Gila City" 1904, and as "at Dome (Gila City)" 1905-6. Records for 1907-29 are published in WSP 918 as "at Yuma and at and near Dome."

GAGE.--Water-stage recorder. Datum of gage is 148.18 ft (45.165 m) above mean sea level. Prior to October 1903 and January 1907 to April 1929, no gage; discharge estimated. October 1903 to December 1906, principal nonrecording gage 4 mi (6 km) upstream at datum 158.37 ft (48.271 m) above mean sea level, supplemented by many nonrecording gages at different datums.

EXTREMES.--Current year: Maximum discharge, 418 ft³/s (11.8 m³/s) Sept. 7 (gage height, 9.79 ft or 2.984 m), from rating curve extended above 44 ft³/s (1.2 m³/s); no flow Aug. 13-18.

Period of record: Maximum discharge, 20,700 ft³/s (586 m³/s) Feb. 15, 1932 (gage height, 16.75 ft or 5.105 m); no flow for part or all of each year since 1903, except for 1961-62, 1968-73, 1975 water years.

Maximum daily discharge, 200,000 ft³/s (5,700 m³/s), roughly estimated, Jan. 22, 1916.

REMARKS.--Records fair. Most flow during this year is waste and drainage return from Wellton-Mohawk Division of Gila Project. Many diversions above station for irrigation. Flow above station regulated by reservoirs at and above Painted Rock Dam (see REMARKS for sta 09518000). Most of flow for 1966 and 1973 water years was release flow from Painted Rock Dam.

REVISIONS (WATER YEARS).--WSP 918: 1905. WSP 1733: July 1942. WSP 1926: Drainage area.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.17	.34	.39	1.1	1.6	1.2	.86	.39	.44	.15	.29	.14
2	.16	.34	.41	.94	1.1	1.2	.86	.34	.60	.10	.24	.14
3	.13	.34	.39	.84	1.2	1.2	.78	.39	.53	.07	.19	.14
4	.11	.30	.39	.90	1.7	1.1	.72	.53	.47	.04	.14	.17
5	.10	.30	.34	.66	2.1	1.2	.72	.70	.34	.03	.11	.17
6	.09	.30	.33	.88	1.5	1.2	.66	.78	.33	.03	.07	.44
7	.10	.30	.34	.95	1.3	1.2	.72	.80	.25	.06	.05	120
8	.28	.30	.34	1.2	1.3	1.2	.51	.94	.19	.07	.04	15
9	.88	.30	.34	1.5	1.4	1.2	.44	1.3	.21	.08	.02	5.9
10	.61	.30	.37	1.8	1.5	1.2	.49	1.5	.24	.10	.01	3.5
11	.47	.30	.36	2.1	1.5	1.2	.60	1.2	.21	.11	.01	2.3
12	.39	.30	.36	2.4	1.5	1.2	.54	.88	.26	.13	.01	2.0
13	.34	.30	.44	2.8	1.7	1.0	.54	.77	.25	.12	0	1.9
14	.35	.30	.42	2.8	1.5	1.2	.60	.85	.24	.11	0	1.9
15	.32	.30	.43	2.8	1.5	1.1	.60	.90	.24	.09	0	1.8
16	.29	.30	.60	2.8	1.5	1.0	.60	.72	.26	.07	0	1.6
17	.29	.30	.77	2.7	1.4	1.0	.49	.50	.33	.11	0	1.4
18	.29	.30	.81	2.8	1.3	.78	.49	.36	.39	.14	0	1.3
19	.30	.30	1.1	2.4	1.2	.67	.54	.48	.37	.14	.01	1.2
20	.33	.30	1.2	2.0	.90	.71	.54	.68	.31	.13	.02	1.1
21	.39	.30	1.3	1.6	.79	.72	.53	.61	.29	.11	.01	.98
22	.46	.30	1.3	1.5	.78	.74	.49	.60	.23	.15	.01	.94
23	.75	.30	1.3	1.5	.95	.82	.51	.49	.18	.19	.01	7.9
24	.53	.30	.95	1.7	1.1	.86	.53	.44	.16	.23	.01	45
25	.40	.29	1.1	1.5	1.1	.86	.51	.44	.16	.28	.02	36
26	.38	.30	1.1	1.8	1.1	.79	.50	.60	.24	.33	.02	36
27	.39	.34	.83	1.9	1.2	.89	.48	.60	.25	.42	.02	17
28	.39	.39	.82	1.8	1.3	.93	.47	.54	.25	.44	.03	8.9
29	.39	.39	.92	1.7	1.3	.85	.43	.49	.24	.41	.04	4.6
30	.39	.39	1.2	1.6	---	.84	.40	.39	.18	.37	.06	3.2
31	.35	---	1.3	1.5	---	.95	---	.39	---	.35	.10	---
TOTAL	10.82	9.42	22.25	54.47	38.32	31.01	17.15	20.60	8.64	5.16	1.54	366.18
MEAN	.35	.31	.72	1.76	1.32	1.00	.57	.66	.29	.17	.050	12.2
MAX	.88	.39	1.3	2.8	2.1	1.2	.86	1.5	.60	.44	.29	120
MIN	.09	.29	.33	.66	.78	.67	.40	.34	.16	.03	0	.14
AC-FT	21	19	44	108	76	62	34	41	17	10	3.1	726

CAL YR 1975 TOTAL 584.13 MEAN 1.60 MAX 33 MIN .06 AC-FT 1160
WTR YR 1976 TOTAL 585.56 MEAN 1.60 MAX 120 MIN 0 AC-FT 1160

GILA RIVER BASIN

515

09520700. GILA RIVER NEAR MOUTH, NEAR YUMA, ARIZ.

LOCATION.--Lat 32°42'38", long 114°33'06", in NW¼NE¼ sec.30, T.8 S., R.22 W., Yuma County, on left bank just upstream from South Gila Pump outlet Channel No. 1, 0.6 mi (1.0 km) upstream from mouth, and 4 mi (6 km) east of Yuma.

DRAINAGE AREA.--57,950 mi² (150,090 km²), approximately.

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

GAGE.--Water-stage recorder and weir. Altitude of gage is 125 ft (38.1 m), from topographic map.

EXTREMES.--Current year: Maximum daily discharge, 181 ft³/s (5.13 m³/s) Sept. 7; minimum daily, 41 ft³/s (1.16 m³/s) Nov. 7.

Period of record: Maximum daily discharge, 181 ft³/s (5.13 m³/s) Sept. 7, 1976; minimum daily, 41 ft³/s (1.16 m³/s) Nov. 7, 1975.

REMARKS.--Records good. Daily discharge is obtained by combining flow past gage with flow for South Gila Pump Outlet Channel No. 1 (see sta 09529360) so as to give total flow of Gila River at mouth. Records of chemical analyses for the current year are published on following pages.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	50	68	82	70	107	125	109	90	107	120	69
2	59	50	72	81	81	107	130	108	91	103	114	68
3	46	48	83	79	92	106	123	105	87	101	100	73
4	46	43	104	69	94	103	123	97	80	103	105	74
5	46	43	80	65	93	105	126	97	79	101	105	74
6	47	46	68	75	97	107	137	101	78	100	101	72
7	49	41	70	76	104	102	137	102	78	100	85	181
8	51	47	74	76	102	102	143	100	78	102	85	117
9	50	44	74	81	104	104	145	98	80	98	86	80
10	47	45	79	81	100	106	137	83	83	97	88	98
11	48	49	95	76	106	101	135	76	90	99	87	72
12	50	49	90	64	100	102	134	76	88	99	93	77
13	51	48	91	60	99	114	134	77	90	103	94	78
14	50	48	88	61	83	115	110	75	85	115	94	78
15	51	49	84	59	83	115	64	70	87	121	94	76
16	49	49	85	56	83	115	62	57	87	119	94	80
17	46	49	91	55	85	119	63	56	91	115	93	80
18	46	49	91	54	88	122	70	55	94	115	88	80
19	46	50	93	54	83	122	109	55	91	116	87	78
20	46	55	91	63	84	119	140	55	91	117	87	78
21	50	56	92	63	85	118	151	56	90	126	89	80
22	53	50	93	63	84	118	140	59	91	125	91	80
23	52	49	95	63	86	119	138	56	92	121	88	83
24	52	53	94	63	111	119	138	56	94	110	89	100
25	57	58	92	61	113	127	141	67	90	110	89	115
26	58	57	91	61	109	123	136	86	90	108	89	124
27	60	70	91	64	107	123	137	91	90	103	91	104
28	62	77	92	67	106	124	136	95	89	102	86	93
29	62	144	88	70	107	131	136	93	90	102	77	85
30	62	74	82	73	---	135	133	91	94	105	72	69
31	58	---	84	71	---	134	---	91	---	117	73	---
TOTAL	1619	1540	2665	2086	2739	3564	3733	2493	2628	3360	2834	2616
MEAN	52.2	54.7	86.0	67.3	94.4	115	124	80.4	87.6	108	91.4	87.2
MAX	69	144	104	82	113	135	151	109	94	126	120	181
MIN	46	41	68	54	70	101	62	55	78	97	72	68
AC-FT	3210	3250	5290	4140	5430	7070	7400	4940	5210	6660	5620	5190
WTR YR 1976	TOTAL	31977	MEAN	87.4	MAX	181	MIN	41	AC-FT	63430		

GILA RIVER BASIN

09520700. GILA RIVER NEAR MOUTH, NEAR YUMA, ARIZ.
(National stream-quality accounting network station)

LOCATION.--Lat 32°42'38", long 114°33'06", in NW¼NE¼ sec.30, T.8 S., R.22 W., Yuma County, at gaging station just upstream from South Gila Pump Outlet Channel No. 1, 0.6 mi (1.0 km) upstream from mouth, and 4 mi (6 km) east of Post Office in Yuma.

DRAINAGE AREA.--57,950 mi² (150,090 km²), approximately.

PERIOD OF RECORD.--Chemical analyses: October 1968 to current year.

REMARKS.--Unpublished chemical analyses (continuing record) for water years 1961-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)
OCT										
06...	1355	45	2880	--	25.0	--	--	--	--	--
07...	1130	50	2800	7.9	23.5	2	420	1700	590	350
14...	1535	48	2870	--	22.0	--	--	--	--	--
20...	1425	77	2920	7.9	24.5	--	--	--	540	300
28...	1445	61	3120	--	24.0	--	--	--	--	--
NOV										
03...	1415	52	3110	--	23.0	--	--	--	--	--
10...	1310	43	2900	--	22.0	--	--	--	--	--
11...	1100	50	3220	7.6	20.0	1	871	2000	610	360
17...	1330	49	3100	--	22.0	--	--	--	--	--
24...	1430	54	2990	--	22.0	--	--	--	--	--
DEC										
01...	1340	64	2930	--	18.5	--	--	--	--	--
08...	1440	76	3240	--	22.0	--	--	--	--	--
09...	1115	74	3280	8.0	22.0	1	--	--	620	370
15...	1500	84	3160	--	21.5	--	--	--	--	--
22...	1445	91	3130	7.8	23.0	--	--	--	600	360
29...	1335	90	3150	--	22.0	--	--	--	--	--
JAN										
05...	1445	66	2870	--	21.0	--	--	--	--	--
12...	1455	66	3260	--	21.0	--	--	--	--	--
14...	1145	60	3190	7.7	21.0	1	815	840	610	360
19...	1125	40	3100	--	20.0	--	--	--	--	--
26...	1425	60	3020	8.0	20.5	--	--	--	580	320
FEB										
02...	1345	87	3010	--	21.5	--	--	--	--	--
09...	1345	102	3180	--	22.0	--	--	--	--	--
11...	1100	96	2880	8.0	--	5	80	190	570	340
17...	1420	82	3180	--	23.5	--	--	--	--	--
23...	0950	84	3190	8.0	20.5	--	--	--	610	360
MAR										
01...	1415	107	3140	--	23.0	--	--	--	--	--
08...	1410	102	3190	--	23.5	--	--	--	--	--
10...	0830	106	3290	8.1	20.0	3	52	67	610	370
15...	1125	117	3630	--	22.0	--	--	--	--	--
22...	1400	117	3650	8.0	24.5	--	--	--	720	470
29...	1410	125	3630	--	24.0	--	--	--	--	--
APR										
05...	1440	123	3670	--	23.5	--	--	--	--	--
12...	1435	136	3750	--	24.0	--	--	--	--	--
14...	1110	144	3780	7.9	22.0	4	340	380	710	440
19...	1500	146	3110	--	24.5	--	--	--	--	--
26...	1130	136	3800	8.0	23.0	--	--	--	710	440
MAY										
03...	1410	107	3420	--	25.0	--	--	--	--	--
10...	1405	85	3240	--	26.5	--	--	--	--	--
12...	1145	77	3150	7.9	25.5	3	130	170	580	340
17...	1410	56	3270	--	25.0	--	--	--	--	--
24...	1325	56	3330	7.9	25.5	--	--	--	610	360
JUN										
01...	1350	93	3110	--	25.5	--	--	--	--	--
07...	1110	78	3170	--	24.0	--	--	--	--	--
09...	1120	81	3200	7.9	23.5	2	42	230	590	350
14...	1440	84	3190	--	--	--	--	--	--	--
21...	1130	90	3110	8.0	25.0	--	--	--	570	330
28...	0920	91	3110	--	24.5	--	--	--	--	--
JUL										
06...	1140	101	3380	--	25.5	--	--	--	--	--
12...	1225	102	3330	--	25.5	--	--	--	--	--
14...	1055	115	3760	7.9	24.5	2	--	--	660	450
19...	1405	117	3600	--	--	--	--	--	--	--
26...	0800	113	3400	8.0	24.0	--	--	--	660	400
AUG										
02...	1320	121	3680	--	26.5	--	--	--	--	--
09...	1355	129	3200	--	27.0	--	--	--	--	--
11...	1135	90	3220	7.9	28.5	1	73	88	620	380
16...	1050	99	3440	--	--	--	--	--	--	--
23...	1425	92	3200	8.2	27.0	--	--	--	600	360
30...	1200	73	2990	--	26.0	--	--	--	--	--
SEP										
07...	1350	274	2760	--	26.5	--	--	--	--	--
15...	0830	78	3150	7.9	24.0	2	100	280	570	330
16...	1450	80	3160	--	25.5	--	--	--	--	--
20...	1405	78	3140	--	25.0	--	--	--	--	--
30...	1500	69	2980	8.1	--	--	--	--	360	130

B Results based on non-ideal colony count.

09520700. GILA RIVER NEAR MOUTH, NEAR YUMA, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	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									
06...	--	--	--	--	--	--	--	--	--
07...	150	52	390	7.0	6.5	292	0	530	480
14...	--	--	--	--	--	--	--	--	--
20...	130	52	430	8.1	6.4	293	0	510	520
28...	--	--	--	--	--	--	--	--	--
NOV									
03...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
11...	150	57	450	7.9	7.6	304	0	500	630
17...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
DEC									
01...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
09...	150	60	470	8.2	7.3	305	0	470	600
15...	--	--	--	--	--	--	--	--	--
22...	150	55	450	8.0	6.5	292	0	460	590
29...	--	--	--	--	--	--	--	--	--
JAN									
05...	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--
14...	150	57	460	8.1	7.8	304	0	490	610
19...	--	--	--	--	--	--	--	--	--
26...	140	55	430	7.8	7.3	311	0	450	580
FEB									
02...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
11...	140	54	400	7.3	7.2	286	0	440	550
17...	--	--	--	--	--	--	--	--	--
23...	150	57	450	7.9	7.6	306	0	460	640
MAR									
01...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
10...	150	58	470	8.3	7.4	299	0	480	650
15...	--	--	--	--	--	--	--	--	--
22...	180	66	520	8.4	8.0	307	0	480	750
29...	--	--	--	--	--	--	--	--	--
APR									
05...	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--
14...	170	70	540	8.8	9.1	332	0	490	800
19...	--	--	--	--	--	--	--	--	--
26...	170	69	570	9.3	8.5	330	0	550	790
MAY									
03...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
12...	140	56	480	8.7	7.0	299	0	540	560
17...	--	--	--	--	--	--	--	--	--
24...	140	62	530	9.4	7.5	300	0	550	670
JUN									
01...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
09...	140	58	480	8.6	6.5	295	0	500	640
14...	--	--	--	--	--	--	--	--	--
21...	140	54	480	8.7	6.7	292	0	590	610
28...	--	--	--	--	--	--	--	--	--
JUL									
06...	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--
14...	150	70	560	9.5	8.0	256	0	580	810
19...	--	--	--	--	--	--	--	--	--
26...	160	64	540	9.1	8.0	315	0	640	690
AUG									
02...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
11...	150	59	500	8.8	7.2	290	0	650	580
16...	--	--	--	--	--	--	--	--	--
23...	150	55	470	8.3	6.9	288	0	420	680
30...	--	--	--	--	--	--	--	--	--
SEP									
07...	--	--	--	--	--	--	--	--	--
15...	140	54	470	8.6	7.6	294	0	500	600
16...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
30...	130	9.7	440	10	7.2	290	0	460	410

09520700. GILA RIVER NEAR MOUTH, NEAR YUMA, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO ₂) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT									
06...	--	--	--	--	--	--	--	--	--
07...	.9	22	1780	1780	2.42	.77	.03	600	10
14...	--	--	--	--	--	--	--	--	--
20...	.9	23	1810	1820	2.46	.83	--	540	0
28...	--	--	--	--	--	--	--	--	--
NOV									
03...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
11...	.9	23	2020	1970	2.75	--	.05	710	0
17...	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--
DEC									
01...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
09...	.8	24	2070	1940	2.82	.68	.04	660	150
15...	--	--	--	--	--	--	--	--	--
22...	.9	23	1860	1880	2.53	.80	--	680	10
29...	--	--	--	--	--	--	--	--	--
JAN									
05...	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--
14...	.9	22	1970	1950	2.68	1.2	.04	640	60
19...	--	--	--	--	--	--	--	--	--
26...	.9	22	1830	1840	2.49	1.1	--	600	0
FEB									
02...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
11...	.8	21	1830	1760	2.49	--	.04	590	10
17...	--	--	--	--	--	--	--	--	--
23...	1.0	22	1900	1940	2.58	1.1	--	690	40
MAR									
01...	--	--	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--	--	--
10...	1.0	25	2070	1990	2.82	1.1	.05	680	20
15...	--	--	--	--	--	--	--	--	--
22...	.8	25	2200	2190	2.99	.82	--	720	30
29...	--	--	--	--	--	--	--	--	--
APR									
05...	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--
14...	.8	24	2360	2270	3.21	1.0	.04	740	220
19...	--	--	--	--	--	--	--	--	--
26...	.9	23	2380	2350	3.24	.91	--	740	10
MAY									
03...	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--
12...	.9	23	2010	1960	2.73	1.1	.04	690	30
17...	--	--	--	--	--	--	--	--	--
24...	.9	23	2100	2140	2.86	.89	--	660	10
JUN									
01...	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--
09...	.9	25	2060	2000	2.80	1.1	.03	660	40
14...	--	--	--	--	--	--	--	--	--
21...	.9	24	1940	2060	2.64	1.1	--	670	10
28...	--	--	--	--	--	--	--	--	--
JUL									
06...	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--
14...	.9	24	2360	2330	3.21	.93	.02	770	30
19...	--	--	--	--	--	--	--	--	--
26...	.9	25	2130	2290	2.90	1.0	--	720	10
AUG									
02...	--	--	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--	--	--
11...	.9	25	2050	2120	2.79	1.0	.07	660	60
16...	--	--	--	--	--	--	--	--	--
23...	1.0	24	1970	1950	2.68	1.1	--	650	10
30...	--	--	--	--	--	--	--	--	--
SEP									
07...	--	--	--	--	--	--	--	--	--
15...	.9	21	1960	1950	2.67	1.4	.04	630	10
16...	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--
30...	1.0	23	1850	1630	2.52	1.2	--	630	10

GILA RIVER BASIN

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09520700. GILA RIVER NEAR MOUTH, NEAR YUMA, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	TOTAL NITRATE PLUS NITRITE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)
OCT 07...	1130	--	.03	.77	.77	.27	1.0	4.6	.05	.03
NOV 11...	1100	--	.03	.88	--	1.4	2.3	10	.04	.05
DEC 09...	1115	.65	.03	.68	.68	.42	1.1	4.9	.05	.04
JAN 14...	1145	1.1	.05	1.2	1.2	.68	1.9	8.3	.04	.04
FEB 11...	1100	--	.04	.84	--	.67	1.5	6.7	.06	.04
MAR 10...	0830	--	.04	1.1	1.1	.57	1.7	7.4	.05	.05
APR 14...	1110	--	.05	.98	1.0	.39	1.4	6.1	.07	.04
MAY 12...	1145	--	.05	1.1	1.1	.63	1.7	7.7	.08	.04
JUN 09...	1120	--	.04	1.1	1.1	.30	1.4	6.2	.08	.03
JUL 14...	1055	--	.02	.94	.93	.21	1.2	5.1	.03	.02
AUG 11...	1135	.97	.03	1.2	1.0	.24	1.4	6.4	.04	.07
SEP 15...	0830	--	.05	1.3	1.4	.36	1.7	7.3	.06	.04

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)
NOV 11...	1100	14	16	710	20	1	20	4
FEB 11...	1100	13	13	590	<10	0	0	0
MAY 12...	1145	15	14	690	10	0	0	0
AUG 11...	1135	15	8	660	<10	0	10	10

DATE	TOTAL COPALT (CU) (UG/L)	DIS- SOLVED COPALT (CU) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)
NOV 11...	<50	1	10	6	220	0	200	5	940
FEB 11...	<50	1	10	1	350	10	<100	1	940
MAY 12...	<50	0	20	2	270	30	<100	0	940
AUG 11...	<50	2	20	1	170	60	<100	1	640

DATE	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL SELF- NIUM (SE) (UG/L)	DIS- SOLVED SELF- NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
NOV 11...	900	.0	.0	16	14	70	20	--
FEB 11...	720	.1	.1	6	6	10	0	1.4
MAY 12...	960	.0	.0	13	13	30	10	3.0
AUG 11...	640	.0	.0	9	4	20	0	10

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

GILA RIVER BASIN

09520700. GILA RIVER NEAR MOUTH, NEAR YUMA, ARIZ.--CONTINUED

WATER QUALITY DATA. WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	SUS- PENDE SEDIM- MENT (MG/L)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
OCT		
07...	11	91
NOV		
11...	8	40
DEC		
09...	22	32
JAN		
13...	30	15
FEB		
11...	24	56
MAR		
10...	13	63
APR		
14...	24	18
MAY		
12...	5	40
JUN		
09...	10	42
JUL		
14...	7	47
AUG		
11...	2	53
SEP		
15...	4	68

09520700. GILA RIVER NEAR MOUTH, NEAR YUMA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll a (mg/m ²)	Chlorophyll b (mg/m ²)	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight				
Nov. 11	35	31.0	22.0	110	27.0	82	Polyethylene strip
Feb. 11	28	4.60	2.70	28.0	4.40	68	Polyethylene strip
Aug. 11	28	12.6	8.00	16.9	7.34	270	Polyethylene strip

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

OCT. 9, 1974
1030 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,900 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...SCENEDESMACEAE				
....SCENEDESMUS				
	TOTALS	50	3	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCAEAE				
η ...CYCLOTELLA		520	28	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		50	3	
...CYMBELLACEAE				
...AMPHORA		130	7	
...FRAGILARIACEAE				
...SYNEDRA		110	6	
...GOMPHONEMATACEAE				
...GOMPHONEMA		25	1	
...NAVICULACEAE	NAVICULOID			
...STAURONEIS		13	1	
...NITZSCHACEAE				
...NITZSCHIA				
	TOTALS	890	49	1.933=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
....ANACYSTIS		130	7	
η ...ANACYSTIS		500	27	
..OSCILLATORIALES	FILAMENTOUS			
...NOSTOCACEAE				
....ANABAEANA				
	TOTALS	820	44	1.335=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..CRYPTOPHYCEAE	CRYPTOMONADS			
...CRYPTOMONIDALES				
...CRYPTOMONODACEAE				
....CRYPTOMONAS				
	TOTALS	88	5	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 1.378
 CLASS 1.378
 ORDER 2.198
 FAMILY 2.656
 GENERA 2.656

09520700. GILA RIVER NEAR MOUTH, NEAR YUMA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

NOV. 5, 1974
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

760 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...VOLVOCELES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS				
	TOTALS	16	2	0.000=DIVERSITY
		16	2	
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...ANAUACEAE				
...TERPSINOE		16	2	
...COSCINODISCACEAE				
D ...MELOSIRA		280	37	
..PENNALES	PENNATE			
...CYMBELLACEAE				
D ...AMPHORA		190	24	
...AMPHORA		16	2	
...FRAGILARIACEAE				
...SYNEDRA		47	6	
...NAVICULACEAE	NAVICULOID			
...AMPHIPRORA		16	2	
D ...NAVICULA		140	18	
...NITZSCHACEAE				
....NITZSCHIA				
	TOTALS	47	6	2.333=DIVERSITY
		750	97	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:PHYL/DIV 0.144
CLASS 0.144
ORDER 1.092
FAMILY 2.229
GENERA 2.325DEC. 3, 1974
1120 HOURS

IDENTIFICATION OF PHYTOPLANKTON

660 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...SCENEDESMACEAE				
...ACTINASTRUM		6	1	
...OEDOGONIALES				
...OEDOGONIAEAE				
....OEDOGONIUM				
	TOTALS	36	5	0.592=DIVERSITY
		42	6	
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCACEAE				
...CYCLOTELLA		66	10	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		30	5	
...COCCONEIS		6	1	
...CYMBELLACEAE				
D ...CYMBELLA		120	18	
...FRAGILARIACEAE				
...SYNEDRA		6	1	
...NAVICULACEAE	NAVICULOID			
...AMPHIPRORA		6	1	
D ...NAVICULA		190	29	
...NITZSCHACEAE				
....NITZSCHIA				
	TOTALS	72	11	2.289=DIVERSITY
		500	75	
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
...LYNGBYA		60	9	
...OSCILLATORIA		60	2	
	TOTALS	120	18	1.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:PHYL/DIV 1.007
CLASS 1.007
ORDER 1.470
FAMILY 2.677
GENERA 2.953

09520700. GILA RIVER NEAR MOUTH, NEAR YUMA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JAN. 7, 1975
1130 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,400 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHRYSDOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...ANULACEAE		52	4	
...TERPSINOE				
...COSCINODISCACEAE				
...CYCLOTELLA		39	3	
...PENNACEAE	PENNATE			
...CYMBELLACEAE				
...AMPHORA		170	12	
...FRAGILARIACEAE				
...SYNEDRA		26	2	
...NAVICULACEAE	NAVICULOID			
...AMPHIPORRA		100	8	
...ANOMOEONEIS		13	1	
D ...NAVICULA		720	52	
D ...NITZSCHACEAE				
D ...NITZSCHIA		240	17	
TOTALS		1,400	99	2.086=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
...EUGLENA		13	1	
TOTALS		13	1	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:PHYL/DIV 0.078
CLASS 0.078
ORDER 0.430
FAMILY 1.744
GENERA 2.144FEB. 11, 1975
1130 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,200 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...SCENEDESMACEAE				
...SCENEDESMUS		120	5	
TOTALS		120	5	0.000=DIVERSITY
CHRYSDOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCACEAE				
D ...CYCLOTELLA		200	9	
D ...MELOSIRA		880	41	
...PENNACEAE	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		120	5	
...CYMBELLACEAE				
...AMPHORA		200	9	
...GOMPHONEMACEAE				
...GOMPHONEMA		120	5	
...NAVICULACEAE	NAVICULOID			
...AMPHIPORRA		88	4	
...CALONEIS		200	9	
...NAVICULA		150	7	
...NITZSCHACEAE				
...NITZSCHIA		58	3	
TOTALS		2,000	92	2.623=DIVERSITY
PYRRHOPHYTA	FIRE ALGAE			
..DINOPHYCEAE	DINOFAGELLATES			
...PRIDIINIALES				
...GLENODINIACEAE				
...GLENODINIUM		29	1	
TOTALS		29	1	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:PHYL/DIV 0.406
CLASS 0.406
ORDER 1.334
FAMILY 2.196
GENERA 2.851

09520700. GILA RIVER NEAR MOUTH, NEAR YUMA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAR. 11, 1975
0945 HOURS

IDENTIFICATION OF PHYTOPLANKTON

600 CELLS/ML

__ORGANISM__NAME_____	__COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS				
	TOTALS	43	7	0.000=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCEAE				
D ...CYCLOTELLA		160	26	
...MELOSIHA		29	5	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		29	5	
...COCONEIS		29	5	
...CYMBELLACEAE				
...AMPHORA		86	14	
...CYMBELLA		29	5	
...GOMPHONEMACEAE				
...GOMPHONEMA		14	2	
...NAVICULACEAE	NAVICULOID			
...AMPHIPRORA		14	2	
...CALONEIS		29	5	
...NAVICULA		72	12	
...NITZSCHIA				
...NITZSCHIA		29	5	
...SURIPELLACEAE				
...SURIPELLA		29	5	
	TOTALS	550	91	3.164=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
....EUGLENA				
	TOTALS	14	2	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SFDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.531
CLASS 0.531
ORDER 1.370
FAMILY 2.705
GENERA 3.394

APR. 8, 1975
1130 HOURS

IDENTIFICATION OF PHYTOPLANKTON

500 CELLS/ML

__ORGANISM__NAME_____	__COMMON__NAME_____	CELLS/ML	PER_CENT	
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...CHAETOCERACEAE				
D ...CHAETOCEROS		120	24	
...COSCINODISCEAE				
...CYCLOTELLA		48	10	
...RHIZOSOLENIA				
D ...RHIZOSOLENIA		120	24	
..PENNALES	PENNATE			
...CYMBELLACEAE				
D ...AMPHORA		83	17	
...FRAGILARIACEAE				
...SYNEDRA		36	7	
...NAVICULACEAE	NAVICULOID			
...AMPHIPRORA		24	5	
...NAVICULA		48	10	
...SURIPELLACEAE				
...SURIPELLA		12	2	
	TOTALS	490	99	2.703=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
....EUGLENA				
	TOTALS	12	2	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SFDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.162
CLASS 0.162
ORDER 1.118
FAMILY 2.670
GENERA 2.801

09520700. GILA RIVER NEAR MOUTH, NEAR YUMA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAY 6, 1975
1115 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,900 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..ULOTRICHAE				
..CHAETOPHORACEAE				
DSTIGEOCLONIUM				
	TOTALS	<u>650</u> 650	<u>33</u> 33	0.000=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
..COSCINODISCACEAE				
DCYCLOTELLA		830	42	
..PENNALES	PENNATE			
..ACHNANTHACEAE				
..ACHNANTHES		240	12	
..CYMBELLACEAE				
..CYMBELLA		59	3	
..GOMPHONEMACEAE				
..GOMPHONEMA		59	3	
..NAVICULACEAE	NAVICULOID			
..NAVICULA		59	3	
..NITZSCHIACEAE				
..NITZSCHIA		<u>59</u>	<u>3</u>	
	TOTALS	1,300	66	1.673=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:PHYL/DIV 0.918
CLASS 0.918
ORDER 1.549
FAMILY 2.034
GENERA 2.034JUNE 10, 1975
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,800 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
..OOCYSTACEAE				
....ANKISTRODESMUS		43	2	
....KIRCHNERIELLA		<u>43</u>	<u>2</u>	
	TOTALS	86	4	1.000=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
..CHAETOCERACEAE				
....CHAETOCEROS		43	2	
..COSCINODISCACEAE				
DCYCLOTELLA		300	17	
..PENNALES	PENNATE			
..NAVICULACEAE	NAVICULOID			
....CALONEIS		43	2	
DNAVICULA		260	15	
....PINNULARIA		43	2	
..NITZSCHIACEAE				
..NITZSCHIA		<u>130</u>	<u>7</u>	
	TOTALS	820	45	2.147=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
..CHROOCOCCACEAE				
DANACYSTIS		<u>860</u>	<u>49</u>	
	TOTALS	860	49	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:PHYL/DIV 1.232
CLASS 1.232
ORDER 1.687
FAMILY 2.020
GENERA 2.276

09520700. GILA RIVER NEAR MOUTH, NEAR YUMA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

OCT. 7, 1975

1130 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,500 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAF				
....ANKISTRODESMUS		29	1	
....TETRAEDRON		29	1	
...OEDOGONIALES				
...OEDOGONIAEAE				
L ...OEDOGONIUM			0	
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS				
	TOTALS	<u>58</u> 120	<u>2</u> 4	1.500=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAF	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		29	1	
....MELOSIRA		58	2	
..PENNALES	PENNALE			
...ACHNANTHACEAF				
....COCCONEIS		29	1	
...CYMBELLACEAF				
....AMPHORA		87	4	
....CYMBELLA		29	1	
...GOMPHONEMACEAF				
L ...GOMPHONEMA			0	
...NAVICULACEAE	NAVICULOID			
L ...DIPLONEIS			0	
D ...NAVICULA		410	16	
L ...PINNULARIA			0	
...NITZSCHIAEAE				
D ...NITZSCHIA		410	16	
...SURIRELLACEAF				
L ...SURIRELLA			0	
	TOTALS	<u>1,000</u>	<u>41</u>	2.021=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
....ANACYSTIS				
	TOTALS	<u>350</u> 350	<u>14</u> 14	0.000=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..CRYPTOPHYCEAE	CRYPTOMONADS			
...CRYPTOMONIDALES				
...CRYPTOMONODACEAE				
D ...CRYPTOMONAS				
	TOTALS	<u>960</u> 960	<u>39</u> 39	0.000=DIVERSITY
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
L ...PHACUS			0	
L ...TRACHELOMONAS			0	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.661

CLASS 1.661

ORDER 1.883

FAMILY 2.494

GENERA 2.588

09520700. GILA RIVER NEAR MOUTH, NEAR YUMA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

NOV. 11, 1975
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

580 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCEAE				
...CYCLOTELLA		9	2	
...MELOSIRA		44	8	
...PENNALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		9	2	
...COCCONEIS		9	2	
...CYMBELLACEAE				
...AMPHORA		53	9	
...DIATOMACEAE				
...DIATOMA		9	2	
...FRAGILARIACEAE				
...FRAGILARIA		26	5	
...GOMPHONEMACEAE				
...GOMPHONEMA		71	12	
...NAVICULACEAE	NAVICULOID			
...DIPLONEIS		9	2	
(D) ...NAVICULA		240	41	
...PINNULARIA		9	2	
...NITZSCHACEAE				
(D) ...NITZSCHIA				
	TOTALS	570	15	2.677=DIVERSITY
			102	
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
...EUGLENA				
	TOTALS	9	2	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.113
CLASS 0.113
ORDER 0.551
FAMILY 2.471
GENERA 2.749

DEC. 9, 1975
1115 HOURS

IDENTIFICATION OF PHYTOPLANKTON

590 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCEAE				
...CYCLOTELLA		39	7	
...MELOSIRA		10	2	
...PENNALS	PENNATE			
...ACHNANTHACEAE				
(D) ...ACHNANTHES		97	16	
...COCCONEIS		19	3	
...CYMBELLACEAE				
...AMPHORA		68	11	
...FRAGILARIACEAE				
...FRAGILARIA		19	3	
...GOMPHONEMACEAE				
...GOMPHONEMA		10	2	
...NAVICULACEAE	NAVICULOID			
(L) ...CALONEIS			0	
(D) ...NAVICULA		200	34	
...NITZSCHACEAE				
(D) ...NITZSCHIA				
	TOTALS	580	20	2.571=DIVERSITY
			98	
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
...EUGLENA				
	TOTALS	10	2	0.000=DIVERSITY
			2	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
L - LESS THAN 15% MAY NOT HAVE BEEN ACTUALLY COUNTED
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.121
CLASS 0.121
ORDER 0.528
FAMILY 2.463
GENERA 2.650

GILA RIVER BASIN

09520700. GILA RIVER NEAR MOUTH, NEAR YUMA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JAN. 14, 1976
1145 HOURS

IDENTIFICATION OF PHYTOPLANKTON

580 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...SCENEDESMACEAF				
I ...SCENEDESMUS			0	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCEAE				
D ...CYCLOTELLA		140	23	
..PENNIALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		39	7	
...COCCONEIS		19	3	
...CYMBELLACEAE				
...AMPHORA		58	10	
...NAVICULACEAE	NAVICULOID			
L ...AMPHIPRORA			0	
...CALONEIS		58	10	
D ...NAVICULA		190	33	
L ...NEIDIUM			0	
...NITZSCHIAEAE				
...NITZSCHIA				
	TOTALS	<u>19</u> 520	<u>3</u> 89	2.370=DIVERSITY
..CHRYSTOPHYCEAE	YELLOW-BROWN ALGAE			
..CHRYSONOMADALES				
...OCHROMONADACEAF				
...UROGLENA				
	TOTALS	<u>39</u> 39	<u>7</u> 7	0.000=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
...EUGLENA				
	TOTALS	<u>19</u> 19	<u>3</u> 3	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM: GREATER OR EQUAL TO 15%

L - LESS THAN 15%: MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.211

CLASS 0.561

ORDER 1.304

FAMILY 2.265

GENERA 2.694

09520700. GILA RIVER NEAR MOUTH, NEAR YUMA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

FEB. 11, 1976
1100 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,200 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS				
	TOTALS	51	4	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		51	4	
L ...MELOSIRA			0	
..PENNALES	PENNALE			
...ACHNANTHACEAE				
...COCCONEIS		51	4	
...CYMBELLACEAE				
....AMPHORA		100	9	
....CYMBELLA		51	4	
...NAVICULACEAE	NAVICULOID			
...CALONEIS		150	13	
...DIPLONEIS		51	4	
D ...NAVICULA		460	39	
D ...NITZSCHACEAE				
D ...NITZSCHIA				
	TOTALS	200	17	2.492=DIVERSITY
		1,100	94	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.258
 CLASS 0.258
 ORDER 0.513
 FAMILY 1.877
 GENERA 2.642

MAR. 10, 1976
0830 HOURS

IDENTIFICATION OF PHYTOPLANKTON

750 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS				
	TOTALS	34	4	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCACEAE				
D ...CYCLOTELLA		180	24	
L ...MELOSIRA			0	
..PENNALES	PENNALE			
...ACHNANTHACEAE				
...ACHNANTHES		50	7	
...COCCONEIS		17	2	
...CYMBELLACEAE				
....AMPHORA		84	11	
...GOMPHONEMACEAE				
...GOMPHONEMA		67	9	
...NAVICULACEAE	NAVICULOID			
...AMPHIPROPA		34	4	
...CALONEIS		17	2	
D ...NAVICULA		130	18	
...TROPIDONEIS		17	2	
...NITZSCHACEAE				
...DENTICULA		17	2	
...NITZSCHIA				
	TOTALS	720	13	3.009=DIVERSITY
			94	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.262
 CLASS 0.262
 ORDER 1.046
 FAMILY 2.596
 GENERA 3.138

GILA RIVER BASIN

09520700. GILA RIVER NEAR MOUTH, NEAR YUMA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

APR. 14, 1976
1110 HOURS

IDENTIFICATION OF PHYTOPLANKTON

290 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...SCENEDESMACEAE				
L ...SCENEDESMUS			0	
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
...CHLAMYDOMONAS				
	TOTALS	9	3	0.000=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCEAE				
...CYCLOTELLA		28	10	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		9	3	
...COCONEIS		9	3	
...CYMBELLACEAE				
...AMPHORA		28	10	
...CYMBELLA		9	3	
...GOMPHONEMACEAE				
...GOMPHONEMA		9	3	
...NAVICULACEAE	NAVICULOID			
...AMPHIPRORA		9	3	
D ...CALONEIS		65	23	
L ...FRUSTULIA			0	
D ...NAVICULA		75	26	
L ...STAURONEIS			0	
...NITZSCHACEAE				
...NITZSCHIA				
	TOTALS	37	13	2.868=DIVERSITY
		280	97	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.206
 CLASS 0.206
 ORDER 0.659
 FAMILY 2.156
 GENERA 2.981

09520700. GILA RIVER NEAR MOUTH, NEAR YUMA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAY 12, 1976
1145 HOURS

IDENTIFICATION OF PHYTOPLANKTON

660 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS				
	TOTALS	<u>47</u> 47	<u>7</u> 7	0.000=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCEAE				
D ...CYCLOTELLA		170	26	
...MELOSIRA		79	12	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		16	2	
...COCONEIS		32	5	
...CYMBELLACEAE				
...AMPHORA		32	5	
...CYMHELLA		16	2	
...FRAGILARIACEAE				
...FRAGILARIA		16	2	
...GOMPHONEMACEAE				
...GOMPHONEMA		16	2	
...NAVICULACEAE	NAVICULOID			
...CALONEIS		47	7	
...NAVICULA		95	14	
...NITZSCHACEAE				
....NITZSCHIA		<u>47</u> 570	<u>7</u> 84	2.984=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIA				
L ...OSCILLATORIA			0	
EUGLENOPHYTA	EUGLENOIDS			
..CRYPTOPHYCEAE	CRYPTOMONADS			
...CRYPTOMONIDALES				
...CRYPTOCHRYSIDACEAE				
....CHROOMONAS				
	TOTALS	<u>16</u> 16	<u>2</u> 2	0.000=DIVERSITY
..EUGLENOPHYCEAE				
...EUGLENALES				
...EUGLENACEAE				
....EUGLENA				
	TOTALS	<u>32</u> 32	<u>5</u> 5	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.735
 CLASS 0.800
 ORDER 1.650
 FAMILY 2.689
 GENERA 3.358

GILA RIVER BASIN

09520700. GILA RIVER NEAR MOUTH, NEAR YUMA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JUNE 9, 1976
1120 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,500 CELLS/ML

ORGANISM__NAME_____	COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS				
	TOTALS	<u>110</u> 110	<u>7</u> 7	0.000=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		160	11	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
....ACHNANTHES		54	4	
...CYMBELLACEAE				
....AMPHORA		54	4	
...NAVICULACEAE	NAVICULOID			
....CALONEIS		54	4	
DNAVICULA		320	21	
...NITZSCHIAEAE				
DNITZSCHIA		<u>750</u> 1,400	<u>50</u> 94	1.871=DIVERSITY
	TOTALS			

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
 PHYL/DIV 0.371
 CLASS 0.371
 ORDER 0.850
 FAMILY 1.961
 GENERA 2.109

09520700. GILA RIVER NEAR MOUTH, NEAR YUMA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JULY 14, 1976
1055 HOURS

IDENTIFICATION OF PHYTOPLANKTON

26,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...MICRACTINIACEAE				
....MICRACTINIUM		220	1	
...OOCYSTACEAE				
....ANKISTRODESMUS		290	1	
I.CHODATELLA			0	
L.OOCYSTIS			0	
....TETRAEDRON		150	1	
...SCENEDESMACEAE				
....CRUCIGENIA		590	2	
....SCENEDESMUS		590	2	
..VOLVOCELES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS		150	1	
TOTALS		2,100	8	2.625=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCEACEAE				
....CYCLOTELLA		150	1	
....MELOSIIRA		1,500	6	
..PENNALES	PENNATE			
...FRAGILARIACEAE				
L.SYNEDRA			0	
...NAVICULACEAE	NAVICULOID			
I.AMPHIPRORA			0	
....DIPLONEIS		150	1	
....NAVICULA		370	1	
...NITZSCHACEAE				
....NITZSCHIA		2,300	9	
TOTALS		4,700	18	1.815=DIVERSITY
..CHRYSPHYCEAE	YELLOW-BROWN ALGAE			
..CHRYSOMONADALES				
...OCHROMONADACEAE				
L.OCHROMONAS			0	
TOTALS		73	0	0.000=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
....AGMENELLUM		1,200	4	
....ANACYSTIS		440	2	
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIACEAE				
D.LYNGBYA		17,000	67	
TOTALS		19,000	73	0.490=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..CRYPTOPHYCEAE	CRYPTOMONADS			
...CRYPTOMONIDALES				
...CRYPTOCHRYSIDACEAE				
....CHROOMONAS		220	1	
TOTALS		220	1	0.000=DIVERSITY
PYRRHOPHYTA	FIRE ALGAE			
..DINOPHYCEAE	DINOFLAGELLATES			
...PERIDINIALES				
...PERIDINIACEAE				
L.PERIDINIUM			0	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.133

CLASS 1.154

ORDER 1.656

FAMILY 1.856

GENERA 2.049

09520700. GILA RIVER NEAR MOUTH, NEAR YUMA, ARIZ.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

AUG. 11, 1976

1135 HOURS

IDENTIFICATION OF PHYTOPLANKTON

360 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...SCENEDESMACEAE				
....SCENEDESMUS				
		TOTALS	<u>48</u> 48	<u>13</u> 13
				0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...COCCONEIS		12	3	
...FRAGILARIACEAE				
D ...SYNEDRA		120	33	
...GOMPHONEMATACEAE				
...GOMPHONEMA		36	10	
...NAVICULACEAE	NAVICULOID			
D ...NAVICULA		120	33	
...PINNULARIA		24	7	
...NITZSCHACEAE				
L ...NITZSCHIA				
		TOTALS	<u>310</u> 310	<u>86</u> 86
				1.885=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.567
 CLASS 0.567
 ORDER 0.567
 FAMILY 1.940
 GENERA 2.200

SEP. 15, 1976
 0830 HOURS

IDENTIFICATION OF PHYTOPLANKTON

490 CELLS/ML

_ORGANISM__NAME_____	_COMMON__NAME_____	CELLS/ML	PER_CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSGINODISCACEAE				
D ...CYCLOTELLA		140	28	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		20	4	
...COCCONEIS		20	4	
...CYMBELLACEAE				
D ...CYMBELLA		79	16	
...NAVICULACEAE	NAVICULOID			
D ...NAVICULA		200	40	
...PINNULARIA		20	4	
...NITZSCHACEAE				
....NITZSCHIA				
		TOTALS	<u>490</u> 490	<u>100</u> 100
				2.209=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
 ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER , 200-X MICROSCOPE
 DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

ORDER 0.855
 FAMILY 1.936
 GENERA 2.209

535

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	886	818	1260	692	1250	532	567	583	1450	593	879	1350
2	735	694	1240	632	1270	582	571	596	1450	577	744	1300
3	766	566	1230	1230	1290	601	566	606	1420	806	634	1310
4	766	559	1230	1040	1380	593	651	720	1400	629	626	1210
5	755	619	856	1250	1340	576	871	705	1420	598	654	1200
6	685	660	510	480	1260	567	858	739	1390	595	651	1220
7	695	641	529	392	459	546	743	726	1390	585	630	1470
8	710	660	529	396	439	435	648	800	1390	580	639	1700
9	705	646	505	397	459	538	618	1860	1420	814	624	1340
10	705	659	471	476	429	546	593	1560	1400	810	606	1160
11	725	792	487	1350	444	551	599	1480	1400	678	592	1700
12	735	800	512	1280	493	608	597	1490	1370	595	591	1830
13	800	812	529	1110	508	626	588	1400	1380	581	595	1460
14	805	899	529	1140	489	652	598	1400	1490	580	603	1030
15	821	854	523	956	516	630	1130	1250	1440	603	614	1170
16	802	888	515	794	494	590	1420	1250	1460	561	604	1170
17	809	888	522	770	812	566	1290	1240	1500	569	603	1190
18	801	902	519	773	1240	574	1290	1190	1510	641	600	1120
19	844	1030	524	859	1250	611	979	1220	1480	885	797	1170
20	1040	1020	521	899	1270	584	914	1260	1480	810	798	1170
21	1010	1120	528	890	1240	589	880	1270	1490	673	770	1130
22	994	1340	525	886	1390	593	811	1260	1490	614	766	1090
23	969	1340	536	965	583	603	711	1280	1480	633	704	1120
24	963	1320	537	1070	554	609	677	1310	1520	614	625	1340
25	1040	1340	582	1060	540	797	675	1330	1490	641	620	2000
26	1040	1320	832	1100	552	741	669	1330	1460	639	610	2580
27	1170	1310	528	1100	549	625	653	1370	1420	635	608	2470
28	1140	1290	527	1120	530	638	655	1340	1480	627	612	1500
29	1180	1200	521	1110	511	624	625	1380	1360	595	597	1310
30	1170	592	566	1120	---	638	610	1470	598	638	458	1150
31	1120	---	724	1180	---	587	---	1440	---	900	543	---
TOTAL	27386	27619	19947	28517	23541	18552	23057	36855	42428	20299	19997	41960
MEAN	883	921	643	920	812	598	769	1189	1414	655	645	1399
MAX	1180	1340	1260	1350	1390	797	1420	1860	1520	900	879	2580
MIN	685	559	471	392	429	435	566	583	598	561	458	1030
AC-FT	54320	54780	39560	56560	46690	36800	45730	73100	84160	40260	39660	

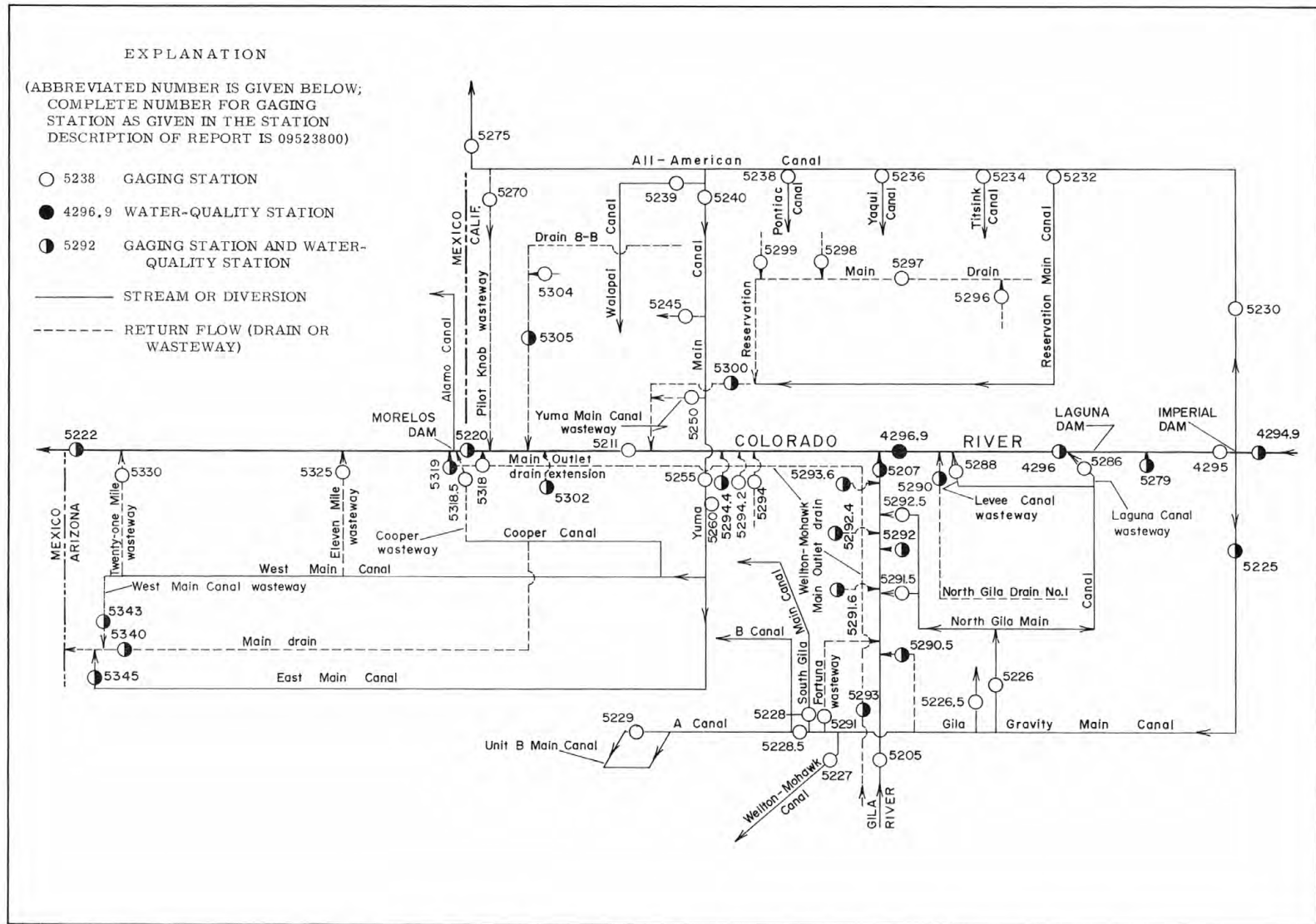


FIGURE 5. --SCHEMATIC DIAGRAM SHOWING GAGING STATIONS AND WATER-QUALITY STATIONS ON STREAMS, DIVERSIONS, AND RETURN FLOWS BETWEEN IMPERIAL DAM AND THE SOUTHERLY INTERNATIONAL BOUNDARY.

COLORADO RIVER MAIN STEM

537

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, in Arizona, Yuma County, on left bank at northerly international boundary, 0.5 mi (0.8 km) east of Andrade, 1.1 mi (1.8 km) upstream from Morelos Dam, 1.1 mi (1.8 km) downstream from Rockwood Gate, and 6.4 mi (10.3 km) downstream from gaging station on Colorado River below Yuma Main Canal wasteway.

DRAINAGE AREA (REVISED).--246,700 mi² (639,000 km²), approximately, including all closed basins entirely within the drainage boundary, also 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming (previously considered part of the Missouri River basin).

PERIOD OF RECORD.--January 1950 to current year. Prior to October 1958 published as "at international boundary."

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Supplementary water-stage recorder 1,680 ft (510 m) upstream at same datum.

EXTREMES.--Current year: Maximum discharge, 8,930 ft³/s (253 m³/s) Sept 27; maximum elevation, 112.56 ft (34.307 m) Sept. 26; minimum discharge, 743 ft³/s (21.0 m³/s) Nov. 4; minimum elevation, 102.23 ft (31.160 m) Nov. 4.

Period of record: Maximum discharge, 25,390 ft³/s (719 m³/s) Jan. 1, 1953; maximum elevation, 114.24 ft (34.820 m) Jan. 28, 1958; minimum discharge, 495 ft³/s (14.0 m³/s) Sept. 28, 1970; minimum elevation, 101.82 ft (31.035 m) Sept. 18, 1971.

REMARKS.--This record shows water passing northerly international boundary. Minor diversions to the United States below this station by pumping from ground water for irrigation in the floodway between river and Yuma levee. Records of chemical analyses for the current year are published on following pages.

COOPERATION.--Records furnished by International Boundary and Water Commission, U.S. Section (monthly summary figures rounded in accordance with Geological Survey standard practice).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1140	1090	1510	1920	1410	2790	3500	2230	1550	1970	2270	1450
2	945	909	1490	1770	1450	2500	3660	2090	1540	1940	2220	1450
3	945	779	1500	1360	1460	2240	3640	2070	1530	2000	2240	1460
4	955	761	1490	1180	1550	2200	3650	1940	1510	2020	2230	1370
5	945	815	1660	1430	1560	2220	3870	1960	1540	2010	2230	1370
6	875	832	1670	1750	1540	2240	3860	1960	1550	2030	2220	1370
7	875	833	1660	1620	1680	2280	3870	1970	1500	2030	2220	1440
8	875	835	1670	1640	1700	2540	3870	1940	1530	2030	2230	1800
9	890	825	1670	1600	1770	2620	3850	1740	1560	2050	2220	1520
10	885	815	1660	1630	1980	2600	3880	1680	1540	2100	2240	2600
11	895	945	1670	1460	2560	2600	3860	1570	1550	2120	2230	4790
12	885	955	1750	1460	1790	2600	3770	1570	1540	2250	2180	3780
13	945	965	1760	1280	1910	2700	3770	1490	1550	2250	2180	1850
14	975	1040	1720	1280	1920	2810	4620	1470	1640	2250	2190	1220
15	985	1050	1950	1120	1920	2880	7050	1370	1630	2270	2200	1300
16	975	1050	1930	960	1780	2910	6420	1320	1630	2250	2180	1320
17	985	1050	2030	918	1630	2910	4240	1340	1660	2280	2190	1330
18	975	1060	2050	925	1390	2940	3150	1310	1680	2280	2160	1300
19	995	1180	2060	985	1390	2940	3210	1310	1640	2360	2080	1330
20	1190	1170	2110	1040	1410	2980	3040	1360	1660	2370	2080	1300
21	1180	1260	2110	1030	1380	3010	3030	1360	1660	2360	2100	1310
22	1170	1470	2230	1040	1560	3090	2990	1370	1670	2370	2110	1260
23	1150	1500	2270	1120	1830	3150	2910	1370	1640	2290	2230	1300
24	1160	1490	2240	1220	2140	3220	2970	1410	1670	2280	2230	2400
25	1230	1510	2280	1220	2410	3220	2900	1450	1700	2290	2230	5350
26	1230	1510	2320	1240	2700	3190	2870	1450	1630	2290	2220	5810
27	1360	1490	2330	1270	3010	3180	2670	1470	1640	2330	2180	7880
28	1340	1500	2340	1260	3110	3180	2530	1450	1650	2370	2130	2840
29	1400	1500	2450	1270	3080	3220	2530	1460	1650	2370	1920	1500
30	1370	1670	2490	1280	---	3200	2530	1550	1870	2310	1730	1210
31	1360	---	2310	1340	---	3140	---	1540	---	2310	1750	---
TOTAL	33085	33859	60380	40618	55020	87300	108710	49570	48310	68430	66820	66210
MEAN	1067	1129	1948	1310	1897	2816	3624	1599	1610	2207	2155	2207
MAX	1400	1670	2490	1920	3110	3220	7050	2230	1870	2370	2270	7880
MIN	875	761	1490	918	1380	2200	2530	1310	1500	1940	1730	1210
AC-FT	65620	67160	119800	80570	109100	173200	215600	98320	95820	135700	132500	131300
CAL YR 1975 TOTAL	703766			MEAN 1928	MAX 5450	MIN 761	AC-FT 1396000					
WTR YR 1976 TOTAL	718312			MEAN 1963	MAX 7880	MIN 761	AC-FT 1425000					

09522000. COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.
(National stream-quality accounting network and pesticide station)

LOCATION.--Lat 32°43'07", long 114°43'05", in NE¼ sec.21, T.8 S., R.24 W., Gila and Salt River meridian, in Arizona, Yuma County,
at gaging station on left bank, at northerly international boundary, 0.5 mi (0.8 km) east of Andrade, 1.1 mi (1.8 km) upstream from
Morelos Dam, 1.1 mi (1.8 km) downstream from Rockwood Gate, 20.7 mi (33.3 km) upstream from southerly international boundary, and
21 mi (34 km) downstream from Laguna Dam.

DRAINAGE AREA (REVISED).--246,700 mi² (640,000 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern
Wyoming which is noncontributing (previously considered part of the Missouri River basin).

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICHO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	DIS- SOLVED OXYGEN (MG/L)	CHEM- ICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	FECAL COLI- FORM (COL. PER 100 ML)	STREP- TOCOCCI (COL- ONIES PER 100 ML)	HARD- NESS (CA.MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)
OCT												
06...	0900	895	1670	8.0	24.0	4	--	--	--	--	425	248
07...	0850	865	1700	7.9	22.0	--	7.6	13	150	170	--	--
14...	0830	985	1640	8.1	--	3	--	--	--	--	420	246
20...	0830	1210	1640	8.2	--	5	--	--	--	--	420	246
21...	0825	1170	--	--	20.5	--	--	8	--	--	--	--
28...	0830	1340	1620	8.2	--	4	--	--	--	--	415	244
NOV												
03...	0830	780	1730	8.1	18.5	2	--	--	--	--	430	248
10...	0830	815	1770	8.1	--	3	--	--	--	--	440	253
11...	0830	955	1760	8.2	16.5	--	7.8	11	170	260	--	--
17...	0835	1050	1720	8.2	16.5	5	--	--	--	--	430	248
24...	0900	1500	1600	8.0	12.5	5	--	12	--	--	420	250
DEC												
01...	0830	1490	1670	8.0	--	9	--	--	--	--	430	253
08...	0840	1670	1610	8.1	15.0	7	--	--	--	--	415	244
09...	0830	1660	1660	8.2	15.5	--	8.3	10	--	--	--	--
15...	0830	1960	1590	8.1	14.0	5	--	--	--	--	410	242
22...	0830	2186	1530	8.0	13.5	3	--	--	--	--	400	241
23...	1015	2290	--	--	15.0	--	--	40	--	--	--	--
29...	0845	2475	1530	8.0	--	7	--	--	--	--	400	240
JAN												
05...	0845	1400	1580	8.1	9.0	7	--	--	--	--	405	238
12...	0845	1470	1640	8.0	11.0	8	--	--	--	--	420	248
13...	0830	1280	1620	7.9	10.5	--	10.3	12	38	190	--	--
19...	0830	995	1720	8.2	13.5	3	--	--	--	--	430	250
26...	0845	1240	1630	8.1	--	6	--	--	--	--	420	250
27...	0830	1300	--	--	13.0	--	--	12	--	--	--	--
FEB												
02...	0830	1460	1570	8.0	13.5	7	--	--	--	--	405	240
09...	0840	1800	1580	8.2	--	7	--	--	--	--	405	238
10...	0835	1700	1600	8.0	16.5	--	8.3	11	100	60	--	--
17...	0845	1720	1740	8.2	--	2	--	--	--	--	435	250
23...	0905	1790	1720	8.1	16.5	5	--	--	--	--	430	250
24...	0835	2160	--	--	15.5	--	--	13	--	--	--	--
MAR												
01...	0845	2790	1440	8.1	17.0	9	--	--	--	--	390	234
08...	0830	2590	1380	8.1	16.0	10	--	--	--	--	385	231
09...	0835	2590	1520	8.1	16.5	--	8.5	22	140	40	--	--
15...	0840	2900	1500	8.0	16.0	10	--	--	--	--	395	234
22...	0845	3160	1410	8.1	19.0	20	--	--	--	--	385	231
23...	0830	3090	--	--	18.5	--	--	8	--	--	--	--
29...	0830	3260	1400	8.0	18.0	10	--	--	--	--	385	231
APR												
05...	0845	3770	1380	8.1	--	14	--	--	--	--	380	226
12...	0830	3790	1390	8.0	--	10	--	--	--	--	380	224
13...	0830	3820	1440	8.0	17.5	--	8.0	11	38	63	--	--
19...	0845	3300	1500	8.1	20.5	12	--	--	--	--	400	231
26...	0845	2880	1450	8.2	21.5	20	--	--	--	--	395	238
27...	0835	2650	--	--	20.0	--	--	14	--	--	--	--
MAY												
03...	0830	2080	1490	8.0	--	9	--	--	--	--	395	234
10...	0830	1710	1510	8.1	23.5	20	--	--	--	--	400	238
11...	0830	1600	1570	8.0	23.5	--	7.5	14	87	400	--	--
17...	0830	1400	1520	8.1	--	11	--	--	--	--	400	232
24...	0830	1410	1560	8.1	--	7	--	--	--	--	405	238
25...	0830	1370	--	--	22.0	--	--	59	--	--	--	--
JUN												
01...	0830	1560	1540	8.1	--	5	--	--	--	--	400	231
07...	0830	1530	1540	8.0	25.5	10	--	--	--	--	400	231
08...	0830	1530	1560	8.0	24.0	--	7.4	29	110	200	--	--
14...	0830	1630	1540	8.1	24.5	10	--	--	--	--	400	230
21...	0830	1670	1520	8.1	--	9	--	--	--	--	400	234
28...	0830	1640	1550	8.1	--	8	--	--	--	--	400	232
JUL												
06...	0830	2050	1480	8.0	26.5	7	--	--	--	--	395	234
12...	0830	2250	1440	8.2	--	6	--	--	--	--	390	232
13...	0955	2250	1470	7.7	27.0	--	7.0	5	--	--	--	--
19...	0840	2380	1480	8.2	28.5	9	--	--	--	--	395	238
26...	0820	2280	1460	8.1	26.5	10	--	--	--	--	395	238
27...	0830	2360	--	--	29.0	--	--	11	--	--	--	--
AUG												
02...	0820	2180	1580	8.2	26.5	9	--	--	--	--	405	242
09...	0830	2220	1470	8.2	27.0	9	--	--	--	--	390	234
10...	0835	2220	1440	7.9	27.0	--	6.6	10	60	34	--	--
16...	0840	2220	1480	8.2	--	8	--	--	--	--	395	239
23...	0830	2240	1440	8.4	28.0	9	--	--	--	--	385	232
24...	0845	2250	--	--	27.0	--	--	9	--	--	--	--
30...	0840	1750	1460	8.2	28.0	7	--	--	--	--	385	229
SEP												
07...	0830	1330	1470	8.2	--	5	--	--	--	--	390	231

09522000. COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

PERIOD OF RECORD.--Chemical analyses: October 1968 to current year.

EXTREMES.--Current year:

Specific conductance: Maximum, 1,820 micromhos Feb. 20; minimum, 1,020 micromhos Sept. 27.

Period of record:

Specific conductance (1969-74): Maximum, 2,230 micromhos Dec. 9, 1969; minimum, 1,020 micromhos Sept. 27, 1976.

REMARKS.--Unpublished chemical analyses (continuing record) for water years 1961-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL CAL- CIUM (CA) (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	TOTAL MAG- NE- SIUM (MG)	DIS- SOLVED MAG- NE- SIUM (MG)	TOTAL SODIUM (NA) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	TOTAL PO- TAS- SIUM (K) (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												
06...	--	111	--	36	--	200	4.2	--	6.1	216	0	395
07...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	106	--	38	--	195	4.1	--	5.9	212	0	390
20...	--	109	--	36	--	195	4.1	--	6.3	212	0	390
21...	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	105	--	37	--	190	4.1	--	5.6	208	0	390
NOV												
03...	--	110	--	38	--	210	4.4	--	5.8	222	0	400
10...	--	120	--	34	--	215	4.5	--	5.8	228	0	410
11...	110	--	35	--	200	--	--	5.5	--	--	--	--
17...	--	117	--	34	--	210	4.4	--	5.4	222	0	400
24...	--	109	--	35	--	185	3.9	--	5.6	206	0	385
DEC												
01...	--	114	--	35	--	195	4.1	--	5.4	216	0	395
08...	--	106	--	37	--	190	4.0	--	5.4	208	0	385
09...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	106	--	35	--	185	4.0	--	5.6	204	0	380
22...	--	103	--	35	--	175	3.8	--	5.4	194	0	370
23...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	100	--	37	--	175	3.8	--	5.4	196	0	370
JAN												
05...	--	106	--	34	--	185	4.0	--	5.6	204	0	375
12...	--	111	--	35	--	195	4.1	--	5.6	210	0	390
13...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	113	--	36	--	210	4.4	--	5.8	220	0	395
26...	--	113	--	34	--	190	4.0	--	5.9	208	0	385
27...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
02...	--	104	--	35	--	180	3.9	--	5.4	202	0	375
09...	--	113	--	30	--	185	4.0	--	5.4	204	0	375
10...	150	--	33	--	180	--	--	5.2	--	--	--	--
17...	--	114	--	37	--	210	4.4	--	5.6	226	0	400
23...	--	109	--	38	--	210	4.4	--	5.4	220	0	395
24...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
01...	--	101	--	34	--	160	3.5	--	5.4	190	0	355
08...	--	102	--	32	--	150	3.3	--	5.2	188	0	345
09...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	100	--	35	--	170	3.7	--	5.4	196	0	365
22...	--	100	--	33	--	155	3.4	--	5.6	188	0	350
23...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	98	--	34	--	150	3.3	--	5.6	188	0	345
APR												
05...	--	98	--	33	--	150	3.3	--	5.4	188	0	340
12...	--	96	--	34	--	150	3.4	--	6.3	190	0	340
13...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	106	--	33	--	170	3.7	--	5.7	206	0	365
26...	--	102	--	34	--	160	3.5	--	5.4	192	0	355
27...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
03...	--	103	--	34	--	170	3.7	--	5.0	196	0	360
10...	--	106	--	33	--	170	3.7	--	5.0	198	0	365
11...	100	--	35	--	170	--	--	6.0	--	--	--	--
17...	--	107	--	32	--	175	3.8	--	5.5	204	0	365
24...	--	108	--	33	--	180	3.9	--	5.6	204	0	370
25...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
01...	--	107	--	32	--	180	3.9	--	5.4	206	0	365
07...	--	105	--	34	--	180	3.9	--	5.8	206	0	365
08...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	106	--	33	--	180	3.9	--	5.6	208	0	365
21...	--	105	--	34	--	175	3.8	--	5.2	202	0	365
28...	--	106	--	33	--	180	3.9	--	5.6	204	0	370
JUL												
06...	--	104	--	33	--	165	3.6	--	5.8	196	0	360
12...	--	102	--	33	--	160	3.5	--	6.2	192	0	350
13...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	103	--	34	--	165	3.6	--	6.1	192	0	360
26...	--	101	--	35	--	160	3.5	--	6.1	192	0	355
27...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
02...	--	105	--	35	--	185	4.0	--	6.0	198	0	375
09...	--	102	--	33	--	165	3.6	--	6.0	190	0	360
10...	92	--	34	--	170	--	--	4.7	--	--	--	--
16...	--	101	--	35	--	165	3.6	--	6.2	190	0	360
23...	--	98	--	34	--	160	3.6	--	6.0	186	4	355
24...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	102	--	32	--	165	3.7	--	5.6	190	0	355
SEP												
07...	--	102	--	33	--	165	3.6	--	5.8	194	0	360

09522000. COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT											
06...	195	.5	12	1070	1060	1.46	--	.20	--	--	--
07...	--	--	--	--	--	--	20	--	.04	250	--
14...	188	.6	12	1050	1040	1.43	--	.38	--	--	--
20...	188	.5	13	1050	1040	1.43	--	--	--	--	--
21...	--	--	--	--	--	--	36	--	--	--	--
28...	185	.7	14	1030	1030	1.40	--	--	--	--	--
NOV											
03...	208	.7	14	1110	1100	1.51	--	.00	--	--	--
10...	212	.6	12	1130	1120	1.54	--	--	--	--	--
11...	--	--	--	--	--	--	8	--	.06	390	10
17...	205	.5	12	1110	1090	1.51	--	.38	--	--	--
24...	180	.6	12	1030	1020	1.40	12	.41	.05	250	--
DEC											
01...	195	.6	12	1070	1060	1.46	--	.29	--	--	--
08...	185	.6	12	1030	1020	1.40	--	.32	--	--	--
09...	--	--	--	--	--	--	13	.23	.02	230	--
15...	180	.5	12	1020	1010	1.39	--	.36	--	--	--
22...	168	.6	12	982	966	1.34	--	.23	--	--	--
23...	--	--	--	--	--	--	17	.23	.02	210	--
29...	168	.5	11	978	966	1.33	--	.38	--	--	--
JAN											
05...	178	.6	13	998	1000	1.36	--	.63	--	--	--
12...	188	.6	12	1040	1040	1.41	--	.32	--	--	--
13...	--	--	--	--	--	--	12	.23	.04	240	--
19...	208	.6	14	1100	1090	1.50	--	.63	--	--	--
26...	188	.5	13	1030	1030	1.40	--	.36	--	--	--
27...	--	--	--	--	--	--	7	--	--	--	--
FEB											
02...	178	.5	13	1020	992	1.39	--	.32	--	--	--
09...	182	.6	12	1010	1000	1.37	--	.36	--	--	--
10...	--	--	--	--	--	--	6	.33	.04	230	0
17...	210	.5	11	1140	1100	1.55	--	.27	--	--	--
23...	208	.6	13	1100	1090	1.50	--	.41	--	--	--
24...	--	--	--	--	--	--	12	--	--	--	--
MAR											
01...	152	.5	11	910	914	1.24	--	.27	--	--	--
08...	140	.5	8.5	884	878	1.20	--	.45	--	--	--
09...	--	--	--	--	--	--	37	.27	.02	210	--
15...	165	.6	11	958	950	1.30	--	.25	--	--	--
22...	145	.5	11	900	894	1.22	--	.29	--	--	--
23...	--	--	--	--	--	--	26	--	--	--	--
29...	145	.5	11	890	884	1.21	--	.32	--	--	--
APR											
05...	142	.5	9.0	882	873	1.20	--	.38	--	--	--
12...	142	.5	11	888	876	1.21	--	.43	--	--	--
13...	--	--	--	--	--	--	23	--	.03	180	--
19...	158	.6	9.8	962	951	1.31	--	.34	--	--	--
26...	155	.5	8.6	918	916	1.25	--	.23	--	--	--
27...	--	--	--	--	--	--	18	--	--	--	--
MAY											
03...	165	.5	8.2	952	944	1.29	--	.27	--	--	--
10...	168	.6	9.6	962	956	1.31	--	.27	--	--	--
11...	--	--	--	--	--	--	21	--	.02	210	40
17...	168	.5	7.8	972	962	1.32	--	.23	--	--	--
24...	178	.6	9.5	992	986	1.35	--	.32	--	--	--
25...	--	--	--	--	--	--	9	--	--	--	--
JUN											
01...	172	.6	9.5	978	974	1.33	--	.23	--	--	--
07...	172	.5	10	978	975	1.33	--	.29	--	--	--
08...	--	--	--	--	--	--	31	--	.01	200	--
14...	172	.5	11	980	977	1.33	--	.34	--	--	--
21...	168	.5	11	970	965	1.32	--	.34	--	--	--
28...	175	.6	10	974	982	1.32	--	.29	--	--	--
JUL											
06...	162	.5	9.0	936	938	1.27	--	.27	--	--	--
12...	155	.5	9.5	916	912	1.25	--	.23	--	--	--
13...	--	--	--	--	--	--	6	--	.03	210	--
19...	162	.5	10	936	936	1.27	--	.16	--	--	--
26...	160	.5	11	932	925	1.27	--	.25	--	--	--
27...	--	--	--	--	--	--	8	--	--	--	--
AUG											
02...	182	.6	12	1000	1000	1.36	--	.20	--	--	--
09...	160	.5	10	928	931	1.26	--	.16	--	--	--
10...	--	--	--	--	--	--	14	.20	.02	220	20
16...	162	.5	10	936	935	1.27	--	.23	--	--	--
23...	152	.5	11	924	914	1.26	--	.23	--	--	--
24...	--	--	--	--	--	--	16	--	--	--	--
30...	158	.5	12	926	925	1.26	--	.16	--	--	--
SEP											
07...	160	.6	10	948	933	1.29	--	.18	--	--	--

COLORADO RIVER MAIN STEM

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09522000, COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

WATER QUALITY DATA WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	DIS- SOLVED OXYGEN (MG/L)	CHEM- ICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	FECAL COLI- FORM (COL. PER 100 ML)	STREP- TOCOCCI (COL- ONIES PER 100 ML)
SEP										
13...	0830	2000	1520	8.1	--	4	--	--	--	--
14...	0845	1160	1600	7.7	26.0	--	8.1	34	B600	220
20...	0430	1320	1730	8.1	--	25	--	--	--	--
27...	1320	6700	1020	8.0	--	220	--	--	--	--
28...	0830	--	--	--	24.5	--	--	9	--	--

DATE	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	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										
13...	400	236	108	32	175	3.8	5.8	202	0	365
14...	--	--	--	--	--	--	--	--	--	--
20...	430	248	113	36	210	4.4	6.3	222	0	400
27...	280	154	80	20	108	2.8	6.7	154	0	240
28...	--	--	--	--	--	--	--	--	--	--

DATE	DIS- SOLVED CHLOR- IDE (C) (MG/L)	DIS- SOLVED FLUOR- IDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (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)	TOTAL NON- FILT- RABLE RESIDUE (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED BORON (B) (UG/L)
SEP										
13...	168	.5	9.8	962	965	1.31	--	.25	--	--
14...	--	--	--	--	--	--	15	.28	.04	250
20...	208	.5	12	1100	1100	1.50	--	.66	--	--
27...	102	.3	7.9	640	644	.87	--	.72	--	--
28...	--	--	--	--	--	--	146	--	--	--

B Results based on non-ideal colony count.

09522000. COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

WATER QUALITY DATA. WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL NITRATE (N) (MG/L)	DIS- SOLVED NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	DIS- SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)
OCT								
06...	0400	--	.20	--	--	--	--	--
07...	0850	.18	--	.01	.01	.19	.19	.03
14...	0830	--	.38	--	--	--	--	--
21...	0825	.17	--	.02	--	.19	--	.12
NOV								
03...	0830	--	.00	--	--	--	--	--
11...	0830	.27	--	.03	.03	.30	.30	.17
17...	0835	--	.38	--	--	--	--	--
24...	0900	.29	.41	.02	.02	.31	.31	.14
DEC								
01...	0830	--	.29	--	--	--	--	--
08...	0840	--	.32	--	--	--	--	--
09...	0830	.24	.23	.01	.01	.25	.24	.15
15...	0830	--	.36	--	--	--	--	--
22...	0830	--	.23	--	--	--	--	--
23...	1015	.25	.23	.01	.00	.26	.23	.11
29...	0845	--	.38	--	--	--	--	--
JAN								
05...	0845	--	.63	--	--	--	--	--
12...	0845	--	.32	--	--	--	--	--
13...	0830	.23	.23	.01	.01	.24	.24	.14
19...	0830	--	.63	--	--	--	--	--
26...	0845	--	.36	--	--	--	--	--
27...	0830	.33	--	.02	--	.35	--	.13
FEB								
02...	0830	--	.32	--	--	--	--	--
09...	0840	--	.36	--	--	--	--	--
10...	0835	.32	.33	.02	.01	.34	.34	.14
17...	0845	--	.27	--	--	--	--	--
23...	0905	--	.41	--	--	--	--	--
24...	0835	.27	--	.01	--	.28	--	.05
MAR								
01...	0845	--	.27	--	--	--	--	--
08...	0830	--	.45	--	--	--	--	--
09...	0835	.29	.27	.01	.01	.30	.28	.09
15...	0840	--	.25	--	--	--	--	--
22...	0845	--	.29	--	--	--	--	--
23...	0830	.31	--	.01	--	.32	--	.10
29...	0830	--	.32	--	--	--	--	--
APR								
05...	0845	--	.38	--	--	--	--	--
12...	0830	--	.43	--	--	--	--	--
13...	0830	.24	--	.01	.01	.25	.25	.10
19...	0845	--	.34	--	--	--	--	--
26...	0845	--	.23	--	--	--	--	--
27...	0835	.22	--	.01	--	.23	--	.06
MAY								
03...	0830	--	.27	--	--	--	--	--
10...	0830	--	.27	--	--	--	--	--
11...	0830	.26	--	.01	.01	.27	.26	.02
17...	0830	--	.23	--	--	--	--	--
24...	0830	--	.32	--	--	--	--	--
25...	0830	.18	--	.04	--	.22	--	.09
JUN								
01...	0830	--	.23	--	--	--	--	--
07...	0830	--	.29	--	--	--	--	--
08...	0830	.22	--	.02	.02	.24	.23	.05
14...	0830	--	.34	--	--	--	--	--
21...	0830	--	.34	--	--	--	--	--
28...	0830	--	.29	--	--	--	--	--
JUL								
06...	0830	--	.27	--	--	--	--	--
12...	0830	--	.23	--	--	--	--	--
13...	0955	.15	--	.00	.00	.15	.19	.07
19...	0840	--	.16	--	--	--	--	--
26...	0820	--	.25	--	--	--	--	--
27...	0830	.21	--	.01	--	.22	--	.06
AUG								
02...	0820	--	.20	--	--	--	--	--
09...	0830	--	.16	--	--	--	--	--
10...	0835	.31	.20	.00	.00	.31	.20	.06
16...	0840	--	.23	--	--	--	--	--
23...	0830	--	.23	--	--	--	--	--
24...	0845	.13	--	.00	--	.13	--	.05
30...	0840	--	.16	--	--	--	--	--
SEP								
07...	0830	--	.18	--	--	--	--	--
13...	0830	--	.25	--	--	--	--	--
14...	0845	.32	.28	.02	.02	.34	.30	.12
20...	0830	--	.66	--	--	--	--	--
27...	1320	--	.72	--	--	--	--	--

COLORADO RIVER MAIN STEM

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09522000. COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

WATER QUALITY DATA: WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS- SOL- VED- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)
OCT							
06...	--	--	--	--	--	--	--
07...	.53	.56	.75	3.3	.08	--	.04
14...	--	--	--	--	--	--	--
21...	.54	.66	.85	3.8	.05	--	--
NOV							
03...	--	--	--	--	--	--	--
11...	.93	1.1	1.4	6.2	.10	.07	.06
17...	--	--	--	--	--	--	--
24...	.34	.48	.79	3.5	.03	--	.05
DEC							
01...	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--
09...	.14	.29	.54	2.4	.05	--	.02
15...	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--
23...	.22	.33	.59	2.6	.06	--	.02
29...	--	--	--	--	--	--	--
JAN							
05...	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--
13...	.52	.66	.90	4.0	.06	--	.04
19...	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--
27...	.97	1.1	1.5	6.4	.06	--	--
FEB							
02...	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--
10...	.81	.95	1.3	5.7	.05	.04	.04
17...	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--
24...	.24	.29	.57	2.5	.04	--	--
MAR							
01...	--	--	--	--	--	--	--
08...	--	--	--	--	--	--	--
09...	.62	.71	1.0	4.5	.07	--	.02
15...	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--
23...	.46	.56	.88	3.9	.09	--	--
29...	--	--	--	--	--	--	--
APR							
05...	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--
13...	.22	.32	.57	2.5	.05	--	.03
19...	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--
27...	.62	.68	.91	4.0	.06	--	--
MAY							
03...	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--
11...	.26	.28	.55	2.4	.10	.05	.02
17...	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--
25...	.41	.50	.72	3.2	.05	--	--
JUN							
01...	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--
08...	.25	.30	.54	2.4	.04	--	.01
14...	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--
JUL							
06...	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--
13...	.29	.36	.51	2.3	.06	--	.03
19...	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--
27...	.37	.43	.65	2.9	.04	--	--
AUG							
02...	--	--	--	--	--	--	--
09...	--	--	--	--	--	--	--
10...	.46	.52	.83	3.7	.04	.02	.02
16...	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--
24...	.31	.36	.49	2.2	.07	--	--
30...	--	--	--	--	--	--	--
SEP							
07...	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--
14...	.10	.22	.56	2.5	.08	--	.04
20...	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--

COLORADO RIVER MAIN STEM

09522000. COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO- GEN (N) (MG/L)	TOTAL ORGANIC NITRO- GEN (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (NO3) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)
SFP 24...	0830	.62	.04	.66	.02	2.9	2.9	3.6	16	.25
DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CH) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)		
OCT										
07...	0850	--	--	250	--	--	--	--		
21...	0825	--	--	--	--	--	--	--		
NOV										
11...	0830	3	2	390	<10	1	110	2		
24...	0900	--	--	250	--	--	--	--		
DEC										
09...	0830	--	--	230	--	--	--	--		
23...	1015	--	--	210	--	--	--	--		
JAN										
13...	0830	--	--	240	--	--	--	--		
27...	0830	--	--	--	--	--	--	--		
FEB										
10...	0835	3	2	230	<10	1	0	0		
24...	0835	--	--	--	--	--	--	--		
MAR										
09...	0835	--	--	210	--	--	--	--		
23...	0830	--	--	--	--	--	--	--		
APR										
13...	0830	--	--	180	--	--	--	--		
27...	0835	--	--	--	--	--	--	--		
MAY										
11...	0830	5	3	210	<10	0	0	0		
25...	0830	--	--	--	--	--	--	--		
JUN										
08...	0830	--	--	200	--	--	--	--		
JUL										
13...	0955	--	--	210	--	--	--	--		
27...	0830	--	--	--	--	--	--	--		
AUG										
10...	0835	3	1	220	<10	0	0	0		
24...	0845	--	--	--	--	--	--	--		
SEP										
14...	0845	--	--	250	--	--	--	--		
28...	0830	--	--	--	--	--	--	--		

COLORADO RIVER MAIN STEM

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09522000. COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

WATER QUALITY DATA. WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOTAL COBALT (CU) (UG/L)	DIS- SOLVED COBALT (CU) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)
OCT									
07...	--	--	--	--	750	--	--	--	--
21...	--	--	--	--	430	--	--	--	--
NOV									
11...	<50	0	10	5	430	10	<100	4	150
24...	--	--	--	--	500	--	--	--	--
DEC									
09...	--	--	--	--	170	--	--	--	--
23...	--	--	--	--	290	--	--	--	--
JAN									
13...	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	240	--	--	--	--
FEB									
10...	<50	1	<10	1	220	0	<100	1	90
24...	--	--	--	--	340	--	--	--	--
MAR									
09...	--	--	--	--	1	--	--	--	--
23...	--	--	--	--	710	--	--	--	--
APR									
13...	--	--	--	--	380	--	--	--	--
27...	--	--	--	--	660	--	--	--	--
MAY									
11...	<50	0	10	1	870	40	<100	0	210
25...	--	--	--	--	440	--	--	--	--
JUN									
08...	--	--	--	--	770	--	--	--	--
JUL									
13...	--	--	--	--	360	--	--	--	--
27...	--	--	--	--	260	--	--	--	--
AUG									
10...	<50	0	<10	0	400	20	<100	1	80
24...	--	--	--	--	340	--	--	--	--
SEP									
14...	--	--	--	--	530	--	--	--	--
28...	--	--	--	--	3900	--	--	--	--

DATE	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT								
07...	--	--	--	--	--	--	--	3.2
21...	--	--	--	--	--	--	--	2.7
NOV								
11...	30	.0	.0	3	3	50	20	6.7
24...	--	--	--	--	--	--	--	3.6
DEC								
09...	--	--	--	--	--	--	--	3.2
23...	--	--	--	--	--	--	--	13
JAN								
13...	--	--	--	--	--	--	--	3.8
27...	--	--	--	--	--	--	--	12
FEB								
10...	20	.0	.0	3	3	10	0	3.5
24...	--	--	--	--	--	--	--	3.5
MAR								
09...	--	--	--	--	--	--	--	3.7
23...	--	--	--	--	--	--	--	2.8
APR								
13...	--	--	--	--	--	--	--	3.3
27...	--	--	--	--	--	--	--	3.3
MAY								
11...	10	.0	.0	3	3	0	0	6.2
25...	--	--	--	--	--	--	--	2.6
JUN								
08...	--	--	--	--	--	--	--	3.4
JUL								
13...	--	--	--	--	--	--	--	<1.3
27...	--	--	--	--	--	--	--	3.1
AUG								
10...	10	.1	.0	3	3	20	0	3.5
24...	--	--	--	--	--	--	--	3.0
SEP								
14...	--	--	--	--	--	--	--	4.3
28...	--	--	--	--	--	--	--	7.9

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

COLORADO RIVER MAIN STEM

09522000. COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ATRA- ZINE (UG/L)	ATRA- ZINE IN BOTTOM MATERI- AL (UG/ KG DRY SOLIDS)	TOTAL CHLOR- DANE (UG/L)	CHLOR- DANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDE (UG/L)
OCT										
07...	0850	.00	--	--	--	.0	--	.00	--	.00
NOV										
11...	0830	ND	ND	--	--	ND	ND	ND	ND	ND
DEC										
09...	0830	.00	--	--	--	.0	--	.00	--	.00
JAN										
13...	0830	.00	--	--	--	.0	--	.00	--	.00
FEB										
10...	0835	ND	--	ND	--	ND	--	ND	--	ND
MAR										
09...	0835	.00	--	--	--	.0	--	.00	--	.00
APR										
13...	0830	.00	--	--	--	.0	--	.00	--	.00
MAY										
11...	0830	.00	--	--	--	.0	--	.00	--	.00
11...	0900	ND	ND	ND	ND	ND	ND	ND	ND	ND
JUN										
08...	0830	.00	--	--	--	.0	--	.00	--	.00
JUL										
13...	0955	.00	--	--	--	.0	--	.00	--	.00
AUG										
10...	0835	ND	--	ND	--	ND	--	ND	--	ND
SEP										
14...	0845	.00	--	--	--	.0	--	.00	--	.00

DATE	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DDT (UG/L)	DDT IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- AZINON (UG/L)	DI- AZINON IN BOTTOM MA- TERIAL (UG/KG)	TOTAL DI- ELDRIN (UG/L)	DI- ELDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MA- TERIAL (UG/KG)	TOTAL ETHION (UG/L)
OCT										
07...	--	.00	--	.00	--	.00	--	.00	--	.00
NOV										
11...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DEC										
09...	--	.00	--	.00	--	.00	--	.00	--	.00
JAN										
13...	--	.00	--	.00	--	.00	--	.00	--	.00
FEB										
10...	--	ND	--	ND	--	ND	--	ND	--	ND
MAR										
09...	--	.00	--	.00	--	.00	--	.00	--	.00
APR										
14...	--	.00	--	.00	--	.00	--	.00	--	.00
MAY										
11...	--	.00	--	.00	--	.00	--	.00	--	.00
11...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JUN										
08...	--	.00	--	.00	--	.00	--	.00	--	.00
JUL										
13...	--	.00	--	.00	--	.00	--	.00	--	.00
AUG										
10...	--	ND	--	ND	--	ND	--	ND	--	ND
SEP										
14...	--	.00	--	.00	--	.00	--	.00	--	.00

COLORADO RIVER MAIN STEM

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09522000. COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	ETHION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR (UG/L)	HEPTA- CHLOR IN BOTTOM MA- TERIAL (UG/KG)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)	HEPTA- CHLOR EPOXIDE IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL MALA- THION (UG/L)	MALA- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL METH- OXY- CHLOR (UG/L)
OCT 07...	--	.00	--	.00	--	.00	--	.00	--	--
NOV 11...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
DEC 04...	--	.00	--	.00	--	.00	--	.00	--	--
JAN 13...	--	.00	--	.00	--	.00	--	.00	--	--
FEB 10...	--	ND	--	ND	--	ND	--	ND	--	ND
MAR 09...	--	.00	--	.00	--	.00	--	.00	--	--
APR 13...	--	.05	--	.00	--	.00	--	.00	--	--
MAY 11...	--	.00	--	.00	--	.00	--	.00	--	--
11...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
JUN 08...	--	.00	--	.00	--	.00	--	--	--	--
JUL 13...	--	.00	--	.00	--	.00	--	.00	--	--
AUG 10...	--	ND	--	ND	--	ND	--	ND	--	ND
SEP 14...	--	.00	--	.00	--	.00	--	.00	--	--

DATE	METHOX- YCHLOR IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL METHYL PARA- THION (UG/L)	METHYL PARA- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL METHYL TRI- THION (UG/L)	METHYL TRI- THION IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL PARA- THION (UG/L)	PARA- THION IN BOTTOM MA- TERIAL (UG/KG)	SIMA- ZINE TOTAL (UG/L)	SIMA- ZINE IN BOTTOM MATERI- AL (UG/ KG DRY SOLIDS)	TOTAL TOX- APHENE (UG/L)
OCT 07...	--	.00	--	.00	--	.00	--	--	--	0
NOV 11...	ND	ND	ND	ND	ND	ND	ND	--	--	ND
DEC 04...	--	.00	--	.00	--	.00	--	--	--	0
JAN 13...	--	.00	--	.00	--	.00	--	--	--	0
FEB 10...	--	ND	--	ND	--	ND	--	--	--	ND
MAR 09...	--	.00	--	.00	--	.00	--	--	--	0
APR 13...	--	.00	--	.00	--	.00	--	--	--	0
MAY 11...	--	.00	--	.00	--	.00	--	--	--	0
11...	ND	ND	ND	ND	ND	ND	ND	--	ND	ND
JUN 08...	--	.00	--	.00	--	.00	--	--	--	0
JUL 13...	--	.00	--	.00	--	.00	--	--	--	0
AUG 10...	--	ND	--	ND	--	ND	--	ND	--	ND
SEP 14...	--	.00	--	.00	--	.00	--	--	--	0

ND Material specifically analyzed for but not detected.

COLORADO RIVER MAIN STEM

09522000. COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

*WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TOX- APHENE IN BOTTOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	TPI- THION IN BOTTOM MA- TERIAL (UG/KG)	TOTAL 2,4-D (UG/L)	2,4-D IN BOTTOM MA- TERIAL (UG/KG)	TOTAL 2,4,5-T (UG/L)	2,4,5-T IN BOTTOM MA- TERIAL (UG/KG)	TOTAL SILVEX (UG/L)	SILVEX IN BOTTOM MA- TERIAL (UG/KG)	TOTAL PCB (UG/L)
OCT 07...	--	.00	--	.00	--	.00	--	.00	--	.0
NOV 11...	ND	ND	ND	.80	--	.00	--	.00	--	.0
DEC 09...	--	.00	--	.00	--	.00	--	.00	--	.0
JAN 13...	--	.00	--	.00	--	.00	--	.00	--	.0
FEB 10...	--	ND	--	ND	--	ND	--	ND	--	.0
MAR 09...	--	.00	--	.00	--	.00	--	.00	--	.0
APR 13...	--	.00	--	.00	--	.00	--	.00	--	.0
MAY 11...	--	.00	--	.00	--	.00	--	.00	--	.0
11...	ND	ND	ND	ND	ND	ND	ND	ND	ND	--
JUN 08...	--	.00	--	.00	--	.00	--	.00	--	.0
JUL 13...	--	.00	--	.01	--	.00	--	.00	--	.0
AUG 10...	--	ND	--	ND	--	ND	--	ND	--	.0
SEP 14...	--	.00	--	.31	--	.00	--	.00	--	.0

ND Material specifically analyzed for but not detected.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1610	1660	1670	---	1560	1440	1460	1500	1540	1470	1550	1540
2	1700	1770	1670	1650	1570	1450	1390	1480	1530	1510	1580	1490
3	1640	1730	1670	1650	1620	1430	1390	1490	1530	1570	1530	1480
4	1620	1770	1700	1690	1570	1430	1390	1480	1540	1540	1510	1510
5	1630	1730	1640	1580	1590	1450	1380	1470	1560	1520	1490	1530
6	1670	1780	1630	1560	1620	1450	1400	1500	1510	1480	1490	1530
7	1700	1770	1560	1550	1580	1480	1390	1490	1540	1470	1510	1470
8	1690	1740	1610	1560	1610	1380	1390	1510	1550	1480	1470	1490
9	1610	1750	1590	1580	1580	1470	1410	1560	1540	1490	1470	1410
10	1670	1770	1580	1580	1560	1440	1400	1510	1550	1470	1450	1500
11	1700	1740	1580	1600	1530	1440	1430	1550	1520	1500	1440	1390
12	1690	1730	1590	1640	1560	1460	1390	1530	1510	1440	1450	1420
13	1670	1730	1570	1650	1590	1480	1390	1540	1540	1450	1460	1520
14	1640	1690	1600	1640	1600	1530	1420	1500	1540	1470	1470	1620
15	1630	1700	1590	1670	1680	1500	1300	1520	1510	1490	1480	1680
16	1630	1730	1600	1690	1710	1460	1310	1510	1480	1500	1480	1730
17	1640	1720	1570	1700	1740	1470	1380	1520	1490	1510	1480	1800
18	1670	1690	1530	1740	1720	1430	1440	1560	1500	1530	1460	1730
19	1670	1600	1550	1720	1770	1430	1500	1610	1510	1480	1470	1720
20	1640	1600	1530	1670	1820	1410	1540	1600	1530	1480	1460	1730
21	1640	1590	1530	1650	1780	1430	1510	1580	1520	1480	1460	1680
22	1590	1560	1530	1660	1770	1410	1490	1650	1520	1500	1450	1640
23	1580	1560	1520	1630	1720	1410	1490	1600	1510	1510	1440	1590
24	1600	1600	1530	1600	1590	1400	1460	1560	1500	1510	1430	1460
25	1560	1570	---	1620	1560	1430	1450	1490	1500	1500	1430	1270
26	1670	1570	1610	1630	1480	1420	1450	1540	1540	1460	1430	1240
27	1620	1610	1650	1590	1440	1410	1470	1530	1550	1460	1450	1020
28	1620	1630	1540	1570	1450	1410	1470	1540	1550	1470	1480	1260
29	1600	1700	1530	1570	1430	1400	1450	1580	1540	1460	1490	1450
30	1600	1640	1510	1590	---	1390	1470	1550	1490	1500	1460	1550
31	1610	---	1520	1560	---	1400	---	1550	---	1540	1470	---
MEAN	1640	1680	1580	1630	1610	1440	1430	1540	1520	1490	1470	1520
YEAR	MAX	1820	MIN	1020	MEAN	1550						

09522000. COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

PERIPHYTON

Date	Length of exposure (days)	Biomass (g/m ²)		Chlorophyll a (mg/m ²)	Chlorophyll b (mg/m ²)	Biomass pigment ratio	Sampling method
		Dry weight	Ash weight				
Nov. 11	35	4.90	2.80	29.0	5.80	72	Polyethylene strip
Feb. 10	28	8.30	3.50	16.0	.800	300	Polyethylene strip
May 11	28	55.8	45.7	1.34	.359	7500	Polyethylene strip
Sept. 14	35	19.5	15.6	40.6	4.48	96	Polyethylene strip

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

OCT. 9, 1974
0830 HOURS

IDENTIFICATION OF PHYTOPLANKTON

8,300 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...COELASTRACEAE				
D ...COELASTRUM		1,200	15	
...SCENEDESMACEAE				
...SCENEDESMUS				
	TOTALS	<u>390</u> 1,600	<u>5</u> 20	0.792=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAF	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINOIDISACEAE				
...CYCLOTELLA		580	7	
..PENNALES	PENNATE			
...GOMPHONEMATACEAE				
I ...GOMPHONEMA			0	
...NITZSCHIAEAE				
...NITZSCHIA				
	TOTALS	<u>230</u> 850	<u>3</u> 10	1.091=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
D ...LYNGBYA		<u>5,600</u>	<u>67</u>	
	TOTALS	5,600	67	0.000=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..CRYPTOPHYCEAE	CRYPTOMONADS			
...CRYPTOMONIDALES				
...CRYPTOMONODACEAE				
...CRYPTOMONAS				
	TOTALS	<u>230</u> 230	<u>3</u> 3	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.324

CLASS 1.324

ORDER 1.416

FAMILY 1.590

GENERA 1.590

COLORADO RIVER MAIN STEM

09522000. COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

NOV. 5, 1974
0815 HOURS

IDENTIFICATION OF PHYTOPLANKTON

11,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...SCENEDESMACEAE				
....SCENEDESMUS				
	TOTALS	510 510	5 5	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
DCYCLOTELLA		5,400	49	
DMELOSIRA		2,500	22	
..PENNALES	PENNATE			
...NAVICULACEAE	NAVICULOID			
...NAVICULA		170	2	
...NITZSCHIAEAE				
....NITZSCHIA				
	TOTALS	340 8,400	3 76	1.233=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIACEAE				
DLYNGBYA		2,100 2,100	19 19	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.966
CLASS 0.966
ORDER 1.218
FAMILY 1.261
GENERA 1.902

09522000. COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

OFC. 3, 1974
0830 HOURS

IDENTIFICATION OF PHYTOPLANKTON

6,600 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS				
	TOTALS	46	1	0.000=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
0COSCINODISCUS		1,900	28	
0MELOSIRA		2,200	34	
..PENNALES	PENNATE			
...FRAGILARIACEAE				
...SYNEURA		140	2	
...NAVICULACEAE	NAVICULOID			
...NAVICULA		180	3	
...PINNULARIA		46	1	
...NITZSCHACEAE				
....NITZSCHIA				
	TOTALS	91	1	1.549=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
0OSCILLATORIA		1,800	28	
0LYNGBYA		91	1	
	TOTALS	1,900	29	0.276=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
....EUGLENA				
	TOTALS	46	1	0.000=DIVERSITY

NOTE: 0 - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER * 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.983
CLASS 0.983
ORDER 1.309
FAMILY 1.412
GENERA 2.139

JAN. 7, 1975
0855 HOURS

IDENTIFICATION OF PHYTOPLANKTON

500 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
0CYCLOTELLA		110	22	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...COCCONEIS		22	4	
...CYMBELLACEAE				
...AMPHORA		22	4	
...GOMPHONEMACEAE				
...GOMPHONEMA		22	4	
...NAVICULACEAE	NAVICULOID			
0NAVICULA		150	30	
0NITZSCHACEAE				
0NITZSCHIA				
	TOTALS	170	35	2.121=DIVERSITY

NOTE: 0 - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER * 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

ORDER 0.755
FAMILY 2.121
GENERA 2.121

COLORADO RIVER MAIN STEM

09522000: COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

FEB. 11, 1975
0900 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,600 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
...TETRAEDRON		20	1	
...SCENEDESMACEAE				
...SCENEDESMUS		120	5	
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS				
	TOTALS	<u>20</u> 160	<u>1</u> 7	1.061=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..PENNALES	PENNATE			
...FRAGILARIACEAE				
...H.ARCUS		20	1	
..CENTRALES	CENTRIC			
...COSCINODISCAEAE				
...CYCLOTELLA		200	8	
...MELOSIRA		61	2	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...COCCONEIS		41	2	
...CYMBELLACEAE				
...AMPHORA		20	1	
...DIATOMACEAE				
...DIATOMA		20	1	
...FRAGILARIACEAE				
...SYNEDRA		100	4	
...NAVICULACEAE	NAVICULOID			
...NAVICULA		160	6	
...NITZSCHIAEAE				
...HANTZSCHIA		20	1	
...NITZSCHIA		<u>310</u>	<u>12</u>	
	TOTALS	960	38	2.700=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
DLYNGBYA		610	24	
DOSCILLATORIA		<u>820</u>	<u>32</u>	
	TOTALS	1,400	56	0.985=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 1.253
CLASS 1.253
ORDER 1.660
FAMILY 2.212
GENERA 2.888

09522000. COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAR. 11, 1975
0000 HOURS

IDENTIFICATION OF PHYTOPLANKTON

5,800 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
....OOCYSTACEAE				
.....ANKISTRODESMUS				
	TOTALS	43	1	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAF	DIATOMS			
...PENNALES	PENNATE			
....FUNOTIACEAE		86	1	
.....EUNOTIA				
...NAVICULACEAF	NAVICULOID	130	2	
....NAVICULA		43	1	
.....NEIDIUM				
...NITZSCHIAEAE				
.....NITZSCHIA				
	TOTALS	86	1	1.906=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...CHROOCOCCALES	COCCOID			
....CHROOCOCCACEAE		43	1	
.....ANACYSTIS				
...OSCILLATORIALES	FILAMENTOUS			
....OSCILLATORIAEAE				
.....OSCILLATORIA				
	TOTALS	5,400	93	0.067=DIVERSITY
		5,400	94	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER • 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.387
CLASS 0.387
ORDER 0.449
FAMILY 0.538
GENERA 0.562

APR. 8, 1975
0945 HOURS

IDENTIFICATION OF PHYTOPLANKTON

880 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
....COSCINODISCAEAF				
.....CYCLOTELLA		160	19	
.....MELOSIRA		290	33	
...PENNALES	PENNATE			
....ACHNANTHACEAE				
.....COCONEIS		37	4	
...FRAGILARIACEAE				
....ASTERIONELLA		110	12	
...GOMPHONEMATAEAE				
.....GOMPHONEMA		73	8	
...NAVICULACEAE	NAVICULOID			
....AMPHIPRORA		18	2	
.....DIPLONFIS		18	2	
.....NAVICULA		150	17	
...NITZSCHIAEAE				
.....NITZSCHIA				
	TOTALS	18	2	2.626=DIVERSITY
		880	99	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER • 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
ORDER 0.999
FAMILY 1.943
GENERA 2.626

COLORADO RIVER MAIN STEM

09522000. COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

MAY 6, 1975
0805 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1.600 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS		42	3	
...SCENEDESMACEAE				
....SCENEDESMUS		42	3	
...TETRASPORALES				
...PALMELLACEAE				
....GLOEOCYSTIS				
	TOTALS	21 100	1 7	1.522=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCEAE				
....COSCINODISCUS		21	1	
DCYCLOTELLA		710	46	
DMELOSIRA		270	18	
...PENNACEAE	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		21	1	
...CYMBELLACEAE				
...CYMBELLA		21	1	
...DIAFOMACEAE				
....DIATOMA		42	3	
...NAVICULACEAE	NAVICULOID			
...CALONEIS		21	1	
...NAVICULA		170	11	
...NITZSCHACEAE				
....NITZSCHIA		84	5	
	TOTALS	84 1,400	5 87	2.098=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
....PHORMIDIUM		84	5	
	TOTALS	84 84	5 5	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.655
CLASS 0.655
ORDER 1.432
FAMILY 1.904
GENERA 2.600

COLORADO RIVER MAIN STEM

555

09522000. COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JUNE 10, 1975
0830 HOURS

IDENTIFICATION OF PHYTOPLANKTON

4,200 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS		210	5	
...SCENEDESMACEAE				
....SCENEDESMUS				
	TOTALS	420 620	10 15	0.918=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
DCYCLOTELLA		1,700	40	
...MELOSIRA		520	13	
...PENNIALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		100	3	
...PHOTICOSPHEINIA		100	3	
...FRAGILARIACEAE				
....FRAGILARIA		210	5	
...NAVICULACEAE	NAVICULOID			
...DIPLONEIS		100	3	
...NAVICULA		310	8	
...NITZSCHIAEAE				
....NITZSCHIA		420 3,400	10 85	2.306=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
....EUGLENA		100 100	3 3	0.000=DIVERSITY

NOTE: D = DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.773
CLASS 0.773
ORDER 1.553
FAMILY 2.266
GENERA 2.813

COLORADO RIVER MAIN STEM

09522000, COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

OCT. 7, 1975
0850 HOURS

IDENTIFICATION OF PHYTOPLANKTON

13,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...CHAMACIACEAE				
...SCHROEDERIA		100	1	
...OOCYSTACEAE				
...DICTYOSPHAERIUM		1,200	10	
...SELENASTRUM		100	1	
...TETRAEDRON		100	1	
...SCENEDESMACEAE				
...CRUCIGENIA		420	3	
...SCENEDESMUS		210	2	
...VOLVOCALES				
...CHLAMYDOMONADACEAE				
...CHLAMYDOMONAS		520	4	
TOTALS		2,700	22	2.215=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISCACEAE				
...CYCLOTELLA		1,100	9	
D ..MELOSIRA		2,000	15	
...PENNIALES	PENNATE			
...ACHNANTHACEAE				
...COCONEIS		210	2	
...CYMBELLACEAE				
...AMPHORA		210	2	
...CYMBELLA		620	5	
...FRAGILARIACEAE				
...FRAGILARIA		210	2	
...GOMPHONEMATACEAE				
...GOMPHONEMA		100	1	
...NAVICULACEAE	NAVICULOID			
L ...GYROSIGMA			0	
...NAVICULA		620	5	
...NITZSCHIA				
TOTALS		6,200	50	2.676=DIVERSITY
..CHRYSOPHYCEAE	YELLOW-BROWN ALGAE			
...CHRYSONOMADALES				
...OCHROMONADACEAE				
...OCHROMONAS		100	1	
TOTALS		100	1	0.000=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
...AGMENELLUM		1,700	13	
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIA				
D ...OSCILLATORIA		2,300	18	
TOTALS		3,900	31	0.982=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER • 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.499
CLASS 1.557
ORDER 2.483
FAMILY 3.195
GENERA 3.601

09522000. COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

NOV. 11, 1975
0830 HOURS

IDENTIFICATION OF PHYTOPLANKTON

3,600 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...OOCYSTACEAE				
....TETRAEDRON				
	TOTALS	39	1	0.000=DIVERSITY
CHRYSTOPHYTA				
..RACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
(1) ...CYCLOTELLA		1,300	35	
(1) ...MELOSIRA		1,600	44	
..PENNATES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		77	2	
...CYMBELLACEAE				
...CYMBELLA		39	1	
...NAVICULACEAE	NAVICULOID			
...NAVICULA		230	6	
...NITZSCHACEAE				
...NITZSCHIA		77	2	1.637=DIVERSITY
	TOTALS	3,300	90	
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIAEAE				
....LYNGBYA		310	9	0.000=DIVERSITY
	TOTALS	310	9	

NOTE: D = DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER * 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.504
CLASS 0.504
ORDER 1.006
FAMILY 1.203
GENERA 1.984

DEC. 9, 1975
0830 HOURS

IDENTIFICATION OF PHYTOPLANKTON

860 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...VOLVOCELES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS				
	TOTALS	15	2	0.000=DIVERSITY
CHRYSTOPHYTA				
..RACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
(1) ...CYCLOTELLA		89	10	
(1) ...MELOSIRA		390	45	
..PENNATES	PENNATE			
...ACHNANTHACEAE				
...COCCONEIS		15	2	
...CYMBELLACEAE				
...AMPHORA		15	2	
...FRAGILARIACEAE				
(1) ...FRAGILARIA			0	
...NAVICULACEAE	NAVICULOID			
...AMPHIPROA		15	2	
(1) ...NAVICULA		150	17	
...STAURONETS		15	2	
...NITZSCHACEAE				
(1) ...NITZSCHIA		150	17	
...SHIRELLACEAE				
...SHIRELLA		15	2	2.251=DIVERSITY
	TOTALS	850	99	

NOTE: D = DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
L = LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER * 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.126
CLASS 0.126
ORDER 1.098
FAMILY 1.785
GENERA 2.338

COLORADO RIVER MAIN STEM

09522000. COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JAN. 13, 1976
0830 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1.200 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
...CHLAMYDOMONAS				
	TOTALS	13	1	0.000=DIVERSITY
CHRYSOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCEAE				
...CYCLOTELLA		170	14	
...MELOSIRA		170	14	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		13	1	
...COCconeIS		13	1	
...CYMBELLACEAE				
...AMPHORA		13	1	
..CYMBELLA			0	
..FRAGILARIACEAE				
..FRAGILARIA		260	21	
..NAVICULACEAE	NAVICULOID			
...AMPHIPROPA		13	1	
...NAVICULA		64	5	
...NEIDIUM		13	1	
...NITZSCHIACEAE				
..NITZSCHIA		180	15	
..SURIRELLACEAE				
...SURIRELLA				
	TOTALS	910	75	2.663=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIA				
..LYNGBYA		260	21	
..OSCILLATORIA				
	TOTALS	260	21	0.000=DIVERSITY
EUGLENOPHYTA	EUGLENIDS			
..EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENAEAE				
...TRACHELOMONAS				
	TOTALS	26	2	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.969

CLASS 0.969

ORDER 1.685

FAMILY 2.597

GENERA 2.980

09522000. COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

FEB. 10, 1976
0835 HOURS

IDENTIFICATION OF PHYTOPLANKTON

560 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...ODCISTACEAE				
...ANKISTRODES MUS		27	5	
...SCENEDESMACEAE				
LSCENEDESMUS				
	TOTALS	27	5	0.000=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
DCYCLOTELLA		240	43	
LMELOSIRA			0	
..PENNIALES	PENNATE			
...ACHNANTHACEAE				
DACHNANTHES		130	24	
LCOCCONEIS			0	
...CYMBELLACEAE				
LAMPHORA			0	
...DIATOMACEAE				
LDIATOMA			0	
...FRAGILARIACEAE				
LFRAGILARIA			0	
...NAVICULACEAE	NAVICULOID			
...AMPHIPRORA		27	5	
...CALONEIS		27	5	
...NAVICULA		53	10	
...NITZSCHIA		53	10	
...NITZSCHIA				
...SURIJRELLACEAE				
LSURIJRELLA			0	
	TOTALS	530	97	2.115=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...OSCILLATORIALES	FILAMENTOUS			
...OSCILLATORIA				
LOSCILLATORIA			0	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.276
CLASS 0.276
ORDER 1.222
FAMILY 2.005
GENERA 2.290

MAR. 9, 1976
0835 HOURS

IDENTIFICATION OF PHYTOPLANKTON

610 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
...CYCLOTELLA		53	9	
..PENNIALES	PENNATE			
...ACHNANTHACEAE				
...ACHNANTHES		27	4	
...COCCONEIS		53	9	
...RHODICOSPHEA		27	4	
...CYMBELLACEAE				
LAMPHORA			0	
...CYMBELLA		27	4	
...GOMPHONEMACEAE				
...GOMPHONEMA		27	4	
...NAVICULACEAE	NAVICULOID			
LCALONEIS			0	
DNAVICULA		320	52	
...NITZSCHIA				
...NITZSCHIA		80	13	
...SURIJRELLACEAE				
LCYMATOPLEURA			0	
	TOTALS	610	99	2.272=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
ORDER 0.426
FAMILY 2.012
GENERA 2.272

09522000. COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

APR. 13, 1976
0830 HOURS

IDENTIFICATION OF PHYTOPLANKTON

2,100 CELLS/ML

__ORGANISM__NAME__	__COMMON__NAME__	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
..OOCYSTACEAE				
....ANKISTRODESMUS		67	2	
DDICTYOSPHAERIUM		<u>1,100</u>	<u>40</u>	
	TOTALS	1,100	42	0.323=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
..COSCINODISCACEAE				
DCYCLOTELLA		1,300	47	
..PENNIALES	PENNATE			
....ACHNANTHACEAE				
....ACHNANTHES		200	7	
LCOCCONEIS			0	
..CYMBELLACEAE				
IAMPHORA			0	
....NAVICULACEAE	NAVICULOID			
....NAVICULA		67	2	
....NITZSCHIA				
LNITZSCHIA			0	
	TOTALS	<u>1,500</u>	<u>56</u>	0.808=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..OSCILLATORIALES	FILAMENTOUS			
..NOSTOCACEAE				
LANABAENA			0	

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER * 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.984
CLASS 0.984
ORDER 1.367
FAMILY 1.448
GENERA 1.585

MAY 11, 1976
0830 HOURS

IDENTIFICATION OF PHYTOPLANKTON

7,900 CELLS/ML

__ORGANISM__NAME__	__COMMON__NAME__	CELLS/ML	PER_CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
..OOCYSTACEAE				
....ANKISTRODESMUS		190	2	
....SELENASTRUM		190	2	
....SCENEDESMACEAE				
....SCENEDESMUS		750	10	
..ZYGNEMATALES				
..DESMIDIACEAE	PLACODERM DESMIDS			
LCOSMARIIUM			0	
	TOTALS	<u>1,100</u>	<u>14</u>	1.252=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
..COSCINODISCACEAE				
DCYCLOTELLA		3,600	45	
DMELOSIRA		1,900	24	
..PENNIALES	PENNATE			
..FRAGILARIACEAE				
ISYNEDRA			0	
....NAVICULACEAE	NAVICULOID			
....NAVICULA		750	10	
....NITZSCHIA				
....NITZSCHIA		<u>560</u>	<u>7</u>	
	TOTALS	6,800	86	1.651=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
L - LESS THEN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER * 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 0.592
CLASS 0.592
ORDER 1.201
FAMILY 1.496
GENERA 2.186

COLORADO RIVER MAIN STEM

561

09522000. COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JUNE 8, 1976
0830 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,800 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
...MICRACTINIACEAE				
....MICRACTINIUM		160	9	
...OOCYSTACEAE				
...ANKISTRODESMUS		78	4	
...SCENEDESMACEAE				
DSCENEDESMUS		<u>310</u>	<u>18</u>	
	TOTALS	550	31	1.379=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
...COSCINODISACEAE				
....CYCLOTELLA		120	7	
...MELOSIRA		78	4	
..PENNALES	PENNATE			
...ACHNANTHACEAE				
...COCCONEIS		78	4	
...CYMBELLACEAE				
....CYMBELLA		39	2	
...FRAGILARIACEAE				
...SYNEDRA		39	2	
...GOMPHONEMACEAE				
....GOMPHONEMA		78	4	
....NAVICULACEAE	NAVICULOID			
DNAVICULA		270	16	
...NITZSCHIACEAE				
DNITZSCHIA		<u>390</u>	<u>22</u>	
	TOTALS	1,100	61	2.535=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...CHROOCOCCALES	COCCOID			
...CHROOCOCCACEAE				
....ANACYSTIS		<u>120</u>	<u>7</u>	
	TOTALS	120	7	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 1.210
CLASS 1.210
ORDER 1.632
FAMILY 3.109
GENERA 3.217

COLORADO RIVER MAIN STEM

09522000. COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

JULY 13, 1976
0955 HOURS

IDENTIFICATION OF PHYTOPLANKTON

3.000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
.CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS		94	3	
....TETRAEDRON		47	2	
....SCENEDESMACEAE				
D)SCENEDESMUS		<u>1,600</u>	<u>54</u>	
	TOTALS	1,700	59	0.480=DIVERSITY
CHRYSTOPHYTA				
.BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
...COSCINODISCACEAE				
....CYCLOTELLA		230	8	
....MELOSIRA		140	5	
..PENNALES	PENNATE			
...CYMBELLACEAE				
....CYMBELLA		47	2	
...FRAGILARIACEAE				
....FRAGILARIA		94	3	
....SYNEDRA		47	2	
...NAVICULACEAE	NAVICULOID			
I)AMPHIPRORA			0	
....NAVICULA		47	2	
....NITZSCHACEAE				
D)NITZSCHIA		<u>610</u>	<u>21</u>	
	TOTALS	1,200	43	2.144=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THAN 1%; MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 0.978

CLASS 0.978

ORDER 1.345

FAMILY 1.936

GENERA 2.145

COLORADO RIVER MAIN STEM

563

09522000. COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

AUG. 10, 1976
0835 HOURS

IDENTIFICATION OF PHYTOPLANKTON

1,500 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
...CHLOROCOCCALES				
....OOCYSTACEAE				
.....ANKISTRODESMUS		74	5	
....SCENEDESMACEAE				
.....SCENEDESMUS		160	10	
...VOLVOCALES				
....CHLAMYDOMONADACEAE				
.....CHLAMYDOMONAS		21	1	
	TOTALS	250	16	1.241=DIVERSITY
CHRYSDOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
...CENTRALES	CENTRIC			
....COSCINODISCACEAE				
.....CYCLOTELLA		95	6	
....MELOSIRA		32	2	
..PENNALES	PENNATE			
....ACHNANTHACEAE				
....COCCONEIS		42	3	
....FRAGILARIACEAE				
.....FRAGILARIA		63	4	
...NAVICULACEAE	NAVICULOID			
....AMPHIPPROA		11	1	
....NAVICULA		160	10	
....NITZSCHACEAE				
DNITZSCHIA		260	17	
	TOTALS	660	43	2.303=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
...CHROOCOCCALES	COCCOID			
....CHROOCOCCACEAE				
.....ANACYSTIS		21	1	
...OSCILLATORIALES	FILAMENTOUS			
....OSCILLATORIA				
.....LYNGBYA		150	10	
DOSCILLATORIA		400	27	
....SPIRULINA		11	1	
	TOTALS	580	39	1.150=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..CRYPTOPHYCEAE	CRYPTOMONADS			
...CRYPTOMONIDALES				
....CRYPTOCHRYSIDACEAE				
.....CHROOMONAS		11	1	
	TOTALS	11	1	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%
ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE
DIVERSITY INDICES, BASED ON ACTUAL COUNTS:
PHYL/DIV 1.533
CLASS 1.533
ORDER 1.999
FAMILY 2.737
GENERA 3.199

0952200. COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY,
ABOVE MORELOS DAM, NEAR ANDRADE, CALIF.--CONTINUED

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEARS OCTOBER 1974 TO SEPTEMBER 1976

SEP. 14, 1976

0845 HOURS

IDENTIFICATION OF PHYTOPLANKTON

15,000 CELLS/ML

ORGANISM NAME	COMMON NAME	CELLS/ML	PER CENT	
CHLOROPHYTA	GREEN ALGAE			
..CHLOROPHYCEAE				
..CHLOROCOCCALES				
..COELASTRACEAE				
I ..COELASTRUM			0	
..MIRACTINIACEAE				
..MIRACTINIUM		190	1	
..OOCYSTACEAE				
L ..ANKISTRODESMUS			0	
..DICTYOSPHAERIUM		420	3	
..OOCYSTIS		240	2	
I ..TETRAEDRON			0	
..SCENEDESMACEAE				
D ..SCENEDESMUS		2,600	17	
L ..TETRASTRUM			0	
..VOLVOCALES				
..CHLAMYDOMONADACEAE				
..CHLAMYDOMONAS		140	1	
..ZYGNEATALES				
..DESMIDIACEAE	PLACODERM DESMIDS			
I ..STAURASTRUM			0	
	TOTALS	3,700	24	1.518=DIVERSITY
CHRYSTOPHYTA				
..BACILLARIOPHYCEAE	DIATOMS			
..CENTRALES	CENTRIC			
..COSCINODISCEAE				
..CYCLOTELLA		2,000	13	
..MELOSIRA		240	2	
..PENNIALES	PENNATE			
..ACHNANTHACEAE				
I ..ACHNANTHES			0	
..CYMBELLACEAE				
I ..AMPHORA			0	
..DIATOMACEAE				
L ..DIATOMA			0	
..GOMPHONEMACEAE				
I ..GOMPHONEMA			0	
..NAVICULACEAE	NAVICULOID			
I ..CALONEIS			0	
I ..GYKOSIGMA			0	
..NAVICULA		420	3	
I ..TROPIDONEIS			0	
..NITZSCHIA				
..NITZSCHIA		470	3	
..SURIRELLACEAE				
L ..SURIRELLA			0	
	TOTALS	3,400	21	1.910=DIVERSITY
CYANOPHYTA	BLUE-GREEN ALGAE			
..MYXOPHYCEAE				
..CHROOCOCCALES	COCCOID			
..CHROOCOCCACEAE				
D ..AGMENELLUM		3,400	22	
..ANACYSTIS		1,600	10	
..OSCILLATORIALES	FILAMENTOUS			
..NOSTOCACEAE				
..ANABAENA		850	6	
..CYLINDROSPERMUM		470	3	
..OSCILLATORIA				
..LYNGBYA		470	3	
..OSCILLATORIA		850	6	
..SPIRULINA		420	3	
	TOTALS	8,100	53	2.375=DIVERSITY
EUGLENOPHYTA	EUGLENOIDS			
..CRYPTOPHYCEAE	CRYPTOMONADS			
..CRYPTOMONIDALS				
..CRYPTOMONADACEAE				
..CRYPTOMONAS				
	TOTALS	190	1	0.000=DIVERSITY

NOTE: D - DOMINANT ORGANISM; GREATER OR EQUAL TO 15%

L - LESS THEN 15% MAY NOT HAVE BEEN ACTUALLY COUNTED

ANALYSIS METHOD: SEDGWICK-RAFTER CHAMBER, 200-X MICROSCOPE

DIVERSITY INDICES, BASED ON ACTUAL COUNTS:

PHYL/DIV 1.543

CLASS 1.543

ORDER 2.305

FAMILY 2.858

GENERA 3.579

LOCATION.--Lat 32°29'48", long 114°48'48", in Mexico, on right bank about 1,000 ft (300 m) upstream from southerly international boundary, 2 mi (3 km) west of San Luis, Ariz., and 21.9 mi (35.2 km), downstream from Morelos Dam.

DRAINAGE AREA (REVISED).--246,700 mi² (639,000 km²), approximately, including all closed basins entirely within the drainage boundary, also 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming (previously considered part of the Missouri River basin).

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Prior to June 24, 1954, at site 1,100 ft (340 m) downstream at same datum. August 1956 to September 1966, supplementary water-stage recorders at various sites within 6 mi (10 km) upstream used to compute discharge during periods of backwater from diversion dike downstream.

EXTREMES.--Current year: Maximum discharge, 4,790 ft³/s (136 m³/s) Sept. 28; maximum elevation, 83.66 ft (25.500 m) Sept. 28; minimum discharge, 2.0 ft³/s (.057 m³/s) Feb. 10; minimum elevation, 73.49 ft (22.400 m) Feb. 10.

Period of record: Maximum discharge, 28,610 ft³/s (810 m³/s) Dec. 18, 1952; maximum elevation, 84.84 ft (25.859 m) Nov. 29, 1957; no flow at times 1956-58, 1964-69, 1971-72, 1975.

REMARKS.--This record shows water passing southerly international boundary. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for municipal use and irrigation, and return flow from irrigated areas. Records of chemical analyses for the current year are published on following pages.

COOPERATION.--Records furnished by International Boundary and Water Commission, U.S. Section (discharge figures rounded in accordance with Geological Survey standard practice).

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	196	206	240	214	158	220	187	217	211	191	200	181
2	192	204	235	214	119	222	189	219	213	195	218	186
3	194	218	218	214	52	220	187	217	217	198	215	191
4	196	216	220	216	19	212	173	219	217	202	200	197
5	198	208	218	216	12	206	200	219	217	202	202	197
6	198	208	218	214	10	206	182	219	217	200	200	197
7	196	206	218	220	7.4	210	176	220	235	197	198	195
8	196	206	220	214	5.7	214	171	222	232	195	195	179
9	198	208	220	218	4.9	216	169	220	222	195	193	183
10	200	212	220	220	2.6	218	178	219	219	195	190	203
11	200	214	222	218	118	220	180	220	217	198	191	326
12	202	216	222	222	244	212	143	217	215	197	190	1220
13	202	216	230	222	51	210	121	215	213	193	191	1720
14	202	218	232	224	16	214	134	219	206	191	197	1270
15	200	224	228	224	102	216	294	217	197	190	198	607
16	198	224	228	220	150	216	1090	215	198	188	198	351
17	200	220	230	220	139	218	1570	215	198	191	198	307
18	202	220	230	220	93	218	735	215	200	198	198	288
19	200	218	226	222	90	212	123	220	200	198	198	279
20	204	218	228	218	94	206	73	224	202	195	197	271
21	204	218	228	214	102	210	52	226	202	195	197	266
22	207	218	230	210	158	206	40	226	200	195	197	258
23	204	218	224	212	185	206	34	224	195	197	195	250
24	200	218	222	214	189	204	27	224	197	193	195	246
25	198	218	222	214	192	206	34	224	195	195	195	434
26	202	214	222	214	199	200	107	219	195	202	195	1550
27	205	214	224	210	214	200	162	219	195	198	193	2850
28	207	216	220	206	214	200	190	219	197	198	195	4470
29	204	218	214	206	216	202	198	217	195	188	193	2410
30	204	218	212	204	---	197	206	213	191	191	192	880
31	204	---	210	173	---	193	---	211	---	198	166	---
TOTAL	6213	6450	6931	6647	3156.6	6510	7325	6790	6208	6059	6080	22162
MEAN	200	215	224	214	109	210	244	219	207	195	196	739
MAX	207	224	240	224	244	222	1570	226	235	202	218	4470
MIN	192	204	210	173	2.6	193	27	211	191	188	166	179
AC-FT	12320	12790	13750	13180	6260	12910	14530	13470	12310	12020	12060	43960

CAL YR 1975	TOTAL	75879.10	MEAN	208	MAX	1120	MIN	0	AC-FT	150500
WTR YR 1976	TOTAL	90531.60	MEAN	247	MAX	4470	MIN	2.6	AC-FT	179600

COLORADO RIVER MAIN STEM

09522200. COLORADO RIVER AT SOUTHERLY INTERNATIONAL BOUNDARY, NEAR SAN LUIS, ARIZ.

LOCATION.--Lat 32°29'48", long 114°48'48", at gaging station on right bank, in Mexico, 0.2 mi (0.3 km) upstream from southerly international boundary, 2 mi (3 km) west of San Luis, Ariz., 19.4 mi (31.2 km) downstream from Morelos Dam and 20.5 mi (33.0 km) downstream from northerly international boundary.

DRAINAGE AREA (REVISED)--246,700 mi² (640,000 km²), approximately, including 3,959 mi² (10,254 km²) in Great Divide basin in southern Wyoming which is noncontributing (previously considered part of the Missouri River basin).

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

REMARKS.--Unpublished chemical analyses (continuing record) for water years 1962-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)
OCT												
10...	0945	193	5380	7.9	23.0	880	570	200	92	870	13	8.7
NOV												
11...	1410	235	5520	7.8	19.0	910	610	220	88	900	13	10
25...	1430	226	5690	--	--	--	--	--	--	--	--	--
DEC												
09...	1330	220	5660	7.8	18.0	940	630	220	94	940	13	9.2
23...	1040	257	5480	--	--	--	--	--	--	--	--	--
JAN												
13...	1150	223	5400	8.0	15.5	900	610	220	86	860	12	9.5
FEB												
10...	1200	2.5	3780	--	--	--	--	--	--	--	--	--
13...	1200	42	1990	--	18.0	--	--	--	--	--	--	--
24...	1315	190	5580	7.9	14.5	910	620	220	87	890	13	9.9
MAR												
09...	1340	216	5320	7.8	20.0	880	590	210	87	870	13	9.6
26...	1145	197	5390	--	--	--	--	--	--	--	--	--
APR												
13...	1150	120	5500	7.9	18.5	860	570	190	94	920	14	10
16...	1500	1260	1690	--	--	--	--	--	--	--	--	--
17...	1215	1615	1770	--	--	--	--	--	--	--	--	--
19...	1030	120	2650	--	--	--	--	--	--	--	--	--
27...	1200	170	5190	--	--	--	--	--	--	--	--	--
MAY												
14...	1000	223	5500	8.1	25.5	880	600	200	93	930	14	10
JUN												
08...	1130	235	5410	7.9	24.5	870	590	200	90	900	13	9.7
22...	1230	200	5550	--	--	--	--	--	--	--	--	--
JUL												
13...	1145	194	5530	7.9	28.5	870	600	200	91	910	13	9.5
27...	1130	198	5490	--	--	--	--	--	--	--	--	--
AUG												
10...	1225	189	5450	8.0	30.0	910	630	210	93	870	13	9.8
24...	1315	193	5370	--	--	--	--	--	--	--	--	--
SEP												
14...	1205	1280	2310	8.3	26.5	500	310	120	49	310	6.0	7.4

COLORADO RIVER MAIN STEM

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09522200. COLORADO RIVER AT SOUTHERLY INTERNATIONAL BOUNDARY, NEAR SAN LUIS, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTERRER 1976

DATE	BICAR- BONATE (HCO3) (MG/L)	CAH- 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 SILICA (SiO2) (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)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT											
10...	379	0	910	1100	1.0	23	3490	3400	4.75	1400	10
NOV											
11...	374	0	930	1200	2.3	26	3550	3570	4.83	1700	20
25...	--	--	--	--	--	--	--	--	--	--	--
DEC											
09...	369	0	940	1200	2.2	21	3710	3610	5.05	1800	20
23...	--	--	--	--	--	--	--	--	--	--	--
JAN											
13...	364	0	940	1100	2.0	25	3410	3430	4.64	1600	10
FEB											
10...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
24...	355	0	950	1100	2.0	25	3600	3470	4.90	1700	0
MAR											
09...	353	0	980	1100	2.1	27	3530	3470	4.80	1600	0
26...	--	--	--	--	--	--	--	--	--	--	--
APR											
13...	350	0	940	1100	1.9	22	3580	3460	4.87	1600	0
16...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
MAY											
14...	349	0	1000	1200	2.4	24	3600	3640	4.90	1600	30
JUN											
08...	337	0	1100	1100	2.1	23	3540	3600	4.81	1600	20
22...	--	--	--	--	--	--	--	--	--	--	--
JUL											
13...	337	0	980	1200	2.1	26	3630	3600	4.94	1700	20
27...	--	--	--	--	--	--	--	--	--	--	--
AUG											
10...	334	0	1000	1000	2.2	25	3540	3390	4.81	1700	20
24...	--	--	--	--	--	--	--	--	--	--	--
SEP											
14...	231	0	460	340	.9	14	1470	1420	2.00	490	10

Divisions at and below Imperial Dam, Ariz.-Calif.

Divisions for irrigation in the Gila Project in Arizona are made at Imperial Dam by the Gila Gravity Main Canal. Divisions for irrigation in the Yuma Project in Arizona and California are made at Imperial Dam by the All-American Canal. Between Imperial Dam and the international boundary secondary divisions from these principal canals are made to divisions of the Gila and Yuma Project.

Return surface flows from irrigated areas enter the Colorado and Gila Rivers through many drains and wasteways in Arizona and California, or are delivered across the international boundary into Mexico. See p. 580 for records of return surface flows below Imperial Dam.

See figure 5 on p. 536 for a schematic diagram showing location of divisions and return flows.

09522500. GILA GRAVITY MAIN CANAL AT IMPERIAL DAM.--See daily table elsewhere in this report.

09522600. NORTH GILA MAIN CANAL.

LOCATION.--Water-stage recorder and sharp-crested weir in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.23, T.7 S., R.22 W., about 700 ft (200 m) downstream from turnout from Gila Gravity Main Canal and 1.2 mi (1.9 km) south of Laguna Dam.

PERIOD OF RECORD.--Monthly discharge October 1965 to current year.

REMARKS.--Record shows water available for irrigation of 6,065 acres (24.5 km²) in 1975, in North Gila Valley.

09522650. NORTH GILA MAIN CANAL NO. 2.

LOCATION.--Water-stage recorder in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.11, T.8 S., R.22 W., at turnout from Gila Gravity Main Canal and 3.5 mi (5.6 km) downstream from turnout to North Gila Main Canal.

PERIOD OF RECORD.--Monthly discharge June 1969 to current year.

REMARKS.--Record shows water available for irrigation of land in North Gila Valley. Diversion began June 11, 1969.

09522700. WELLTON-MOHAWK CANAL.

LOCATION.--Two water-stage recorders, one above and one below gates, to record head on gates and recorders on both gates to record gate openings since June 1, 1974, in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.17, T.8 S., R.21 W., at turnout from Gila Gravity Main Canal.

PERIOD OF RECORD.--Monthly discharge October 1965 to current year.

REMARKS.--Record shows water available for irrigation of 65,529 acres (265 km²) in 1975, in the Dome, Wellton, and Mohawk areas of the lower Gila Valley.

COOPERATION.--Supplementary record of gate openings furnished by Bureau of Reclamation.

09522800. SOUTH GILA MAIN CANAL.

LOCATION.--Vane meter and water-stage recorder in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.36, T.8 S., R.22 W., about 200 ft (61 m) downstream from turnout from Gila Gravity Main Canal. Also, Sparling flowmeter 150 ft (46 m) upstream.

PERIOD OF RECORD.--Monthly discharge October 1965 to current year.

REMARKS.--Record shows water available for irrigation of a portion of the 10,152 acres (41.1 km²) in 1975, in South Gila Valley; additional divisions are made from Gila Gravity Main Canal to supply other portions of this same acreage.

COOPERATION.--Records furnished by Bureau of Reclamation prior to June 4, 1974.

09522850. GILA GRAVITY MAIN CANAL AT PUMPING PLANT.

LOCATION.--Intake consisting of 4 pumps in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.1, T.9 S., R.22 W., at end of Gila Gravity Main Canal and head of Yuma Mesa canals.

PERIOD OF RECORD.--Monthly discharge October 1965 to current year.

REMARKS.--Record shows water available for irrigation of 21,608 acres (87.4 km²) in 1975, of which 18,412 acres (74.5 km²) is on Yuma Mesa and remainder in Yuma Auxiliary Division of Yuma Valley listed under sta 09522900 below. Flow measured by rated pumps.

COOPERATION.--Records furnished by Bureau of Reclamation and Yuma Mesa Irrigation and Drainage District.

09522900. UNIT B MAIN CANAL.

LOCATION.--Two Sparling flowmeters in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.28, T.9 S., R.23 W., 5 mi (8 km) northeast of Somerton.

PERIOD OF RECORD.--Monthly discharge October 1965 to current year.

REMARKS.--Record shows water available for irrigation of 3,196 acres (12.9 km²) in 1975, in Yuma Auxiliary Division of the Yuma Project. Sparling meters checked by occasional discharge measurements.

COOPERATION.--Records furnished by Bureau of Reclamation and Unit B Irrigation and Drainage District.

09523000. ALL-AMERICAN CANAL NEAR IMPERIAL DAM.--See daily table elsewhere in this report.

Diversions at and below Imperial Dam, Ariz.-Calif.--Continued

09523200. RESERVATION MAIN CANAL.

LOCATION.--Water-stage recorder and, since Sept. 5, 1975, gate-opening recorder, in NE¼NE¼ sec.35, T.15 S., R.23 E., San Bernardino meridian, at turnout from All-American Canal and 5.8 mi (9.3 km) downstream from Imperial Dam.

PERIOD OF RECORD.--Monthly discharge August 1950 to current year. Prior to October 1965 included in total diversions from All-American Canal and Yuma Main Canal above siphon-drop powerplant and published as part of sta 09524000.

REMARKS.--Record computed from rated gate on turnout from All-American Canal and shows water available for irrigation in parts of Reservation Division of Yuma Project in California.

COOPERATION.--Record of gate openings furnished by Bureau of Reclamation.

09523400. TITSINK CANAL.

LOCATION.--Water-stage recorder and Parshall flume in NE¼SW¼ sec.27, T.15 S., R.23 E., San Bernardino meridian, 0.6 mi (1.0 km) downstream from turnout from All-American Canal and 7.2 mi (11.6 km) downstream from Imperial Dam.

PERIOD OF RECORD.--Monthly discharge August 1950 to current year. Prior to October 1965 included in total diversions from All-American Canal and Yuma Main Canal above siphon-drop powerplant and published as part of sta 09524000.

REMARKS.--Record shows water available for irrigation in parts of Reservation Division of Yuma Project in California.

09523600. YAQUI CANAL.

LOCATION.--Water-stage recorder and Parshall flume in NW¼SE¼ sec.31, T.15 S., R.23 E., San Bernardino meridian, 700 ft (200 m) downstream from turnout from All-American Canal and 11.1 mi (17.9 km) downstream from Imperial Dam.

PERIOD OF RECORD.--Monthly discharge June 1950 to current year. Prior to October 1965 included in total diversions from All-American Canal and Yuma Main Canal above siphon-drop powerplant and published as part of sta 09524000.

REMARKS.--Record shows water available for irrigation in parts of Reservation Division of Yuma Project in California.

09523800. PONTIAC CANAL.

LOCATION.--Water-stage recorder and Parshall flume in NW¼SW¼ sec.1, T.16 S., R.22 E., San Bernardino meridian, 500 ft (150 m) downstream from turnout from All-American Canal and 13.1 mi (21.1 km) downstream from Imperial Dam.

PERIOD OF RECORD.--Monthly discharge August 1950 to current year. Prior to October 1965 included in total diversions from All-American Canal and Yuma Main Canal above siphon-drop powerplant and published as part of sta 09524000.

REMARKS.--Record shows water available for irrigation in parts of Reservation Division of Yuma Project in California.

09523900. WALAPAI CANAL.

LOCATION.--Water-stage recorder and sharp-crested weir in SE¼SE¼ sec.10, T.16 S., R.22 E., San Bernardino meridian, 100 ft (30 m) downstream from siphon-drop powerplant forebay and 4 mi (6 km) north of Yuma.

PERIOD OF RECORD.--Monthly discharge October 1946 to current year. Prior to October 1965 included in total diversions from All-American Canal and Yuma Main Canal above siphon-drop powerplant and published as part of sta 09524000.

REMARKS.--Record shows water available for irrigation in parts of Reservation Division of Yuma Project in California.

09524000. YUMA MAIN CANAL AT SIPHON-DROP POWERPLANT.--See daily table elsewhere in this report.

09524500. DIVERSIONS FROM YUMA MAIN CANAL BETWEEN SIPHON-DROP POWERPLANT AND YUMA MAIN CANAL WASTEWAY.

LOCATION.--Turnouts for several canals diverting from Yuma Main Canal between siphon-drop powerplant, 4 mi (6 km) north of Yuma, and Yuma Main Canal wasteway, 1,600 ft (500 m) upstream from Colorado River siphon.

PERIOD OF RECORD.--Monthly discharge October 1940 to current year. Prior to October 1947 published in WSP 1313. October 1947 to September 1965 published as supplemental table with records for Yuma Main Canal at siphon-drop powerplant.

REMARKS.--Record shows water available for irrigation in parts of Reservation Division of Yuma Project in California. Records estimated on basis of discharge measurements by Clausen-Pierce weir rule and occasional current-meter measurements.

COOPERATION.--Record furnished by Bureau of Reclamation.

09525500. YUMA MAIN CANAL BELOW COLORADO RIVER SIPHON.--See daily table elsewhere in this report.

09526000. DIVERSION FROM YUMA MAIN CANAL FOR MUNICIPAL SUPPLY FOR YUMA.

LOCATION.--Sparling flowmeters, in NW¼NE¼ sec.35, T.16 S., R.22 E., San Bernardino meridian, on pipeline about 1,000 ft (300 m) downstream from intake, which is at outlet of Colorado River siphon of Yuma Main Canal, on Arizona side of Colorado River at Yuma.

PERIOD OF RECORD.--Monthly discharge June 1945 to current year. Prior to October 1973 published as a supplemental table with records for Yuma Main Canal below Colorado River siphon.

REMARKS (CORRECTED).--Record shows water for Yuma municipal supply; prior to 1962 was supplement only to total Yuma municipal supply. Figures shown in table herewith are also included in record for Yuma Main Canal below Colorado River siphon (sta 09525500). Capacity of pump used prior to August 1960 was about 12 ft³/s (0.34 m³/s); combined capacity of three pumps used August 1960 to January 1975 is about 25 ft³/s (0.71 m³/s); combined capacity of four pumps used since February 1975 is about 38 ft³/s (1.10 m³/s). Two emergency pumps with combined capacity of about 27 ft³/s (0.76 m³/s) can pump directly from the Colorado River. This year no water was pumped from the river.

COOPERATION.--Records furnished by Yuma County Water Users' Association (prior to April 1955, by Arizona Public Service Co., and April 1955 to September 1965, by Arizona Water Co.).

09527500. ALL-AMERICAN CANAL BELOW PILOT KNOB WASTEWAY.--See daily table elsewhere in this report.

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

Diversions at and below Imperial Dam, Ariz.-Calif.--Continued

MONTHLY DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

Month	North Gila Main Canal 09522600	North Gila Main Canal No. 2 09522650	Wellton-Mohawk Canal 09522700	South Gila Main Canal 09522800	Gila Gravity Main Canal at pumping plant 09522850
October	4,110	664	38,320	3,100	19,120
November	3,000	764	28,500	2,020	14,440
December	2,250	269	18,180	1,240	12,080
CAL YR 1975	47,000	9,140	528,400	35,330	258,700
January	2,480	290	23,710	1,900	13,080
February	3,750	411	27,720	2,800	7,770
March	4,070	497	52,510	3,780	18,870
April	4,480	660	52,590	3,930	20,060
May	4,860	765	45,310	3,000	27,420
June	4,140	642	49,760	2,360	30,860
July	5,830	692	55,990	3,130	31,860
August	5,640	748	63,510	3,170	29,600
September	3,020	519	40,930	2,900	21,470
WTR YR 1976	47,620	6,920	497,000	33,340	246,600

Month	Unit B Main Canal 09522900	Reservation Main Canal 09523200	Titsink Canal 09523400	Yaqui Canal 09523600	Pontiac Canal 09523800
October	2,930	3,840	2.6	1,040	902
November	1,970	3,260	21	535	434
December	1,680	2,910	2.8	448	487
CAL YR 1975	36,710	50,730	67	9,680	7,680
January	1,680	3,690	19	529	570
February	864	3,300	54	511	432
March	2,750	5,840	45	937	1,050
April	3,010	5,250	48	906	704
May	3,740	4,010	41	947	961
June	4,610	5,890	14	1,050	608
July	4,680	6,400	5.0	873	514
August	4,440	6,450	53	1,410	911
September	3,310	4,540	0	659	920
WTR YR 1976	35,660	55,380	305	9,840	8,490

Month	Walapai Canal 09523900	Diversions from Yuma Main Canal 09524500	Diversions from Yuma Main Canal for Yuma supply 09526000
October	900	604	1,078
November	1,720	258	904
December	859	509	732
CAL YR 1975	15,430	5,350	12,980
January	923	376	811
February	1,220	290	637
March	1,610	645	846
April	1,390	525	917
May	1,060	256	1,284
June	1,170	270	1,486
July	1,350	362	1,561
August	1,550	1,110	1,499
September	1,420	877	1,160
WTR YR 1976	15,180	6,080	12,915

NOTE.--Yearly totals given above have been computed from total cfs-days and may differ slightly from the summation of monthly total acre-feet on occasion.

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

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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, on right bank 3,200 ft (975 m) downstream from intake at east end of Imperial Dam.

PERIOD OF RECORD.--August 1943 to current year.

GAGE.--Water-stage recorder. Datum of gage is 160.00 ft (48.768 m) above mean sea level.

AVERAGE DISCHARGE.--17 years (1959-76), 1,216 ft³/s (34.44 m³/s), 881,000 acre-ft/yr (1,090 hm³/yr).

EXTREMES.--Period of record: Maximum daily discharge, 2,240 ft³/s (63.4 m³/s) May 25, 1965; no flow at canal intake at times in several years when intake gates were closed.

REMARKS.--Records excellent except those below 100 ft³/s (2.8 m³/s), which are fair. Gila Gravity Main Canal diverts water from Colorado River at left end of Imperial Dam for irrigation of lands in the Gila Project area in Arizona. Diversions to this canal began Aug. 17, 1943. Diversions to North Gila Valley from this canal began Dec. 16, 1954. During the 1975 calendar year, water was used for irrigation of 103,354 acres (418 km²) divided as follows: North and South Gila Valleys, 16,217 acres (65.6 km²); Yuma Mesa Division, 18,412 acres (74.5 km²); Wellton-Mohawk Division, 65,529 acres (265 km²); Yuma Mesa Auxiliary Division, 3,196 acres (12.9 km²). Records of chemical analyses and water temperatures for the current water year are published on following pages.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1700	742	3.0	738	667	1490	1860	1600	1500	2040	1220	1980
2	1730	447	2.8	914	1090	1730	1530	1290	1610	1950	1810	1930
3	1440	860	2.7	954	1230	1860	1540	1730	1560	1580	1920	1820
4	1200	909	2.7	653	1380	1560	1130	1710	1520	1030	2010	1630
5	525	958	177	696	1060	1450	1730	1830	1260	1680	2100	1330
6	1560	1070	883	692	1050	996	1870	1810	992	1900	1980	1690
7	1780	927	677	606	924	886	1770	1470	1370	1990	1860	1560
8	1690	858	1270	578	705	1310	1650	1370	1660	1870	1650	1780
9	1600	609	1250	504	735	1390	1430	881	1680	1850	1960	1490
10	1700	925	1050	441	917	1460	1280	1550	1560	1730	2120	640
11	1020	1120	1040	413	775	1450	1010	1580	1660	1400	2150	807
12	562	1320	785	723	637	1120	1380	1560	1470	1900	2130	768
13	1070	1110	603	915	442	871	1540	1450	1030	2040	2020	1490
14	1210	853	608	896	277	718	1340	1390	1620	2020	1930	1450
15	1350	749	953	814	287	952	790	1110	1570	1920	1650	1510
16	1380	728	1200	807	287	1420	706	858	1730	1980	1910	1560
17	999	1130	1220	653	476	1480	357	1550	1710	1480	2040	1180
18	799	1320	1190	410	541	1570	462	1630	1770	1210	1910	1160
19	546	1400	1220	832	544	1250	1350	1620	1410	1810	1910	1080
20	554	1270	893	923	648	1130	1640	1420	1090	1790	1940	1520
21	1000	1240	458	943	619	1070	1720	1550	1490	1870	1530	1630
22	1050	1070	637	717	619	1540	1740	1030	1570	1930	1360	1490
23	1010	1310	370	634	1000	1470	1580	890	1780	1820	1960	1500
24	884	1510	52	365	924	1660	1420	1220	1950	1520	1940	980
25	537	1330	23	190	885	1580	1230	1420	1830	1140	1900	519
26	547	679	312	570	1120	1530	1750	1530	1580	1710	1940	318
27	1080	15	289	807	1270	1270	1950	1530	1320	1400	1920	594
28	883	7.3	387	834	992	1200	1970	1450	1570	1420	1820	715
29	999	4.1	499	790	764	1580	1970	1250	1870	1500	1490	603
30	1010	3.4	768	988	---	1830	1630	858	1940	1560	1880	674
31	770	---	511	765	---	1870	---	1420	---	1470	1980	---
TOTAL	34785	26474.8	19336.2	21765	22865	42693	43325	43557	46672	52510	57940	37398
MEAN	1122	882	624	702	788	1377	1444	1405	1556	1694	1869	1247
MAX	1780	1510	1270	988	1380	1870	1970	1830	1950	2040	2150	1980
MIN	537	3.4	2.7	190	277	718	357	858	992	1030	1220	318
AC-FT	69000	52510	38350	43170	45350	84680	85940	86400	92570	104200	114900	74180
CAL YR 1975	TOTAL	466665.0	MEAN	1279	MAX	2060	MIN	2.7	AC-FT	925600		
WTR YR 1976	TOTAL	449321.0	MEAN	1228	MAX	2150	MIN	2.7	AC-FT	891200		

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

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, in Arizona, Yuma County, at gaging station on right bank, 0.6 mi (1.0 km) downstream from intake at east end of Imperial Dam.

PERIOD OF RECORD.--Chemical analyses: October 1967 to current year (partial-record station).

Water temperatures: January 1956 to current year.

EXTREMES.--Current year:

Water temperatures: Maximum, 30.0°C July 9, 26-28, 30, 31; minimum, 8.5°C on several days during January.

Period of record:

Water temperatures: Maximum, 33.0°C Aug. 29-31, 1970; minimum, 7.0°C Jan. 13-17, 1964, Jan. 4-7, 1971.

REMARKS.--Temperature probe above water surface Nov. 27 to Dec. 4. Unpublished chemical analyses (partial record) for water years 1965-67 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA,MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)
OCT 15...	1310	1310	1290	8.2	20.0	350	210	89	32	140	3.2	5.2
JAN 28...	1345	844	1310	8.2	12.0	360	220	93	32	130	3.0	5.4
APR 30...	1115	1700	1250	8.1	21.5	360	210	90	33	130	3.0	5.2
JUL 28...	1250	1330	1250	8.1	29.5	360	220	90	33	130	3.0	5.4

DATE	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS PER AC-FT) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
OCT 15...	175	0	340	120	.5	9.0	869	823	1.18	.13	180	0
JAN 28...	176	0	330	120	.4	8.5	860	808	1.17	.35	170	0
APR 30...	183	0	330	110	.4	5.4	825	795	1.12	.15	160	10
JUL 28...	173	0	320	120	.5	9.9	799	795	1.09	.11	160	20

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

[illegible]

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, on left bank 6,000 ft (1,829 m) downstream from intake at west end of Imperial Dam and 13.7 mi (22.0 km) upstream from turnout to Yuma Main Canal.

PERIOD OF RECORD.--October 1938 to current year. Prior to October 1939 monthly discharge only, published in WSP 1313.

GAGE.--Water-stage recorder. Datum of gage is 150.00 ft (45.720 m) above mean sea level (subject to undetermined changes caused by earthquake of May 18, 1940). Since Aug. 21, 1952, auxiliary water-stage recorder 18.5 mi (29.8 km) downstream from base gage.

AVERAGE DISCHARGE.--35 years (1941-76), 6,937 ft³/s (196.5 m³/s), 5,026,000 acre-ft/yr (6,200 hm³/yr).

EXTREMES.--Period of record: Maximum daily discharge, 13,500 ft³/s (382 m³/s), Apr. 16, 1938; no flow at times.

REMARKS.--Records excellent. All-American Canal diverts water from Colorado River at Imperial Dam. Water is used for power development and for irrigation in Yuma, Coachella, and Imperial Valleys. Water can be released back to the river through Pilot Knob powerplant and wasteway for power, regulatory purposes, or for downstream use in Mexico. First diversion to All-American Canal began October 1938, but prior to October 1940 was used only for priming canal.

COOPERATION.--Gage-height record furnished by Imperial Irrigation District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7010	4950	4190	4640	4980	8150	10500	9790	6800	8310	7150	8200
2	6680	4520	3980	4740	5070	8580	10300	9370	6780	8420	7600	8030
3	6440	4480	4180	4160	5460	8640	10300	9650	6930	8150	7680	7960
4	6370	4350	4430	3840	6010	9070	9980	9510	6910	7600	7960	7410
5	6180	4650	4440	3980	6310	8950	10000	9630	7000	7550	8400	6730
6	6620	4940	4550	4680	5600	8280	10100	9260	6270	8050	8790	6330
7	6820	4610	4330	4930	4480	7640	10300	8760	6410	8430	8950	6750
8	6750	4300	4450	5400	3970	7850	10500	7610	6530	9020	8980	6250
9	6720	3920	4560	5250	3250	7760	10500	6150	6720	8520	8900	5660
10	6510	4070	4850	4730	3160	7850	10500	5960	6830	8750	9010	4610
11	6200	4340	4960	3940	3760	7830	10300	6250	6600	8650	9110	4650
12	5870	4470	4880	4060	2890	7700	10400	6330	6800	8790	9180	3590
13	5750	4420	4850	4080	2800	7930	10100	6650	6560	9040	9150	2300
14	5670	4430	4510	4200	2830	7740	8680	6770	6890	9210	8870	2590
15	5670	4320	4790	3970	2710	8360	9280	6930	6950	9250	8460	2660
16	5490	4260	4900	3960	2500	8580	7520	7040	7150	8730	8900	3070
17	5400	4510	5370	4010	2420	9030	5750	7320	7380	8730	9050	3210
18	5350	4670	5690	4030	2270	9010	5340	7880	7190	8470	8920	3230
19	5150	4730	5390	4530	2900	9170	6700	8120	7520	8510	8840	3800
20	5170	4590	5310	4840	3190	9360	7460	8260	6880	8850	8820	4170
21	5250	4550	5230	4910	3330	9220	8420	7970	7060	8850	8760	4650
22	5360	4650	5630	5170	3540	9390	9380	7440	7440	8610	8610	5020
23	5040	4350	5430	4940	5050	9810	9480	6840	7510	8140	8940	5260
24	5100	4240	3890	4860	6290	10000	9840	6910	7550	8180	9160	5250
25	5050	4270	3140	4780	7320	10200	10000	7150	7330	7960	9190	7550
26	4880	4270	3950	4920	7980	10100	10400	6820	7490	8290	8740	7160
27	5090	4210	4670	4940	8370	10100	10600	6560	7420	8370	8570	8650
28	5190	4270	5250	5080	8480	10100	10500	6340	7560	8480	8550	4330
29	5500	4030	5770	5190	8240	10200	10300	6430	7690	8100	8130	4000
30	5740	4190	6270	5240	---	10300	10100	6780	8350	7590	8240	4110
31	5570	---	5570	5230	---	10400	---	6630	---	7420	8580	---
TOTAL	179590	132600	149410	143230	135160	277300	283530	233110	212500	261020	268190	157180
MEAN	5793	4420	4820	4620	4661	8945	9451	7520	7083	8420	8651	5239
MAX	7010	4950	6270	5400	8480	10400	10600	9790	8350	9250	9190	8650
MIN	4880	3920	3140	3840	2270	7640	5340	5960	6270	7420	7150	2300
AC-FT	356200	263000	296400	284100	268100	550000	562400	462400	421500	517700	532000	311800
CAL YR 1975	TOTAL	2467090	MEAN	6759	MAX	10200	MIN	2790	AC-FT	4893000		
WTR YR 1976	TOTAL	2432820	MEAN	6647	MAX	10600	MIN	2270	AC-FT	4825000		

09524000. YUMA MAIN CANAL AT SIPHON-DROP POWERPLANT, NEAR YUMA, ARIZ.

LOCATION.--Lat 32°46'36", long 114°38'05", in SE¼SE¼ sec.10, T.16 S., R.22 E., San Bernardino meridian, in California, Imperial County, on right bank at downstream end of powerplant, 500 ft (150 m) from turnout from All-American Canal to Yuma Main Canal, 4.0 mi (6.4 km) north of Yuma, and 14.9 mi (24.0 km) downstream from intake of All-American Canal at Imperial Dam.

PERIOD OF RECORD.--July 1926 to current year. Prior to October 1938, monthly discharge only published in WSP 1313. Diversions from All-American Canal and Yuma Main Canal previously published with this record are listed separately in this report.

GAGE.--Water-stage recorder on forebay to determine head on rated bypass gates since Sept. 15, 1952. Recorders on gates to record gate opening since Nov. 8, 1973. Normal operating level of forebay of powerplant is 151.0 ft (46.02 m) above mean sea level, datum of 1929, or 150.3 ft (45.81 m) above mean sea level, Yuma Project datum. Prior to Oct. 30, 1938, floating nonrecording gages on forebay and tailrace. Oct. 30, 1938, to Mar. 1, 1945, floating nonrecording gage on forebay and water-stage recorder on tailrace. Mar. 2, 1945, to Jan. 11, 1951, water-stage recorders on forebay and tailrace. Jan. 12, 1951, to Dec. 7, 1972, differential recorder to record head between forebay and tailrace prior to discontinuing powerplant operation.

EXTREMES.--1930 to current year: Maximum daily discharge, 2,040 ft³/s (57.8 m³/s) Nov. 11, 1943; no flow for several days in 1937-39, 1945.

REMARKS.--Records excellent except those between 100 and 300 ft³/s (2.8 and 8.5 m³/s), which are good, and those below 100 ft³/s (2.8 m³/s), which are poor. Discharge through bypass gates determined from relationship of forebay elevation and gate openings. Flow to Yuma Main Canal regulated by opening and closing bypass gates. Gates on All-American Canal open and close automatically to maintain a constant forebay elevation. Records of daily discharge show quantity of water diverted from All-American Canal to Yuma Main Canal, except that diverted from forebay of powerplant to Walapai Canal. (See sta 09523900.) Flow through turbines of powerplant was discontinued Dec. 8, 1972.

COOPERATION.--Supplementary record of gate openings furnished by Yuma County Water Users' Association.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	821	731	984	108	901	302	791	567	1020	705	299	1160
2	700	35	1000	280	959	368	759	429	1070	643	284	1030
3	645	35	1020	927	908	455	654	480	1080	589	324	878
4	564	35	1210	755	987	802	227	565	998	463	454	696
5	509	184	764	918	1200	839	213	545	949	489	839	627
6	615	683	417	297	1150	761	320	489	549	662	920	669
7	750	625	316	349	431	634	458	360	690	765	883	919
8	795	472	354	298	273	608	829	349	819	854	703	783
9	619	391	429	319	153	637	885	876	888	799	726	762
10	664	525	478	469	109	591	767	806	1220	719	789	496
11	641	731	467	1200	222	622	696	947	1240	614	820	282
12	535	759	358	1130	316	650	777	989	1170	585	855	335
13	563	740	271	1140	199	584	853	842	1080	732	808	502
14	706	813	130	1220	70	339	674	758	1190	761	662	622
15	745	703	220	999	99	280	386	588	1180	772	259	852
16	736	658	282	696	70	284	298	559	1290	787	334	910
17	726	736	280	632	445	383	291	629	1360	794	452	910
18	662	859	464	581	826	657	124	863	1340	703	552	909
19	514	1000	477	790	924	726	211	1280	1250	693	792	937
20	580	905	355	976	916	664	373	1260	1010	756	784	871
21	619	467	216	949	667	540	495	1190	957	760	693	873
22	639	1130	235	939	766	662	794	1050	1030	765	513	875
23	597	1050	261	995	298	826	829	835	1090	719	595	857
24	690	1100	142	1000	518	817	794	780	1310	614	740	759
25	1060	1180	71	896	628	900	729	848	1280	390	803	592
26	882	1140	158	928	642	905	748	879	1340	539	742	369
27	1140	1090	215	1020	606	780	807	835	1410	715	638	363
28	1280	1140	235	1130	519	657	789	732	1500	760	603	426
29	1330	923	289	1120	302	629	740	781	1380	778	452	423
30	1320	235	370	1100	---	688	663	840	732	774	468	507
31	1220	---	235	976	---	775	---	896	---	706	669	---
TOTAL	23867	21575	12703	25137	16104	19365	17974	23847	33422	21405	19455	21194
MEAN	770	719	410	811	555	625	599	769	1114	690	628	706
MAX	1330	1180	1210	1220	1200	905	885	1280	1500	854	920	1160
MIN	509	35	71	108	70	280	124	349	549	390	259	282
AC-FT	47340	42790	25200	49860	31940	38410	35650	47300	66290	42460	38590	42040
CAL YR 1975 TOTAL	239865		MEAN 657	MAX 1520	MIN 35	AC-FT 475800						
WTR YR 1976 TOTAL	256048		MEAN 700	MAX 1500	MIN 35	AC-FT 507900						

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09525000. YUMA MAIN CANAL WASTEWAY AT YUMA, ARIZ.

LOCATION.--Lat 32°44'00", long 114°37'20", in SW¼SE¼ sec.26, T.16 S., R.22 E., San Bernardino meridian, in California, Imperial County, 45 ft (14 m) downstream from wasteway gates from Yuma Main Canal which are 1,645 ft (501 m) upstream from intake of Colorado River siphon on Yuma Main Canal, 0.5 mi (0.8 km) north of Yuma, and 3.2 mi (5.1 km) downstream from siphon-drop power-plant on Yuma Main Canal.

PERIOD OF RECORD.--April 1913 to current year. Monthly discharge only for some periods, published in WSP 1313.

GAGE.--Water-stage recorder for low flows only, with supplementary recorder on wasteway gate. Datum of gage is 122.51 ft (37.341 m) above mean sea level. Prior to Apr. 1, 1968, gate-opening record used for low flows only.

EXTREMES.--1930 to current year: Maximum daily discharge, 2,020 ft³/s (57.2 m³/s) Dec. 24, 25, 1948; no flow for several days in 1937-39, 1945, 1950, 1971.

REMARKS.--Records good except those below 150 ft³/s (4.2 m³/s), which are fair. The wasteway discharges into Colorado River in SW¼ sec.26, T.16 S., R.22 E., 1,000 ft (300 m) upstream from station on Colorado River below Yuma Main Canal wasteway at Yuma. Discharges above 100 ft³/s (2.8 m³/s) are generally computed as difference between discharge of Yuma Main Canal at siphon-drop power-plant and Yuma Main Canal below Colorado River siphon, with deductions for small irrigation diversions from canal between these stations. Discharges below 100 ft³/s (2.8 m³/s) are generally computed from stage-discharge relation. Records do not include flow of Reservation Main Drain No. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	242	447	815	20	812	21	20	13	437	19	17	510
2	125	78	813	105	806	21	20	13	435	20	17	405
3	130	248	804	708	838	21	19	13	436	22	17	301
4	107	341	800	562	871	21	22	13	518	24	18	209
5	106	441	352	720	647	21	19	13	580	24	18	187
6	109	124	18	22	622	21	18	13	382	24	18	205
7	162	220	18	22	22	26	18	12	442	21	19	318
8	200	214	18	21	22	26	17	11	501	25	19	36
9	179	194	18	22	28	21	17	640	500	19	20	19
10	187	230	19	153	23	21	17	365	493	19	20	34
11	175	367	19	913	28	21	17	338	484	19	20	19
12	184	389	19	856	23	21	17	331	514	18	21	19
13	262	411	20	704	24	21	17	254	598	18	21	19
14	279	513	20	688	26	21	18	257	690	18	21	68
15	293	485	20	544	62	21	15	153	602	18	22	224
16	271	480	20	410	22	21	15	232	594	18	22	242
17	289	481	21	385	365	21	15	225	609	18	22	248
18	302	511	21	352	719	21	15	352	611	18	22	222
19	307	629	21	445	766	21	15	652	623	18	22	302
20	333	604	22	504	726	21	16	687	631	18	21	284
21	267	700	23	496	523	21	16	752	620	18	22	184
22	212	906	21	495	646	21	16	696	622	17	24	171
23	175	886	22	572	21	21	15	503	593	17	23	210
24	280	876	22	632	21	21	15	358	614	17	23	215
25	722	889	22	637	22	21	14	361	620	17	23	120
26	676	866	27	690	22	20	13	344	734	18	23	17
27	792	868	23	682	22	20	12	339	880	17	22	17
28	786	858	23	710	22	20	11	309	958	17	23	18
29	815	633	23	685	22	20	11	346	770	17	23	18
30	810	105	22	686	---	20	11	418	68	17	23	68
31	749	---	21	733	---	20	---	391	---	17	36	---
TOTAL	10530	13980.0	4127	15174	8373	655	481	9404	17159	587	662	4909
MEAN	340	466	133	489	289	21.1	16.0	303	572	18.9	21.4	164
MAX	815	906	815	913	812	26	22	752	958	25	36	510
MIN	106	248	18	20	21	20	11	11	68	17	17	17
AC-FT	20890	27730	8190	30100	16610	1300	954	18650	34030	1160	1310	9740

CAL YR 1975 TOTAL 62894.0 MEAN 172 MAX 959 MIN 2.8 AC-FT 124800
WTR YR 1976 TOTAL 88041.0 MEAN 235 MAX 958 MIN 2.8 AC-FT 170700

09525500. YUMA MAIN CANAL BELOW COLORADO RIVER SIPHON, AT YUMA, ARIZ.

LOCATION.--Two gages, one at each end of canal siphon passing under Colorado River. At intake, lat 32°43'49", long 114°37'09", in NE¼NE¼ sec.35, T.16 S., R.22 E., San Bernardino meridian, in California, Imperial County, on left bank 1,645 ft (501 m) downstream from center of Yuma Main Canal wasteway gates and 3.5 mi (5.6 km) downstream from siphon-drop powerplant. At outlet, in NW¼NE¼ sec.35, T.16 S., R.22 E., San Bernardino meridian, in Arizona, Yuma County, on right bank. Siphon crossing is 1,500 ft (457 m) downstream from upper highway bridge over Colorado River at Yuma.

PERIOD OF RECORD.--January 1924 to current year. Prior to October 1938, monthly discharge only published in WSP 1313. Diversion from Yuma Main Canal for municipal supply for Yuma (sta 09526000), published with this record prior to October 1973, is listed separately in this report.

GAGE.--Water-stage recorder at each end of siphon. Datum of each gage is 100.62 ft (30.669 m) above mean sea level, datum of 1929, or 100.08 ft (30.504 m) above mean sea level, Yuma Project datum. Prior to Oct. 1, 1963, at datum 0.05 ft (0.015 m) lower. Elevation of sill of inlet is 125.5 ft (38.25 m) above mean sea level. Prior to Oct. 29, 1938, nonrecording gages at approximately same sites, read simultaneously.

AVERAGE DISCHARGE.--52 years, 468 ft³/s (13.25 m³/s), 339,100 acre-ft/yr (418 hm³/yr).

EXTREMES.--1930 to current year: Maximum daily discharge, 948 ft³/s (26.8 m³/s) Aug. 16, 1962; no flow at times.

REMARKS.--Records excellent except those between 100 and 300 ft³/s (2.8 and 8.5 m³/s), which are good, and those below 100 ft³/s (2.8 m³/s), which are poor. Daily discharge computed from relation between discharge and head on siphon, which is the difference between intake and outlet gages. Records show quantity of water delivered through Colorado River siphon for irrigation of 44,152 acres (179 km²) in 1975, in the Valley Division of the Yuma Project and for supplementary municipal supply for city of Yuma (see sta 09526000).

REVISIONS (WATER YEARS).--WSP 1713: 1958, 1959 (Yuma municipal supply).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	569	264	164	123	89	300	733	537	563	669	262	622
2	505	30	176	175	155	355	698	411	625	614	248	603
3	505	30	211	210	270	434	571	445	634	548	285	574
4	447	30	405	182	316	773	223	519	480	424	396	487
5	391	65	409	182	353	808	215	504	369	455	797	440
6	498	359	379	269	528	718	309	454	167	616	881	454
7	574	399	290	314	410	579	436	353	248	703	841	601
8	582	253	316	273	270	562	774	282	313	807	653	687
9	430	190	385	297	162	582	833	236	388	769	667	732
10	467	229	410	316	89	544	702	441	727	674	730	474
11	452	359	399	287	219	578	652	603	756	595	770	279
12	341	360	304	274	267	588	741	653	654	558	791	318
13	288	324	230	436	182	522	811	567	477	673	743	482
14	412	255	123	524	76	293	630	501	491	685	610	542
15	447	215	191	455	62	256	382	433	568	719	228	583
16	450	178	235	280	76	288	304	327	693	744	302	635
17	432	255	246	245	76	367	294	404	730	752	402	642
18	355	341	419	229	102	620	145	498	718	658	496	667
19	202	371	422	345	153	678	204	615	624	644	738	612
20	242	301	311	464	180	632	356	573	379	699	742	567
21	349	267	181	444	134	513	466	438	323	721	653	669
22	420	224	225	431	114	600	768	354	397	716	481	684
23	417	164	239	415	297	738	801	332	497	678	560	627
24	394	210	139	364	487	760	765	422	696	578	690	524
25	319	281	88	259	565	820	701	487	660	374	750	452
26	193	264	149	227	592	834	726	535	606	505	698	325
27	332	214	191	330	550	695	786	494	530	670	597	320
28	476	277	215	409	476	583	776	420	542	708	560	380
29	500	265	261	410	292	580	722	430	608	722	430	383
30	500	125	313	397	---	642	624	422	664	713	439	407
31	467	---	196	240	---	721	---	498	---	644	565	---
TOTAL	13032	7419	8234	9818	7746	17963	17148	14208	16127	20035	18005	15772
MEAN	420	247	266	317	267	575	572	458	538	646	581	526
MAX	582	359	422	524	592	834	833	653	756	807	881	732
MIN	193	30	88	123	62	256	145	236	167	374	228	279
AL-FI	25550	14720	16330	19470	15360	35630	34010	28180	31990	39740	35710	31280

CAL YR 1975 TOTAL 171313 MEAN 469 MAX 862 MIN 30 AC-FI 339800
WTR YR 1976 TOTAL 165507 MEAN 452 MAX 881 MIN 30 AC-FI 328300

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09527000. PILOT KNOB POWERPLANT AND WASTEWAY NEAR PILOT KNOB, CALIF.

LOCATION.--Lat 32°44'15", long 114°42'56", in NW¼SW¼ sec.25, T.16 S., R.21 E., San Bernardino meridian, Imperial County, 2 mi (3 km) east of summit of Pilot Knob, 6 mi (10 km) west of Yuma, Ariz., and 20.8 mi (33.5 km) downstream from intake of All-American Canal at Imperial Dam.

PERIOD OF RECORD.--February 1939 to current year. Prior to October 1943 monthly discharge only, published in WSP 1313. Prior to October 1956, published as Pilot Knob wasteway near Pilot Knob.

GAGE.--Totalizing flowmeter on each turbine. In addition, water-stage recorder in forebay on right bank of All-American Canal (also used as auxiliary gage for sta 09527500); tailrace gage with remote recorder logged hourly in control house; calibrated wicket gates for turbine flow and calibrated bypass gates for wasteway flow which are logged for each change. Datum of forebay staff gage is 150.00 ft (45.720 m); that of tailrace staff gage is 0.00 ft (0.000 m); elevation of sill of bypass gates is 147.88 ft (45.074 m) above mean sea level.

EXTREMES.--Period of record: Maximum daily discharge, 8,350 ft³/s (236 m³/s) Jan. 26, 1958; no flow for long periods.

REMARKS.--Records excellent above 1,200 ft³/s (34.0 m³/s) and good below. Daily discharge computed from flowmeter equipment or from head and gate openings on wicket gates. Records show water released through Pilot Knob powerplant and wasteway from All-American Canal and returned to Colorado River through Rockwood gates. Pilot Knob wasteway completed in summer of 1938 and first flow occurred Feb. 5, 1939. Pilot Knob powerplant was completed in January 1957 and first flow occurred Jan. 14, 1957. See table below for monthly return flow by Pilot Knob wasteway only.

COOPERATION.--Midnight readings of flowmeter, recorder graph of forebay, and record of tailrace elevation and gate openings furnished by Imperial Irrigation District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	0	1050	0	2090	2770	1600	0	1260	1310	0
2		0	0	954	0	1760	2830	1460	0	1250	1370	0
3		0	0	0	0	1520	2830	1450	0	1090	1500	0
4		0	0	0	0	1480	2760	1150	0	1240	1520	0
5		0	565	42	0	1500	2760	1200	0	1290	1500	0
6		0	1010	1030	43	1540	2760	1160	0	1320	1480	0
7		0	1010	1020	1010	1640	2860	1170	0	1330	1500	0
8		0	1010	1040	1060	2020	2940	1140	0	1350	1520	0
9		0	1010	999	1120	1940	3000	0	0	1110	1480	0
10		0	1010	978	1500	1870	3080	0	0	1150	1540	1490
11		0	1020	0	1970	1880	3010	0	0	1300	1550	3080
12		0	1070	0	1180	1820	3010	0	0	1520	1490	1560
13		0	1070	0	1240	1900	2970	0	0	1550	1470	0
14		0	1060	0	1300	1980	4000	0	0	1590	1430	0
15		0	1250	0	1220	2070	5920	0	0	1540	1440	0
16		0	1220	0	1140	2110	4520	0	0	1570	1440	0
17		0	1330	0	715	2170	2490	0	0	1590	1460	0
18		0	1370	0	0	2160	1750	0	0	1540	1440	0
19		0	1380	0	0	2130	2140	0	0	1380	1200	0
20		0	1410	0	0	2200	2030	0	0	1460	1200	0
21		0	1380	0	0	2230	2120	0	0	1590	1220	0
22		0	1530	0	41	2280	2150	0	0	1680	1210	0
23		0	1520	0	1100	2340	2210	0	0	1580	1400	0
24		0	1500	0	1460	2370	2290	0	0	1600	1450	915
25		0	1520	0	1750	2170	2200	0	0	1580	1430	3300
26		0	1240	0	2080	2230	2220	0	0	1600	1400	3140
27		0	1610	0	2330	2330	2000	0	0	1650	1390	4640
28		0	1640	0	2440	2300	1870	0	0	1700	1330	555
29	39	1780	0	2390	2370	1910	0	0	0	1700	1150	0
30	940	1780	0	---	2330	1890	0	1160	1620	1100	0	0
31	---	1370	0	---	2420	---	0	---	1360	1120	---	---
TOTAL	0	979	34665	7113	27089	63150	81290	10330	1160	45090	43040	18680
MEAN	0	32.6	1118	229	934	2037	2710	333	38.7	1455	1388	623
MAX	0	940	1780	1050	2440	2420	5920	1600	1160	1700	1550	4640
MIN	0	0	0	0	0	1480	1750	0	0	1090	1100	0
AC-FT	0	1940	68760	14110	53730	125300	161200	20490	2300	89440	85370	37050
(*)	0	0	0	0	0	0	0	0	0	0	0	61
CAL YR 1975 TOTAL	335431			MEAN 919	MAX 3720	MIN 0	AC-FT 665300	* 0				
WTR YR 1976 TOTAL	332586			MEAN 909	MAX 5920	MIN 0	AC-FT 659700	* 61				

* Return flow, in acre-feet, by Pilot Knob wasteway (included in daily discharge table).

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

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09527500. ALL-AMERICAN CANAL BELOW PILOT KNOB WASTEWAY, CALIF.

LOCATION.--Lat 32°44'07", long 114°43'23", in NW¼SE¼ sec.26, T.16 S., R.21 E., San Bernardino meridian, Imperial County, on left bank 0.4 mi (0.6 km) downstream from Pilot Knob wasteway, 6 mi (10 km) west of Yuma, Ariz., 15 mi (24 km) upstream from turnout to Coachella Canal, and 21.2 mi (34.1 km) downstream from intake at Imperial Dam.

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 150.00 ft (45.720 m) above mean sea level. Auxiliary water-stage recorder on right bank 0.4 mi (0.6 km) upstream used to determine head on Pilot Knob check gates (also used as forebay gage for sta 09527000, Pilot Knob powerplant and wasteway). Datum of auxiliary gage is 150.00 ft (45.720 m) above mean sea level.

AVERAGE DISCHARGE.--15 years, 4,729 ft³/s (133.9 m³/s), 3,426,000 acre-ft/yr (4,220 hm³/yr).

EXTRIMES.--Period of record: Maximum daily discharge, 7,610 ft³/s (216 m³/s) April 27, 28, 1976; no flow Jan. 4, 1967.

REMARKS.--Records excellent. Water is used for power development at three sites below station, and for irrigation in Coachella and Imperial Valleys.

COOPERATION.--Gage-height record and log of gate operation furnished by Imperial Irrigation District.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6000	4240	3050	3300	3940	5420	6760	7400	5720	6000	5420	6710
2	5850	4280	2870	3330	3900	6090	6640	7340	5600	6120	5640	6790
3	5710	4230	2980	3070	4310	6320	6660	7540	5670	6090	5520	6800
4	5730	4080	3050	2970	4740	6540	6700	7540	5730	5730	5660	6510
5	5620	4160	2980	2880	4800	6420	6740	7530	5840	5580	5760	5980
6	5820	4100	2900	3100	4190	5880	6650	7360	5590	5810	6080	5480
7	5830	3850	2800	3260	2780	5340	6610	7010	5570	5900	6280	5540
8	5750	3670	2850	3730	2380	5150	6440	6120	5570	6250	6420	5190
9	5850	3340	2870	3640	1720	5150	6500	5310	5600	6250	6360	4700
10	5680	3340	3150	3020	1210	5210	6510	5190	5380	6510	6350	2230
11	5410	3410	3270	2600	1200	5180	6290	5320	5220	6400	6460	657
12	5160	3500	3210	2760	1130	5130	6320	5420	5500	6350	6470	1110
13	5110	3470	3190	2720	1080	5230	6000	5750	5370	6450	6430	1420
14	4850	3480	3030	2820	1200	5260	3980	5950	5520	6550	6390	1540
15	4820	3510	3040	2880	1030	5610	2770	6190	5530	6590	6380	1400
16	4700	3500	3110	3160	1010	5860	2510	6270	5600	6180	6640	1820
17	4600	3620	3500	3250	982	6170	2820	6640	5750	6210	6720	1970
18	4580	3550	3690	3270	1220	5980	3280	6720	5650	6080	6600	2000
19	4470	3580	3440	3550	1600	6150	4110	6610	5980	6180	6560	2470
20	4450	3550	3430	3680	2010	6270	4820	6760	5710	6370	6560	2930
21	4450	3530	3480	3870	2420	6230	5530	6560	5870	6230	6560	3400
22	4550	3460	3660	4100	2590	6180	6160	6210	6110	5970	6560	3780
23	4310	3240	3460	3840	3240	6380	6300	5890	6100	5720	6600	4120
24	4270	3050	2090	3700	3840	6610	6600	5920	5980	5840	6610	3260
25	4010	3000	1340	3750	4510	6900	6920	6090	5820	5860	6590	3390
26	3930	3020	2370	3790	4850	6730	7270	5830	5870	5920	6260	2960
27	3870	3050	2680	3720	5070	6650	7610	5640	5800	5820	6210	3280
28	3900	2920	3230	3770	5220	6760	7610	5530	5810	5830	6280	3180
29	4090	2940	3490	3890	5260	6870	7480	5570	6030	5520	6230	3350
30	4220	2840	3940	3930	---	6950	7300	5830	6080	5150	6270	3380
31	4280	---	3800	4070	---	6930	---	5670	---	5300	6330	---
TOTAL	151870	105550	95950	105420	83432	187550	177890	194710	171570	186760	195200	107347
MEAN	4899	3520	3095	3401	2877	6050	5930	6281	5719	6025	6297	3578
MAX	6000	4280	3940	4100	5260	6950	7610	7540	6110	6590	6720	6800
MIN	3870	2840	1340	2600	982	5130	2510	5190	5220	5150	5420	657
AC-FT	301200	209400	190300	209100	165500	372000	352800	386200	340300	370400	387200	212900
CAL YR 1975	TOTAL	1818890	MEAN	4983	MAX	7380	MIN	1340	AC-FT	3608000		
WTR YR 1976	TOTAL	1763289	MEAN	4818	MAX	7610	MIN	657	AC-FT	3497000		

Return surface flows below Imperial Dam, Ariz.-Calif.

Between Imperial Dam and the international boundary return surface flows from irrigated areas enter the Colorado River through many drains and wasteways in Arizona and California. Other return flows enter the Gila River below the gaging station near Dome (09520500). In addition, return flows collected by the Main Drain and East Main Canal are delivered across the international boundary for use in Mexico.

Diversions for irrigation in the Gila Project in Arizona are made at Imperial Dam by the Gila Gravity Main Canal. (See sta 09522500.) Diversions for the Yuma Project in Arizona and California are made at Imperial Dam by the All-American Canal (see sta 09523000) and by the Yuma Main Canal. (See stas 09524000 and 09525500.) See p. 568 for records of diversions.

See figure 5 on p. 536 for a schematic diagram showing location of diversions and return flows.

09525000. YUMA MAIN CANAL WASTEWAY.--See daily table elsewhere in this report.

09527000. PILOT KNOB POWERPLANT AND WASTEWAY.--See daily table elsewhere in this report.

09527900. MITTRY LAKE OUTLET CHANNEL.

LOCATION.--Water-stage recorder and sharp-crested weir, in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.14, T.7 S., R.22 W., 1,000 ft (300 m) upstream from outlet to Colorado River and Laguna Dam.

PERIOD OF RECORD.--Monthly discharge October 1974 to current year.

REMARKS.--Record shows return flow to Colorado River from Mittry Lake. Prior to Nov. 6, 1974, records furnished by Bureau of Reclamation.

09528600. LAGUNA CANAL WASTEWAY.

LOCATION.--Water-stage recorder and sharp-crested weir, in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.14, T.7 S., R.22 W., 1,000 ft (300 m) downstream from Laguna Dam and 0.7 mi (1.1 km) upstream from outlet to Colorado River.

PERIOD OF RECORD.--Monthly discharge October 1960 to current year.

REMARKS.--Record shows waste water from North Gila Valley Irrigation District returned to Colorado River. Flow record computed from standard weir rating.

09528800. LEVEE CANAL WASTEWAY.

LOCATION.--Water-stage recorder and sharp-crested weir, in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.4, T.8 S., R.22 W., 1,000 ft (300 m) upstream from outlet to Colorado River.

PERIOD OF RECORD.--Monthly discharge October 1960 to current year.

REMARKS.--Record shows waste water from North Gila Valley Irrigation District returned to Colorado River.

09529000. NORTH GILA DRAIN NO. 1.

LOCATION.--Water-stage recorder, in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.4, T.8 S., R.22 W., 0.25 mi (0.40 km) upstream from outlet to Colorado River and 5.5 mi (8.8 km) downstream from Laguna Dam. No gage prior to Oct. 16, 1974.

PERIOD OF RECORD.--Monthly discharge October 1960 to current year.

REMARKS.--Record shows waste water from North Gila Valley Irrigation District returned to Colorado River. Prior to Oct. 16, 1974, flow records were computed by interpolation between discharge measurements made monthly.

09529050. NORTH GILA DRAIN NO. 3.

LOCATION.--Drain enters wasteway to Gila River in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.18, T.8 S., R.21 W., 1,000 ft (300 m) upstream from Gila River.

PERIOD OF RECORD.--Monthly discharge April 1962 to current year.

REMARKS.--Record shows seepage from Gila Gravity Main Canal. There is no gage; records are computed by interpolation between discharge measurements made monthly.

09529100. FORTUNA WASTEWAY.

LOCATION.--Water-stage recorder and sharp-crested weir, in NE $\frac{1}{4}$ sec.30, T.8 S., R.21 W., 1.3 mi (2.1 km) upstream from Gila River.

PERIOD OF RECORD.--Monthly discharge October 1960 to September 1963, October 1964 to current year.

REMARKS.--Record shows waste water spilled from Gila Gravity Main Canal; flow rarely reaches Gila River.

09529150. NORTH GILA MAIN CANAL WASTEWAY.

LOCATION.--Water-stage recorder in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.22, T.8 S., R.22 W., 1,000 ft (300 m) upstream from outlet to Gila River. Prior to July 1966 water-stage recorder and sharp-crested weir, 1 mi (1.6 km) upstream from outlet to Gila River.

PERIOD OF RECORD.--Monthly discharge October 1960 to current year.

REMARKS.--Record shows waste water from North Gila Valley Irrigation District. Prior to July 1966 record shows waste water less flow diverted for irrigation between gage and Gila River.

09529160. SOUTH GILA PUMP OUTLET CHANNEL NO. 3.

LOCATION.--Water-stage recorder in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.22, T.8 S., R.22 W., 0.5 mi (0.8 km) upstream from outlet to Gila River. Prior to Aug. 1, 1965, record obtained by Badger total-flow meter about 500 ft (150 m) downstream.

PERIOD OF RECORD.--Monthly discharge January 1965 to current year.

REMARKS.--Record shows water pumped from wells in South Gila Valley Unit.

Return surface flows below Imperial Dam, Ariz.-Calif.--Continued

09529200. BRUCE CHURCH DRAIN.

LOCATION.--At culvert in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.21, T.8 S., R.22 W., 0.2 mi (0.3 km) upstream from outlet to Gila River.

PERIOD OF RECORD.--Monthly discharge April 1962 to current year.

REMARKS.--Record shows seepage water from parts of secs.15, 16, and 21 (Bruce Church Ranch). Flow computed by interpolation between discharge measurements; prior to Nov. 30, 1970, flow determined from pump rating.

09529240. SOUTH GILA PUMP OUTLET CHANNEL NO. 2.

LOCATION.--Water-stage recorder in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.28, T.8 S., R.22 W., 0.6 mi (1.0 km) upstream from outlet to Gila River; prior to Oct. 18, 1965, outlet was to Wellton-Mohawk Main Outlet Drain. Prior to Aug. 1, 1965, Sparling meter at outlet to Wellton-Mohawk Main Outlet Drain.

PERIOD OF RECORD.--Monthly discharge January 1962 to current year.

REMARKS.--Record shows water pumped from wells in South Gila Valley Unit and conveyed by concrete channel to the Gila River.

09529250. BRUCE CHURCH WASTEWAY.

LOCATION.--Water-stage recorder and sharp-crested weir, in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.20, T.8 S., R.22 E., 500 ft (150 m) upstream from outlet to Gila River

PERIOD OF RECORD.--Monthly discharge October 1960 to current year.

REMARKS.--Record shows waste water from North Gila Valley Irrigation District returned to Gila River.

09529300. WELLTON-MOHAWK MAIN OUTLET DRAIN (CONVEYANCE CHANNEL).

LOCATION.--Water-stage recorder and Parshall flume in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.17, T.8 S., R.21 W., 7.8 mi (12.6 km) upstream from outlet to Gila River (M.O.D.E. 1), which is 0.6 mi (1.0 km) upstream from mouth of Gila River. Prior to Feb. 20, 1962, gage heights measured from reference point on measuring bridge. Prior to Oct. 1, 1974, gage located 1,000 ft (300 m) upstream without Parshall flume.

PERIOD OF RECORD.--Monthly discharge October 1960 to current year.

REMARKS.--Record shows water pumped from numerous wells in Wellton-Mohawk Irrigation and Drainage District to lower the water table. Flow can be discharged to the Gila River or Colorado River by any one of or combination of three outlets. These outlets are known as: M.O.D.E. 1 (release to Gila River about 8.0 mi (13 km) below station); M.O.D.E. 2 (see sta 09531800), release to Colorado River above Morelos Dam; and M.O.D.E. 3 (see sta 09531900), release to Colorado River below Morelos Dam. For water year 1976, 61 acre-ft (75,200 m³) was released to Gila River through M.O.D.E. 1.

09529360. SOUTH GILA PUMP OUTLET CHANNEL NO. 1.

LOCATION.--Water-stage recorder in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.30, T.8 S., R.22 W., 0.2 mi (0.3 km) upstream from outlet to Gila River, which is 0.6 mi (1.0 km) upstream from mouth of Gila River. Prior to Aug. 1, 1965, Sparling flowmeter 300 feet (90 m) upstream.

PERIOD OF RECORD.--Monthly discharge August 1961 to current year.

REMARKS.--Record shows water pumped from wells in South Gila Valley Unit and conveyed by concrete channel to Gila River.

09529400. SOUTH GILA DRAIN NO. 2.

LOCATION.--Near center of sec.24, T.8 S., R.23 W., at outlet to Colorado River. Prior to Oct. 1, 1969, Sparling flowmeter at same site.

PERIOD OF RECORD.--Monthly discharge October 1960 to current year.

REMARKS.--Record shows ground-water drainage and occasional waste water from South Gila Valley Unit returned to Colorado River. There is no gage; flow record computed by interpolation between discharge measurements made monthly.

09529420. SOUTH GILA TERMINAL WASTEWAY.

LOCATION.--Water-stage recorder and Parshall flume in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.36, T.8 S., R.23 W., 2.0 mi (3.2 km) upstream from outlet to Colorado River. Prior to Aug. 1, 1965, total-flow meter at same site.

PERIOD OF RECORD.--Monthly discharge March 1965 to current year.

REMARKS.--Record shows waste water from South Gila Canal of South Gila Valley Unit returned to Colorado River.

09529440. SOUTH GILA PUMP OUTLET CHANNEL NO. 4.

LOCATION.--Water-stage recorder and broad-crested weir, in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.26, T.8 S., R.23 W., 1.5 mi (2.4 km) upstream from outlet to Colorado River.

PERIOD OF RECORD.--Monthly discharge July 1965 to current year.

REMARKS.--Record shows water pumped from wells in South Gila Valley Unit and conveyed by concrete-lined channel to Colorado River.

09529600. RESERVATION DRAIN NO. 7.

LOCATION.--At downstream end of culvert on State Road 24 (formerly Avenue C), in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.33, T.15 S., R.23 E., San Bernardino meridian, 0.5 mi (0.8 km) upstream from outlet to Reservation Main Drain. Prior to Oct. 1, 1969, nonrecording gage at same site.

PERIOD OF RECORD.--Monthly discharge March 1966 to current year.

REMARKS.--Record shows drainage water from sec.34, T.15 S., R.23 E., and is used with sta 09529700 to determine seepage from All-American Canal. There is no gage; flow record computed by interpolation between discharge measurements made monthly. Beginning June 20, 1967, Imperial Irrigation District makes discharge measurements weekly.

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

Return surface flows below Imperial Dam, Ariz.-Calif.--Continued

09529700. RESERVATION MAIN DRAIN NO. 6.

LOCATION.--Nonrecording gage on upstream right piling of Stallnacker Road Bridge (formerly 9th Street Bridge), in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.32, T.15 S., R.23 E., San Bernardino meridian.

PERIOD OF RECORD.--Monthly discharge March 1966 to current year.

REMARKS.--Record shows waste and drainage water from the Reservation Division, and is used with sta 09529600 to determine seepage from All-American Canal, which parallels drain for 4 mi (6.4 km). Flow record computed by interpolation between discharge measurements made monthly. The Imperial Irrigation District makes discharge measurements weekly.

09529800. RESERVATION DRAIN NO. 2.

LOCATION.--At upstream side of bridge on White Road (formerly 8th Street), in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.6, T.16 S., R.23 E., San Bernardino meridian, 0.9 mi (1.4 km) upstream from outlet to Reservation Main Drain.

PERIOD OF RECORD.--Monthly discharge March 1966 to current year.

REMARKS.--Record used to compute seepage from All-American Canal in sec.31, T.15 S., R.22 E. There is no gage; flow record computed by interpolation between discharge measurements made monthly. The Imperial Irrigation District makes discharge measurements weekly.

09529900. RESERVATION DRAIN NO. 3.

LOCATION.--At Jackson Road Bridge (formerly 5th Street Bridge), in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.10, T.16 S., R.22 E., San Bernardino meridian, 1.0 mi (1.6 km) upstream from outlet to Reservation Main Drain.

PERIOD OF RECORD.--Monthly discharge March 1966 to current year.

REMARKS.--Record used to compute seepage from All-American Canal upstream from Yuma Main Canal. There is no gage; flow record computed by interpolation between discharge measurements made monthly. Imperial Irrigation District makes discharge measurements weekly.

09530000. RESERVATION MAIN DRAIN NO. 4.

LOCATION (REVISED).--Water-stage recorder in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.26, T.16 S., R.22 E., San Bernardino meridian, 500 ft (150 m) upstream from railroad culvert. Prior to January 1937, no gage. January 1937 to Apr. 16, 1941, nonrecording gages at culvert 500 ft (150 m) downstream at different datums. Apr. 16, 1941, to Dec. 16, 1971, water-stage recorder at culvert 500 ft (150 m) downstream. May 29, 1974, to Feb. 2, 1976, water-stage recorder with vane meter at present site. Flow enters Yuma Main Canal wasteway channel 200 ft (60 m) downstream from spillway structure. Prior to May 1955 it entered 500 ft (150 m) upstream from outlet of Yuma Main Canal wasteway in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.26, T.16 S., R.22 E., San Bernardino meridian.

PERIOD OF RECORD.--Monthly discharge January 1913 to April 1920, October 1921 to March 1925, January 1934 to current year (calendar year discharge only 1934-36). Prior to October 1955, Published as California drainage canal.

REMARKS.--Record shows waste and drainage water from area east of Yuma Main Canal on Reservation Division. Since 1939, seepage from All-American Canal has caused large increase. Flow is not included in the record of Yuma Main Canal wasteway.

09530200. YUMA MESA OUTLET DRAIN.

LOCATION.--Venturi meter with recorder in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.28, T.16 S., R.22 E., San Bernardino meridian, in Arizona, Yuma County, 0.3 mi (0.5 km) from outlet to Colorado River.

PERIOD OF RECORD.--Monthly discharge July 1970 to current year.

REMARKS.--Record shows water pumped from wells on the Yuma Mesa and conveyed by underground conduit to Colorado River.

COOPERATION.--Records furnished by Bureau of Reclamation prior to July 21, 1972.

09530400. RESERVATION DRAIN NO. 11.

LOCATION.--At outlet to Drain 8-B (Araz drain), in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.19, T.16 S., R.22 E., San Bernardino meridian.

PERIOD OF RECORD.--Monthly discharge March 1966 to current year.

REMARKS.--Record shows drainage from sec.20, T.16 S., R.22 E. Flow at this station, with that at sta 09530500, is used to determine seepage from All-American Canal. There is no gage; flow record computed by interpolation between discharge measurements made monthly. Beginning June 20, 1967, Imperial Irrigation District makes discharge measurements weekly.

09530500. DRAIN 8-B.

LOCATION.--Enters Colorado River in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.30, T.16 S., R.22 E., San Bernardino meridian, 4 mi (6.4 km) downstream from outlet of Yuma Main Canal wasteway.

PERIOD OF RECORD.--Monthly discharge March 1948 to current year. Prior to October 1955, published as Araz drain.

REMARKS.--Record shows seepage from All-American Canal, and waste and drainage water west of Yuma Main Canal on the Reservation Division. Flow at this station, with that at sta 09530400, is used to determine seepage from All-American Canal. There is no gage, but due to fairly constant drainage, flow record is computed by interpolation between discharge measurements made monthly. Imperial Irrigation District makes discharge measurements weekly at site 1,000 ft (300 m) upstream.

09531800. MAIN OUTLET DRAIN EXTENSION ABOVE MORELOS DAM (M.O.D.E. 2).

LOCATION.--Water-stage recorder and Parshall flume in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.36, T.16 S., R.21 E., San Bernardino meridian, at outlet to Colorado River, 1.7 mi (2.7 km) upstream from Morelos Dam.

PERIOD OF RECORD.--Monthly discharge November 1965 to current year.

REMARKS.--Record shows water conveyed to Colorado River 1.7 mi (2.7 km) above Morelos Dam, from numerous drainage wells in Wellton-Mohawk Irrigation and Drainage District. (See also stas 09529300 and 09531900.)

Return surface flows below Imperial Dam, Ariz.--Calif.--Continued

09531850. COOPER WASTEWAY.

LOCATION.--Water-stage recorder and weir, in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.28, T.8 S., R.24 W., 0.6 mi (1.0 km) upstream from Morelos Dam. Prior to July 14, 1971, at site 1 mi (1.6 km) downstream.

PERIOD OF RECORD.--Monthly discharge January 1934 to current year.

REMARKS.--Record shows waste water from Valley Division returned to Colorado River.

COOPERATION.--Record furnished by International Boundary and Water Commission (U.S. Section).

09531900. MAIN OUTLET DRAIN EXTENSION BELOW MORELOS DAM (M.O.D.E 3).

LOCATION.--Water-stage recorder and Parshall flume in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.28, T.8 S., R.24 W., at outlet to Colorado River just downstream from Morelos Dam.

PERIOD OF RECORD.--Monthly discharge November 1965 to current year.

REMARKS.--Record shows water conveyed to Colorado River below Morelos Dam, from numerous drainage wells in Wellton-Mohawk Irrigation and Drainage District. (See also stas 09529300, 09531800.)

COOPERATION.--Record furnished by International Boundary and Water Commission (U.S. Section).

09532500. ELEVEN MILE WASTEWAY.

LOCATION.--Water-stage recorder and regulating gate in SE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.8, T.9 S., R.24 W., 3.2 mi (5.1 km) downstream from Morelos Dam.

PERIOD OF RECORD.--Monthly discharge January 1924 to current year.

REMARKS.--Record shows waste water from Valley Division returned to Colorado River.

COOPERATION.--Record furnished by International Boundary and Water Commission (U.S. Section).

09533000. TWENTY-ONE MILE WASTEWAY.

LOCATION.--Water-stage recorder and weir in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.35, T.10 S., R.25 W., 0.6 mi (1.0 km) upstream from outlet to Colorado River, which is 2.4 mi (3.9 km) upstream from southerly international boundary and 2.6 mi (4.2 km) northwest of San Luis, Ariz. Prior to May 1, 1971, water-stage recorder and Parshall flume at site 200 ft (60 m) upstream.

PERIOD OF RECORD.--Monthly discharge March 1939 to current year.

REMARKS.--Record shows waste water from Valley Division returned to Colorado River.

COOPERATION.--Record furnished by International Boundary and Water Commission (U.S. Section).

09534000. MAIN DRAIN.

LOCATION.--Flowmeters in discharge pipes at pumping plant in SE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.11, T.11 S., R.25 W., 0.4 mi (0.6 km) west of San Luis, Ariz. Prior to Apr. 1, 1969, rated pumps with forebay and afterbay gages to measure head.

PERIOD OF RECORD.--Monthly discharge January 1919 to current year.

REMARKS.--Record shows flow which consists mostly of drainage water from the Valley Division which is pumped across the Arizona-Sonora boundary for use in Mexico. Flowmeters checked by discharge measurements made by International Boundary and Water Commission (U.S. Section).

COOPERATION.--Record furnished by International Boundary and Water Commission (U.S. Section).

09534300. WEST MAIN CANAL WASTEWAY.

LOCATION.--Water-stage recorder and weir, in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.11, T.11 S., R.25 W., 0.3 mi (0.5 km) upstream from outlet to Main drain, and 0.4 mi (0.6 km) west of San Luis, Ariz. Prior to Aug. 1, 1975, at site 150 ft (46 m) upstream from outlet to Main drain.

PERIOD OF RECORD.--Monthly discharge February 1971 to current year.

REMARKS.--Record shows waste water from Valley Division which is discharged across the Arizona-Sonora boundary for use in Mexico.

COOPERATION.--Record furnished by International Boundary and Water Commission (U.S. Section).

09534500. EAST MAIN CANAL WASTEWAY.

LOCATION.--Water-stage recorder and weir, in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.12, T.11 S., R.25 W., 0.3 mi (0.5 km) upstream from outlet to Main drain, and 0.2 mi (0.3 km) west of San Luis, Ariz.

PERIOD OF RECORD.--Monthly discharge January 1924 to June 1928, January 1932 to December 1933, April 1935 to current year. Calendar year estimates 1934 and 1935, published in WSP 1313.

REMARKS.--Record shows amount of unused water at the extreme end of the Valley Division which is discharged across the Arizona-Sonora boundary for use in Mexico.

COOPERATION.--Record furnished by International Boundary and Water Commission (U.S. Section).

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

Return surface flows below Imperial Dam, Ariz.-Calif.--Continued

MONTHLY RETURN FLOWS, IN ACRE-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

Month	Mittry Lake Outlet Channel 09527900	Laguna Canal wasteway 09528600	Levee Canal wasteway 09528800	North Gila Drain No. 1 09529000	North Gila Drain No. 3 09529050	Fortuna wasteway 09529100
October	633	0	106	504	0	30
November	541	.02	161	540	0	34
December	839	.4	131	308	0	35
CAL YR 1975	9,560	7.0	1,560	4,800	13	397
January	626	6.5	137	256	0	39
February	742	.7	139	424	0	32
March	720	1.2	148	364	0	34
April	766	.4	158	461	0	28
May	724	1.8	272	478	0	30
June	530	.4	178	425	0	45
July	788	0	128	560	.3	45
August	1,630	0	157	720	.3	46
September	1,360	3.6	172	710	0	40
WTR YR 1976	9,900	15	1,890	5,750	0.6	438

Month	North Gila Main Canal wasteway 09529150	South Gila Pump Outlet Channel No. 3 09529160	Bruce Church Drain 09529200	South Gila Pump Outlet Channel No. 2 09529240	Bruce Church wasteway 09529250
October	82	0	91	408	2.0
November	104	0	43	386	12
December	49	0	31	2,000	2.7
CAL YR 1975	745	7,140	784	18,150	82
January	21	266	41	1,150	1.8
February	43	389	33	1,520	21
March	56	1,240	39	2,220	1.4
April	71	2,070	30	1,870	15
May	38	298	38	1,280	0
June	45	18	52	1,740	22
July	34	1,500	66	2,100	0
August	56	779	60	1,780	5.4
September	88	7.8	54	1,170	.4
WTR YR 1976	685	6,560	578	17,610	84

Month	Wellton-Mohawk Main Outlet Drain 09529300	South Gila Pump Outlet Channel No. 1 09529360	South Gila Drain No. 2 09529400	South Gila Terminal wasteway 09529420	South Gila Pump Outlet Channel No. 4 09529440
October	18,500	2,200	0	32	4.3
November	18,220	1,960	18	35	.2
December	18,740	2,460	18	19	0
CAL YR 1975	210,200	28,260	192	331	1,080
January	18,170	2,060	18	51	.2
February	7,820	2,540	25	28	0
March	18,180	2,760	11	38	195
April	10,960	2,550	0	56	0
May	18,950	2,660	0	83	153
June	18,130	2,700	0	22	116
July	18,660	2,650	0	42	493
August	19,070	2,530	18	11	327
September	17,670	2,360	30	57	.3
WTR YR 1976	203,100	29,430	138	474	1,290

NOTE.--Yearly totals given above have been computed from total cfs-days and may differ slightly from the summation of monthly total acre-feet on occasion.

Return surface flows below Imperial Dam, Ariz.-Calif.--Continued

MONTHLY RETURN FLOWS, IN ACRE-FEET, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

Month	Reservation Drain No. 7 09529600	Reservation Main Drain No. 6 09529700	Reservation Drain No. 2 09529800	Reservation Drain No. 3 09529900	Reservation Main Drain No. 4 09530000	Yuma Mesa Outlet Drain 09530200
October	98	1,200	29	273	3,850	4,540
November	77	1,090	41	222	3,550	4,430
December	60	968	18	189	3,460	4,480
CAL YR 1975	1,130	12,140	184	2,720	40,710	56,280
January	63	922	6.1	212	3,270	4,370
February	55	813	5.8	238	3,020	3,290
March	85	912	16	252	3,820	4,230
April	101	966	23	258	3,860	2,640
May	109	1,130	26	300	4,050	4,500
June	113	1,130	12	273	3,760	4,430
July	112	1,200	12	264	3,540	4,410
August	130	1,250	16	285	3,690	4,490
September	122	1,200	18	307	3,900	2,250
WTR YR 1976	1,130	12,780	223	3,070	43,790	48,080

Month	Reservation Drain No. 11 09530400	Drain 8-B 09530500	M.O.D.E. 2 (above Morelos Dam) 09531800	Cooper wasteway 09531850	M.O.D.E. 3 (below Morelos Dam) 09531900
October	43	218	0	79	19,110
November	52	256	0	72	18,420
December	49	247	0	80	19,120
CAL YR 1975	369	2,080	0	766	214,700
January	35	221	0	112	18,720
February	29	155	0	64	7,840
March	45	189	0	58	18,470
April	59	186	0	95	10,870
May	58	204	0	126	19,090
June	55	220	0	60	18,060
July	61	234	0	107	18,830
August	58	240	0	45	19,190
September	60	244	0	25	17,860
WTR YR 1976	604	2,610	0	923	205,600

Month	Eleven Mile wasteway 09532500	Twenty-one Mile wasteway 09533000	Main Drain 09534000	West Main Canal wasteway 09534300	East Main Canal wasteway 09534500
October	45	0.6	8,580	424	705
November	243	0.2	7,550	506	658
December	62	0	7,290	550	591
CAL YR 1975	1,140	9.8	93,160	5,970	7,650
January	27	0	6,810	565	690
February	185	27	6,500	537	388
March	59	1.0	7,610	453	549
April	133	0	8,260	466	549
May	8	0	8,280	434	628
June	163	0	7,820	464	462
July	29	0	8,390	461	436
August	161	0	8,560	436	421
September	22	0	8,350	768	799
WTR YR 1976	1,140	29	94,000	6,060	6,880

NOTE.--Yearly totals given above have been computed from total cfs-days and may differ slightly from the summation of monthly total acre-feet on occasion.

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09527900. MITTRY LAKE OUTLET CHANNEL NEAR YUMA, ARIZ.

LOCATION.--Lat 32°48'09", long 114°28'05", in NW¼SE¼ sec.14, T.7 S., R.22 W., Yuma County, at water-stage recorder and sharp-crested weir, 1,000 ft (305 m) upstream from outlet into Colorado River above Laguna Dam, and 12 mi (19 km) northeast of Yuma.

PERIOD OF RECORD.--Chemical analyses: September 1974 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

		INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
DATE	TIME											
OCT 06...	0220	12	1990	8.1	25.5	420	230	100	41	260	5.5	9.5
NOV 03...	0215	8.2	2000	8.1	18.5	430	230	110	38	270	5.7	9.9
DEC 01...	0650	12	1980	8.0	--	420	220	100	41	270	5.7	9.7
JAN 05...	0225	10	1910	8.2	8.5	440	230	110	39	260	5.4	9.1
FEB 02...	0210	10	1930	8.3	13.5	430	220	110	38	250	5.2	8.6
MAR 01...	0050	13	1950	8.2	19.0	440	220	110	39	250	5.2	9.0
APR 05...	0240	14	2010	8.0	20.5	440	230	110	41	260	5.4	8.4
MAY 03...	0140	12	1980	8.2	24.0	440	230	110	40	270	5.6	9.0
JUN 07...	0225	14	1960	8.1	26.5	440	240	110	41	260	5.4	8.0
JUL 05...	0350	5.8	1960	8.1	--	470	260	120	41	260	5.2	9.1
AUG 02...	0205	13	1900	8.2	29.0	450	260	110	42	270	5.6	9.2
SEP 06...	0340	28	1860	8.2	29.0	410	220	99	40	240	5.1	8.5

		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)	DIS- SOLVED SILICA (SI02) (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)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
DATE													
CT 06...	231	0	480	220	2.0	22	1300	1250	1.77	.02	390	30	
OV 03...	241	0	460	240	2.2	21	1320	1270	1.80	.05	360	0	
EL 01...	242	0	480	230	2.1	21	1290	1270	1.75	.01	410	10	
AN 05...	253	0	450	210	1.9	16	1210	1220	1.65	.02	340	10	
EB 02...	262	0	450	220	2.0	15	1290	1220	1.75	.03	350	20	
AR 01...	265	0	460	220	1.9	13	1250	1230	1.70	.03	350	10	
FR 05...	266	0	500	230	1.9	13	1300	1300	1.77	.02	330	20	
AY 03...	260	0	500	220	1.9	12	1260	1290	1.71	.43	330	0	
UN 07...	249	0	480	230	2.0	17	1350	1270	1.84	.01	410	30	
JL 05...	253	0	490	230	2.1	19	1250	1300	1.70	.01	380	10	
UG 02...	226	0	480	220	2.0	23	1250	1270	1.70	.03	360	20	
EP 06...	230	0	440	200	2.0	25	1210	1170	1.65	.02	360	10	

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

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09529000. NORTH GILA DRAIN NO. 1 NEAR YUMA, ARIZ.

LOCATION.--Lat 32°45'29", long 114°27'18", in NE¼NW¼ sec.9, T.8 S., R.22 W., Yuma County, 0.1 mi (0.2 km) upstream from outlet to Colorado River, and 6 mi (10 km) northeast of Yuma.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1973 (partial-record station), October 1973 to current year.

REMARKS.--Unpublished chemical analyses (partial record) for water years 1962-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)
OCT												
14...	1400	7.9	2090	8.0	21.0	490	270	120	47	270	5.3	5.3
NOV												
19...	1030	10	2140	8.0	15.0	490	250	120	46	290	5.7	5.8
DEC												
22...	1300	4.8	2030	8.1	18.0	460	260	110	45	280	5.7	5.6
JAN												
19...	1435	3.7	1890	8.4	19.5	410	230	100	39	240	5.2	4.9
FEB												
18...	1400	6.1	2140	8.1	23.0	490	260	120	45	270	5.3	5.6
MAR												
23...	1410	5.8	1970	8.4	26.0	450	260	110	43	260	5.3	4.9
APR												
20...	1045	6.8	2020	8.2	21.5	490	270	120	45	250	4.9	5.8
MAY												
17...	1240	7.4	1910	8.2	29.0	460	260	110	45	240	4.9	4.8
JUN												
22...	1030	7.0	1900	8.3	23.0	460	260	110	44	250	5.1	4.4
JUL												
19...	1400	7.7	1840	8.2	31.0	430	240	97	45	250	5.3	5.1
AUG												
23...	1105	13	2080	8.0	27.0	510	270	130	44	270	5.2	6.2
SEP												
20...	1300	8.4	1950	8.2	23.5	460	250	110	45	250	5.1	5.3

DATE	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
OCT												
14...	275	0	530	240	.7	21	1420	1370	1.93	.59	340	0
NOV												
19...	287	0	520	250	.7	21	1420	1400	1.93	.68	380	20
DEC												
22...	247	0	490	230	.6	21	1320	1310	1.80	.49	300	20
JAN												
19...	223	0	470	220	.6	18	1240	1200	1.69	.33	280	20
FEB												
18...	269	0	530	250	.7	19	1420	1380	1.93	.49	330	0
MAR												
23...	229	0	480	220	.6	20	1300	1250	1.77	.23	300	20
APR												
20...	267	0	460	220	.5	19	1340	1250	1.82	.22	310	130
MAY												
17...	240	0	470	220	.6	20	1300	1230	1.77	.20	290	0
JUN												
22...	243	0	480	230	.7	22	1340	1260	1.82	.18	320	10
JUL												
19...	223	0	470	220	.7	21	1260	1220	1.71	.13	290	20
AUG												
23...	283	0	500	240	.8	22	1320	1350	1.80	.20	350	20
SEP												
20...	261	0	440	220	.7	21	1290	1220	1.75	.19	290	0

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09529050. NORTH GILA DRAIN NO. 3 NEAR YUMA, ARIZ.

LOCATION.--Lat 32°44'28", long 114°26'39", in NE¼NE¼ sec.18, T.8 S., R.21 W., Yuma County, 0.2 mi (0.3 km) upstream from outlet to Gila River, and 10 mi (16 km) east of Yuma.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1973 (partial-record station), October 1973 to current year.

REMARKS.--No flow for most of each year. Unpublished chemical analyses (partial record) for water years 1965-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
JUL 19...	1310	.01	1410	8.3	36.0	380	220	96	35	170	3.8	5.6
DATE	RICAR- BONATE (HCO ₃) (MG/L)	CAR- BONATE (CO ₃) (MG/L)	DIS- SOLVED SULFATE (SO ₄) (MG/L)	DIS- SOLVED CHLO- RIDE (Cl) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO ₂) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED BORON (B) (UG/L)
JUL 19...	203	0	360	150	.8	20	955	938	1.30	.02	20	210

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

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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 mi (0.8 km) upstream from outlet to Gila River, and 6 mi (10 km) east of Yuma.

PERIOD OF RECORD.--Chemical analyses: October 1968 to current year.

REMARKS.--No flow for many days of most months. Unpublished miscellaneous chemical analyses for water years 1965-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA,MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM AD-SORPTION RATIO
JAN 26...	0320	12	3310	7.7	21.0	810	490	211	69	395	6.0
FEB 02...	0310	12	3300	7.9	20.5	810	488	198	77	390	6.0
09...	0400	11	3300	7.9	20.5	810	488	206	72	390	6.0
MAR 01...	0415	9.2	4030	7.9	20.0	900	694	214	89	500	7.3
08...	0325	8.8	3950	7.7	20.0	870	664	210	84	495	7.3
15...	0330	25	5690	7.6	20.0	1180	892	274	121	790	10
22...	0205	25	5790	7.7	21.0	1180	886	280	117	810	10
29...	0320	29	5430	7.8	21.5	1110	806	274	104	750	9.8
APR 05...	0145	29	5420	7.7	21.0	1110	804	262	111	750	9.8
12...	0250	42	5290	7.8	21.0	1070	734	264	100	740	9.8
19...	0330	15	3650	7.6	20.0	820	566	192	83	455	6.9
26...	0145	42	5270	7.6	22.0	1070	732	256	105	735	9.8
MAY 03...	0250	15	5160	7.9	23.0	1040	730	224	117	715	9.6
JUL 05...	0240	17	5040	7.9	27.0	1040	740	242	106	695	9.4
12...	0305	18	5130	7.9	23.5	1060	750	240	112	710	9.5
19...	0205	29	5480	7.9	27.0	1130	810	264	115	765	9.9
26...	0220	25	5650	7.7	28.5	1130	784	268	112	820	11
AUG 02...	0310	32	5860	7.9	23.0	1150	802	268	117	870	11
09...	0135	11	3870	7.9	26.0	860	647	202	87	480	7.1
16...	0210	18	5240	8.0	--	1060	744	244	110	730	9.7
23...	0320	11	3880	8.0	23.5	860	647	206	84	480	7.1

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09529160. SOUTH GILA PUMP OUTLET CHANNEL NO. 3 NEAR YUMA, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	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)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRATE (N) (MG/L)
JAN 26...	8.4	392	0	350	695	7.0	20	2040	1950	2.77	.41
FEB 02...	8.5	392	0	350	690	1.4	28	2050	1940	2.79	.34
09...	8.0	392	0	350	690	1.3	25	2060	1940	2.80	.50
MAR 01...	8.0	252	0	290	1060	.8	25	2430	2310	3.30	.23
08...	8.2	252	0	290	1020	1.1	19	2380	2250	3.24	.23
15...	10	352	0	545	1450	.8	26	3500	3390	4.76	.32
22...	11	358	0	555	1480	1.0	24	3690	3460	5.02	.68
29...	10	370	0	515	1360	.6	20	3550	3220	4.83	.54
APR 05...	9.8	374	0	515	1360	1.0	25	3470	3220	4.72	.45
12...	10	410	0	570	1250	1.0	23	3420	3170	4.65	1.2
19...	7.6	310	0	290	890	1.0	25	2210	2100	3.01	.25
26...	10	412	0	570	1250	.6	20	3500	3150	4.76	.81
MAY 03...	9.2	378	0	500	1270	.6	25	3450	3050	4.69	.41
JUL 05...	8.7	366	0	495	1240	.6	24	3240	2990	4.41	.41
12...	8.4	378	0	505	1270	.9	20	3380	3050	4.60	.43
19...	10	350	0	535	1380	.5	24	3520	3290	4.79	.18
26...	9.8	422	0	590	1390	.6	23	3700	3420	5.03	.50
AUG 02...	11	424	0	660	1430	.5	22	3750	3590	5.10	1.1
09...	8.3	260	0	270	1000	.6	24	2440	2200	3.32	.45
16...	9.1	386	0	515	1290	.4	23	3390	3110	4.61	.36
23...	8.4	260	0	270	1000	.4	22	2430	2200	3.30	.07

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

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09529200. BRUCE CHURCH DRAIN NEAR YUMA, ARIZ.

LOCATION.--Lat 32°43'26", long 114°31'07", in NW¼NE¼ sec.21, T.8 S., R.22 W., Yuma County, 0.2 mi (0.3 km) upstream from outlet to Gila River, and 5 mi (8 km) east of Yuma.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1973 (partial-record station), October 1973 to current year.

REMARKS.--Unpublished chemical analyses (partial record) for water years 1965-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT 16...	1400	1.6	2390	8.0	21.0	690	380	170	65	270	4.5	7.9
NOV 19...	0900	.54	2320	7.6	11.5	680	360	170	62	270	4.5	8.4
DEC 22...	1410	.42	2460	8.0	16.0	670	360	170	59	280	4.7	10
JAN 19...	1340	.71	2230	8.4	18.0	580	340	140	57	260	4.7	8.0
FEB 18...	1445	.54	2290	8.2	21.5	600	340	150	54	270	4.8	8.4
MAR 23...	1510	.68	2360	8.3	23.5	650	380	160	61	280	4.8	8.3
APR 19...	1325	.44	2240	8.4	25.5	600	320	140	60	260	4.6	9.3
MAY 17...	1330	.65	2320	8.1	30.0	660	390	160	63	270	4.6	7.0
JUN 22...	1220	.98	2140	8.0	28.0	680	370	170	61	260	4.4	6.5
JUL 19...	1035	1.1	2250	8.0	25.5	650	330	160	61	290	4.9	7.7
AUG 23...	1225	.92	2340	8.0	31.0	680	370	170	61	270	4.5	8.4

DATE	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)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT 16...	382	0	630	250	.7	28	1680	1610	2.28	.58	380	10
NOV 19...	384	0	590	230	.8	24	1620	1550	2.20	.50	370	480
DEC 22...	371	0	590	260	.8	23	1680	1580	2.28	.22	410	10
JAN 19...	295	0	570	240	.6	16	1540	1440	2.09	.10	370	20
FEB 18...	314	0	620	250	.7	22	1600	1530	2.18	.15	340	20
MAR 23...	331	0	610	250	.8	21	1650	1560	2.24	.30	340	10
APR 19...	306	16	540	240	.6	19	1550	1440	2.11	.06	370	70
MAY 17...	330	0	610	250	.8	28	1670	1550	2.27	.23	360	30
JUN 22...	378	0	590	240	.9	29	1670	1550	2.27	.20	330	30
JUL 19...	387	0	590	240	.8	30	1640	1570	2.23	.23	340	40
AUG 23...	377	0	550	250	.9	29	1480	1530	2.01	.20	380	20

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

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 mi (1.0 km) upstream from outlet to Gila River, and 4 mi (6 km) east of Yuma.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS- DIS- CHARGE (CFS)	SPF- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAP- RONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG/L)	DIS- SOLVED SODIUM (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT												
06...	0325	2.5	2090	7.9	25.5	310	120	76	29	350	8.7	4.9
13...	0330	4.1	2080	8.1	21.0	300	69	77	26	335	8.4	5.3
20...	0530	3.2	2080	8.1	--	305	72	78	27	335	8.3	5.7
27...	0310	11	3480	8.0	17.0	550	296	156	39	540	10	5.3
NOV												
03...	0335	11	3510	7.8	21.0	560	300	130	57	540	9.9	7.1
10...	0510	3.6	2070	8.1	--	305	72	82	24	330	8.2	5.3
17...	0310	11	3500	8.0	15.5	550	298	130	55	545	10	6.2
DEC												
01...	0430	7.8	4140	7.9	16.5	660	392	162	62	640	11	6.6
08...	0400	26	3190	7.9	18.0	550	306	136	51	470	8.7	6.2
15...	0325	27	3130	7.9	21.0	515	270	129	47	475	9.1	6.6
22...	0230	38	2990	7.8	22.0	520	286	129	48	440	8.4	6.4
29...	0515	39	3000	7.9	22.0	520	287	125	51	445	8.5	6.0
JAN												
05...	0330	15	2190	8.0	20.0	340	107	93	26	345	8.2	5.3
12...	0230	26	2930	7.9	22.0	465	224	115	43	455	9.2	6.3
19...	0420	14	2180	8.0	20.0	345	114	90	29	345	8.1	5.2
26...	0340	14	2200	8.0	21.5	345	114	91	29	345	8.1	5.6
FEB												
02...	0330	12	2200	8.0	22.0	345	112	87	31	345	8.1	5.2
09...	0340	30	3080	8.0	20.0	510	262	137	41	470	9.0	6.0
16...	0420	23	2940	7.9	23.0	470	224	138	31	455	9.1	6.0
23...	0320	23	2930	8.0	19.5	470	226	114	45	455	9.1	5.8
MAR												
01...	0405	40	2940	8.0	20.0	470	229	132	34	455	9.1	6.2
08...	0345	40	2960	7.8	21.5	490	248	132	39	455	8.9	6.6
15...	0350	40	2970	7.7	19.5	490	250	121	46	455	8.9	6.4
22...	0245	40	2980	7.9	23.5	495	256	120	48	460	9.0	6.6
29...	0335	43	2980	7.9	21.5	495	256	119	48	460	9.0	6.0
APR												
05...	0125	47	2960	7.9	21.5	490	252	119	47	455	8.9	6.4
12...	0300	28	3000	8.0	21.5	495	254	118	49	460	9.0	6.9
19...	0400	10	2200	8.0	21.5	345	114	82	34	345	8.1	5.6
26...	0125	37	3020	7.9	23.0	515	279	120	52	445	8.5	6.0
MAY												
03...	0305	38	2990	7.7	23.0	515	284	125	49	440	8.4	6.2
10...	0400	30	3170	7.9	23.0	520	274	127	49	475	9.1	6.0
31...	0315	36	2960	8.0	23.0	485	244	119	46	455	9.0	6.0
JUN												
07...	0125	22	2990	7.9	26.0	495	250	117	49	455	8.9	6.0
14...	0315	28	3120	7.9	25.0	510	262	121	51	475	9.1	6.5
21...	0335	33	2950	8.0	24.5	485	247	120	45	455	9.0	5.7
28...	0110	32	2940	7.9	24.5	485	244	119	46	450	8.9	6.0
JUL												
05...	0230	31	2940	7.7	27.0	485	244	121	45	450	8.9	6.4
12...	0325	32	2930	7.8	24.0	485	249	119	46	450	8.9	7.0
19...	0130	35	2940	7.8	26.5	485	249	123	43	450	8.9	6.7
27...	0500	29	3090	7.9	28.5	505	256	120	50	470	9.1	7.1
AUG												
02...	0330	39	2940	7.9	23.5	485	247	116	48	450	8.9	6.8
09...	0115	25	3090	7.8	25.5	505	262	122	49	470	9.1	6.8
16...	0215	28	3090	8.1	--	500	256	121	48	470	9.1	7.0
23...	0335	29	3090	8.0	24.5	500	254	119	49	470	9.2	6.9
30...	0335	22	2670	8.0	26.5	435	197	105	42	405	8.4	6.1
SEP												
06...	0245	21	2950	8.1	29.0	480	238	112	49	455	9.0	7.2
13...	0325	21	2950	8.1	23.5	480	238	112	49	455	9.0	7.1
20...	0105	20	2960	8.0	25.5	475	230	114	46	455	9.1	6.4
27...	0230	19	2970	8.0	24.0	470	228	117	43	460	9.2	6.3

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

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09529240. SOUTH GILA PUMP OUTLET CHANNEL NO. 2 NEAR YUMA, ARIZ.--CONTINUED

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

REMARKS.--No flow May 16, 17, 19-24. Unpublished miscellaneous chemical analyses for water years 1965-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	RTCAP- ROMATE (HCO3) (MG/L)	CAP- ROMATE (CO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLOR- RIDE (Cl) (MG/L)	DIS- SOLVED FLUOR- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (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)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT												
06...	231	0	450	270	1.3	25	1300	1340	1.77	3.8	720	10
13...	282	0	430	250	1.3	25	1290	1290	1.75	--	--	--
20...	284	0	430	250	1.0	25	1280	1290	1.74	--	--	--
27...	310	0	385	760	1.0	21	2080	2060	2.83	--	--	--
NOV												
03...	314	0	350	790	.9	25	2070	2060	2.82	1.1	740	0
10...	284	0	430	245	1.0	18	1270	1280	1.73	--	--	--
17...	308	0	390	770	.8	21	2080	2080	2.83	--	--	--
DEC												
01...	326	0	370	1000	1.0	25	2480	2430	3.37	--	--	--
08...	298	0	440	625	.8	24	1950	1900	2.65	--	--	--
15...	298	0	445	600	.8	19	1930	1880	2.62	--	--	--
22...	284	0	430	570	1.0	22	1840	1790	2.50	--	--	--
29...	284	0	435	570	.8	22	1820	1800	2.48	--	--	--
JAN												
05...	284	0	440	285	1.0	23	1380	1370	1.88	--	--	--
12...	294	0	420	545	.9	17	1780	1750	2.42	--	--	--
19...	282	0	440	290	1.0	22	1360	1370	1.85	--	--	--
26...	282	0	440	290	1.4	25	1370	1370	1.86	--	--	--
FEB												
02...	284	0	440	290	1.0	26	1370	1380	1.86	--	--	--
09...	302	0	430	500	1.0	24	1900	1860	2.58	--	--	--
16...	300	0	420	555	.8	21	1800	1780	2.45	--	--	--
23...	298	0	420	545	.7	20	1790	1760	2.43	--	--	--
MAR												
01...	294	0	420	550	1.0	20	1810	1770	2.46	--	--	--
08...	296	0	430	555	1.0	20	1820	1790	2.48	--	--	--
15...	292	0	435	555	1.0	22	1820	1790	2.48	--	--	--
22...	292	0	440	560	.7	20	1810	1810	2.46	--	--	--
29...	292	0	440	560	.9	22	1830	1810	2.49	--	--	--
APR												
05...	290	0	435	555	.8	21	1810	1790	2.46	--	--	--
12...	294	0	435	565	.8	22	1830	1810	2.49	--	--	--
19...	282	0	440	285	.9	21	1360	1360	1.85	--	--	--
26...	288	0	420	575	1.0	20	1860	1790	2.53	--	--	--
MAY												
03...	282	0	420	570	1.2	23	1830	1780	2.49	--	--	--
10...	300	0	435	610	1.0	19	1930	1880	2.62	--	--	--
31...	294	0	435	555	.9	25	1830	1790	2.49	--	--	--
JUN												
07...	298	0	425	565	.8	22	1820	1800	2.48	--	--	--
14...	302	0	430	605	1.0	24	1910	1870	2.60	--	--	--
21...	290	0	430	555	1.2	24	1810	1790	2.46	--	--	--
28...	294	0	425	550	1.0	20	1820	1770	2.48	--	--	--
JUL												
05...	294	0	425	550	.7	23	1780	1770	2.42	--	--	--
12...	288	0	425	550	1.0	20	1820	1770	2.48	--	--	--
19...	288	0	430	550	.7	24	1790	1780	2.43	--	--	--
27...	304	0	435	590	.9	22	1890	1850	2.57	--	--	--
AUG												
02...	290	0	425	555	1.0	21	1790	1770	2.43	--	--	--
09...	296	0	425	595	1.0	25	1900	1850	2.58	--	--	--
16...	298	0	425	595	1.0	24	1880	1850	2.56	--	--	--
23...	300	0	420	595	.7	22	1910	1840	2.60	--	--	--
30...	290	0	430	445	1.0	21	1650	1610	2.24	--	--	--
SEP												
06...	296	0	410	560	1.0	20	1780	1770	2.42	--	--	--
13...	296	0	410	560	1.0	21	1780	1770	2.42	--	--	--
20...	298	0	410	560	.7	23	1780	1770	2.42	--	--	--
27...	296	0	415	565	.7	21	1840	1780	2.50	--	--	--

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

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 mi (13 km) upstream from outlet to Gila River, and 11 mi (18 km) east of Yuma.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA,MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO
OCT											
06...	0250	308	5610	7.9	24.0	970	612	228	98	910	13
13...	0250	302	5570	8.1	20.5	950	594	222	96	900	13
20...	0110	298	5610	8.1	20.0	960	608	224	98	910	13
27...	0235	302	5670	8.1	16.0	960	608	224	98	920	13
NOV											
03...	0250	297	5650	8.0	--	960	602	224	98	915	13
10...	0125	306	5630	8.1	20.5	960	609	236	90	905	13
17...	0230	303	5840	8.1	14.5	1000	644	234	101	955	13
24...	0255	303	5840	8.0	18.5	990	632	240	95	955	13
DEC											
01...	0700	306	5770	7.9	18.5	980	628	236	95	940	13
08...	0010	303	5750	7.9	16.5	970	614	240	90	935	13
15...	0245	298	5790	7.9	16.5	980	619	234	96	945	13
22...	0205	300	5610	7.9	20.5	950	599	236	88	925	13
29...	0250	292	5620	8.1	20.5	960	602	236	90	925	13
JAN											
05...	0255	291	5540	8.0	18.5	940	586	232	88	895	13
12...	0400	303	5540	8.0	19.5	940	584	230	89	895	13
19...	0220	300	5650	8.0	19.5	970	611	238	91	915	13
26...	0245	302	5670	8.0	19.5	970	614	236	93	920	13
FEB											
02...	0245	8.0	7100	7.9	17.0	1280	972	318	118	1130	14
16...	0325	236	5240	8.1	21.0	960	610	240	88	825	12
23...	0235	274	5710	8.0	--	990	626	242	94	925	13
MAR											
01...	1215	312	5740	7.9	--	970	614	236	93	935	13
08...	0240	309	5550	8.0	21.0	960	609	228	95	895	13
15...	0300	300	5650	7.9	19.5	960	609	236	90	915	13
22...	0305	294	5660	8.0	22.0	960	606	234	91	915	13
29...	0245	285	5810	7.9	21.0	990	640	242	94	950	13
APR											
05...	0200	246	5700	7.9	20.5	970	620	228	98	920	13
12...	0220	182	5870	7.9	20.0	970	626	246	87	960	13
26...	0200	236	5250	7.9	21.5	960	619	226	96	825	12
MAY											
03...	0220	315	5620	7.9	23.5	960	617	232	93	915	13
10...	0310	321	5510	8.0	24.5	940	584	232	88	900	13
17...	0030	306	5710	8.0	--	990	631	246	91	920	13
24...	0035	315	5600	8.0	25.0	950	596	238	87	915	13
31...	0230	302	5680	7.9	24.5	960	610	236	90	915	13
JUN											
07...	0145	303	5610	8.1	25.5	950	592	244	83	910	13
14...	0010	290	5750	7.9	25.5	980	624	238	94	935	13
21...	0245	304	5580	7.9	--	930	576	234	84	915	13
28...	0140	303	5580	8.0	25.5	930	572	234	84	915	13
JUL											
05...	0300	308	5530	8.0	26.0	930	576	236	83	910	13
12...	0230	303	5620	8.0	26.5	950	594	240	85	915	13
19...	0225	306	5580	8.0	26.5	930	572	232	85	915	13
26...	0155	306	5610	8.0	28.0	950	592	238	87	915	13
AUG											
02...	0235	314	5470	8.1	26.0	930	572	238	82	890	13
09...	0150	304	5580	8.1	26.0	940	581	234	87	915	13
16...	0300	318	5560	8.0	--	940	582	232	88	905	13
23...	0230	327	5470	8.4	27.0	930	576	220	93	895	13
30...	0040	255	5610	8.0	26.5	930	571	226	89	915	13
SEP											
06...	0015	298	5630	8.3	27.0	940	572	218	96	915	13
13...	0235	290	5480	8.1	25.5	930	578	236	83	895	13
20...	0140	298	5520	8.0	26.0	940	582	230	89	910	13
27...	0200	304	5470	8.0	24.5	930	576	232	85	895	13

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

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09529300. WELLTON-MOHAWK MAIN OUTLET DRAIN NEAR YUMA, ARIZ.--CONTINUED

PERIOD OF RECORD.--Chemical analyses: October 1968 to current year.

REMARKS.--No flow Feb. 3-12, Apr. 20-23. Unpublished chemical analyses (continuing record) for water years 1961-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAH- 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)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRATE (N) (MG/L)
OCT											
06...	9.3	436	0	955	1130	2.4	24	3620	3570	4.92	--
13...	8.9	434	0	925	1140	2.2	25	3680	3540	5.00	1.4
20...	9.1	430	0	950	1150	2.0	26	3710	3580	5.05	--
27...	8.9	430	0	940	1170	2.1	23	3720	3600	5.06	--
NOV											
03...	8.8	436	0	940	1160	2.2	24	3690	3590	5.02	--
10...	8.9	428	0	930	1150	2.2	23	3690	3560	5.02	--
17...	9.4	434	0	960	1220	2.1	27	3770	3720	5.13	--
24...	9.0	436	0	955	1220	2.2	24	3780	3720	5.14	1.6
DEC											
01...	9.0	430	0	945	1200	2.3	24	3760	3680	5.11	2.7
08...	9.0	434	0	940	1190	2.2	26	3730	3660	5.07	3.4
15...	9.3	440	0	950	1200	2.4	25	3780	3690	5.14	3.2
22...	9.1	428	0	930	1150	2.4	26	3710	3590	5.05	2.9
29...	9.1	436	0	930	1150	2.2	25	3720	3590	5.06	2.7
JAN											
05...	8.9	432	0	920	1120	2.4	26	3540	3520	4.81	3.6
12...	9.0	434	0	920	1120	2.3	27	3580	3520	4.87	2.7
19...	9.1	438	0	935	1160	2.3	25	3670	3600	4.99	2.5
26...	9.2	434	0	940	1160	2.2	26	3700	3610	5.03	2.9
FEB											
02...	11	376	0	1010	1690	2.0	28	4600	4500	6.26	1.4
16...	9.0	426	0	870	1060	2.2	24	3440	3340	4.68	2.5
23...	9.6	444	0	945	1180	2.6	27	3750	3650	5.10	2.0
MAR											
01...	9.5	434	0	940	1190	2.6	26	3740	3660	5.09	2.9
08...	8.8	428	0	920	1130	2.4	23	3630	3530	4.94	2.7
15...	8.8	428	0	935	1160	2.3	27	3720	3600	5.06	2.3
22...	9.1	432	0	935	1160	2.5	24	3720	3600	5.06	3.4
29...	9.2	426	0	950	1210	2.5	24	3830	3700	5.21	2.9
APR											
05...	8.8	426	0	945	1170	2.3	25	3790	3620	5.15	2.7
12...	9.2	420	0	965	1210	2.4	25	3820	3720	5.20	2.9
26...	8.6	416	0	865	1060	1.7	20	3480	3330	4.73	5.9
MAY											
03...	9.1	418	0	930	1160	2.1	27	3700	3600	5.03	5.9
10...	8.8	434	0	915	1120	2.3	18	3630	3510	4.94	2.9
17...	9.0	438	0	940	1180	2.3	23	3790	3640	5.15	2.7
24...	8.6	432	0	930	1140	2.4	27	3700	3580	5.03	4.1
31...	9.0	426	0	935	1160	2.3	24	3760	3600	5.11	3.4
JUN											
07...	9.0	436	0	935	1140	1.8	26	3700	3580	5.03	3.6
14...	9.1	434	0	940	1190	2.0	26	3820	3660	5.20	3.2
21...	8.7	432	0	925	1140	2.2	25	3640	3560	4.95	3.4
28...	8.9	436	0	925	1140	2.4	25	3710	3560	5.05	3.4
JUL											
05...	8.8	432	0	925	1120	2.4	23	3560	3530	4.84	2.9
12...	8.8	434	0	935	1150	2.4	24	3740	3590	5.09	3.4
19...	9.0	436	0	925	1140	2.3	25	3640	3560	4.95	2.7
26...	9.0	436	0	930	1150	2.2	25	3740	3580	5.09	2.7
AUG											
02...	9.2	436	0	920	1100	2.4	26	3560	3490	4.84	2.5
09...	8.3	438	0	920	1140	2.0	24	3670	3560	4.99	3.4
16...	8.8	436	0	920	1130	2.3	26	3630	3540	4.94	3.2
23...	8.6	432	8	915	1090	2.4	27	3570	3490	4.86	3.6
30...	9.1	438	0	930	1140	2.4	26	3750	3570	5.10	2.9
SEP											
06...	9.0	448	0	930	1140	2.3	26	3620	3570	4.92	2.5
13...	8.8	430	0	915	1100	2.4	25	3560	3490	4.84	2.7
20...	9.0	436	0	920	1120	2.2	24	3630	3530	4.94	3.2
27...	8.6	432	0	915	1100	2.2	24	3620	3490	4.92	3.4

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09529360. SOUTH GILA PUMP OUTLET CHANNEL NO. 1 NEAR YUMA, ARIZ.

LOCATION.--Lat 32°42'24", long 114°33'19", in SW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.30, T.8 S., R.22 W., Yuma County, at gaging station, 0.2 mi (0.3 km) upstream from outlet to Gila River, and 4 mi (6 km) east of Yuma.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT												
06...	0335	32	2880	7.8	25.0	520	290	130	48	450	8.6	6.1
13...	0355	35	2870	8.0	21.5	500	267	123	47	430	8.4	7.0
20...	0510	32	2870	8.1	--	505	270	127	46	425	8.2	6.9
27...	0320	36	2890	8.0	16.5	510	277	129	46	435	8.4	6.4
NOV												
03...	0350	29	2880	7.9	21.0	490	250	120	45	430	8.5	6.2
10...	0500	29	2870	8.0	--	505	270	123	48	425	8.2	6.5
17...	0325	29	2870	8.0	15.5	505	270	129	45	425	8.2	6.2
24...	0400	41	2890	7.9	21.0	515	284	129	47	425	8.1	6.5
DEC												
01...	0410	38	2880	7.9	15.5	510	277	127	47	425	8.2	6.0
08...	0350	35	3170	7.9	18.0	580	339	152	49	460	8.3	6.0
15...	0350	45	3130	7.9	21.0	570	329	146	50	450	8.2	6.6
22...	0240	43	3110	7.8	23.0	570	328	141	53	445	8.1	6.6
29...	0505	43	3110	7.9	21.5	580	340	140	56	445	8.0	6.2
JAN												
05...	0350	35	2850	8.0	26.0	500	264	126	45	425	8.3	6.3
12...	0220	34	3230	7.8	--	625	384	154	59	455	7.9	7.0
19...	0410	27	2890	8.0	19.5	520	284	147	37	430	8.2	6.4
26...	0355	27	2910	7.9	21.5	530	297	134	48	430	8.1	6.6
FEB												
02...	0355	36	2840	8.0	21.5	500	264	127	45	425	8.3	6.0
09...	0340	47	3100	8.1	20.0	580	339	142	55	445	8.0	6.0
16...	0435	45	3100	8.0	23.0	580	339	145	53	445	8.0	6.4
23...	0305	45	3090	8.0	20.0	580	339	147	52	445	8.0	6.2
MAR												
01...	0350	45	3090	8.0	19.5	580	339	145	53	445	8.0	6.4
08...	0400	44	3090	7.7	22.0	580	339	145	53	445	8.0	6.9
15...	0400	40	3150	7.8	20.0	575	332	149	49	455	8.3	6.6
22...	0235	43	3100	7.9	22.0	575	334	141	54	450	8.2	7.0
29...	0350	45	3110	7.9	21.5	575	332	141	54	455	8.3	6.2
APR												
05...	0105	47	3110	7.9	21.0	575	330	140	55	450	8.2	6.6
12...	0310	49	3110	8.0	21.0	575	332	142	54	450	8.2	7.2
19...	0420	37	2860	8.1	21.0	500	262	120	49	425	8.3	6.4
26...	0110	45	3110	7.9	22.0	575	332	145	52	450	8.2	6.4
MAY												
03...	0315	47	3120	7.9	22.0	575	334	147	51	450	8.2	6.4
10...	0415	40	3120	7.9	23.0	580	338	148	51	450	8.1	6.0
17...	0105	43	3110	8.0	24.5	575	332	145	52	450	8.2	6.0
24...	0110	45	3190	7.9	25.5	585	340	142	56	465	8.4	6.6
31...	0330	45	3170	8.0	23.5	580	336	143	54	460	8.3	6.4
JUN												
07...	0115	45	3150	7.9	25.5	575	334	143	53	460	8.3	6.2
14...	0305	47	3130	7.9	24.5	570	326	141	53	460	8.4	6.8
21...	0350	46	3120	8.0	24.5	570	326	140	54	455	8.3	6.0
28...	0055	45	3120	8.0	25.0	570	326	144	51	455	8.3	6.2
JUL												
05...	0220	45	3120	7.9	26.5	570	329	141	53	455	8.3	6.9
12...	0345	47	3110	8.0	24.0	580	339	140	56	450	8.1	7.1
19...	0120	47	3110	8.0	27.0	575	334	142	54	450	8.2	7.0
26...	0130	41	3090	7.8	28.5	580	342	142	55	445	8.0	7.3
AUG												
02...	0345	39	3070	7.9	23.5	570	330	138	55	440	8.0	7.0
09...	0105	39	3070	7.8	26.5	570	330	143	52	440	8.0	7.0
16...	0225	41	3060	7.8	--	570	330	143	52	440	8.0	7.3
23...	0350	43	3050	8.1	22.0	565	324	139	53	440	8.1	6.9
30...	0325	43	3030	8.0	26.5	565	326	137	54	435	8.0	6.7
SEP												
06...	0235	43	3040	8.1	28.5	555	314	137	52	440	8.1	7.5
13...	0350	33	3180	8.1	24.0	580	330	138	57	460	8.3	7.8
20...	0055	41	3110	8.0	25.5	570	326	135	57	450	8.2	6.9
27...	0240	42	3090	8.0	24.0	565	322	138	54	445	8.1	6.4

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

597

09529360. SOUTH GILA PUMP OUTLET CHANNEL NO. 1 NEAR YUMA, ARIZ.--CONTINUED

PERIOD OF RECORD.--Chemical analyses: October 1968 to current year.

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1966-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	CHLORIDE (MG/L)	CARBONATE (MG/L)	DIS- SOLVED SULFATE (MG/L)	DIS- SOLVED CHLORIDE (MG/L)	DIS- SOLVED FLUORIDE (MG/L)	DIS- SOLVED SILICA (MG/L)	DIS- SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED BORON (R) (UG/L)	DIS- SOLVED IRON (FF) (UG/L)
OCT												
06...	283	0	490	530	1.0	23	1740	1820	2.37	.77	640	10
13...	284	0	485	500	.9	18	1800	1750	2.45	--	--	--
20...	286	0	485	500	1.0	22	1800	1750	2.45	--	--	--
27...	284	0	490	505	1.1	21	1800	1770	2.45	--	--	--
NOV												
03...	292	0	430	530	.9	22	1740	1730	2.37	.88	590	0
10...	286	0	480	500	1.1	18	1800	1740	2.45	--	--	--
17...	286	0	480	500	.8	21	1780	1760	2.42	--	--	--
24...	292	0	485	500	.9	20	1810	1760	2.46	--	--	--
DEC												
01...	284	0	480	500	.9	22	1810	1750	2.46	--	--	--
08...	294	0	440	620	.9	24	1910	1900	2.60	--	--	--
15...	294	0	460	595	.8	19	1930	1880	2.62	--	--	--
22...	296	0	440	600	.9	20	1920	1860	2.61	--	--	--
29...	292	0	445	595	.9	22	1900	1860	2.58	--	--	--
JAN												
05...	288	0	470	500	.8	22	1730	1740	2.35	--	--	--
12...	294	0	455	635	1.0	23	1980	1940	2.69	--	--	--
19...	288	0	470	525	1.0	25	1810	1780	2.46	--	--	--
26...	284	0	470	525	.8	24	1790	1780	2.43	--	--	--
FEB												
02...	288	0	465	495	1.4	24	1760	1730	2.39	--	--	--
09...	294	0	460	585	1.6	20	1940	1860	2.64	--	--	--
16...	294	0	460	585	.7	18	1940	1860	2.64	--	--	--
23...	294	0	460	585	.9	22	1930	1870	2.62	--	--	--
MAR												
01...	294	0	460	585	.7	22	1930	1860	2.62	--	--	--
08...	294	0	460	585	1.1	17	1900	1860	2.58	--	--	--
15...	296	0	465	595	1.0	24	1960	1890	2.67	--	--	--
22...	294	0	465	585	.6	21	1930	1870	2.62	--	--	--
29...	296	0	470	585	.8	21	1940	1880	2.64	--	--	--
APR												
05...	294	0	470	585	.7	20	1940	1880	2.64	--	--	--
12...	296	0	470	585	.7	19	1930	1880	2.62	--	--	--
19...	290	0	470	500	1.0	23	1800	1740	2.45	--	--	--
26...	296	0	470	585	1.0	25	1950	1880	2.65	--	--	--
MAY												
03...	294	0	470	585	.9	20	1940	1880	2.64	--	--	--
10...	296	0	470	590	1.0	20	1930	1890	2.62	--	--	--
17...	296	0	470	590	.9	17	1950	1880	2.65	--	--	--
24...	298	0	480	605	.8	22	1990	1930	2.71	--	--	--
31...	298	0	480	600	1.0	24	1970	1920	2.68	--	--	--
JUN												
07...	294	0	470	595	.7	22	1970	1900	2.68	--	--	--
14...	298	0	470	595	.8	22	1950	1900	2.65	--	--	--
21...	298	0	470	590	1.0	20	1940	1890	2.64	--	--	--
28...	298	0	470	590	1.1	22	1960	1890	2.67	--	--	--
JUL												
05...	294	0	470	590	.8	20	1910	1890	2.60	--	--	--
12...	294	0	470	585	1.0	17	1960	1870	2.67	--	--	--
19...	294	0	470	585	.7	20	1940	1880	2.64	--	--	--
26...	290	0	470	580	.9	22	1910	1870	2.60	--	--	--
AUG												
02...	292	0	465	570	1.0	21	1920	1840	2.61	--	--	--
09...	292	0	465	575	.9	22	1910	1850	2.60	--	--	--
16...	292	0	465	570	.9	22	1900	1850	2.58	--	--	--
23...	294	0	465	565	.7	21	1900	1840	2.58	--	--	--
30...	292	0	460	565	1.0	26	1900	1830	2.58	--	--	--
SEP												
06...	294	0	465	560	1.0	20	1840	1830	2.50	--	--	--
13...	304	0	470	605	1.0	22	1940	1920	2.64	--	--	--
20...	298	0	465	580	.8	21	1970	1870	2.68	--	--	--
27...	296	0	460	580	.7	21	1960	1860	2.67	--	--	--

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

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 mi (2.4 km) upstream from outlet to Colorado River, and 1.5 mi (2.4 km) east of Yuma.

PERIOD OF RECORD.--Chemical analyses: October 1968 to current year.

REMARKS.--No flow for most of each year. Unpublished miscellaneous chemical analyses for water years 1966-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	
MAR												
15...	0415	8.0	3870	7.7	20.0	830	624	200	80	545	8.2	
22...	0225	7.6	4450	7.8	24.5	920	694	238	79	645	9.3	
MAY												
24...	0135	15	5790	7.8	25.0	1200	906	286	118	810	10	
JUN												
07...	0100	4.6	8930	7.6	26.0	2240	1920	534	221	1120	10	
JUL												
05...	0205	6.9	4510	7.8	28.0	930	694	238	82	650	9.3	
12...	0400	6.9	4570	7.9	26.0	950	708	236	88	675	9.5	
19...	0105	10	6190	7.8	26.5	1420	1150	344	137	835	9.6	
27...	0235	9.5	6140	7.7	29.0	1420	1140	348	134	820	9.5	
AUG												
02...	0400	9.5	6130	7.9	25.0	1420	1140	342	138	820	9.5	
09...	0050	9.2	6090	8.0	26.0	1390	1110	340	132	820	9.6	
16...	0250	9.2	5970	7.9	--	1370	1090	330	133	810	9.5	
DATE		DIS-SOLVED PO- TAS- SIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRATE (N) (MG/L)
MAR												
15...	6.8	252	0	770	720	.8	21	2570	2470	3.50	.14	
22...	7.4	276	0	840	865	1.8	22	2960	2840	4.03	.23	
MAY												
24...	8.8	358	0	670	1400	.5	26	3900	3500	5.30	.34	
JUN												
07...	12	386	0	660	2630	.4	26	5670	5390	7.71	.32	
JUL												
05...	7.3	288	0	840	890	.8	20	2910	2870	3.96	.27	
12...	6.8	296	0	840	920	.5	19	3060	2930	4.16	.29	
19...	9.0	334	0	750	1550	.4	20	4180	3810	5.68	.23	
27...	9.2	338	0	735	1540	.4	23	4120	3780	5.60	.27	
AUG												
02...	9.6	338	0	735	1530	.4	22	4020	3770	5.47	.38	
09...	8.5	338	0	730	1520	.5	22	4000	3740	5.44	.84	
16...	9.0	336	0	725	1490	.5	21	3910	3690	5.32	.29	

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

599

09530000. RESERVATION MAIN DRAIN NO. 4 AT YUMA, ARIZ.

LOCATION.--Lat 32°44'09", long 114°37'16", in NW¼SE¼ sec.26, T.16 S., R.22 E., San Bernardino meridian, in California, Imperial County, at gaging station, at railroad culvert, 0.2 mi (0.3 km) upstream from crossing of U.S. Highway 80, and 0.7 mi (1.1 km) north of Yuma.

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

REMARKS.--Unpublished miscellaneous chemical analyses for water years 1962-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA,MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)
OCT 21...	1135	76	1850	7.9	21.5	510	300	130	45	210	4.0	5.5
NOV 24...	1020	53	2080	7.8	16.5	560	340	150	46	220	4.0	5.9
DEC 23...	1130	56	2000	7.7	17.5	560	340	150	45	200	3.7	5.9
JAN 27...	1330	50	2110	7.9	23.0	560	330	150	46	220	4.0	5.4
FEB 23...	1045	55	2090	7.9	17.0	590	360	160	46	220	3.9	5.6
MAR 29...	1055	64	2070	7.9	19.0	570	340	150	47	220	4.0	5.9
APR 26...	1000	78	1970	7.9	19.5	580	350	150	49	220	4.0	5.5
MAY 24...	1210	63	1940	7.9	24.0	600	380	160	48	230	4.1	5.4
JUN 28...	0900	69	1900	7.9	--	570	350	150	48	220	4.0	4.5
JUL 19...	1010	57	1990	7.9	24.0	580	350	150	50	240	4.3	5.5
AUG 23...	1400	57	2020	8.1	28.0	600	370	160	48	220	3.9	5.9
SEP 28...	0950	70	2000	7.9	24.0	600	380	160	49	230	4.1	6.4

DATE	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SI02) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
OCT 21...	252	0	460	220	.4	17	1200	1210	1.63	.15	250	10
NOV 24...	279	0	510	240	.4	21	1300	1330	1.77	.33	250	10
DEC 23...	265	0	460	230	.5	20	1230	1240	1.67	.23	250	0
JAN 27...	284	0	500	250	.4	20	1300	1330	1.77	.36	260	0
FEB 23...	280	0	510	260	.5	20	1290	1360	1.75	.27	250	0
MAR 29...	281	0	500	240	.5	21	1380	1330	1.88	.57	230	0
APR 26...	275	0	480	240	.3	18	1310	1300	1.78	.25	240	40
MAY 24...	270	0	480	240	.4	21	1350	1320	1.84	.23	160	30
JUN 28...	273	0	510	230	.5	22	1340	1320	1.82	.19	220	0
JUL 19...	279	0	460	260	.5	22	1360	1330	1.81	.25	240	20
AUG 23...	281	0	490	260	.6	22	1350	1350	1.84	.63	240	20
SEP 28...	275	0	460	240	.5	21	1320	1300	1.80	.41	260	10

09530200. YUMA MESA OUTLET DRAIN AT YUMA, ARIZ.

LOCATION.--Lat 32°43'48", long 114°39'27", in SE¼SW¼ sec.28, T.16 S., R.22 E., San Bernardino meridian, in Arizona, Yuma County, at gaging station, 0.3 mi (0.5 km) from outlet to Colorado River, and 0.5 mi (0.8 km) west of Joe Henry Memorial Park in Yuma, Ariz.

PERIOD OF RECORD.--Chemical analyses: July 1972 to current year.

REMARKS.--No flow Feb. 17, Apr. 16-19, Sept. 7-13, 25-30.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

			SPE- CIFIC CON- DUCT- ANCE				NON- CAR- BONATE HARD- NESS	DIS- SOLVED CAL- CIUM (CA)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K)
DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	(MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA, MG)	(MG/L)	(MG/L)	(MG/L)	(MG/L)		(MG/L)
OCT												
06...	0945	76	2180	7.6	26.5	380	150	100	32	320	7.1	5.1
14...	1010	59	2170	--	--	--	--	--	--	--	--	--
20...	0940	76	2170	--	--	--	--	--	--	--	--	--
28...	0940	75	2160	--	--	--	--	--	--	--	--	--
NOV												
03...	1350	75	2160	7.7	26.5	370	180	100	30	320	7.2	5.2
10...	1010	75	2160	--	--	--	--	--	--	--	--	--
17...	0915	74	2160	--	21.5	--	--	--	--	--	--	--
24...	0930	74	2160	--	--	--	--	--	--	--	--	--
DEC												
01...	0930	74	2160	7.6	--	370	180	99	31	320	7.2	5.5
08...	0935	74	2160	--	--	--	--	--	--	--	--	--
15...	0830	73	2160	--	--	--	--	--	--	--	--	--
22...	0930	73	2160	--	--	--	--	--	--	--	--	--
29...	0800	73	2160	--	--	--	--	--	--	--	--	--
JAN												
05...	0800	73	2160	7.7	--	380	180	100	31	320	7.2	5.5
12...	0915	73	2160	--	26.0	--	--	--	--	--	--	--
26...	0800	72	2160	--	--	--	--	--	--	--	--	--
FEB												
02...	0750	72	2170	7.7	24.5	380	180	100	32	330	7.4	5.2
09...	0810	72	2150	--	--	--	--	--	--	--	--	--
23...	0920	73	2150	--	--	--	--	--	--	--	--	--
MAR												
01...	0755	73	2150	7.7	26.0	370	170	98	31	310	7.0	4.8
09...	0750	73	2150	--	--	--	--	--	--	--	--	--
15...	0940	70	2160	--	--	--	--	--	--	--	--	--
22...	0820	70	2160	--	--	--	--	--	--	--	--	--
29...	0745	70	2160	--	--	--	--	--	--	--	--	--
APR												
05...	0830	70	2160	7.7	26.0	380	180	100	31	310	6.9	4.9
12...	0750	70	2160	--	--	--	--	--	--	--	--	--
26...	0800	42	2180	--	25.5	--	--	--	--	--	--	--
MAY												
03...	0755	66	2170	7.8	26.0	390	180	99	34	320	7.1	5.3
10...	0755	73	2150	--	--	--	--	--	--	--	--	--
17...	0800	76	2180	--	--	--	--	--	--	--	--	--
24...	0750	75	2190	--	--	--	--	--	--	--	--	--
JUN												
01...	0815	76	2200	7.8	--	390	190	100	33	320	7.1	4.8
07...	0750	75	2190	--	--	--	--	--	--	--	--	--
14...	0800	75	2190	--	--	--	--	--	--	--	--	--
21...	0800	75	2190	--	--	--	--	--	--	--	--	--
29...	0800	75	2200	--	--	--	--	--	--	--	--	--
JUL												
06...	0935	73	2160	7.8	26.5	380	180	100	32	320	7.1	5.0
12...	0800	74	2200	--	--	--	--	--	--	--	--	--
19...	0745	74	2200	--	--	--	--	--	--	--	--	--
26...	0750	63	2160	--	--	--	--	--	--	--	--	--
AUG												
02...	0905	74	2200	7.9	26.0	410	290	110	34	330	7.1	5.6
09...	0800	75	2200	--	--	--	--	--	--	--	--	--
16...	0940	71	2170	--	--	--	--	--	--	--	--	--
23...	0800	75	2170	--	26.0	--	--	--	--	--	--	--
30...	0905	73	2200	--	26.5	--	--	--	--	--	--	--
SEP												
16...	0750	75	2180	7.9	26.5	380	190	100	32	320	7.1	5.4
20...	0800	64	2210	--	--	--	--	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED NITRATE PLUS NITRITE (N) (MG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED IRON (FE) (UG/L)
OCT												
06...	285	0	380	350	.7	23	1360	1350	1.85	.70	460	0
14...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
03...	241	0	350	360	.6	23	1340	1310	1.82	1.3	420	0
10...	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
01...	239	0	380	350	.6	25	1340	1330	1.82	.80	470	30
08...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
05...	246	0	350	350	.6	23	1370	1310	1.86	.85	560	20
12...	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
02...	246	0	380	340	.7	23	1330	1340	1.81	1.1	480	10
09...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
01...	244	0	380	330	.7	23	1340	1300	1.82	.96	440	0
09...	--	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
05...	246	0	390	340	.6	25	1360	1330	1.85	.99	460	10
12...	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
03...	247	0	410	350	.7	23	1320	1370	1.80	.58	470	0
10...	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
01...	243	0	410	360	.7	25	1380	1380	1.88	.95	490	20
07...	--	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
06...	245	0	400	350	1.0	23	1310	1360	1.78	.92	450	10
12...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
02...	157	0	390	360	.7	25	1370	1340	1.82	.93	430	20
09...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
16...	236	0	380	340	.7	25	1340	1320	1.82	.93	460	0
20...	--	--	--	--	--	--	--	--	--	--	--	--

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09530500. DRAIN 8-B NEAR YUMA, ARIZ.

LOCATION.--Lat 32°44'39", long 114°41'45", in NE¼NW¼ sec.30, T.16 S., R.22 E., San Bernardino meridian, in California, Imperial County, 0.5 mi (0.8 km) upstream from outlet to Colorado River, and 4 mi (6 km) west of Yuma.

PERIOD OF RECORD.--Chemical analyses: October 1968 to September 1973 (partial-record station), October 1973 to current year.

REMARKS.--Unpublished chemical analyses (partial record) for water years 1962-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
CT												
21...	0930	3.4	1560	7.9	19.0	350	170	85	34	200	4.6	4.4
OV												
24...	1120	4.9	1670	7.9	18.0	410	230	110	34	200	4.3	4.8
EC												
22...	1400	3.6	1660	7.9	--	390	190	96	36	210	4.6	4.9
AN												
27...	1345	3.7	1600	8.3	23.5	360	180	92	32	190	4.4	4.4
EH												
23...	0850	2.7	1620	8.0	15.0	380	200	98	34	200	4.4	4.4
AK												
29...	0815	3.3	1690	7.9	16.5	400	210	100	36	200	4.4	4.6
PR												
26...	1110	3.0	1680	8.3	22.0	410	220	100	40	200	4.3	4.7
AY												
24...	0930	3.5	1630	8.1	22.0	400	220	100	37	210	4.6	4.4
UN												
28...	1045	3.8	1710	8.2	--	410	220	100	39	220	4.7	4.5
UL												
19...	1045	2.8	1600	8.1	26.0	410	220	100	38	210	4.5	4.6
UG												
23...	1410	4.0	1670	8.3	32.0	430	250	110	37	200	4.2	4.9

DATE	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)	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
CT												
21...	224	0	400	160	.4	21	--	1020	1.39	.07	230	10
OV												
24...	228	0	420	170	.4	21	1110	1080	1.51	1.9	230	0
EC												
22...	243	0	390	160	.6	21	1070	1040	1.46	.26	230	20
AN												
27...	217	0	360	150	.5	19	1050	955	1.43	.12	210	0
EH												
23...	223	0	410	160	.5	19	1060	1040	1.44	.08	190	0
AK												
29...	235	0	410	170	.6	21	1120	1060	1.52	.18	210	20
PR												
26...	237	0	400	170	.4	21	1140	1050	1.55	.14	240	30
AY												
24...	226	0	410	160	.5	23	1130	1060	1.54	.44	170	0
JN												
28...	234	0	470	170	.5	24	1140	1150	1.55	.40	230	0
JL												
19...	228	0	410	170	.6	22	1100	1070	1.50	.24	230	30
JG												
23...	216	0	460	170	.6	22	1120	1110	1.52	.24	240	20

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

603

09534000. MAIN DRAIN AT SOUTHERLY INTERNATIONAL BOUNDARY, 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 mi (0.2 km) upstream from international boundary, and 0.4 mi (0.6 km) west of San Luis.

PERIOD OF RECORD.--Chemical analyses: October 1968 to current year.

REMARKS.--Unpublished chemical analyses (continuing record) from October 1961 to September 1968 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	DIS- SOLVED OXYGEN (MG/L)	CHEM- ICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	FECAL COLI- FORM (COL. PER 100 ML)	HARD- NESS (CA+MG) (MG/L)
OCT										
10...	0905	140	2520	7.9	23.0	--	--	--	--	600
21...	0900	137	2560	8.0	20.5	--	--	--	--	580
NOV										
11...	1100	78	2490	7.9	18.5	--	--	--	--	580
25...	1025	85	2520	8.1	16.5	--	--	--	--	580
DEC										
09...	1120	140	2490	8.0	17.0	--	--	--	--	580
23...	0940	135	2480	8.0	--	--	--	--	--	580
JAN										
13...	1230	105	2540	7.9	16.0	15	--	15	110	550
27...	0900	140	2480	8.1	15.5	--	--	--	--	590
FEB										
10...	1230	78	2530	8.0	19.0	35	--	--	8600	560
24...	1025	85	2160	8.2	16.0	--	--	--	--	500
MAR										
09...	1155	79	2480	8.2	19.5	32	8.6	--	670	550
23...	0930	135	2340	8.1	20.0	--	--	--	--	530
APR										
13...	1155	205	2260	7.9	19.0	52	7.9	13	1700	530
27...	0910	215	2270	8.1	22.0	--	--	--	--	530
MAY										
11...	1225	126	2500	8.0	27.0	19	8.1	16	80	580
25...	1000	136	2490	8.0	23.5	--	--	--	--	580
JUN										
08...	1130	138	2560	8.0	25.0	15	8.1	18	97	620
22...	0900	136	2580	8.1	26.0	--	--	--	--	560
JUL										
13...	1310	136	2550	7.9	28.0	20	7.9	--	--	560
27...	0905	157	2410	8.1	28.5	--	--	--	--	590
AUG										
10...	1255	137	2520	7.8	30.0	20	7.2	--	1300	610
24...	0950	155	2440	8.2	26.5	--	--	--	--	580
SEP										
14...	1150	80	2560	8.1	27.5	25	7.5	--	82000	630
28...	1205	136	2490	8.2	26.0	--	--	--	--	580

B Results based on non-ideal colony count.

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09554000. MAIN DRAIN AT SOUTHERLY INTERNATIONAL BOUNDARY, NEAR SAN LUIS, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	NON- CAR- BONATE HESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AN- SORP- TION RATIO	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										
10...	360	150	55	320	5.7	6.1	294	0	540	380
21...	340	150	51	330	5.9	6.4	293	0	520	380
NOV										
11...	330	150	49	330	6.0	6.5	296	0	550	380
25...	330	150	49	340	6.2	6.0	299	0	520	370
DEC										
09...	350	150	49	330	6.0	6.2	280	0	480	380
23...	350	150	50	340	6.1	6.1	279	0	510	390
JAN										
13...	310	140	48	340	6.3	6.3	285	0	520	390
27...	360	150	52	330	5.9	6.4	277	0	500	380
FEB										
10...	330	140	50	330	6.1	7.2	281	0	510	410
24...	300	130	43	280	5.4	5.7	246	0	480	320
MAR										
09...	330	140	49	320	5.9	7.2	275	0	490	370
23...	320	130	51	300	5.6	6.6	262	0	490	330
APR										
13...	310	130	49	280	5.3	6.9	264	0	490	320
27...	310	130	49	300	5.7	6.8	265	0	500	350
MAY										
11...	360	140	57	330	5.9	6.3	279	0	520	390
25...	350	150	50	340	6.1	6.3	282	0	500	380
JUN										
09...	390	160	53	350	6.1	6.0	273	0	510	420
22...	330	140	52	350	6.4	6.6	289	0	540	410
JUL										
13...	320	140	50	340	6.3	6.5	290	0	520	390
27...	360	150	53	310	5.5	7.2	278	0	550	370
AUG										
10...	390	160	52	340	6.0	6.6	275	0	510	400
24...	350	150	49	320	5.8	6.7	270	0	520	390
SEP										
14...	390	160	55	330	5.7	6.7	293	0	550	370
28...	360	150	51	320	5.8	7.0	278	0	470	380

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

605

09534000. MAIN DRAIN AT SOUTHERLY INTERNATIONAL BOUNDARY, NEAR SAN LUIS, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	DIS-SOLVED FLUO- RIDE (F) (MG/L)	DIS-SOLVED SILICA (SI02) (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)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
OCT									
10...	.5	20	1640	1620	2.23	.43	--	390	0
21...	.5	21	1670	1610	2.27	.39	--	420	10
NOV									
11...	.6	21	1600	1640	2.18	.72	--	370	30
25...	.5	23	1630	1610	2.22	.66	--	420	10
DEC									
09...	.6	21	1600	1570	2.18	2.7	--	370	20
23...	.5	21	1570	1610	2.14	.61	--	400	0
JAN									
13...	1.0	20	1610	1610	2.19	.72	.01	390	10
27...	.5	20	1640	1580	2.23	.75	--	410	10
FEB									
10...	.5	21	1670	1610	2.27	.79	.02	390	0
24...	.6	16	1450	1400	1.97	.57	--	360	0
MAR									
09...	.6	22	1640	1540	2.23	.99	.03	390	10
23...	.6	19	1500	1460	2.04	.99	--	380	0
APR									
13...	.5	19	1510	1430	2.05	.79	.02	350	0
27...	.4	19	1480	1490	2.01	.15	--	340	10
MAY									
11...	.5	20	1630	1600	2.22	.55	.05	400	10
25...	.5	20	1640	1590	2.23	.40	--	390	10
JUN									
08...	.6	22	1730	1660	2.35	--	--	360	380
22...	.5	22	1700	1670	2.31	.50	--	380	0
JUL									
13...	.6	23	1650	1620	2.24	.39	.04	390	20
27...	.5	22	1580	1600	2.15	.88	--	360	20
AUG									
10...	.5	23	1620	1630	2.20	.42	.01	390	10
24...	.5	22	1580	1590	2.15	.55	--	370	30
SEP									
14...	.5	22	1700	1640	2.31	.90	.03	390	20
28...	.5	22	1610	1540	2.19	.86	--	370	0

DATE	TIME	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL KJEL- DAHL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N) (MG/L)	TOTAL NITRO- GEN (N03) (MG/L)	TOTAL PHOS- PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)
JAN										
13...	1230	.67	.05	.75	.72	.78	1.5	6.8	.07	.01
FEB										
10...	1230	.73	.06	.79	.79	.57	1.4	6.0	.18	.02
MAR										
04...	1155	--	--	.99	.99	1.1	2.1	9.3	.15	.03
APR										
13...	1155	--	--	.83	.79	1.0	1.8	8.1	.21	.02
MAY										
11...	1225	.51	.04	.57	.55	.62	1.2	5.3	.06	.05
JUN										
08...	1130	--	--	.39	--	.31	.70	3.1	.09	--
JUL										
13...	1310	--	--	.46	.39	.42	.88	3.9	.09	.04
AUG										
10...	1255	--	--	.49	.42	.48	.97	4.3	.08	.01
SEP										
14...	1150	--	--	.90	.90	.22	1.1	5.0	.08	.03

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09534000. MAIN DRAIN AT SOUTHERLY INTERNATIONAL BOUNDARY, NEAR SAN LUIS, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	TOTAL BARIUM (BA) (UG/L)	TOTAL HUMON (R) (UG/L)	DIS- SOLVED HUMON (R) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CM) (UG/L)
JAN									
13...	1230	--	2	--	--	390	--	0	--
FEB									
10...	1230	4	--	0	400	390	<10	1	0
MAR									
09...	1155	5	--	0	440	390	10	1	10
APR									
13...	1155	4	--	100	370	350	<10	1	20
MAY									
11...	1225	3	--	100	420	400	<10	0	10
JUN									
08...	1130	--	--	500	320	360	<10	0	<10
JUL									
13...	1310	4	--	0	410	390	<10	0	0
AUG									
10...	1255	4	--	100	410	390	<10	--	0
SEP									
14...	1150	2	--	100	420	390	<10	--	0

DATE	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)
JAN									
13...	--	0	--	10	--	2	--	30	--
FEB									
10...	10	--	1800	0	<100	--	360	20	.0
MAR									
09...	20	--	2400	10	<100	--	390	20	.0
APR									
13...	10	--	4500	0	<100	--	820	20	.0
MAY									
11...	10	--	1300	10	100	--	220	40	.0
JUN									
08...	<10	--	910	380	<100	--	140	40	.3
JUL									
13...	10	--	1500	20	<100	--	270	20	.0
AUG									
10...	20	--	1300	10	<100	--	180	30	.1
SEP									
14...	10	--	1200	20	<100	--	170	20	.0

DATE	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	TOTAL SILVER (AG) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	CYANIDE (CN) (MG/L)	PHENOLS (UG/L)
JAN									
13...	.1	--	1	--	--	10	2.8	.00	8
FEB									
10...	--	1	--	<10	20	--	4.7	.00	1
MAR									
09...	--	1	--	<10	30	--	4.0	.00	2
APR									
13...	--	1	--	<10	20	--	4.3	.00	0
MAY									
11...	--	1	--	<10	10	--	3.3	.00	0
JUN									
08...	--	1	--	<10	30	--	6.7	.00	0
JUL									
13...	--	1	--	<10	30	--	9.4	.00	3
AUG									
10...	--	1	--	20	10	--	3.2	.00	2
SEP									
14...	--	1	--	<10	20	--	4.6	.00	5

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

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

607

09534000. MAIN DRAIN AT SOUTHERLY INTERNATIONAL BOUNDARY, NEAR SAN LUIS, ARIZ.--CONTINUED

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	TOTAL ALDRIN (UG/L)	TOTAL CHLOR- DANE (UG/L)	TOTAL DDD (UG/L)	TOTAL DDE (UG/L)	TOTAL DOT (UG/L)	TOTAL DI- AZINON (UG/L)	TOTAL DI- ELDRIN (UG/L)	TOTAL ENDRIN (UG/L)	TOTAL ETHION (UG/L)	TOTAL HEPTA- CHLOR (UG/L)	TOTAL HEPTA- CHLOR EPOXIDE (UG/L)
NOV 25...	1025	--	--	--	--	--	--	--	--	--	--	--
FEB 10...	1230	.00	.0	.00	.00	.00	.00	.00	.00	.00	.00	.00
MAY 11...	1225	.00	.0	.00	.00	.00	.00	.00	.00	.00	.00	.00
AUG 10...	1255	.00	.0	.00	.00	.00	.00	.00	.00	.00	.00	.00

DATE	TOTAL LINDANE (UG/L)	TOTAL MALA- THION (UG/L)	TOTAL METHYL PARA- THION (UG/L)	TOTAL METHYL TRI- THION (UG/L)	TOTAL PARA- THION (UG/L)	TOTAL TOX- APHENE (UG/L)	TOTAL TRI- THION (UG/L)	TOTAL 2,4-D (UG/L)	TOTAL 2,4,5-T (UG/L)	TOTAL SILVEX (UG/L)	TOTAL PCB (UG/L)
NOV 25...	--	--	--	--	--	--	--	.26	.00	.00	--
FEB 10...	.00	.00	.00	.00	.00	0	.00	.69	.00	.00	.0
MAY 11...	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.0
AUG 10...	.00	.00	.00	.00	.00	0	.00	.00	.00	.00	.0

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09534300. WEST MAIN CANAL WASTEWAY AT ARIZONA-SONORA BOUNDARY

LOCATION.--Lat 32°29'29", long 114°47'39", in SE¼NE¼ sec.11, T.11 S., R.25 W., Yuma County, at gaging station, 150 ft (50 m) upstream from outlet into Main drain, 300 ft (100 m) north of international boundary, 0.2 mi (0.3 km) west of San Luis, Ariz., and 19 mi (30 km) south of Yuma.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT												
14...	1015	6.3	1340	8.2	19.5	360	220	86	35	150	3.4	5.2
21...	0850	17	1380	8.3	19.0	350	220	86	33	160	3.7	5.6
NOV												
11...	0920	17	1400	8.1	16.0	370	220	94	33	160	3.6	7.8
25...	1450	8.0	1360	8.3	14.5	360	220	89	33	160	3.7	5.3
DEC												
09...	0900	7.0	1400	8.2	14.0	370	230	95	33	160	3.6	5.1
23...	0930	3.1	1300	8.2	--	370	240	90	35	140	3.2	5.1
JAN												
13...	0915	8.6	1300	8.3	9.5	360	230	91	33	140	3.2	5.3
27...	0850	21	1340	8.3	11.0	350	210	89	32	140	3.2	5.6
FEB												
10...	0855	7.8	1260	8.3	13.5	350	210	89	30	130	3.0	5.1
24...	0950	24	1380	8.3	13.5	360	220	92	31	150	3.5	5.4
MAR												
09...	0915	23	1210	8.2	14.5	350	200	87	31	120	2.8	5.3
23...	0920	9.9	1270	8.4	16.5	360	210	90	32	130	3.0	5.4
APR												
13...	0850	1.6	1270	8.2	16.5	360	210	91	32	130	3.0	5.6
27...	0855	26	1230	8.3	21.0	340	200	88	30	130	3.1	5.3
MAY												
11...	0900	6.60	1240	8.3	26.5	350	220	84	34	130	3.0	5.4
25...	0940	2.2	1250	8.3	24.0	340	220	81	34	150	3.5	5.4
JUN												
08...	0915	2.3	1300	8.2	20.5	340	230	83	33	140	3.3	5.6
22...	0845	1.8	1370	8.3	26.5	350	210	87	33	150	3.5	5.5
JUL												
13...	0900	12	1280	8.0	26.5	360	210	88	33	150	3.5	6.0
27...	0850	15	1210	8.3	29.5	340	200	83	31	130	3.1	6.1
AUG												
10...	0810	4.3	1350	8.0	24.5	400	250	98	38	150	3.3	5.4
24...	0900	14	1230	8.5	30.0	350	230	84	33	130	3.0	5.4
SEP												
14...	0840	4.7	1380	8.4	25.5	370	230	92	33	150	3.4	5.7
28...	1155	2.3	1130	8.8	26.5	290	210	68	29	130	3.3	5.5

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

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09534300. WEST MAIN CANAL WASTEWAY AT ARIZONA-SONORA BOUNDARY--CONTINUED

PERIOD OF RECORD.--Chemical analyses: March 1971 to current year.

REMARKS.--No flow Nov. 6, Feb. 4, 5.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	BICAH- 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)	DIS- SOLVED SILICA (SIO2) (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)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
OCT												
14...	165	0	350	130	.4	8.4	864	847	1.18	.01	180	10
21...	164	0	370	140	.4	8.4	918	885	1.25	.01	210	0
NOV												
11...	183	0	380	150	.4	7.8	904	924	1.23	.04	210	30
25...	171	0	370	140	.4	8.2	870	891	1.18	.10	200	10
DEC												
09...	170	0	380	140	.6	8.8	908	918	1.23	2.6	190	10
23...	161	0	330	130	.4	7.4	840	818	1.14	.08	170	10
JAN												
13...	165	0	340	130	.5	6.8	834	828	1.13	.12	190	0
27...	174	0	330	140	.4	7.2	856	831	1.16	.27	190	10
FEB												
10...	171	0	320	120	.4	6.6	800	787	1.09	.24	150	10
24...	171	0	350	150	.4	6.6	886	871	1.20	.19	190	0
MAR												
09...	173	0	310	110	.4	8.1	768	758	1.04	.22	160	0
23...	173	0	320	120	.5	7.7	806	792	1.10	.14	180	0
APR												
13...	183	0	310	120	.3	7.9	816	788	1.11	.22	180	0
27...	166	4	330	120	.4	5.2	782	795	1.06	.12	160	10
MAY												
11...	160	0	320	110	.4	4.3	792	767	1.08	.03	160	0
25...	154	0	350	120	.6	6.1	798	823	1.09	.00	170	10
JUN												
08...	136	0	350	130	.4	6.9	836	816	1.14	.02	180	10
22...	177	0	340	140	.4	8.5	890	852	1.21	.04	160	0
JUL												
13...	180	0	330	130	.5	12	822	839	1.12	.15	170	20
27...	162	0	330	120	.4	8.9	766	790	1.04	.03	160	30
AUG												
10...	185	0	350	140	.4	9.1	862	882	1.17	.02	190	10
24...	141	0	330	130	.4	9.6	772	792	1.05	.00	160	10
SEP												
14...	146	9	330	140	.5	10	890	843	1.21	.04	200	10
28...	86	6	300	110	.4	8.8	722	701	.98	.11	180	20

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09534500. EAST MAIN CANAL WASTEWAY AT ARIZONA-SONORA BOUNDARY

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 mi (0.3 km) east of Main drain pumping plant, and 0.2 mi (0.3 km) west of San Luis.

PERIOD OF RECORD.--Chemical analyses: October 1968 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)
OCT												
10...	0900	3.5	1440	8.0	20.5	360	240	88	35	170	3.9	5.1
21...	0915	11	1830	8.2	18.5	440	320	110	40	220	4.6	6.1
NOV												
11...	0940	8.4	1590	8.1	14.5	390	230	98	35	200	4.4	5.6
25...	1100	24	1660	8.3	13.5	440	290	110	39	190	4.0	5.8
DEC												
09...	1110	16	1600	8.2	13.5	400	260	100	36	180	3.9	5.8
23...	0800	1.5	1370	8.2	--	360	240	89	33	160	3.7	4.9
JAN												
13...	0920	11	1550	8.2	8.5	390	240	99	35	180	4.0	5.6
27...	0920	2.0	1590	8.1	8.5	420	270	110	35	180	3.8	5.5
FEB												
10...	1250	2.2	1380	--	19.0	350	240	84	34	150	3.5	5.1
24...	1005	2.8	1820	8.0	11.0	460	340	120	40	210	4.2	7.0
MAR												
09...	0930	5.0	1370	8.2	13.0	380	250	97	34	140	3.1	5.4
23...	0940	9.4	1290	8.2	16.0	370	230	91	34	130	3.0	5.5
APR												
13...	0900	20	1460	7.9	17.0	400	250	100	37	150	3.3	7.9
27...	0920	36	1260	8.3	21.0	350	210	89	32	140	3.2	5.5
MAY												
11...	0915	23	1520	8.2	25.5	410	260	100	39	170	3.7	5.8
25...	1025	1.7	1290	8.3	24.5	350	240	82	35	140	3.3	5.5
JUN												
08...	0945	2.0	1560	8.1	21.0	390	280	94	38	180	4.0	6.0
22...	0905	1.1	1360	8.2	26.0	360	240	88	35	160	3.7	5.5
JUL												
13...	0915	11	1400	8.4	26.5	360	240	88	35	160	3.7	5.3
27...	0910	7.0	1210	8.1	29.0	350	230	83	34	140	3.3	5.7
AUG												
10...	0830	24	1320	8.2	29.0	370	250	87	36	150	3.4	5.4
24...	0905	11	1410	8.2	29.0	390	260	95	36	160	3.5	5.6
SEP												
14...	0855	18	1340	8.3	25.5	330	220	77	33	160	3.8	5.4
28...	1220	6.7	1160	8.7	26.0	290	210	64	31	130	3.3	5.5

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

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09534500. EAST MAIN CANAL WASTEWAY AT ARIZONA-SONORA BOUNDARY--CONTINUED

REMARKS.--No flow Nov. 6, Feb. 19, 20. Unpublished miscellaneous chemical analyses for water years 1962-65, and continuing-record analyses for water years 1966-68 available from district office in Tucson, Ariz.

WATER QUALITY DATA, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

DATE	BICARBONATE (HCO ₃) (MG/L)	CARBONATE (CO ₃) (MG/L)	DIS-SOLVED SULFATE (SO ₄) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO ₂) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
OCT												
10...	155	0	360	170	.4	8.3	926	914	1.26	.02	200	10
21...	150	0	430	260	.4	9.8	1160	1150	1.58	.00	260	0
NOV												
11...	188	0	420	180	.7	9.8	1040	1050	1.41	.70	270	20
25...	178	0	390	220	.4	9.9	1060	1050	1.44	.09	240	10
DEC												
09...	170	0	360	200	.3	9.0	1020	976	1.39	.13	210	10
23...	143	0	360	150	.4	3.7	888	872	1.21	.01	190	0
JAN												
13...	187	0	320	190	.5	8.8	984	933	1.34	.39	230	20
27...	183	0	380	200	.5	7.4	1040	1010	1.41	.27	220	10
FEB												
10...	133	0	330	160	.4	4.5	882	834	1.20	.02	170	10
24...	155	0	430	260	.6	6.3	1200	1150	1.63	.15	260	0
MAR												
09...	159	0	340	150	.4	5.4	868	851	1.18	.08	180	0
23...	170	0	310	130	.5	5.0	824	790	1.12	.11	170	0
APR												
13...	183	0	340	160	.4	6.2	934	896	1.27	.93	200	0
27...	181	0	340	120	.4	5.3	800	822	1.09	.16	160	0
MAY												
11...	180	0	380	180	.4	6.4	962	971	1.31	.04	190	0
25...	130	0	350	140	.4	5.2	812	822	1.10	.00	170	60
JUN												
08...	141	0	420	190	.4	7.1	1010	1010	1.37	.00	220	30
22...	146	0	380	140	.5	8.0	876	889	1.19	.02	200	10
JUL												
13...	156	0	350	160	.5	9.7	904	886	1.23	.07	190	20
27...	142	0	340	120	.4	8.4	760	802	1.03	.03	160	20
AUG												
10...	146	0	340	140	.4	9.8	834	841	1.13	.07	180	10
24...	149	0	340	170	.4	9.8	884	890	1.20	.00	190	0
SEP												
14...	130	0	330	140	.5	9.9	858	820	1.17	.01	210	0
28...	92	0	300	120	.4	8.4	740	705	1.01	.01	190	0

RIO SONOYTA BASIN

SAN SIMON WASH BASIN

09535100. SAN SIMON WASH NEAR PISINIMO, ARIZ.

LOCATION.--Lat 32°02'42", long 112°22'12", in SE¼ sec.9, T.16 S., R.1 W. (unsurveyed), Pima County, in Papago Indian Reservation, in center of channel between two culverts at upstream side of road, just upstream from Gu Vo Wash, and 3.2 mi (5.1 km) west of Pisinimo.

DRAINAGE AREA.--About 600 mi² (about 1,600 km²).

PERIOD OF RECORD.--February 1972 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,830 ft (558 m), from topographic map. Auxiliary crest-stage gage 40 ft (12 m) downstream at datum 2.97 ft (0.905 m) lower, to measure head through culverts.

EXTREMES.--Current year: Maximum discharge, 12,500 ft³/s (354 m³/s) Sept. 24 (gage height, 10.82 ft or 3.298 m), from rating curve extended above 1,700 ft³/s (48 m³/s) on basis of slope-area measurement of peak flow; no flow for most of year.

Period of record: Maximum discharge, 12,500 ft³/s (354 m³/s) Sept. 24, 1976 (gage height, 10.82 ft or 3.298 m), from rating curve extended above 1,700 ft³/s (48 m³/s) on basis of slope-area measurement of peak flow; no flow for most of each year.

REMARKS.--Records fair.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0			0	0	0	0		0	0	0
2		0			0	0	0	0		0	0	0
3		0			0	2.0	0	0		0	0	0
4		0			0	0	0	4.9		0	0	0
5		0			0	0	0	12		0	0	1.9
6		0			0	0	0	0		0	0	3.5
7		0			0	0	0	0		0	0	.23
8		0			0	0	0	0		0	0	0
9		0			2.0	0	0	0		0	35	0
10		0			0	0	0	0		0	29	0
11		0			0	0	0	0		0	0	0
12		0			0	0	0	0		0	0	0
13		0			0	0	0	0		0	0	0
14		0			0	0	0	0		0	0	0
15		0			0	0	0	0		0	0	0
16		0			0	0	.40	0		0	0	0
17		0			0	0	0	0		0	0	0
18		0			0	0	0	0		0	0	0
19		0			0	0	0	0		0	0	0
20		0			0	0	0	0		0	0	0
21		0			0	0	0	0		0	0	0
22		0			0	0	0	0		0	0	0
23		0			0	0	0	0		0	0	5.0
24		0			0	0	0	0		2.0	0	3320
25		0			0	0	0	0		.90	0	588
26		0			0	0	0	0		8.4	0	269
27		0			0	0	0	0		6.8	0	6.6
28		.17			0	0	0	0		649	0	0
29		28			---	0	0	0		369	0	0
30		---			---	0	0	0		181	0	0
31		---			---	0	---	0		6.7	0	---
TOTAL	0	28.17	0	0	2.0	2.0	.40	61	0	1223.80	64	4194.23
MEAN	0	.94	0	0	.069	.065	.013	1.97	0	39.5	2.06	140
MAX	0	28	0	0	2.0	2.0	.40	49	0	649	35	3320
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	56	0	0	4.0	4.0	.8	121	0	2430	127	8320
CAL YR 1975	TOTAL	552.25	MEAN	1.51	MAX	394	MIN	0	AC-FT	1100		
WTH YR 1976	TOTAL	5575.60	MEAN	15.2	MAX	3320	MIN	0	AC-FT	11060		

PEAK DISCHARGE (BASE, 500 CFS)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
7-28	1315	9.44	1,880	9-26	0030	7.88	940
9-24	1300	10.82	12,500				

NOTE.--No gage-height record Jan. 1 to Feb. 10.

RIO SONOYTA BASIN

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SAN SIMON WASH BASIN

09535300. VAMORI WASH AT KOM VO, ARIZ.

LOCATION.--Lat 31°57'04", long 112°20'50", in NW¼ sec.14, T.17 S., R.1 W. (unsurveyed), Pima County, in Papago Indian Reservation, on right bank 200 ft (61 m) downstream from road crossing, 0.6 mi (1.0 km) south of Kom Vo and 5 mi (8 km) upstream from mouth.

DRAINAGE AREA.--1,250 mi² (3,240 km²), approximately, of which about 250 mi² (650 km²) is in Mexico.

PERIOD OF RECORD.--February 1972 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,770 ft (539 m), from topographic map.

EXTREMES.--Current year: Maximum discharge, 1,650 ft³/s (46.7 m³/s), Sept. 26 (gage height, 9.21 ft or 2.807 m), from rating curve extended above 630 ft³/s (18 m³/s); no flow for most of year.

Period of record: Maximum discharge, 1,880 ft³/s (53.2 m³/s) Oct. 20, 1972 (gage height, 9.44 ft or 2.877 m), from rating curve extended above 630 ft³/s (18 m³/s); no flow for most of each year.

REMARKS.--Records fair except those above 800 ft³/s (23 m³/s), which are poor.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0		0	0		0	2.7	0
2					0		0	0		1.8	1.9	0
3					0		0	0		2.20	1.0	0
4					0		0	3.2		0	0	0
5					0		0	8.7		0	0	5.2
6					0		0	0		0	0	8.4
7					0		0	0		0	0	9.7
8					0		0	0		0	5.0	16
9					0		0	0		0	160	19
10					0		0	0		0	82	2.7
11					4.3		0	0		0	457	1.2
12					0		0	0		0	475	0
13					0		0	0		0	40	0
14					0		0	0		0	2.0	0
15					0		0	0		0	0	0
16					0		6.2	0		0	0	0
17					0		6.8	0		0	0	0
18					0		1.7	0		0	0	0
19					0		0	0		0	0	0
20					0		0	0		0	0	0
21					0		0	0		0	0	0
22					0		0	0		0	0	0
23					0		0	0		0	0	0
24					0		0	0		0	0	467
25					0		0	0		0	8.3	1110
26					0		0	0		200	4.2	1260
27					0		0	0		100	205	139
28					0		0	0		41	133	37
29					0		0	0		537	34	8.4
30					---		0	0		490	5.9	1.7
31		---			---		---	0	---	58	8.80	---
TOTAL	0	0	0	0	4.3	0	14.7	11.9	0	1428.00	1617.80	3085.3
MEAN	0	0	0	0	0.15	0	0.49	0.38	0	46.1	52.2	103
MAX	0	0	0	0	4.3	0	6.8	8.7	0	537	475	1260
MIN	0	0	0	0	0	0	0	0	0	0	0	0
ACFT	0	0	0	0	8.5	0	29	24	0	2830	3210	6120
CAL YR 1975	TOTAL	2210.80	MEAN	6.06	MAX	374	MIN	0	ACFT	4390		
WTR YR 1976	TOTAL	6162.00	MEAN	16.8	MAX	1260	MIN	0	ACFT	12220		

PEAK DISCHARGE (BASE, 500 CFS REVISED)

DATE	TIME	G. H.	DISCHARGE	DATE	TIME	G. H.	DISCHARGE
*7-26	Unknown	†7.12	518	8-11	2230	8.82	1,260
7-29	2000	8.59	1,060	9-26	0330	9.21	1,650

* Most probable date, peak occurred during period July 20-28.

† From high-water mark in gage well.

SULPHUR SPRING VALLEY

WHITEWATER DRAW BASIN

09537200. LESLIE CREEK NEAR McNEAL, ARIZ.

LOCATION.--Lat 31°35'24", long 109°30'30", in SE¼NE¼ sec.20, T.21 S., R.28 E., Cochise County, on right bank 10 mi (16 km) east of McNeal.

DRAINAGE AREA.--79.1 mi² (204.9 km²).

PERIOD OF RECORD.--October 1969 to current year.

GAGE.--Water-stage recorder and concrete control with shallow sharp-crested V-notch weir. Altitude of gage is 4,620 ft (1,408 m), from topographic map.

AVERAGE DISCHARGE.--7 years, 0.79 ft³/s (0.022 m³/s) 573 acre-ft/yr (707,000 m³/yr).

EXTREMES.--Current year: Maximum discharge, 0.81 ft³/s (0.023 m³/s) Oct. 21 (gage height, 3.09 ft or 0.942 m); no flow May 29 to Sept. 30.

Period of record: Maximum discharge, 1,760 ft³/s (49.8 m³/s) Aug. 12, 1971 (gage height, 5.78 ft or 1.762 m), from rating curve extended above 5.7 ft³/s (0.16 m³/s) on basis of slope-area measurement of peak flow; no flow May 29 to Sept. 30, 1976.

REMARKS.--Records good.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	.13	.16	.18	.12	.08	.05	.02				
2	.08	.13	.16	.18	.12	.08	.05	.03				
3	.08	.14	.16	.16	.11	.07	.05	.03				
4	.08	.13	.16	.16	.12	.07	.05	.03				
5	.08	.13	.16	.16	.16	.07	.04	.03				
6	.08	.14	.16	.16	.12	.07	.04	.03				
7	.09	.14	.16	.16	.12	.06	.04	.03				
8	.09	.14	.16	.16	.11	.06	.04	.03				
9	.10	.14	.16	.17	.10	.06	.04	.03				
10	.10	.14	.16	.17	.11	.06	.04	.03				
11	.11	.14	.16	.16	.11	.06	.04	.03				
12	.11	.14	.16	.15	.10	.06	.03	.03				
13	.12	.14	.16	.14	.10	.06	.03	.02				
14	.12	.15	.16	.14	.10	.06	.03	.02				
15	.13	.16	.18	.14	.10	.06	.03	.02				
16	.13	.16	.18	.14	.09	.06	.03	.01				
17	.13	.14	.18	.14	.09	.06	.03	.01				
18	.13	.14	.18	.14	.09	.06	.03	.03				
19	.14	.14	.18	.14	.09	.06	.02	.04				
20	.14	.14	.18	.14	.09	.06	.02	.04				
21	.19	.14	.18	.14	.09	.06	.02	.04				
22	.14	.14	.18	.14	.09	.06	.02	.04				
23	.13	.14	.18	.14	.09	.06	.02	.04				
24	.13	.14	.18	.13	.09	.06	.03	.01				
25	.13	.14	.18	.12	.08	.06	.03	.01				
26	.13	.14	.18	.12	.08	.06	.03	.01				
27	.13	.14	.18	.12	.08	.05	.03	.01				
28	.14	.14	.18	.12	.08	.05	.03	.01				
29	.13	.14	.18	.12	.08	.05	.03	0				
30	.14	.13	.18	.12	---	.05	.03	0				
31	.14	---	.18	.12	---	.04	---	0	---			---
TOTAL	3.65	4.20	5.30	4.48	2.91	1.88	1.00	.71	0	0	0	0
MEAN	.12	.14	.17	.14	.10	.061	.033	.023	0	0	0	0
MAX	.19	.16	.18	.18	.16	.08	.05	.04	0	0	0	0
MIN	.08	.13	.16	.12	.08	.04	.02	0	0	0	0	0
AC-FT	7.2	8.3	11	8.9	5.8	3.7	2.0	1.4	0	0	0	0

CAL YR 1975 TOTAL 61.81 MEAN .17 MAX 16 MIN .01 AC-FT 123
WTR YR 1976 TOTAL 24.13 MEAN .066 MAX 19 MIN 0 AC-FT 48

PEAK DISCHARGE (BASE, 100 CFS).--No peak above base.

WHITENWATER DRAW BASIN

09537500. WHITENWATER DRAW NEAR DOUGLAS, ARIZ.

LOCATION.--Lat 31°21'08", long 109°35'04", in SW¼SE¼ sec.10, T.24 S., R.27 E., Cochise County, on downstream side of pier of bridge on U.S. Highway 80, 1.5 mi (2.4 km) upstream from international boundary and 2 mi (3 km) west of Douglas.

DRAINAGE AREA.--1,023 mi² (2,650 km²).

PERIOD OF RECORD.--August to October 1911 (gage heights and discharge measurements only), July to October 1912, January to June 1913, October 1913, December 1913 to June 1914, February to June 1915, October 1915 to September 1919, October 1919 to April 1922 (gage heights and discharge measurements only), June 1930 to December 1933, May 1935 to July 1947, October 1947 to current year. (July 1954 to March 1955 monthly discharge only.) Monthly discharge only for some periods, published in WSP 1313. Records for July to September, November 1913, July 1914 to January 1915, July to September 1915, published in WSP 359, 389, 409, and 1049 have been found to be unreliable and should not be used. Published as White River near Douglas 1911 and as White Water River near Douglas 1912.

GAGE.--Water-stage recorder. Datum of gage is 3,909.14 ft (1,191.506 m) above mean sea level. Prior to Apr. 30, 1922, nonrecording gages at various sites between 0.3 mi (0.5 km) upstream and 0.8 mi (1.3 km) downstream, at different datums. June 1, 1930, to Apr. 25, 1972, water-stage recorder at present site, at datum 2.17 ft (0.661 m) lower prior to May 14, 1938, and at datum 2.20 ft (0.671 m) lower May 14, 1938, to Apr. 25, 1972. Apr. 26, 1972, to Apr. 10, 1974, water-stage recorder at site 200 ft (61 m) upstream at datum 4.40 ft (1.341 m) higher.

AVERAGE DISCHARGE.--47 years (1915-19, 1930-33, 1935-46, 1947-76), 10.1 ft³/s (0.286 m³/s), 7,320 acre-ft/yr (9.03 hm³/yr); median of yearly mean discharges, 8.6 ft³/s (0.244 m³/s), 6,200 acre-ft/yr (7.6 hm³/yr).

EXTREMES.--Current year: Maximum discharge, 654 ft³/s (18.5 m³/s) July 24 (gage height, 7.06 ft or 2.152 m); no flow for most of year.

Period of record: Maximum discharge, 5,060 ft³/s (143 m³/s) Aug. 7, 1955; maximum gage height, 16.55 ft (5.044 m) July 29, 1966; no flow at times in most years.

REMARKS.--Records fair. Irrigation of about 40,000 acres (162 km²)—in 1967—above station, by pumping from ground water. Whitewater Draw discharges into Gulf of California through Rio Yaqui in Mexico. Records show flow at international boundary except for smelter waste water which enters stream below station.

REVISIONS.--See PERIOD OF RECORD.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									0	31	3.2	1.3
2									0	3.7	.13	.11
3									0	.58	.09	.06
4									0	.22	.07	.26
5									0	.16	.06	18
6									0	.14	.05	124
7									0	.11	.05	7.3
8									0	.08	.04	.16
9									0	.05	.04	.08
10									0	.03	.04	.06
11									0	.02	.03	.04
12									0	30	.03	.03
13									0	6.2	25	.03
14									0	.39	.55	.03
15									0	.22	.11	.02
16									0	11	.08	.01
17									0	6.3	.07	.01
18									0	55	9.3	.01
19									0	31	1.0	0
20									0	8.4	.10	0
21									0	.27	.07	0
22									0	3.7	.06	0
23									0	32	.05	0
24									0	303	.03	0
25									0	76	.02	0
26									0	8.1	.01	0
27									0	74	.01	0
28									0	17	0	0
29									* 2.1	.32	0	0
30									.77	223	0	0
31		---			---		---		---	31	12	---
TOTAL	0	0	0	0	0	0	0	0	2.87	952.99	52.29	151.51
MEAN	0	0	0	0	0	0	0	0	.096	30.7	1.69	5.05
MAX	0	0	0	0	0	0	0	0	2.1	303	25	124
MIN	0	0	0	0	0	0	0	0	0	.02	0	0
AC-FT	0	0	0	0	0	0	0	0	5.7	1890	104	301
CAL YR 1975	TOTAL	2615.65	MEAN 7.17	MAX 585	MIN 0	AC-FT 5190						
WTR YR 1976	TOTAL	1159.66	MEAN 3.17	MAX 303	MIN 0	AC-FT 2300						

PEAK DISCHARGE (BASE, 1,000 CFS).--No peak above base.

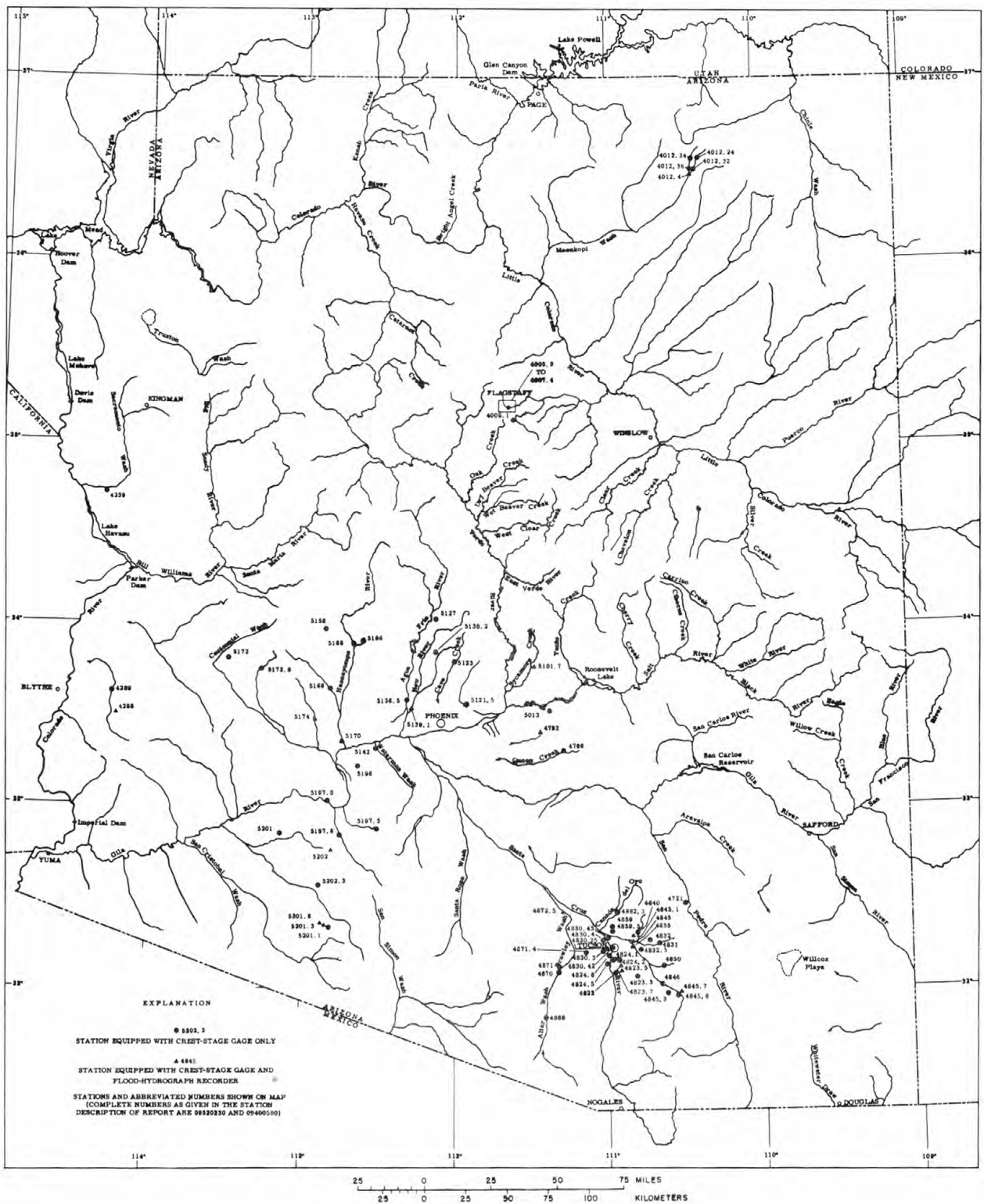


FIGURE 6.--MAP OF ARIZONA SHOWING LOCATION OF PARTIAL-RECORD GAGING STATIONS.

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, and discharge measurements may have been made for purposes of establishing the stage-discharge relation, but these are not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations during water year 1976

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
Little Colorado River basin							
09400590	Rio de Flag at Hidden Hollow Road, at Flagstaff, Ariz.	Lat 35°14'31", long 111°41'02", in SW¼SW¼ sec.32, T.22 N., R.7 E., Coconino County, at Hidden Hollow Road, 1.4 mi northwest of the Museum of Northern Arizona, and 3.4 mi northwest of downtown Flagstaff.	31.6	1970-76	1976	-----	a0.5
09400595	Schultz Canyon at Flagstaff, Ariz.	Lat 35°13'37", long 111°39'29", in SE¼SW¼ sec.4, T.21 N., R.7 E., Coconino County, at U.S. Highway 180, 0.6 mi south of the Museum of Northern Arizona in Flagstaff.	6.09	1970-76	1976	-----	(b)
09400600	Rio de Flag at Flagstaff, Ariz.	Lat 35°13'18", long 111°39'24", in NW¼NE¼ sec.9, T.21 N., R.7 E., Coconino County, at west side of Crescent Drive in Flagstaff.	51.0	1970-76	2-9-76	6.50	35
09400650	Sinclair Wash at Flagstaff, Ariz.	Lat 35°09'50", long 111°40'48", in NW¼NW¼ sec.32, T.21 N., R.7 E., Coconino County, at Holmes Avenue in the community of Palmerville at Flagstaff.	8.16	1970-76	4- -76	5.70	44
09400655	Rio de Flag at Interstate 40 at Flagstaff, Ariz.	Lat 35°11'04", long 111°37'56", in SE¼SE¼ sec.22, T.21 N., R.7 E., in Coconino County, on left bank 80 ft upstream from bridge for eastbound lanes of Interstate 40, in Flagstaff.	68.0	1973c, 1976	4-25-73 2- 9-76	----- d8.35	300 134
09400660	Bow and Arrow Wash at Flagstaff, Ariz.	Lat 35°09'58", long 111°39'10", in NW¼NE¼ sec.33, T.21 N., R.7 E., Coconino County, at Zuni Road in Flagstaff.	2.14	1969-76	1976	e4.4	e7
09400680	Switzer Canyon at Flagstaff, Ariz.	Lat 35°12'44", long 111°38'21", in SW¼SE¼ sec.10, T.21 N., R.7 E., Coconino County, at Turquoise and Oak Streets in Flagstaff.	1.87	1969-76	2-9-76	3.96	51
09400700	Switzer Canyon tributary at Flagstaff, Ariz.	Lat 35°12'03", long 111°36'46", in NE¼SE¼ sec.14, T.21 N., R.7 E., Coconino County, at gravel road 500 ft upstream from Interstate 40 and one-fourth mile downstream from U.S. Highway 66 in Flagstaff.	17.31	1968-76	2-9-76	3.68	45
09400730	Lockett Fanning diversion at Flagstaff, Ariz.	Lat 35°13'19", long 111°35'58", in NW¼NE¼ sec.12, T.21 N., R.7 E., Coconino County, at Linda Vista Drive in Flagstaff.	1.05	1969-76	7-14-76	4.75	46
09400740	Harenberg Wash at Flagstaff, Ariz.	Lat 35°13'09", long 111°35'16", in SE¼NW¼ sec.7, T.21 N., R.8 E., Coconino County, at AT&SF railroad tracks at the east edge of Flagstaff.	2.41	1969-76	7-13-76	5.52	85
09400910	Fay Canyon near Flagstaff, Ariz.	Lat 35°08'06", long 111°37'48", in NW¼NW¼ sec.11, T.20 N., R.7 E., Coconino County, at Lake Mary Road within corporate limits of Flagstaff.	g3.32 (.56)	1964-76	1976	2.97	e10
09401224	Coal Mine Wash near Kayenta, Ariz.	Lat 36°32'52", long 110°22'11", on the Navajo Indian Reservation 14 mi southwest of Kayenta in Navajo County.	34.1	1974-76	7-24-76	4.14	a30
09401234	Yellow Water Canyon near Kayenta, Ariz.	Lat 36°34'39", long 110°22'49", on the Navajo Indian Reservation 11 mi southwest of Kayenta in Navajo County.	18.6	1974-76	9-25-76	5.10	40

See footnotes at end of the table.

Annual maximum discharge at crest-stage partial-record stations during water year 1976--Continued

Annual maximum discharge at crest stage partial-record stations during water year 1976--Continued							
Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
Little Colorado River basin--Continued							
09401236	Yellow Water Canyon near Shonto, Ariz.	Lat 36°30'33", long 110°26'20", on the Navajo Indian Reservation 1.9 mi above mouth, 13 mi southeast of Shonto, and 18 mi southwest of Kayenta in Navajo County.	49	1975-76	9-25-76	8.06	e25
09401240	Moenkopi Wash near Shonto, Ariz.	Lat 36°24'51", long 110°27'28", Navajo County, in Navajo-Hopi Indian joint use area, 16.5 mi southeast of Shonto.	h270	1974-76	8- 4-74 7-12-75 7-26-76	2.92 2.25 3.27	1,850 900 2,500
Sacramento Wash basin							
09423900	Sacramento Wash tributary near Topock, Ariz.	Lat 34°43'47", long 114°18'45", in SW¼NW¼ sec.13, T.16 N., R.20 W., Mohave County, at U.S. Highway 66, 9.7 mi east of Topock.	14.7	1963-76	9-10-76	10.48	1,030
Tributaries between Parker Dam and Gila River							
09428800	Tyson Wash tributary near Quartzsite, Ariz.	Lat 33°30'45", long 114°13'00", in SW¼ sec.15, T.2 N., R.19 W., Yuma County, at U.S. Highway 95, 10.7 mi south of Quartzsite.	13.7	1963-76	9-25-76	-----	1,950
09428900	Tyson Wash at Quartzsite, Ariz.	Lat 33°39'57", long 114°13'12", in NE¼NE¼ sec.28, T.4 N., R.19 W., G. & S.R. meridian, on downstream side of old highway bridge in town of Quartzsite.	421	1963i, 1968 1970-72i, 1973-76	9-25-76	9.10	12,100
Gila River basin							
09472100	Peck Canyon tributary near Redington, Ariz.	Lat 32°29'12", long 110°30'00", in SW¼SW¼ sec.10, T.11 S., R.18 E., Pima County, on left bank 0.2 mi upstream from mouth and 4 mi north of Redington.	8.02	1967-72i, 1973-76	7-19-76	7.35	110
09478600	Queen Creek tributary No. 3 at Whitlow Dam, Ariz.	Lat 33°17'30", long 111°16'50", in N¼ sec.1, T.2 S., R.10 E., Pinal County, 0.5 mi south of Whitlow Dam, and 4.5 mi northeast of Florence Junction.	.37	1966-76	4-16-76	3.38	4.0
09479200	Queen Creek tributary at Apache Junction, Ariz.	Lat 33°24'13", long 111°32'27", in NE¼SW¼ sec. 10, T.11 S., R.18 E., Pima County, on left bank, 0.2 mi upstream from mouth and 4 mi north of Redington.	.51	1961-68i, 1973-76	7-24-76	4.30	176
09482200	Flato Wash near Sahuarita, Ariz.	Lat 32°02'43", long 110°57'00", in SW¼SE¼ sec.7, T.16 S., R.14 E., Pima County, at U.S. Highway 89, 6 mi north of Sahuarita.	8.25	1965-76	9-25-76	4.46	790
09482330	Pumping Wash near Vail, Ariz.	Lat 32°04'10", long 110°48'23", in SW¼NW¼ sec.3, T.16 S., R.15 E., Pima County, at road to pumping station 1.1 mi south of Interstate 10, and 5.7 mi west of Vail.	.54	1966-76	9-25-76	1.70	9
09482350	South Fork Airport Wash near Tucson, Ariz.	Lat 32°06'00", long 110°54'30", in SE¼NE¼ sec.28, T.15 S., R.14 E., Pima County, at Hughes Access Road, 3.25 mi south of U.S. Highway 80, and 1.5 mi southeast of Tucson city limits.	g9.78 (5.40)	1966-76	9-25-76	6.53	980
09482370	North Fork Airport Wash near Tucson, Ariz.	Lat 32°06'40", long 110°54'30", in NE¼SE¼ sec.21, T.15 S., R.14 E., Pima County, at Hughes Access Road, 2.5 mi south of U.S. Highway 80, and 1 mi east of Tucson city limits.	g6.65 (1.37)	1961, 1965-76	9-25-76	6.18	700
09482410	Rodeo Wash at Tucson, Ariz.	Lat 32°10'20", long 110°58'35", in SW¼NW¼ sec.36, T.14 S., R.13 E., Pima County, at South 12th Avenue, 0.8 mi above mouth in Tucson city limits.	5.92	1970-76	(j)	3.94	300
09482420	Julian Wash at Tucson, Ariz.	Lat 32°10'15", long 110°56'25", in SW¼NW¼ sec.32, T.14 S., R.14 E., Pima County, 1,600 ft above confluence with Tucson diversion channel, and 0.5 mi south of Ajo Road in Tucson.	26.5	1970-76	9-25-76	3.74	1,050

See footnotes at end of the table.

Annual maximum discharge at crest-stage partial-record stations during water year 1976--Continued

Annual maximum discharge at Crest-stage partial-record stations during water year 1976--Continued							
Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Discharge (cfs)
Gila River basin--Continued							
09482450	West Branch Santa Cruz River at Tucson, Ariz.	Lat 32°08'00", long 111°00'30", in NE¼NE¼ sec.16, T.15 S., R.13 E., Pima County, at Valencia Road, 0.4 mi east of Mission Road, and 0.8 mi west of Tucson city limits.	23.6	1966-76	9-25-76	6.91	910
09482480	Big Wash at Tucson, Ariz.	Lat 32°11'10", long 111°00'07", in SW¼NE¼ sec.27, T.14 S., R.13 E., Pima County, at Mission Road, 0.6 mi north of State Highway 86, in Tucson.	2.75	1966-76	9-25-76	3.79	120
09483025	Silvercroft Wash at Tucson, Ariz.	Lat 32°13'53", long 111°00'10", in NW¼ sec.10, T.14 S., R.13 E., 0.1 mi west of Silverbell Road, 0.3 mi northwest of St. Mary's Hospital, and 0.4 mi north of Anklam Road at Tucson.	2.74	1969-76	9-25-76	1.99	310
09483030	Anklam Wash at Tucson, Ariz.	Lat 32°13'30", long 111°01'50", in SE¼ sec.8, T.14 S., R.13 E., Pima County, at Anklam Road, 1 mi west of Tucson city limits, and 2 mi west of St. Mary's Hospital.	2.11	1965-76	9-25-76	3.66	75
09483040	West Speedway Wash near Tucson, Ariz.	Lat 32°14'20", long 111°02'43", in SE¼SE¼ sec.6, T.14 S., R.13 E., Pima County, at driveway to power substation off West Speedway Road, 2 mi west of Tucson city limits, and 3 mi northwest of St. Mary's Hospital.	.46	1965-76	9-25-76	7.86	240
09483042	Cemetery Wash at Tucson, Ariz.	Lat 32°15'50", long 110°58'38", in NW¼NW¼ sec.36, T.13 S., R.13 E., Pima County, at U.S. Highway 89, 0.25 mi north of junction with State Highway 84 in Tucson.	1.3	1966-76	9-25-76	3.85	360
09483045	Flowing Wells Wash at Tucson, Ariz.	Lat 32°15'55", long 110°59'40", in SW¼SW¼ sec.26, T.13 E., R.13 S., at intersection of Ft. Lowell Road and Flowing Wells Road in Tucson city limits.	(k)	1971-76	7-11-76	7.20	920
09483100	Tanque Verde Creek near Tucson, Ariz.	Lat 32°14'48", long 110°40'46", in NE¼NW¼ sec.2, T.14 S., R.16 E., Pima County, 4.4 mi east of Tanque Verde School, 7.4 mi upstream from Agua Caliente Wash, and 17.5 mi east of Tucson city hall.	43.0	1959-74†, 1975-76	9- 5-76	2.41	300
09483200	Agua Caliente Wash tributary near Tucson, Ariz.	Lat 32°16'07", long 110°44'15", in SW¼SW¼ sec.29, T.13 S., R.16 E., Pima County, at Soldier Trail, 1.4 mi north of Tanque Verde Road, and 5 mi northeast of Tucson city limits.	2.04	1965-76	7-17-76	7.34	175
09483250	Rob Wash at Tucson, Ariz.	Lat 32°14'08", long 110°48'58", in NE¼NW¼ sec.9, T.14 S., R.15 E., at Speedway Blvd., 0.4 mi west of Pantano Road, and 1 mi north of East Broadway in Tucson city limits.	2.08	1971-76	9-25-76	2.31	330
09484000	Sabino Creek near Tucson, Ariz.	Lat 32°19'01", long 110°48'36", in SE¼NE¼ sec.9, T.13 S., R.15 E., Pima County, 0.5 mi north of Coronado National Forest boundary, and 12 mi northeast of Tucson city hall.	35.5	1932-74†, 1975-76	9-26-76	5.57	580
09484500	Tanque Verde Creek at Tucson, Ariz.	Lat 32°15'57", long 110°50'27", in SE¼SE¼ sec.30, T.13 S., R.15 E., Pima County, at Sabino Canyon Road, 1 mi downstream from Sabino Creek, and 1.25 mi northeast of Tucson city limits.	219	1940-45†, 1966-76	9-26-76	4.57	2,020
09484510	Ventana Canyon Wash near Tucson, Ariz.	Lat 32°18'35", long 110°50'20", in SW¼SW¼ sec.8, T.13 S., R.15 E., Pima County, at Sunrise Drive (Sabino Canyon West Road), 0.5 mi above Esperero Wash, and 4 mi northeast of Tucson city limits.	6.46	1965-76	9-25-76	14.08	195
09484560	Cienega Creek near Pantano, Ariz.	Lat 31°59'08", long 110°33'57", in NW¼ sec.1, T.17 S., R.17 E., Pima County, on downstream end of first pier from right abutment of bridge on Interstate 10, and 1.2 mi southeast of Pantano.	289	1968-75†, 1976	8-10-76	5.90	4,650

See footnotes at end of the table.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Annual maximum discharge at crest-stage partial-record stations during water year 1976--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
Gila River basin--Continued							
09484570	Mescal Arroyo near Pantano, Ariz.	Lat 31°59'23", long 110°33'52", in NE¼NW¼ sec.1, T.17 S., R.17 E., Pima County, at county road, 0.25 mi above mouth, and 1.1 mi southeast of Pantano.	38.4	1965-76	7-29-76	4.60	385
09484590	Davidson Canyon Wash near Vail, Ariz.	Lat 31°59'37", long 110°38'40", in SW¼SE¼ sec.31, T.16 S., R.17 E., Pima County, on right bank, 0.3 mi upstream from Interstate 10, 2.0 mi upstream from mouth, and 5.5 mi southeast of Vail.	50.5	1968-75†, 1976	7-12-76	5.54	3,550
09484600	Pantano Wash near Vail, Ariz.	Lat 32°02'09", long 110°40'37", in SW¼SE¼ sec.14, T.16 S., R.16 E., Pima County, 60 ft upstream from dam, 2.2 mi southeast of Vail, and 20 mi southeast of Tucson city hall.	457	1959-74†, 1975-76	7-25-76	10.86	5,970
09485000	Rincon Creek near Tucson, Ariz.	Lat 32°07'46", long 110°37'32", in NW¼NE¼ sec.17, T.15 S., R.17 E., Pima County, 9 mi upstream from mouth, and 22 mi southeast of Tucson city hall.	44.8	1952-74†, 1975-76	(j)	4.43	230
09485500	Pantano Wash at Tucson, Ariz.	Lat 32°14'57", long 110°50'53", in NW¼NE¼ sec.6, T.14 S., R.15 E., Pima County, at Tanque Verde Road, 0.7 mi northeast of Tucson city limits, and 1.75 mi above mouth.	602	1940†, 1958, 1965-76	8-10-76	-----	3,080
09485900	Pima Wash near Tucson, Ariz.	Lat 32°20'15", long 110°57'35", in SW¼SW¼ sec.31, T.12 S., R.14 E., Pima County, at Ina Road, and 4 mi north of Tucson city limits.	4.93	1964-76	9-26-76	7.62	a2
09485950	Geronimo Wash near Tucson, Ariz.	Lat 32°19'56", long 110°56'37", in SE¼NE¼ sec.6, T.13 S., R.14 E., Pima County, at Skyline Drive, 0.4 mi southeast of Ina Road, and 3.5 mi north of Tucson city limits.	2.08	1964-76	9-26-76	5.54	90
09486230	Big Wash near Catalina, Ariz.	Lat 32°25'20", long 110°56'46", in NE¼NE¼ sec.6, T.11 S., R.14 E., Pima County, on right bank, 0.8 mi upstream from mouth at Canada del Oro, 0.9 mi downstream from Honey Bee Canyon, and 5.5 mi southwest of Catalina.	109	1976	9-26-76	7.12	3,060
09486800	Altar Wash near Three Points, Ariz.	Lat 31°50'10", long 111°24'11", in SE¼NE¼ sec.27, T.18 S., R.9 E., Pima County, 0.2 mi upstream from bridge on State Highway 286, and 18 mi south of Three Points.	463	1966-75†, 1976	8-22-76	7.80	7,000
09487000	Brawley Wash near Three Points, Ariz.	Lat 32°04'32", long 111°20'15", in NE¼SE¼ sec.32, T.15 S., R.10 E., Pima County, at State Highway 86, 1.5 mi west of Three Points (Robles Junction), and 23 mi west of Tucson.	776	1962, 1966-76	9- 5-76	7.49	3,600
09487100	Little Brawley Wash near Three Points, Ariz.	Lat 32°07'25", long 111°19'45", in SE¼NW¼ sec.16, T.15 S., R.10 E., Pima County, 3.4 mi north of Three Points.	11.9	1968-76	9-25-76	12.55	2,230
09487140	San Joaquin Wash near Tucson, Ariz.	Lat 32°10'07", long 111°07'58", in NE¼SE¼ sec.32, T.14 S., R.12 E., Pima County, 1.1 mi northwest of the intersection of San Joaquin Road and the Tucson-Ajo Highway.	.45	1969-76	9-25-76	7.31	480
09487250	Los Robles Wash near Marana, Ariz.	Lat 32°26'16", long 111°18'13", in SE¼SE¼ sec.27, T.11 S., R.10 E., Pima County, at Trico Road, 0.75 mi downstream from confluence of Brawley Wash and China Draw, 3 mi upstream from Blanco Wash, and 5 mi southwest of Marana.	1,170	1962, 1966-76	9-25-76	7.75	1,950
09501300	Tortilla Creek at Tortilla Flat, Ariz.	Lat 33°31'58", long 111°23'13", in NW¼ sec.13, T.2 N., R.9 E. (unsurveyed), Maricopa County, 600 ft upstream from State Highway 88 and Tortilla Flat Store, and 3.7 mi southeast of Mormon Flat Dam.	24.3	1966-76	9-25-76	4.65	160
09510170	Camp Creek near Sunflower, Ariz.	Lat 33°45'35", long 111°29'44", in SW¼ sec.24, T.5 N., R.8 E., Maricopa County, on right bank at upstream side of culvert on State Highway 87, half a mile upstream from mouth, and 7 mi south of Sunflower.	2.6	1963-66†, 1967-76	9-26-76	3.75	252

See footnotes at end of the table.

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
Gila River basin--Continued							
09512160	Indian Bend Wash (at McDowell Road) at Scottsdale, Ariz.	Lat 33°27'57", long 111°54'54", in SW¼SE¼ sec.35, T.2 N., R.4 E., on both banks 25 ft upstream of weir at bridge on McDowell Road, 0.6 mi east of Scottsdale Road in Scottsdale.	(k)	1961-66m, 1968-75n, 1976	1961-65, 9-13-66, 1967, 12-19-67, 1969, 9-5-70, 1971, 6-22-72, 10-7-72, 1974, 1975, 9-25-76	----- ----- ----- 3.0 ----- 6.74 ----- 8.01 6.11 ----- 9.56	(p) 1,350 (b) e1,500 (b) 3,900 (b) 14,300 1,950 (b) (b) 2,690
09512300	Cave Creek near Cave Creek, Ariz.	Lat 33°47'00", long 112°00'24", in SW¼ sec.12, T.5 N., R.3 E., Maricopa County, on left bank, 200 ft upstream from Prescott-to-Mesa trans-mission line, 5 mi southwest of town of Cave Creek, and 5.0 mi upstream from Cave Creek Dam.	121	1958-67‡, 1968-76	2-9-76	4.12	1,260
09512700	Agua Fria River tribu-tary No. 2 near Rock Springs, Ariz.	Lat 34°02'00", long 112°08'42", in SW¼ sec.15, T.8 N., R.2 E., Maricopa County, at State Highway 69, 1 mi south of Rock Springs.	1.11	1963-76	9-26-76	3.6	165
09513650	Agua Fria River at El Mirage, Ariz.	Lat 33°36'24", long 112°18'14", in NW¼NW¼ sec.18, T.3 N., R.1 E., Maricopa County, at Grand Avenue, 0.75 mi southeast of El Mirage.	ql,637	1963-76	1976	-----	(b)
09513820	Deadman Wash near New River, Ariz.	Lat 33°50'30", long 112°08'40", in NW¼ sec.27, T.6 N., R.2 E., Maricopa County, at State Highway 69, 4.5 mi south of New River.	11.1	1960-76	8-31-76	2.58	64
09513910	New River near Glendale, Ariz.	Lat 33°32'12", long 112°16'52", in NE¼NW¼ sec.8, T.2 N., R.1 E., Maricopa County, at Glendale Avenue, 2 mi upstream from mouth, and 6 mi west of Glendale.	323	1961-63, 1964-70‡, 1971-76	9-25-76	7.29	1,550
09514200	Waterman Wash near Buckeye, Ariz.	Lat 33°19'49", long 112°30'33", in SW¼NE¼ sec.24, T.1 S., R.3 W., Maricopa County, 2.4 mi above mouth, 5.2 mi southeast of Buckeye.	403	1964-76	9-26-76	4.76	1,180
09515800	Hartman Wash near Wickenburg, Ariz.	Lat 33°57'46", long 112°49'40", in SE¼ sec.12, T.7 N., R.6 W., Maricopa County, at U.S. Highway 60, 5.7 mi west of Wickenburg.	5.57	1964-76	9-25-76	3.82	e400
09516500	Hassayampa River near Morristown, Ariz.	Lat 33°53'06", long 112°39'41", in SW¼SE¼ sec.3, T.6 N., R.4 W., Maricopa County, 3.0 mi northwest of Morristown, 7 mi southeast of Wickenburg.	774	1939-47‡, 1954, 1956, 1964-76	2-9-76	8.34	800
09516600	Ox Wash near Morristown, Ariz.	Lat 33°53'00", long 112°39'00", in NW¼ sec.11, T.6 N., R.4 W., Maricopa County, at U.S. Highway 60, 2.4 mi northwest of Morristown.	6.31	1963-76	1976	-----	(b)
09516800	Jack Rabbit Wash near Tonopah, Ariz.	Lat 33°39'32", long 112°49'40", in NE¼NW¼ sec.25, T.4 N., R.6 W., Maricopa County, 100 ft upstream from the Wickenburg-Hassayampa Road, 4.5 mi upstream from Star Wash, and 14 mi northeast of Tonopah.	137	1964-76	9-25-76	9.99	a2,200
09517000	Hassayampa River near Arlington, Ariz.	Lat 33°20'50", long 112°43'30", in NW¼ sec.13, T.1 S., R.5 W., Maricopa County, at former U.S. Highway 80, 1.8 mi upstream from mouth, and 2.8 mi northeast of Arlington.	1,470	1961-76	9-26-76	4.9	13,000
09517200	Centennial Wash tribu-tary near Wenden, Ariz.	Lat 33°50'40", long 113°27'00", in SW¼SW¼ sec.24, T.6 N., R.12 W., Yuma County, at U.S. Highway 60, 5 mi northeast of Wenden.	2.79	1963-76	9-25-76	3.14	220
09517280	Tiger Wash near Aguila, Ariz.	Lat 33°44'30", long 113°16'43", in SW¼SW¼ sec.26, T.5 N., R.10 W., Maricopa County, 17 mi south of Aguila.	85.2	1963-76	9-25-76	9.28	3,000
09517400	Winters Wash near Tonopah, Ariz.	Lat 33°29'22", long 112°55'05", in SW¼NW¼ sec.30, T.2 N., R.6 W., Maricopa County, 0.5 mi downstream from Airline Road, and 1 mi east of Tonopah.	47.8	1962-76	9-25-76	10.1	3,640

See footnotes at end of the table.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Annual maximum discharge at crest-stage partial-record stations during water year 1976--Continued

Station No.	Station name	Location	Drainage area (sq mi)	Period of record	Annual maximum		
					Date	Gage height (feet)	Dis-charge (cfs)
Gila River basin--Continued							
09519600	Rainbow Wash tributary near Buckeye, Ariz.	Lat 33°14'35", long 112°38'15", in NE¼ sec.23, T.2 S., R.4 W., Maricopa County, at U.S. Highway 80, 9.5 mi southwest of Buckeye.	d3.45 (1.02)	1963-76	9-26-76	5.41	660
09519750	Bender Wash near Gila Bend, Ariz.	Lat 32°54'25", long 112°33'05", in NW¼ sec.15, T.6 S., R.3 W., Maricopa County, along side of Interstate 8, 10 mi southeast of Gila Bend. Prior to Oct. 1, 1966, at site 0.65 mi downstream.	68.8	1963-76	9-25-76	5.32	1,220
09519760	Sauceda Wash near Gila Bend, Ariz.	Lat 32°52'14", long 112°45'30", in SE¼SW¼ sec.27, T.6 S., R.5 W., Maricopa County, at State Highway 85, 5.3 mi south of Gila Bend.	r126	1963-76	9-26-76	5.92	3,150
09519780	Windmill Wash near Gila Bend, Ariz.	Lat 33°02'54", long 112°50'17", in SE¼ sec.25, T.4 S., R.6 W., Maricopa County, at county road, 10.5 mi northwest of Gila Bend.	12.9	1964-76	9-26-76	7.42	a200
09520100	Military Wash near Sentinel, Ariz.	Lat 32°50'43", long 113°16'44", in SW¼ sec.3, T.7 S., R.10 W., Maricopa County, at U.S. Highway 80, 4.1 mi west of Sentinel.	8.70	1963-76	7-27-76	3.60	a550
09520110	Hot Shot Arroyo near Ajo, Ariz.	Lat 32°20'49", long 112°48'31", in SW¼ sec.29, T.12 S., R.5 W., Pima County, at State Highway 85, 3 mi southeast of Ajo.	.44	1966-76	9- 5-76	6.68	240
09520130	Darby Arroyo near Ajo, Ariz.	Lat 32°21'19", long 112°49'31", in NW¼ sec.30, T.12 S., R.5 W., Pima County, at State Highway 85, 2 mi southeast of Ajo.	4.72	1966-76	8-11-76	7.62	840
09520160	Gibson Arroyo at Ajo, Ariz.	Lat 32°22'48", long 112°51'40", in NW¼SW¼ sec.14, T.12 S., R.6 W., Pima County, at 2nd Avenue next to railroad tracks in Ajo.	2.18	1967-76	9- 5-76	5.99	340
09520200	Black Gap Wash near Ajo, Ariz.	Lat 32°42'23", long 112°50'43", in NW¼NE¼ sec.26, T.8 S., R.6 W., Maricopa County, at State Highway 85, 5.7 mi north of Midway, and 23 mi north of Ajo.	12.1	1963-76	5- 4-76	4.55	297
09520230	Crater Range Wash near Ajo, Ariz.	Lat 32°33'44", long 112°52'37", in NW¼NW¼ sec.15, T.10 S., R.6 W., Maricopa County, at State Highway 85, 4.1 mi north of Maricopa-Pima County line, and 13.5 mi north of Ajo.	1.49	1963-76	9-24-76	3.26	440

† Operated as a continuous-record gaging station.

a Estimate.

b No flow.

c Highest since 1938. Peak resulted from snowmelt.

d Prior to installation of gage; average of high-water marks.

e About.

f Peak flows originate in 1.2 square miles of urban area at the downstream end of the basin. Little flow has come from the upper 6.1 square miles since at least 1964.

g Portion of drainage basin is generally noncontributing because of a major stock pond. The noncontributing area is shown in parentheses.

h Approximately.

i Incomplete record from floodmarks prior to installation of gage.

j August or September.

k Not determined.

m Gage located at McDonald Drive, Indian School and McDonald Roads.

n Gage located at Thomas Road.

p No flow over road.

q Includes 1,459 square miles above Lake Pleasant that is noncontributing except during occasional periods of spill from Waddell Dam; does not include the area tributary to McMicken Dam from which water is diverted to the Agua Fria River. Diversions from McMicken Dam have negligible effect on peak flows of the Agua Fria River.

Discharge measurements at miscellaneous sites

Measurements of streamflow at points other than gaging stations are given in the following table. Those that are measurements of base flow are designated by an asterisk (*); measurements of peak flow by a dagger (†).

Discharge measurements made at miscellaneous sites during water year 1976

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Little Colorado River basin						
Little Colorado River	Colorado River	Lat 34°05'18", long 109°24'42", in NW¼SE¼ sec.17, T.8 N., R.28 E., Apache County, at bridge 7.1 mi west of Eagar.	—	1975	11-17-75	*2.74
Do-----	-----do-----	Lat 34°06'15", long 109°20'33", in SW¼NE¼ sec.12, T.8 N., R.28 E., Apache County, at bridge on State Highway 273, 3.0 mi west of Eagar.	—	1975	11-17-75	*2.71
Do-----	-----do-----	Lat 34°06'39", long 109°18'52", in NW¼NW¼ sec.8, T.8 N., R.29 E., Apache County, at bridge on State Highway 73, 1.4 mi west of Eagar.	122	1951-60, 1975	11-17-75	*3.76
Water Canyon Creek	Little Colorado River	Lat 34°06'39", long 109°18'42", in NE¼NW¼ sec.8, T.8 N., R.29 E., Apache County, at bridge on State Highway 73, 1.2 mi west of Eagar.	—	—	11-17-75	0
Becker Lake diversion	-----do-----	Lat 34°07'49", long 109°17'46", in NE¼SW¼ sec.32, T.9 N., R.29 E., Apache County, at intake 1 mi west of Springerville.	—	—	11-18-75	2.49
Little Colorado River	Colorado River	Lat 34°07'47", long 109°17'45", in NW¼SE¼ sec.32, T.9 N., R.29 E., Apache County, below Becker Lake diversion 1 mi west of Springerville.	—	—	11-18-75	*2.16
Do-----	-----do-----	Lat 34°08'48", long 109°17'37", in NW¼SE¼ sec.29, T.9 N., R.29 E., Apache County, at bridge on U.S. Highways 60, 180, and 666, 1.1 mi north-west of Springerville.	—	1975	11-17-75 11-18-75	*1.54 *1.72
Nutrios Creek	Little Colorado River	Lat 34°08'34", long 109°17'00", in SW¼SW¼ sec.28, T.9 N., R.29 E., Apache County, at crossing 0.7 mi north of Springerville.	—	1975	11-17-75	*.41
Little Colorado River	Colorado River	Lat 34°09'44", long 109°18'06", in SW¼NW¼ sec.20, T.9 N., R.29 E., Apache County, 2.4 mi north-west of Springerville.	—	1975	11-18-75	*2.40
Hooper ditch	Little Colorado River	Lat 34°11'10", long 109°18'09", in SW¼SW¼ sec.8, T.9 N., R.29 E., Apache County, at crossing on Hooper Ranch Road, 3.8 mi north of Springerville.	—	—	11-18-75	1.81
Little Colorado River	Colorado River	Lat 34°11'10", long 109°18'12", in SW¼SW¼ sec.8, T.9 N., R.29 E., Apache County, at crossing on Hooper Ranch Road, 3.8 mi north of Springerville.	—	1975	11-18-75	*.58
Do-----	-----do-----	Lat 34°12'08", long 109°17'55", in NE¼SW¼ sec.5, T.9 N., R.29 E., Apache County, at crossing on Clinton Slade Ranch Road, 4.8 mi north of Springerville.	—	1975	11-18-75	*1.87
Do-----	-----do-----	Lat 34°17'06", long 109°21'06", in NE¼NW¼ sec.11, T.10 N., R.28 E., Apache County, at Sherwood Road Crossing, 11 mi northwest of Springerville.	—	1950-53, 1975	11-18-75 11-19-75	*2.04 *2.39
Vigil Run	Little Colorado River	Lat 34°17'17", long 109°22'03", in SE¼SW¼ sec.3, T.10 N., R.28 E., Apache County, below culvert on U.S. Highways 180 and 666, 12 mi northwest of Springerville.	—	1975	11-18-75	*.37
Coyote Creek	-----do-----	Lat 34°18'14", long 109°21'23", in NW¼SW¼ sec.35, T.11 N., R.28 E., Apache County, at mouth 12 mi north of Springerville.	—	—	11-19-75	0
Little Colorado River	Colorado River	Lat 34°18'16", long 109°21'24", in NE¼SE¼ sec.34, T.11 N., R.28 E., Apache County, 40 ft below Bill Richey Ranch Road, 12 mi north of Springerville.	—	1975	11-19-75	*2.98

See footnotes at end of the table.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 1976--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Little Colorado River basin--Continued						
Little Colorado River	Colorado River	Lat 34°23'14", long 109°23'53", in NW¼NE¼ sec.5, T.11 N., R.28 E., Apache County, 0.8 mi north of El Tule, 8.2 mi south of St. Johns.	—	1975	11-19-75	*2.53
Do-----	-----do-----	Lat 34°25'18", long 109°24'07", in NE¼SW¼ sec.20, T.12 N., R.28 E., Apache County, at road crossing 1.2 mi upstream from Salado Springs, 6.5 mi south of St. Johns. (Location revised.)	—	1975	11-19-75 4-15-76 9-10-76	*3.42 *2.95 *7.53
Do-----	-----do-----	Lat 34°26'00", long 109°22'40", in SE¼SE¼ sec.16, T.12 N., R.28 E., Apache County, 2.0 mi downstream from Salado Springs, 5.0 mi south- west of St. Johns. (Location revised.)	—	1940-41, 1975	11-19-75 4-15-76 9-10-76	*7.89 *8.34 *11.8
Do-----	-----do-----	Lat 34°28'04", long 109°21'24", in NW¼SW¼ sec.2, T.12 N., R.28 E., Apache County, 2.5 mi south of St. Johns.	—	—	11-19-75	*8.84
St. Johns ditch	Little Colorado River	Lat 34°28'07", long 109°21'23", in NW¼SW¼ sec.2, T.12 N., R.28 E., Apache County, 2.5 mi south of St. Johns.	—	—	11-19-75 11-20-75	.43 .49
Little Colorado River	Colorado River	Lat 34°28'07", long 109°21'23", in NW¼SW¼ sec.2, T.12 N., R.28 E., Apache County, 2.5 mi south of St. Johns.	—	1975	11-20-75	*8.43
Little Reservoir diversion	Little Colorado River	Lat 34°29'11", long 109°21'22", in NW¼SE¼ sec.34, T.13 N., R.28 E., Apache County, 1.2 mi south of St. Johns.	—	1975	11-20-75	0
Little Colorado River	Colorado River	Lat 34°29'25", long 109°21'21", in SW¼NE¼ sec.34, T.13 N., R.28 E., Apache County, 0.9 mi south of St. Johns.	—	1975	11-20-75	*9.11
Do-----	-----do-----	Lat 34°30'16", long 109°21'28", in NE¼SW¼ sec.27, T.13 N., R.28 E., Apache County, above ball- park diversion at St. Johns, 600 ft upstream from bridge on U.S. Highway 666.	—	—	11-20-75	*8.21
Do-----	-----do-----	Lat 34°30'22", long 109°21'28", in SE¼NW¼ sec.27, T.13 N., R.28 E., Apache County, at bridge on U.S. Highway 666 at St. Johns. (Location revised.)	—	1975	11-20-75	5.66
Return flow	Little Colorado River	Lat 34°32'21", long 109°22'04", in NE¼NE¼ sec.16, T.13 N., R.28 E., Apache County, 2.4 mi north of St. Johns.	—	—	11-20-75	.31
Little Colorado River	Colorado River	Lat 34°32'32", long 109°22'10", in SE¼SE¼ sec.9, T.13 N., R.28 E., Apache County, at county road bridge 2.5 mi north of St. Johns.	—	1975	11-20-75	10.5
Big Hollow Wash	Little Colorado River	Lat 34°32'29", long 109°25'29", in SW¼SE¼ sec.12, T.13 N., R.27 E., Apache County, below springs 3.5 mi northwest of St. Johns.	—	—	4-14-76 9- 9-76	*.21 *.14
Concho Spring	Little Colorado River	Lat 34°25'51", long 109°37'45", in NW¼NE¼ sec.19, T.12 N., R.26 E., Apache County, 3 mi southwest of Concho.	—	1942, 1946-61, 1966-68	4-16-76 9- 8-76	*2.18 *1.95
Stinking Springs	Little Colorado River	Lat 34°37'25", long 109°34'35", in SE¼SW¼ sec.10, T.14 N., R.26 E., Apache County, 3 mi north- east of Hunt.	—	—	4-14-76 9- 9-76	.04 0
Little Colorado River	Colorado River	Lat 34°44'22", long 110°02'17", in NW¼SE¼ sec.32, T.16 N., R.22 E., Navajo County, at mouth of Silver Creek, 2.8 mi south of Woodruff.	—	—	5-15-74	0
Silver Creek	Little Colorado River	Lat 34°31'41", long 110°04'47", in SE¼SE¼ sec.11, T.13 N., R.21 E., Navajo County, 1.5 mi north of Snowflake.	—	—	5-14-74	*2.56

See footnotes at end of the table.

Discharge measurements made at miscellaneous sites during water year 1976--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Little Colorado River basin--Continued						
Silver Creek	Little Colorado River	Lat 34°36'04", long 110°04'17", in NE¼NW¼ sec.24, T.14 N., R.21 E., Navajo County, at Rhoton Trail, 6.5 mi north of Snowflake.	—	—	5-15-74	*a1.46
Little Colorado River	Colorado River	Lat 34°44'28", long 110°02'20", in NW¼SE¼ sec.32, T.16 N., R.22 E., Navajo County, below Silver Creek, 2.7 mi south of Woodruff.	—	—	5-15-74 2-13-75	*a5.14 *4.37
Do-----	-----do-----	Lat 34°49'32", long 110°03'50", in SW¼SE¼ sec.36, T.17 N., R.21 E. (revised), Navajo County, 3.3 mi northwest of Woodruff.	—	—	5-15-74 2-13-75	*a2.50 *4.13
Do-----	-----do-----	Lat 34°55'13", long 110°07'20", in NE¼SW¼ sec.9, T.17 N., R.21 E., Navajo County, at mouth of Puerco River, 2.5 mi southeast of Holbrook.	—	—	5-14-74	*a3.94
Do-----	-----do-----	Lat 34°56'30", long 110°19'25", in SE¼SE¼ sec.21, T.18 N., R.19 E., Navajo County, at bridge 1 mi south of Joseph City.	—	—	5-14-74	*ab.13
Do-----	-----do-----	Lat 34°57'07", long 110°31'29", in SW¼SE¼ sec.15, T.18 N., R.17 E., Navajo County, below Chevelon Creek, 12 mi southeast of Winslow.	—	—	5-16-74	*ac4.22
Do-----	-----do-----	Lat 34°59'15", long 110°38'19", in NE¼SW¼ sec.3, T.18 N., R.16 E., Navajo County, below Clear Creek, 5 mi southeast of Winslow.	15,800	—	5-16-74	*a5.66
		Sacramento Wash basin				
Clack Canyon	Sacramento Wash	Lat 35°11'26", long 114°03'42", in NW¼SE¼ sec.23, T.21 N., R.17 W., Mohave County, at U.S. Highway 93 in Kingman.	6.81	—	7-24-76	†5,100
		Giers Wash basin				
Giers Wash	Colorado River	Lat 34°15'34", long 114°07'46", in NW¼NW¼ sec.34, T.11 N., R.18 W., Yuma County, at State Highway 95, 13 mi north of Parker.	6.04	—	9-25-76	†3,000
		Osborne Wash basin				
Osborne Wash	-----do-----	Lat 34°10'34", long 114°14'35", in SW¼ sec.28, T.10 N., R.19 W., Yuma County, at State Highway 95, 700 ft above mouth, 3 mi north of Parker.	132	—	9-25-76	†7,710
		Gila River basin				
Dragoon Wash	San Pedro River	Lat 31°55'33", long 110°11'50", in SE¼ sec.28, T.17 S., R.21 E., Pima County, 1.5 mi northeast of St. David, and 3.5 mi above mouth.	33.2	—	7-22-75	†54,000
Montezuma Well outlet	Wet Beaver Creek	Lat 34°38'56", long 111°45'03", in SW¼NE¼ sec.31, T.15 N., R.6 E., Yavapai County, 8.5 mi northeast of Camp Verde.	—	1948-59, 1961	1-22-76 7- 9-76 7-22-76	*2.62 *2.82 *2.28
Verde River	Salt River	Lat 34°26'54", long 111°47'21", in sec.1, T.12 N., R.5 E., Yavapai County, at former gaging station 600 ft upstream from Chasm Creek, and 9 mi southeast of Camp Verde.	5,024	1934-45†	7- 8-76 9- 1-76	*46.0 *90.7

See footnotes at end of the table.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 1976--Continued

Stream	Tributary to	Location	Drainage area (sq mi)	Measured previously (water years)	Measurements	
					Date	Discharge (cfs)
Gila River basin--Continued						
Indian Bend Wash	Salt River	Lat 33°33'29", long 111°56'07", in NE¼SW¼ sec.34, T.3 N., R.4 E., Maricopa County, at Camelback Country Club in Paradise Valley.	—	—	9-25-76	†a3,200
Do-----	-----do-----	Lat 33°27'03", long 111°54'47", in NW¼NE¼ sec.1, T.1 N., R.4 E., Maricopa County, at McKellips Road in Scottsdale.	—	—	9-25-76	†1,820

† Operated as a continuous-record gaging station.

a Chemical analysis published in WRD Ariz. 1974, Part 2.

b Estimated.

c All flow is from Chevelon Creek.

d Approximately.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS
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Water-quality partial-record stations are particular sites where chemical-quality data are collected systematically over a period of years for use in hydrologic analyses. The data are collected usually less than quarterly.

LITTLE COLORADO RIVER BASIN

09401250 MOENKOPI WASH NEAR MOENKOPI, ARIZ. (LAT 36°06'36", LONG 111°09'19")

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)
OCT 07...	1030	.86	950	8.4	15.0	410	270	120
NOV 06...	1100	2.3	--	8.3	9.0	310	110	93
DEC 11...	1300	3.3	--	8.3	7.0	300	110	88
FEB 18...	1345	2.5	960	8.4	13.0	270	78	79
MAR 18...	1650	2.3	940	9.0	17.0	260	64	73
APR 23...	1250	1.7	1200	8.4	26.0	300	100	84
MAY 28...	1530	--	980	8.7	--	200	25	52

DATE	DIS-SOLVED MAGNESIUM (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)
OCT 07...	26	110	2.4	8.6	165	0	510	9.7	.5
NOV 06...	19	110	2.7	4.8	247	0	340	10	.5
DEC 11...	19	110	2.8	3.9	235	0	320	12	.5
FEB 18...	18	110	2.9	3.6	226	5	300	12	.5
MAR 18...	19	120	3.2	4.6	228	6	300	12	.7
APR 23...	21	130	3.3	4.9	234	0	300	18	.6
MAY 28...	18	150	4.6	6.8	194	12	310	17	.8

DATE	DIS-SOLVED SILICA (SI02) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHO. PHOSPHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
OCT 07...	8.6	861	875	1.17	.00	.00	100	40
NOV 06...	9.2	694	710	.94	.27	.00	70	10
DEC 11...	8.3	677	678	.92	.18	.01	30	10
FEB 18...	7.3	668	648	.91	.15	.00	70	10
MAR 18...	7.9	652	656	.89	.00	.00	160	0
APR 23...	6.3	669	681	.91	.06	.00	100	370
MAY 28...	4.7	657	667	.89	.03	.00	130	10

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS
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LITTLE COLORADO RIVER BASIN

09401260 MOENKOPI WASH AT MOENKOPI, ARIZ. (LAT 36°06'18", LONG 111°12'04")

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA, MG)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)
JUL 27...	1515	139	3100	7.1	26.0	2000	1800	530
30...	1500	2.3	2700	7.7	33.0	1500	1400	460

DATE	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	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)
JUL 27...	160	330	3.2	19	234	0	2300	31	.6
30...	86	230	2.6	19	87	0	1800	12	.7

DATE	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITU- ENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTH0. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
JUL 27...	13	3790	3500	5.15	.77	.03	260	30
30...	11	2750	2710	3.74	11	.03	140	30

DIVERSIONS AND RETURN FLOWS BETWEEN DAVIS DAM AND PARKER DAM

09423650 TOPOCK MARSH OUTLET NEAR TOPOCK, ARIZ. (LAT 34°44'13", LONG 114°29'22")

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)
OCT 01...	1330	.00	1570	29.0	1020	1.39
16...	1530	.00	1570	25.0	1040	1.41
NOV 03...	1340	.00	1570	21.0	1020	1.39
13...	1500	.00	1600	16.0	1060	1.44
DEC 01...	1510	.00	1610	11.0	1060	1.44
15...	1330	.00	1630	13.0	1070	1.46
JAN 02...	1150	.00	1870	12.0	1270	1.73
16...	1300	.00	1720	--	1160	1.58
FEB 02...	1615	.00	1630	--	1090	1.48
13...	1200	.00	1600	12.0	1070	1.46
MAR 01...	1400	.00	1610	15.0	1060	1.44
30...	1700	.00	1660	17.0	1110	1.51
APR 01...	1240	.00	1480	15.0	962	1.31
15...	1325	.00	1660	18.0	1110	1.51
MAY 03...	1400	.00	1660	18.0	1110	1.51
14...	1000	.00	1660	27.0	1120	1.52
JUN 01...	1045	.00	1690	24.0	1140	1.55
16...	0710	.00	1740	22.0	1170	1.59
JUL 01...	1000	.00	1730	--	1170	1.59
16...	0815	.00	1720	--	1170	1.59
AUG 02...	1300	.00	1680	23.0	1120	1.52
17...	1300	.00	1710	27.0	1150	1.56
SEP 01...	1100	.00	1630	29.5	1090	1.48
15...	1700	.00	1630	29.0	1080	1.47

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS
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COLORADO RIVER MAIN STEM

09521100 COLORADO RIVER BELOW YUMA MAIN CANAL WASTEWAY, AT YUMA, ARIZ. (LAT 32°43'54", LONG 114°37'55")

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)
OCT				
01...	1400	804	1600	28.0
08...	1400	670	1660	24.0
15...	1440	820	1600	21.0
22...	1410	1004	1540	22.0
29...	1200	1180	1570	19.0
NOV				
05...	1355	615	1700	20.5
12...	1400	804	1680	19.5
19...	1400	1060	1550	16.5
26...	1040	1330	1540	14.5
DEC				
10...	1450	468	2010	17.0
17...	1345	520	2000	15.5
24...	1330	538	1970	15.5
JAN				
07...	1330	428	2120	15.0
14...	1330	1150	1570	11.5
21...	1330	898	1640	14.0
28...	1345	1110	1530	13.0
FEB				
11...	1310	440	2150	17.0
18...	1430	1110	1750	19.0
25...	1520	529	2050	19.5
MAR				
03...	1110	606	1840	15.5
10...	1340	547	1890	18.5
17...	1400	570	2010	19.0
24...	1340	592	1980	21.0
31...	1530	588	2000	22.0
APR				
07...	1330	725	2080	21.0
21...	1100	886	1870	22.0
28...	1015	660	2070	--
MAY				
05...	1345	700	1800	25.0
12...	1400	1500	1520	25.5
19...	1430	1240	1410	--
26...	1530	1330	1460	25.5
JUN				
02...	1415	1440	1470	26.0
11...	1450	1390	1480	--
16...	1345	1440	1440	26.5
23...	1400	1460	1440	27.0
30...	1020	599	1820	28.0
JUL				
07...	1335	583	1880	29.5
14...	1450	569	2030	29.0
21...	1345	630	2030	28.5
28...	1030	625	1980	27.0
AUG				
04...	1335	630	1970	--
11...	1435	601	1860	29.5
18...	1500	606	1850	29.0
25...	0925	615	1780	27.0
SEP				
01...	1415	1508	1380	30.0
08...	1315	1598	1420	27.0
22...	1300	1676	1590	26.0

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS
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DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09531900 MAIN OUTLET DRAIN EXTENSION BELOW MORELOS DAM, ARIZ. (M.O.D.E. 3)
(LAT 32°42'16", LONG 114°43'32")

SPECIFIC CONDUCTANCE (MICROMHOS AT 25°C)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5650	5550	5730	5590	5890	5750	5590	5490	5650	5640	5540	5610
2	5620	5640	5740	5550	5500	5760	5620	5660	5600	5660	5470	5600
3	5630	5660	5700	5560	5610	5730	5790	5640	5660	5630	5450	5720
4	5630	5580	5740	5560	---	5510	5730	5650	5600	5470	5440	5620
5	5630	5700	5700	5510	---	5450	5650	5630	5620	5470	5440	5600
6	5610	5640	5720	5510	---	5510	5760	5570	5650	5570	5460	5610
7	5610	5650	5740	5520	---	5570	5740	5580	5600	5560	5450	5510
8	5530	5610	5750	5500	---	5520	5740	5550	5570	5550	5510	5580
9	5540	5620	5730	5550	---	5500	5700	5570	5560	5560	5570	5530
10	5570	5670	5730	5540	---	5520	5720	5560	5590	5620	5570	5510
11	5600	5620	5730	5550	---	5470	5680	5540	5610	5620	5610	5470
12	5610	5650	5700	5490	---	5600	5760	5630	5570	5650	5580	5150
13	5620	5680	5810	5510	---	5610	5890	5620	5490	5640	5510	5550
14	5640	5710	5780	5520	7680	5620	5980	5560	5750	5640	5470	5420
15	5610	5700	5730	5500	5240	5580	5980	5600	5640	5610	5540	5480
16	5590	5720	5770	5510	5230	5550	6030	5610	5620	5690	5560	5430
17	5650	5800	5730	5520	4660	5520	6000	5730	5580	5580	5540	5540
18	5660	5620	5820	5590	4530	5530	5640	5610	5670	5560	5520	5530
19	5610	5850	5720	5610	4560	5610	---	5630	5590	5620	5480	5520
20	5610	5870	5760	5670	4520	5610	---	5600	5550	5650	5470	5530
21	5560	5830	5660	5630	4520	5460	---	5560	5580	5610	5470	5560
22	5570	5920	5570	5620	5410	5520	---	5650	5610	5540	5460	5580
23	5560	5820	5590	5610	5690	5560	---	5610	5600	5640	5490	5510
24	5540	5820	5570	5620	5680	5660	---	5610	5630	5920	5440	5270
25	5560	5830	5590	5590	5690	5560	4610	5620	5640	5510	5470	5380
26	5560	5810	5570	5620	5670	5540	5280	5630	5560	5610	5510	5400
27	5730	5820	5570	5620	5670	5640	5280	5650	5550	5540	5470	5450
28	5530	5770	5610	5640	5610	5650	5380	5660	5580	5620	5420	5480
29	5520	5720	5610	5690	5690	5750	5340	5650	5540	5660	5400	5410
30	5480	5760	5580	5890	---	5640	5350	5620	5640	5630	5520	5420
31	5540	---	5580	5910	---	5580	---	5660	---	5430	5600	---
MONTH	5590	5720	5690	5590	---	5580	5640	5610	5600	5600	5500	5500
YEAR	MAX	7680	MIN	4520	MEAN	5590						

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
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LITTLE COLORADO RIVER BASIN

09385500 LITTLE COLORADO RIVER BELOW LYMAN LAKE NEAR ST. JOHNS, ARIZ.
(LAT 34°22'05", LONG 109°22'56")

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA,MG)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
NOV 20...	1750	.80	380	6.5	150	0	37	13	32	1.2	3.4	213

DATE	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (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)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED BORON (B) (UG/L)
NOV 20...	24	14	.6	17	265	247	.36	.17	.00	10	60

09386030 LITTLE COLORADO RIVER ABOVE ZION RESERVOIR NEAR ST. JOHNS, ARIZ.
(LAT 34°35'01", LONG 109°24'23")

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA,MG)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
NOV 20...	1640	9.8	--	2.0	730	440	190	63	380	6.1	20	360
APR 14...	--	--	3000	12.0	760	460	180	75	430	6.8	21	369
SEP 09...	1345	--	2500	20.0	580	290	130	61	400	7.3	20	348

DATE	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (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)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED BORON (B) (UG/L)
NOV 20...	750	370	1.8	14	2040	1970	2.77	.59	.26	20	580
APR 14...	730	480	1.7	16	2190	2120	2.98	1.3	.32	140	640
SEP 09...	650	340	1.4	19	1840	1800	2.50	.65	.13	20	780

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

LITTLE COLORADO RIVER BASIN

09395900 BLACK CREEK NEAR LUPTON, ARIZ.
(LAT 35°27'09", LONG 109°07'33")

DATE	TIME	INSTANTANEOUS DIS-CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	
JUL 26...	1605	88	430	7.4	20.5	150	20	45	
DATE	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)
JUL 26...	8.2	37	1.3	5.0	154	0	81	16	.6
DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHOPHOSPHORUS (P) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	
JUL 26...	9.8	281	281	.38	.46	.04	20	120	

09397300 LITTLE COLORADO RIVER NEAR JOSEPH CITY, ARIZ.
(LAT 34°54'04", LONG 110°15'17")

DATE	TIME	INSTANTANEOUS DIS-CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)
FEB 10...	1530	1420	250	7.7	4.5	76	0	23

DATE	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)
FEB 10...	4.4	27	1.4	3.5	101	0	26	17	.3

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHOPHOSPHORUS (P) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED BORON (B) (UG/L)
FEB 10...	5.9	194	158	.26	.15	.00	80	110

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

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LITTLE COLORADO RIVER BASIN

09401248 BEGASHIBITO WASH NEAR TONALEA, ARIZ.
(LAT 36°12'58", LONG 110°58'36")

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)		
DEC 11...	1430	E.10	1100	8.4	12.0	430	220	120		
DATE	TIME	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	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)
DEC 11...	32	110	110	2.3	4.7	256	0	410	28	.4
DATE	TIME	DIS- SOLVED SILICA (SI02) (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)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	
DEC 11...	7.5	881	881	839	1.20	.02	.00	20	130	

E Estimated value.

E Estimated value.

340518109244200 LITTLE COLORADO RIVER BELOW SOUTH FORK NEAR SPRINGVILLE, ARIZ.
(LAT 34°05'18", LONG 109°24'42")

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICHO- MHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA,MG)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
NOV 17...	1400	2.7	170	7.0	78	0	19	7.4	10	.5	1.9	109
DATE	TIME	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) PER AC-FT)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED BORON (B) (UG/L)
NOV 17...	9.8	6.3	.2	19	136	128	.19	.02	.01	130	10	

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LITTLE COLORADO RIVER BASIN

340615109203300 LITTLE COLORADO RIVER AT HIGHWAY 273, ARIZ.
(LAT 34°06'15", LONG 109°20'33")

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO- MHOS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POSSIBLY TAS- SIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)
NOV 17...	1510	2.7	220	7.5	110	0	28	9.9	9.5	.4	2.1	140

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHO- PHOSPHORUS (P) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED BORON (B) (UG/L)
NOV 17...	5.8	2.4	.2	20	130	148	.18	.03	.15	20	20

340747109174500 LITTLE COLORADO RIVER BELOW BECKER LAKE DIVERSION, ARIZ.
(LAT 34°07'47", LONG 109°17'45")

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO- MHOS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POSSIBLY TAS- SIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)
NOV 18...	0950	2.1	380	1.5	170	0	44	14	23	.8	1.6	259

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHO- PHOSPHORUS (P) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED BORON (B) (UG/L)
NOV 18...	6.7	3.2	.3	22	238	243	.32	.10	.04	10	30

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LITTLE COLORADO RIVER BASIN

340834109170000 NUTRIOS CREEK AT MOUTH, SPRINGVILLE, ARIZ.
(LAT 34°08'34", LONG 109°17'00")

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO- MHOS)	TEMPERATURE (DEG C)	HARDNESS (CA,MG)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K)	BICARBONATE (HCO3)
NOV 17...	1700	.41	550	7.0	210	0	53	20	38	1.1	.8	290

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SI02) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHOPHOSPHORUS (P) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED BORON (B) (UG/L)
NOV 17...	17	20	.4	25	328	318	.45	.25	.01	0	60

340848109173700 LITTLE COLORADO RIVER AT HIGHWAY 666, ARIZ.
(LAT 34°08'48", LONG 109°17'37")

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO- MHOS)	TEMPERATURE (DEG C)	HARDNESS (CA,MG)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K)	BICARBONATE (HCO3)
NOV 17...	1740	1.5	430	5.5	190	0	49	16	25	.8	1.6	284

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SI02) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHOPHOSPHORUS (P) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED BORON (B) (UG/L)
NOV 17...	6.5	3.9	.3	23	265	266	.36	.15	.00	20	30

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LITTLE COLORADO RIVER BASIN

340944109180600 LITTLE COLORADO RIVER BELOW BECKER LAKE NEAR SPRINGVILLE, ARIZ.
(LAT 34°09'44", LONG 109°18'06")

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
NOV 18...	1050	2.4	500	40.0	200	0	49	19	36	1.1	1.8	283

DATE	CAH- 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 SILICA (SIO2) (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)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED BORON (B) (UG/L)
NOV 18...	21	13	12	.4	22	322	315	.44	.04	.23	0	80

341110109181200 LITTLE COLORADO RIVER AT HOOPER RANCH ROAD CROSSING, ARIZ.
(LAT 34°11'10", LONG 109°18'12")

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
NOV 18...	1300	.56	520	4.5	220	0	55	20	41	1.2	2.2	336

DATE	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (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)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED BORON (B) (UG/L)
NOV 18...	11	12	.4	22	321	330	.44	.03	.00	40	80

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LITTLE COLORADO RIVER BASIN

341208109175500 LITTLE COLORADO RIVER AT CLINTON SLADE RANCH FORD, ARIZ.
(LAT 34°12'08", LONG 109°17'55")

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
NOV 18...	1410	1.8	600	4.5	230	0	57	22	47	1.3	3.2	371

DATE	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF TUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTH0. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED BORON (B) (UG/L)
NOV 18...	14	16	.4	23	375	366	.51	.08	.02	350	70

341706109210600 LITTLE COLORADO RIVER AT SHERWOOD CROSSING, ARIZ.
(LAT 34°17'06", LONG 109°21'06")

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
NOV 18...	1640	2.0	570	5.5	240	0	53	26	44	1.2	3.3	365

DATE	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SI02) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF TUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTH0. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED BORON (B) (UG/L)
NOV 18...	19	17	.5	21	366	364	.50	.11	.00	20	70

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LITTLE COLORADO RIVER BASIN

341717109220300 VIGIL RUN BELOW U.S. HIGHWAY 666 NEAR SPRINGVILLE, ARIZ.
(LAT 34°17'17", LONG 109°22'03")

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHUS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
NOV 18...	1525	.37	450	7.0	180	0	34	24	26	.8	9.6	274

DATE	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (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) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED BORON (B) (UG/L)
NOV 18...	14	12	.4	22	265	278	.36	.12	.01	10	60

341816109212400 LITTLE COLORADO RIVER AT RICHEY RANCH NEAR SPRINGVILLE, ARIZ.
(LAT 34°18'16", LONG 109°21'24")

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHUS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA, MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
NOV 19...	0905	2.8	610	2.0	250	0	57	26	45	1.2	3.3	387

DATE	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SiO2) (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) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED BORON (B) (UG/L)
NOV 19...	18	16	.4	22	377	380	.51	.21	.20	10	60

LITTLE COLORADO RIVER BASIN

342314109235300 LITTLE COLORADO RIVER AT EL TULE, ARIZ.
(LAT 34°23'14", LONG 109°23'53")

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO- MHOS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)
NOV 19...	1125	2.5	1300	6.0	430	160	120	32	140	2.9	11	336

DATE	TIME	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHOPHOSPHORUS (P) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED BORON (B) (UG/L)
NOV 19...	240	120	1.7	15	766	846	1.04	.02	.00	10	240	

342453109241000 LITTLE COLORADO RIVER ABOVE SALADO SPRINGS, ARIZ.
(LAT 34°24'53", LONG 109°24'10")

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO- MHOS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)
NOV 19...	1250	3.4	1700	5.0	540	270	150	40	200	3.7	14	332

DATE	TIME	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHOPHOSPHORUS (P) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED BORON (B) (UG/L)
NOV 19...	310	190	1.6	17	1130	1090	1.54	.09	.04	10	360	

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO- MHOS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)
APR 15...	2.9	2100	10.0	620	260	160	54	250	4.4	16	442	
SEP 10...	7.5	840	16.5	270	34	68	24	81	2.2	7.0	286	

DATE	TIME	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHOPHOSPHORUS (P) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED BORON (B) (UG/L)
APR 15...	440	260	2.0	16	1470	1420	2.00	.00	.01	10	380	
SEP 10...	130	67	.9	17	522	536	.71	.00	.02	0	150	

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

LITTLE COLORADO RIVER BASIN

342600109224000 LITTLE COLORADO RIVER BELOW SALADO SPRINGS NEAR ST. JOHNS, ARIZ.
(LAT 34°26'00", LONG 109°22'40")

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
NOV 19...	1450	7.8	2500	7.0	710	350	200	51	330	5.4	26	443
DATE		DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHOPHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED BORON (B) (UG/L)
NOV 19...	540	350	2.0	17	1710	1740	2.33	.11	.01	20	600	
DATE		INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
APR 15...	8.3	2600	14.5	770	370	210	60	340	5.3	23	486	
SEP 10...	11	1620	17.5	470	150	130	36	200	4.0	15	388	
DATE		DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SIO2) (MG/L)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHOPHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED BORON (B) (UG/L)
APR 15...	550	380	1.9	16	1930	1820	2.62	.01	.01	10	610	
SEP 10...	320	200	1.5	17	1150	1110	1.56	.00	.03	0	350	

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
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LITTLE COLORADO RIVER BASIN

342804109212400 LITTLE COLORADO RIVER ABOVE ST. JOHNS DIVERSION NEAR ST. JOHNS, ARIZ.
(LAT 34°28'04", LONG 109°21'24")

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
NOV 19...	1710	8.8	2500	6.5	690	430	190	53	320	5.3	24	325

DATE	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SI02) (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)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED BORON (B) (UG/L)
NOV 19...	560	370	2.2	17	1700	1700	2.31	.04	.01	100	570

342925109212100 LITTLE COLORADO RIVER AT LITTLE RESERVOIR, ARIZ.
(LAT 34°29'25", LONG 109°21'21")

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
NOV 20...	1120	9.1	2500	3.5	690	460	190	53	340	5.6	24	282

DATE	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SI02) (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)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED BORON (B) (UG/L)
NOV 20...	610	370	1.9	17	1730	1750	2.35	.03	.00	180	590

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

LITTLE COLORADO RIVER BASIN

343025109212500 LITTLE COLORADO RIVER BELOW HIGHWAY AT ST. JOHNS, ARIZ.
(LAT 34°30'25", LONG 109°21'25")

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
NOV 20...	1245	5.6	2500	4.5	640	420	170	52	320	5.5	24	261

DATE	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SI02) (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)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED BORON (B) (UG/L)
NOV 20...	560	360	2.0	17	1700	1640	2.31	.07	.00	20	1300

343230109221000 LITTLE COLORADO RIVER AT COUNTY BRIDGE NORTH OF ST. JOHNS, ARIZ.
(LAT 34°32'30", LONG 109°22'10")

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
NOV 20...	1345	10	2600	2.0	680	360	190	50	320	5.3	23	396

DATE	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)	DIS- SOLVED SILICA (SI02) (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)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED BORON (B) (UG/L)
NOV 20...	550	350	1.8	17	1800	1700	2.45	1.5	.06	10	600

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
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LITTLE COLORADO RIVER BASIN

362541110233000 PEABODY RESERVOIR ON BLACK MESA, ARIZ.
(LAT 36°25'41", LONG 110°23'30")

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)
NOV 06...	0930	1060	8.8	9.0	330	220	64	41	85	2.0	8.3	115

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 SILICA (SIO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED ORTHOPHOSPHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
NOV 06...	8	390	18	.6	.0	765	672	1.04	.00	120	0

DATE	TIME	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	HEXA-VALENT CHROMIUM (CR6) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)
NOV 06...	0930	1	120	0	0	0	9

DATE	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED MOLYBDENUM (MO) (UG/L)	DIS-SOLVED SELENIUM (SE) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
NOV 06...	0	7	.0	5	0	20

363142110243200 COAL MINE WASH NEAR 09401229, ARIZ.
(LAT 36°31'42", LONG 110°24'32")

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)
NOV 06...	1100	2690	8.6	10.0	1800	1600	390	190	110	1.1	4.8	148

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 SILICA (SIO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED ORTHOPHOSPHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
NOV 06...	0	1800	27	.5	11	2870	2630	3.90	.00	150	0

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
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LITTLE COLORADO RIVER BASIN

363142110243200 COAL MINE WASH NEAR 09401229, ARIZ.--Continued
(LAT 36°31'42", LONG 110°24'32")

DATE	TIME	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	HEXA- VALENT CHRO- MIUM (CR6) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)
NOV 06...	1100	0	150	0	0	0	2

DATE	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED MOLYB- DENUM (MO) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
NOV 06...	0	3	.2	1	10	10

363223110242700 COAL MINE WASH TRIBUTARY NO. 2, SITE A-4, ARIZ.
(LAT 36°32'23", LONG 110°24'27")

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)
NOV 06...	1145	6910	8.4	12.0	3800	3600	640	540	630	4.4	5.2	256

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 SILICA (SI02) (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)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)
NOV 06...	0	3900	85	1.8	15	7290	6920	9.91	.00	670	0

DATE	TIME	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	HEXA- VALENT CHRO- MIUM (CR6) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)
NOV 06...	1145	0	670	0	0	0	10

DATE	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED MOLYB- DENUM (MO) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
NOV 06...	0	9	.2	1	32	20

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
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BILL WILLIAMS RIVER BASIN

09424470 KIRKLAND CREEK NEAR KIRKLAND, ARIZ.
(LAT 34°23'38", LONG 112°43'19")

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)
DEC 05...	1315	2.3	580	7.9	15.0	210	1	58
SEP 09...	1300	2.7	450	8.1	23.0	200	9	57

DATE	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)
DEC 05...	16	19	.6	2.7	256	0	19	19	.3
SEP 09...	14	17	.5	4.0	233	0	21	17	.2

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHO. PHOSPHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
DEC 05...	45	299	308	.41	.55	.07	40	0
SEP 09...	39	265	288	.36	.75	.16	40	10

DATE	TIME	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)	HEXAVALENT CHROMIUM (CR6) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)
DEC 05...	1315	4	40	0	0	0	3
SEP 09...	1300	5	40	0	0	0	1

DATE	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED MOLYBDENUM (MO) (UG/L)	DIS-SOLVED SELENIUM (SE) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	CYANIDE (CN) (MG/L)
DEC 05...	0	2	.1	1	1	0	.00
SEP 09...	10	0	.0	2	1	0	.00

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

BILL WILLIAMS RIVER BASIN

342634112415001 SKULL VALLEY WASH SITE 1, ARIZ.
(LAT 34°26'34", LONG 112°41'50")

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPF- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG)
DEC 05...	0930	.10	840	8.1	5.0	300	16	80	25
SEP 09...	1000	--	670	7.8	20.0	260	0	73	19

DATE	TIME	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SUMP- TION RATIO	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)	DIS- SOLVED SILICA (SI02) (MG/L)
DEC 05...	43		1.1	2.5	350	0	61	41	.8	25
SEP 09...	39		1.1	3.4	319	0	48	30	.9	26

DATE	TIME	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 NITRATE (N) (MG/L)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED BORON (B) (UG/L)
DEC 05...		450	451	.61	--	.06	.08	10	60
SEP 09...		374	398	.51	.13	.14	.15	10	80

DATE	TIME	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	HEXA- VALENT CHRO- MIUM (CR6) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)
DEC 05...	0930	2	60	0	0	0	5
SEP 09...	1000	4	80	0	2	0	3

DATE	TIME	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	DIS- SOLVED MOLYB- DENUM (MO) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	CYANIDE (CN) (MG/L)
DEC 05...	10		4	.0	6	0	10	.00
SEP 09...	10		2	.0	6	0	0	.00

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

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BILL WILLIAMS RIVER BASIN

343630113140501 BOULDER CREEK AT COPPER CREEK, ARIZ.
(LAT 34°36'30", LONG 113°14'05")

		SPE- CIFIC CON- DUCT- ANCE	PH	TEMPER- ATURE	HARD- NESS (CA, MG)	NON- CAR- BONATE HARD- NESS	DIS- SOLVED CAL- CIUM (CA)	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K)	BICAR- BONATE (HCO3)
DATE	TIME	(MICRO- MHOS)	(UNITS)	(DEG C)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)		(MG/L)	(MG/L)
DEC 29...	1300	1320	8.2	10.0	460	220	100	51	90	1.8	7.3	298
			DIS- SOLVED CHLO- RIDE (CL)	DIS- SOLVED FLUO- RIDE (F)	DIS- SOLVED SILICA (SIO2)	DIS- SOLVED SOLIDS (RESI- DUE AT 180 C)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRITE PLUS NITRATE (N)	DIS- SOLVED ORTHO. PHOS- PHORUS (P)	DIS- SOLVED IRON (FE)	DIS- SOLVED BORON (B)
DATE		(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)		(MG/L)	(MG/L)	(UG/L)	(UG/L)
DEC 29...	0	320	43	1.6	33	821	794	1.12	.30	.05	0	190

343748113090101 BOULDER CREEK AT WARM SPRINGS CREEK, ARIZ.
(LAT 34°37'48", LONG 113°09'01")

		SPE- CIFIC CON- DUCT- ANCE				NON- CAR- BONATE	DIS- SOLVED	DIS- SOLVED		SODIUM	DIS- SOLVED	
	TIME	(MICRO- MHOS)	PH	TEMPER- ATURE	HARD- NESS	(CA, MG)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)
DATE			(UNITS)	(DEG C)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)
DEC 29...	1200	560	7.3	2.0	160	0	46	11	47	1.6	2.5	265

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
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GILA RIVER BASIN

09505350 DRY BEAVER CREEK NEAR RIMROCK, ARIZ.
(LAT 34°43'43", LONG 111°46'30")

DATE	TIME	INSTANTANEOUS DIS-CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)
FEB 06...	1745	669	60	6.9	--	32	4	8.4
09...	1650	4140	40	6.9	4.5	21	3	5.3

DATE	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)
FEB 06...	2.7	1.4	.1	1.2	34	0	5.5	1.9	.2
09...	1.8	1.1	.1	1.1	22	0	3.5	1.0	.1

DATE	DIS-SOLVED SILICA (SI02) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHOPHOSPHORUS (P) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED BORON (B) (UG/L)
FEB 06...	9.4	--	49	.07	.21	.01	40	70
09...	6.8	26	32	.04	.06	.01	20	50

09505800 WEST CLEAR CREEK NEAR CAMP VERDE, ARIZ.
(LAT 34°32'19", LONG 111°41'36")

DATE	TIME	INSTANTANEOUS DIS-CHARGE (CFS)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA+MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)
APR 21...	1720	546	70	7.6	11.0	43	5	9.6

DATE	DIS-SOLVED MAGNESIUM (MG)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)
APR 21...	4.5	4.3	.3	1.2	46	0	9.7	3.2	.1

DATE	DIS-SOLVED SILICA (SI02) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHOPHOSPHORUS (P) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED BORON (B) (UG/L)
APR 21...	11	85	67	.12	.07	.01	30	70

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

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GILA RIVER BASIN

09506000 VERDE RIVER NEAR CAMPE VERDE, ARIZ.
(LAT 34°27'00", LONG 111°47'00")

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (CA, MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)
JUL 08...	1500	46	1000	8.0	28.5	370	110	61
SEP 01...	1400	40	810	8.1	28.0	330	74	56

DATE	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)	DIS-SOLVED FLUORIDE (F) (MG/L)
JUL 08...	54	78	1.8	5.2	319	0	210	48	.4
SEP 01...	47	60	1.4	4.8	316	0	150	33	.4

DATE	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF TUENTS) (MG/L)	DIS-SOLVED SOLIDS PER AC-FT (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHO. PHOSPHORUS (P) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED BORON (B) (UG/L)
JUL 08...	36	593	651	.81	.17	.04	10	300
SEP 01...	30	553	537	.75	.01	.02	10	280

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

GILA RIVER BASIN

09519800 GILA RIVER BELOW PAINTED ROCK DAM, ARIZ.
(LAT 33°04'30", LONG 113°00'50")

DATE	TIME	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	TURBIDITY (NTU)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	FECAL COLIFORM (COL. PER 100 ML)	STREPTOCOCCI (COLONIES PER 100 ML)	HARDNESS (CA, MG) (MG/L)
JAN 26...	1400	--	8.4	14.0	8	--	63	B1	B1	520
APR 26...	1300	5240	8.3	23.5	--	8	43	B1	B100	585
AUG 16...	1255	6810	8.7	29.0	--	25	130	B3	B1	720

DATE	NON-CARBONATE HARDNESS (MG/L)	DIS-SOLVED CALCIUM (CA) (MG/L)	DIS-SOLVED MAGNESIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	DIS-SOLVED PHOSPHORIUM (P) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLORIDE (CL) (MG/L)
JAN 26...	340	98	68	790	15	21	227	0	370	1200
APR 26...	410	92	86	890	16	23	214	0	420	1370
AUG 16...	571	110	108	1210	20	30	182	0	545	1880

DATE	DIS-SOLVED FLUORIDE (F) (MG/L)	DIS-SOLVED SILICA (SiO2) (MG/L)	DIS-SOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED ORTHO. PHOSPHORUS (P) (MG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED BORON (B) (UG/L)
JAN 26...	1.0	8.9	2820	2670	3.84	.05	.09	.00	20	1300
APR 26...	1.4	10	3090	3000	4.20	.14	.01	.01	20	--
AUG 16...	1.6	12	4160	4000	5.66	.07	--	.05	20	2000

B Results based on non-ideal colony count.

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
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GILA RIVER BASIN

330616110590200 MINERAL CREEK AT MOUTH AT KELVIN, ARIZ.
(LAT 33°06'16", LONG 110°59'02")

DATE	TIME	INSTANTANEOUS DIS- CHARGE (CFS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (JTU)	FECAL COLI- FORM (COL. PER 100 ML)	STREP- TOCOCCI (COL- ONIES PER 100 ML)	HARD- NESS (CA,MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)
OCT 15...	1230	E.50	22.0	1	<1	67	2700	2500

DATE	DIS- SOLVED CAL- CIUM (CA) (MG/L)	DIS- SOLVED MAG- NE- SIUM (MG) (MG/L)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	DIS- SOLVED PO- TAS- SIUM (K) (MG/L)	BICAR- BONATE (HCO3) (MG/L)	DIS- SOLVED SULFATE (SO4) (MG/L)	DIS- SOLVED CHLO- RIDE (CL) (MG/L)	DIS- SOLVED FLUO- RIDE (F) (MG/L)
OCT 15...	590	300	61	.5	9.9	258	2400	43	2.7

DATE	DIS- SOLVED SILICA (SiO2) (MG/L)	DIS- SOLVED SOLIDS (HFSI- DUF AT 100 C) (MG/L)	DIS- SOLVED SOLIDS (SUM OF CONSTI- TUENTS) (MG/L)	DIS- SOLVED SOLIDS (TONS PER AC-FT)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO. PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED BORON (B) (UG/L)
OCT 15...	18	3940	3560	5.36	.02	.01	40	70

E Estimated value.

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

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	DIS- SOLVED ARSENIC (AS) (UG/L)	DIS- SOLVED BORON (B) (UG/L)	TOTAL CAD- MIUM (CD) (UG/L)	DIS- SOLVED CAD- MIUM (CD) (UG/L)	TOTAL CHRO- MIUM (CR) (UG/L)	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)
OCT 15...	1230	0	0	70	10	0	32	16	120	67	60	27

DATE	TOTAL IRON (FE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	TOTAL MAN- GANESE (MN) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)	DIS- SOLVED MERCURY (HG) (UG/L)	TOTAL SELE- NIUM (SE) (UG/L)	DIS- SOLVED SELE- NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)
OCT 15...	220	40	200	5	11000	10000	.1	0	0	70	40

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
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GILA RIVER BASIN

341420112325300 HASSAYAMPA RIVER AT MOUTH OF MILK CREEK, ARIZ.
(LAT 34°14'20", LONG 112°32'53")

DATE	TIME	INSTAN- TANEOUS DIS- CHARGE (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (CA+MG) (MG/L)	NON- CAR- BONATE HARD- NESS (MG/L)	DIS- SOLVED CAL- CIUM (CA) (MG/L)
DEC 12...	1230	.10	730	7.0	14.0	270	28	75

DATE	DIS- SOLVED MAG- NE- SIUM (MG)	DIS- SOLVED SODIUM (NA) (MG/L)	SODIUM AD- SORP- TION RATIO	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)
DEC 12...	21	28	.7	1.3	300	0	67	17	.4

DATE	DIS- SOLVED SILICA (SiO2) (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)	DIS- SOLVED NITRITE PLUS NITRATE (N) (MG/L)	DIS- SOLVED ORTHO- PHOS- PHORUS (P) (MG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED BORON (B) (UG/L)
DEC 12...	25	357	384	.49	.32	.03	10	120

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

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GRAND CANYON

360552112105700 MONUMENT CREEK 50 METERS ABOVE CONFLUENCE WITH COLORADO RIVER, ARIZ.
(LAT 36°05'52", LONG 112°10'57")

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	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)
MAY 03...	1200	810	21.0	90	100	<5	<20	590	2	<20

DATE	DIS- SOLVED COBALT (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	DIS- SOLVED GALLIUM (GA) (UG/L)	DIS- SOLVED GER- MANIUM (GE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	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)
MAY 03...	<20	<5	<10	<30	50	<20	800	<20	<10

DATE	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED SILVER (AG) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED TIN (SN) (UG/L)	DIS- SOLVED TAN- IUM (TI) (UG/L)	DIS- SOLVED VANA- DIUM (V) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	DIS- SOLVED ZIR- CONIUM (ZR) (UG/L)	DIS- SOLVED URANIUM (U) (UG/L)
MAY 03...	<20	<2	1300	<20	<20	<20	20	<40	7.0

< Actual value is know to be less than the value shown.

360557112123200 HERMIT CREEK 20 METERS ABOVE CONFLUENCE WITH COLORADO RIVER, ARIZ.
(LAT 36°05'57", LONG 112°12'32")

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	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)
MAY 03...	1200	800	20.0	20	200	<2	<9	200	0

DATE	DIS- SOLVED CHRO- MIUM (CH) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	DIS- SOLVED GALLIUM (GA) (UG/L)	DIS- SOLVED GER- MANIUM (GE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
MAY 03...	<9	<9	<2	<5	<9	40	<9	250	<9

DATE	DIS- SOLVED MOLYB- DENUM (MO) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED SILVER (AG) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED TIN (SN) (UG/L)	DIS- SOLVED TAN- IUM (TI) (UG/L)	DIS- SOLVED VANA- DIUM (V) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	DIS- SOLVED ZIR- CONIUM (ZR) (UG/L)
MAY 03...	<4	<9	<1	260	<9	<2	<5.0	0	<9

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

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
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GRAND CANYON

 360808112143400 CRYSTAL CREEK 35 METERS ABOVE CONFLUENCE WITH COLORADO RIVER, ARIZ.
 (LAT 36°08'08", LONG 112°14'34")

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	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)
MAY 04...	1200	500	15.0	100	60	<2	<6	140	0

DATE	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	DIS- SOLVED GALLIUM (GA) (UG/L)	DIS- SOLVED MANIUM (GE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MAN- GANESE (MN) (UG/L)
MAY 04...	<6	<6	<2	<3	<10	60	<6	200	<6

DATE	DIS- SOLVED MOLYB- DENUM (MO) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED SILVER (AG) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED TIN (SN) (UG/L)	DIS- SOLVED TIT- ANIUM (TI) (UG/L)	DIS- SOLVED VANA- DIUM (V) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	DIS- SOLVED ZIR- CONIUM (ZK) (UG/L)
MAY 04...	<3	<6	<1	130	<6	<6	<6.0	30	<10

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

 361133111474500 LITTLE COLORADO RIVER 200 METERS ABOVE CONFLUENCE WITH COLORADO RIVER, ARIZ.
 (LAT 36°11'33", LONG 111°47'45")

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	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)
MAY 01...	1100	1800	18.0	170	300	<5	<20	110	0	<20

DATE	DIS- SOLVED COBALT (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	DIS- SOLVED GALLIUM (GA) (UG/L)	DIS- SOLVED MANIUM (GE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	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)
MAY 01...	<20	<5	<10	<30	130	<20	50	<20	<10

DATE	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED SILVER (AG) (UG/L)	DIS- SOLVED TIUM (SR) (UG/L)	DIS- SOLVED TIN (SN) (UG/L)	DIS- SOLVED TANIUM (TI) (UG/L)	DIS- SOLVED DIUM (V) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	DIS- SOLVED CONIUM (ZK) (UG/L)	DIS- SOLVED URANIUM (U) (UG/L)
MAY 01...	<20	<2	990	<20	<20	<20	10	<40	2.6

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

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
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GRAND CANYON

361143112270500 ROYAL ARCH CREEK AT ELVES CHASM, ARIZ.
(LAT 36°11'43", LONG 112°27'05")

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	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)
MAY 05...	1200	650	16.0	40	40	<2	<9	80	0

DATE	DIS- SOLVED CHRO- MIUM (CR) (UG/L)	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	DIS- SOLVED GALLIUM (GA) (UG/L)	DIS- SOLVED MANIUM (GE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MANE- SE (MN) (UG/L)
MAY 05...	<9	<9	3	<4	<9	70	<9	30	<9

DATE	DIS- SOLVED MOLYB- DENUM (MO) (UG/L)	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED SILVER (AG) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED TIN (SN) (UG/L)	DIS- SOLVED TAN- IUM (TI) (UG/L)	DIS- SOLVED VANA- DIUM (V) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	DIS- SOLVED ZIR- CONIUM (ZR) (UG/L)
MAY 05...	<4	<9	<1	670	<9	<2	<4.0	70	<9

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

361427112205700 SHINUMO CREEK 400 METERS ABOVE CONFLUENCE WITH COLORADO RIVER, ARIZ.
(LAT 36°14'27", LONG 112°20'57")

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	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)
MAY 04...	1200	180	15.0	310	60	<1	<2	10	0	<2

DATE	DIS- SOLVED COBALT (CO) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	DIS- SOLVED GALLIUM (GA) (UG/L)	DIS- SOLVED MANIUM (GE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	DIS- SOLVED LEAD (PB) (UG/L)	DIS- SOLVED LITHIUM (LI) (UG/L)	DIS- SOLVED MANE- SE (MN) (UG/L)	DIS- SOLVED MOLYB- DENUM (MO) (UG/L)
MAY 04...	<2	<1	<1	<3	200	<2	0	5	<1

DATE	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED SILVER (AG) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED TIN (SN) (UG/L)	DIS- SOLVED TAN- IUM (TI) (UG/L)	DIS- SOLVED VANA- DIUM (V) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	DIS- SOLVED ZIR- CONIUM (ZR) (UG/L)	DIS- SOLVED URANIUM (U) (UG/L)
MAY 04...	<2	<0	20	<2	10	<2.0	0	<5	.20

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

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
 WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

GRAND CANYON

 361817111513200 NANKOWEAP CREEK 100 METERS ABOVE CONFLUENCE WITH COLORADO RIVER, ARIZ.
 (LAT 36°18'17", LONG 111°51'32")

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	TEMPERATURE (DEG C)	DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED BARIUM (BA) (UG/L)	DIS-SOLVED BERYLLIUM (BE) (UG/L)	DIS-SOLVED BISMUTH (BI) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)
APR 30...	1200	660	25.0	20	60	<2	<8	120	0
DATE		DIS-SOLVED CHROMIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED GALLIUM (GA) (UG/L)	DIS-SOLVED GERMANIUM (GE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)
APR 30...		<8	<8	<2	<4	<10	330	<8	20
DATE		DIS-SOLVED MOLYBDENUM (MU) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED SILVER (AG) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	DIS-SOLVED TIN (SN) (UG/L)	DIS-SOLVED TANTALUM (TA) (UG/L)	DIS-SOLVED VANADIUM (V) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
APR 30...		<4	<8	<1	160	<8	<8	<8.0	0

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

 361817112452900 HAVASU CREEK 200 METERS ABOVE CONFLUENCE WITH COLORADO RIVER, ARIZ.
 (LAT 36°18'17", LONG 112°45'29")

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	TEMPERATURE (DEG C)	DIS-SOLVED ALUMINUM (AL) (UG/L)	DIS-SOLVED BARIUM (BA) (UG/L)	DIS-SOLVED BERYLLIUM (BE) (UG/L)	DIS-SOLVED BISMUTH (BI) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CADMIUM (CD) (UG/L)
MAY 08...	1200	670	18.0	100	100	<2	<9	220	0
DATE		DIS-SOLVED CHROMIUM (CR) (UG/L)	DIS-SOLVED COBALT (CO) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED GALLIUM (GA) (UG/L)	DIS-SOLVED GERMANIUM (GE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED LITHIUM (LI) (UG/L)
MAY 08...		<9	<9	<2	<5	<9	70	<9	140
DATE		DIS-SOLVED MOLYBDENUM (MU) (UG/L)	DIS-SOLVED NICKEL (NI) (UG/L)	DIS-SOLVED SILVER (AG) (UG/L)	DIS-SOLVED STRONTIUM (SR) (UG/L)	DIS-SOLVED TIN (SN) (UG/L)	DIS-SOLVED TANTALUM (TA) (UG/L)	DIS-SOLVED VANADIUM (V) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)
MAY 08...		<4	<9	<1	240	<9	3	<5.0	0

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

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
WATER YEAR OCTOBER 1975 TO SEPTEMBER 1976

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GRAND CANYON

362219112280200 TAPEATS CREEK 50 METERS ABOVE CONFLUENCE WITH COLORADO RIVER, ARIZ.
(LAT 36°22'19", LONG 112°28'02")

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	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)
MAY 06...	1200	210	14.0	130	60	<1	<3	8	0	<3

DATE	DIS- SOLVED COBALT (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	DIS- SOLVED GALLIUM (GA) (UG/L)	DIS- SOLVED GER- MANIUM (GE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	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)
MAY 06...	<3	<1	<2	<4	80	<3	0	<3	<2

DATE	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED SILVER (AG) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED TIN (SN) (UG/L)	DIS- SOLVED TAN- IUM (TI) (UG/L)	DIS- SOLVED VANA- DIUM (V) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	DIS- SOLVED ZIR- CONIUM (ZR) (UG/L)	DIS- SOLVED URANIUM (U) (UG/L)
MAY 06...	<3	<0	30	<3	4	<3.0	0	<5	.20

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

362322112302800 DEER CREEK 20 METERS ABOVE CONFLUENCE WITH COLORADO RIVER, ARIZ.
(LAT 36°23'22", LONG 112°30'28")

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)	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)
MAY 07...	1200	250	14.0	340	90	<1	<4	8	0	<4

DATE	DIS- SOLVED COBALT (CU) (UG/L)	DIS- SOLVED COPPER (CU) (UG/L)	DIS- SOLVED GALLIUM (GA) (UG/L)	DIS- SOLVED GER- MANIUM (GE) (UG/L)	DIS- SOLVED IRON (FE) (UG/L)	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)
MAY 07...	<4	1	<2	<4	210	<4	0	8	<2

DATE	DIS- SOLVED NICKEL (NI) (UG/L)	DIS- SOLVED SILVER (AG) (UG/L)	DIS- SOLVED STRON- TIUM (SR) (UG/L)	DIS- SOLVED TIN (SN) (UG/L)	DIS- SOLVED TAN- IUM (TI) (UG/L)	DIS- SOLVED VANA- DIUM (V) (UG/L)	DIS- SOLVED ZINC (ZN) (UG/L)	DIS- SOLVED ZIR- CONIUM (ZR) (UG/L)	DIS- SOLVED URANIUM (U) (UG/L)
MAY 07...	<4	<1	40	<4	20	<2.0	40	<4	.20

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

AREAS AND ABBREVIATIONS

AGF =	Agua Fria basin	LSC =	Lower Santa Cruz basin
ALT =	Altar Valley	LVR =	Lower Verde Valley
ARA =	Aravaipa Valley	MMU =	McMullen Valley
AVR =	Avra Valley	MNV =	Monument Valley
BIC =	Big Chino Valley	N-C =	New River-Cave Creek
BIS =	Big Sandy Valley	PSC =	Peach Springs Canyon
BWM =	Bill Williams	PRZ =	Puerco-Zuni
BLM =	Black Mesa	RAN =	Ranegras Plain
BRB =	Black River basin	SAC =	Sacramento Valley
BOD =	Bodaway Mesa	SAF =	Safford basin
BUT =	Butler Valley	SRV =	Salt River Valley
CDI =	Canyon Diablo	SBV =	San Bernardino Valley
CHV =	Chevelon	SFP =	San Francisco Peaks
CHN =	Chinle	SFR =	San Francisco River basin
COP =	Coconino Plateau	SSI =	San Simon basin
CHI =	Colorado River, Hoover Dam to Imperial Dam	SSW =	San Simon Wash
CON =	Concho	SHV =	Shivwits
DOU =	Douglas basin	SNO =	Snowflake
DUN =	Duncan basin	STJ =	St. Johns
GIL =	Gila Bend basin	TON =	Tonto basin
GRD =	Gila River from Painted Rock Dam to Texas Hill	TUB =	Tuba City
GSK =	Gila River from head of San Carlos Reservoir to Kelvin	USR =	Upper Salt River basin
GTD =	Gila River from Texas Hill to Dome	USP =	Upper San Pedro basin
GWA =	Grand Wash	USC =	Upper Santa Cruz basin
HAR =	Harquahala Plains	VER =	Upper Verde Valley
HAS =	Hassayampa basin	VRG =	Virgin River
HOL =	Holbrook	WAT =	Waterman Wash
HOP =	Hopi	WMD =	Western Mexican drainage
HOU =	House Rock	WHM =	White Mountains
HUA =	Hualapai Valley	WRB =	White River basin
KAI =	Kaibito	WIL =	Willcox basin
KAN =	Kanab	WMN =	Williamson Valley
LIC =	Little Chino Valley	YUM =	Yuma
LHA =	Lower Hassayampa		
LSP =	Lower San Pedro basin		

WATER LEVELS IN SELECTED WELLS IN GROUND-WATER AREAS IN ARIZONA

LATITUDE-LONGITUDE	LOCAL WELL NUMBER	DEPTH OF WELL (feet)	LAND-SURFACE ALTITUDE (feet above mean sea level)	TYPE OF WELL	RECORDS AVAILABLE (years)	WATER LEVEL, IN FEET BELOW LAND SURFACE					
						Highest	Date	Lowest	Date	1976	Date
AGUA FRIA BASIN											
341657N1124512.1	(B-11-4)19bcc	47	4,454	Unused	1946, 1948-49, 1951-57, 1959-60, 1962-66, 1968-72, 1974-76	16.5	7- 3-46	32.1	2- 5-65	22.6	4- 1
ALTAR VALLEY											
312950N1113346.1	(D-22-8)19dbc	160	3,610	Domestic, stock	1950-61, 1963-66, 1968-76	91.2	10-18-50	99.4	3- 9-65	96.7	1-27
ARAVAIPA VALLEY											
324413N1091355.1	(D-8-21)18dad	140	3,880	Irrigation	1955-57, 1959, 1962, 1964-69, 1971-76	28.4	4-23-68	43.1	12-18-57	41.3	1- 8
AVRA VALLEY											
320852N1111500.1	(D-15-11)5ccd	728	2,568.0	Unused	1953-57, 1959-60, 1962-76	281.1	3- 6-53	337.6	8-25-75	356.4	2- 3
BIG CHINO VALLEY											
345338N1123118.1	(B-17-2)6bbb	342	4,200	Irrigation	1952-76	129.3	4-27-53	138.8	2- 5-63	131.8	1- 7
345608N1123323.1	(B-18-3)23bbc	61	4,420	Unused	1952-67, 1969-76	8.9	2-10-66	18.5	5-31-55	16.8	1- 7
BIG SANDY VALLEY											
344040N1133510.1	(B-16-13)36cc	15	1,880	Domestic	1945-76	9.7	1-12-45	13.6	10-20-56	11.9	2- 5
BILL WILLIAMS											
342822N1125312.1	(B-13-6)9dd	52	2,500	Irrigation	1945-49, 1951-57, 1959-76	14.0	1-17-45	19.9	4-26-61	19.4	4- 1
BLACK MESA											
360055N1103040.1	(A-30-17)9dda	1,683	5,854	Unused	1972-76	325.9	2-1 -73	328.5	1-15-76	328.5	1-15

LATITUDE-LONGITUDE	LOCAL WELL NUMBER	DEPTH OF WELL (feet)	LAND-SURFACE ALTITUDE (feet above mean sea level)	TYPE OF WELL	RECORDS AVAILABLE (years)	WATER LEVEL, IN FEET BELOW LAND SURFACE					
						Highest	Date	Lowest	Date	1976	Date
BUTLER VALLEY											
335823N1134715.1	(B-7-15)2dcc	552	1,425	Irrigation	1967-76	148.3	2-16-72	155.2	2- 3-76	155.2	2- 3
CONCHO											
343716N1093857.1	(A-14-25)E12cdd3	630	5,420	Irrigation	1953-58, 1960-76	11.8	4- 6-60	30.3	1- 3-75	30.0	1-28
DOUGLAS BASIN											
315042N1094143.1	(D-18-26)28aaa2	390	4,268	Irrigation	1965-76	89.0	2-11-65	150.9	1-15-76	150.9	1-15
313826N1094023.1	(D-21-26)2baa	110	4,130	Unused	1947-76	36.6	8-26-47	102.1	7-23-75	100.1	1-15
313550N1093920.1	(D-21-26)24baa	196	4,195.8	Domestic	1946-58, 1960-62, 1964-76	112.0	1-31-46	178.4	1-15-76	178.4	1-15
312226N1093728.1	(D-24-27)5bdb	82	4,000.2	Stock	1942, 1944-57, 1959-76	54.3	5-26-42	71.9	1-17-74	69.6	1-15
DUNCAN BASIN											
325114N1091058.1	(D-7-31)4bcc	75	3,544.4	Irrigation	1939-43, 1945-76	21.9	2-19-68	41.0	8- 8-56	26.4	1-14
GILA BEND BASIN											
331313N1124108.1	(C-2-4)29dda	424	845	Irrigation	1957-76	233.5	2-14-57	265.5	3- 2-60	250.0	1-13
325907N1125430.1	(C-5-6)18ddd	1,502	670	Irrigation	1966-76	35.7	1- 4-66	40.1	2-14-73	39.9	1-13
GILA RIVER DRAINAGE FROM PAINTED ROCK DAM TO TEXAS HILL											
330607N1131619.1	(C-4-10)10aaa	500	688	Unused	1957-76	198.4	2-14-57	239.9	1- 8-75	236.4	1-15
325353N1133211.1	(C-6-12)19bba	1,352	383	Unused	1971-76	29.2	1- 8-75	39.8	1- 2-73	30.4	1-15
GILA RIVER FROM HEAD OF SAN CARLOS RESERVOIR TO KELVIN											
332102N1102802.1	(D-1-18)11dcc	-	2,662	Domestic	1967-76	33.0	2-15-73	38.7	3- 2-67	36.0	1-14
330858N1104951.1	(D-3-15)29aba	300	2,740	Irrigation	1952-76	81.6	2-25-60	102.2	9-11-57	98.2	1-28

WATER LEVELS IN SELECTED WELLS IN GROUND-WATER AREAS IN ARIZONA--Continued

LATITUDE-LONGITUDE	LOCAL WELL NUMBER	DEPTH OF WELL (feet)	LAND-SURFACE ALTITUDE (feet above mean sea level)	TYPE OF WELL	RECORDS AVAILABLE (years)	WATER LEVEL, IN FEET BELOW LAND SURFACE					
						Highest	Date	Lowest	Date	1976	Date
GILA RIVER FROM HEAD OF SAN CARLOS RESERVOIR TO KELVIN--Continued											
330416N1105533.1	(D-4-14)21bed	80	1,790	Unused	1952-55, 1957-64, 1966-76	5.5	3-26-69	8.3	12- 8-53	5.8	1-28
GILA RIVER FROM TEXAS HILL TO DOME											
323348N1135711.1	(C-8-17)13add	100	262	Unused	1945-52, 1955-76	6.9	3-16-61	34.1	2-21-51	21.7	1-16
HARQUAHALA PLAINS											
334326N1133034.1	(B-4-12)5aaa	730	1,638	Irrigation	1963, 1965-76	372.8	10-30-63	432.7	3- 6-73	392.7	2- 3
HOLBROOK											
345310N1100665.1	(A-17-21)10cba	160	5,140	Unused	1952-58, 1960-76	52.1	4-23-65	53.6	4- 4-66	52.7	1-26
HUALAPAI VALLEY											
322740N1133555.1	(B-24-12)18daa	440	4,255	Irrigation	1953-64, 1967-76	142.9	4- 2-76	147.5	6-22-55	142.9	4- 2
LITTLE CHINO VALLEY											
344846N1122714.1	(B-17-2)34acc	420	4,500	Unused	1950-76	4.0	3- 8-72	10.6	3-10-75	10.1	1- 7
LOWER HASSAYAMPA											
332045N1125757.1	(C-1-7)15bbb	650	948.9	Unused	1949-76	178.2	3- 4-49	227.9	1- 9-76	227.9	1- 9
LOWER SAN PEDRO BASIN											
325217N1104255.1	(D-6-16)33bad	60	2,100	Unused	1949-69, 1971-73, 1975-76	6.7	2-27-67	26.5	1-28-76	26.5	1-28
323644N1104612.1	(D-9-15)36bbc	92	4,500	Domestic	1949-76	32.7	2-13-74	82	8-16-54	56.0	1-28
321715N1102158.1	(D-13-19)23dad	85	3,150	Stock	1949-76	29.1	4-16-68	49.8	3-28-54	40.9	1-26

LATITUDE-LONGITUDE	LOCAL WELL NUMBER	DEPTH OF WELL (feet)	LAND-SURFACE ALTITUDE (feet above mean sea level)	TYPE OF WELL	RECORDS AVAILABLE (years)	WATER LEVEL, IN FEET BELOW LAND SURFACE					
						Highest	Date	Lowest	Date	1976	Date
LOWER SANTA CRUZ BASIN											
330355N1120730.1	(D-4-2)23acc	800	1,187	Irrigation	1964-73, 1976	267.9	1- 9-64	417.5	1- 2-76	417.5	1- 2
325250N1113106.1	(D-6-8)21ddc	400	1,470	Irrigation	1952-56, 1960-62, 1964, 1966, 1968-73, 1976	117.3	2- 5-52	213.0	1- 2-72	184.9	1- 2
325306N1111215.1	(D-6-11)27cad	300	2,370	Stock	1953-54, 1956, 1960-76	26.9	2- 7-73	51.1	4-29-69	34.2	1-22
324918N1113538.1	(D-7-7)11cdd	460	1,498.2	Irrigation	1942-57, 1959-64, 1967-76	85.9	3-11-42	299.1	3- 6-75	256.9	1- 2
324102N1114528.1	(D-8-6)31add	280	1,518	Unused	1952, 1955-64, 1966-76	128.9	2-14-52	257.9	1- 2-76	257.9	1- 2
324312N1113330.1	(D-8-8)18cdd1	600	1,596	Irrigation	1967-74, 1976	329.0	1-18-68	352.0	1- 2-76	352.0	1- 2
323753N1112046.1	(D-9-10)19aaa	600	1,830	Unused	1953-64, 1966-76	181.1	3-28-55	226.7	1-17-68	213.4	1- 2
323942N1110302.1	(D-9-13)7cbc	275	3,115	Stock	1952-76	43.0	9-23-55	111.5	1- 6-53	56.8	1-19
McMULLEN VALLEY											
334817N1133839.1	(B-5-13)5cbb	755	2,018.1	Irrigation	1963-76	279.5	3-12-63	384.0	2- 3-76	384.0	2- 3
335727N1130451.1	(B-7-8)15baa	1,812	2,257	Irrigation	1962-65, 1967-76	479.4	1- 2-64	544.9	1-30-76	544.9	1-30
PUERCO-ZUNI											
350250N1091710.1	(A-19-29)17acb2	465	6,130	Stock	1969, 1971-76	210.0	7- 9-69	215.2	1-31-75	213.8	1-29
RANEGRAS PLAIN											
334840N1135141.1	(B-5-15)6baa1	910	1,156	Irrigation	1957-58, 1963-76	209.9	2-15-63	224.4	2- 3-76	224.4	2- 3
SACRAMENTO VALLEY											
351109N1140500.1	(B-21-17)24cdd1	120	3,310	Domestic	1944-76	101.5	8-14-44	120.0	2-12-63	110.4	1-15

LATITUDE-LONGITUDE	LOCAL WELL NUMBER	DEPTH OF WELL (feet)	LAND-SURFACE ALTITUDE (feet above mean sea level)	TYPE OF WELL	RECORDS AVAILABLE (years)	WATER LEVEL, IN FEET BELOW LAND SURFACE					
						Highest	Date	Lowest	Date	1976	Date
SAFFORD BASIN											
330505N1100228.1	(D-4-22)13acd	100	2,640	Irrigation	1953-76	8.9	3-13-68	29.0	8-31-53	15.3	1- 7
330239N1100311.1	(D-4-22)35ada	75	2,859.5	Stock	1939-44, 1946-76	17.1	2-11-43	39.4	3-29-40	24.1	1- 7
325633N1095438.1	(D-6-24)5aca	64	2,779.6	Irrigation	1940-76	37.7	3-13-68	57.7	6-28-55	40.4	1- 8
325410N1094806.1	(D-6-25)20aaa	46	2,821.6	Irrigation	1939-46, 1948-50, 1952-76	10.8	5-26-41	29.6	10-30-56	15.8	1- 8
325224N1093050.1	(D-6-28)31aab	540	3,150	Unused	1951-76	16.7	4-25-73	44.5	7-28-71	27.6	1-28
324849N1094035.1	(D-7-26)22bab	90	2,950.3	Irrigation	1940-76	20.3	5-25-42	68.2	7- 1-57	33.7	1- 9
324501N1094414.1	(D-8-25)12dba	400	3,235	Irrigation	1950-67, 1969-76	55.6	3-13-50	139.2	7-31-67	77.2	1- 9
324115N1094148.1	(D-8-26)33cdc	400	3,340	Irrigation	1950-76	17.0	3-13-50	83.5	3-14-75	53.4	1- 9
SALT RIVER VALLEY											
332453N1114111.1	(A-1-6)24dab	585	1,408	Unused	1972-76	521.9	1-18-72	541.2	1- 7-76	541.2	1- 7
335642N1115808.1	(A-3-4)17baa	981	1,414	Irrigation	1969-74, 1976	318.9	1-22-69	379.8	1- 2-76	379.8	1- 2
333916N1120557.1	(A-4-2)36aaa	670	1,373	Unused	1948, 1954-55, 1957-61, 1963-64, 1966-71, 1973-76	273.1	12-20-48	531.0	2- 5-76	531.0	2- 5
333043N1113040.1	(D-2-8)27ddd	614	1,556	Unused	1949-54, 1957, 1963-69, 1971-72, 1976	231.7	1-19-49	505.6	2- 2-76	505.6	2- 2
SAN BERNARDINO VALLEY											
312528N1091331.1	(D-23-31)18deb2	328	4,050	Stock	1968, 1970-76	226.9	9-18-68	235.9	1- 9-76	235.9	1- 9
SAN FRANCISCO PEAKS											
350924N1114401.1	(A-21-6)35cba	1,600	7,136.7	Municipal	1954-56, 1958, 1960, 1962-64, 1966-76	1,221	4-13-70	1,241.5	1-26-73	1,231.3	1-26

WATER LEVELS IN SELECTED WELLS IN GROUND-WATER AREAS IN ARIZONA--Continued

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LATITUDE-LONGITUDE	LOCAL WELL NUMBER	DEPTH OF WELL (feet)	LAND-SURFACE ALTITUDE (feet above mean sea level)	TYPE OF WELL	RECORDS AVAILABLE (years)	WATER LEVEL, IN FEET BELOW LAND SURFACE					
						Highest	Date	Lowest	Date	1976	Date
SAN SIMON BASIN											
322112N1093626.1	(D-12-27)32aab	250	3,980	Stock	1952-54, 1956-57, 1959-64, 1967-76	132.5	12-20-56	137.2	12-12-54	133.1	1- 2
321932N1092554.1	(D-13-29)6ccc	835	3,675	Stock, irrigation	1941-42, 1944, 1946-47, 1949-52, 1954-57, 1954-76	9.5	5- 2-41	238.9	2- 6-76	238.9	2 6
321200N1090945.1	(D-14-31)22adc	800	3,690	Irrigation	1973-76	100.0	1-24-73	128.2	2-25-76	128.2	2 25
314911N1090501.1	(D-18-32)33bca2	227	4,220	Domestic	1969-76	134.7	1-22-70	148.3	1- 2-75	144.9	2-26
SAN SIMON WASH											
315444N1115503.1	(D-17-4)34abd	201	2,301.4	Irrigation	1968-76	123.4	2-23-72	126.9	5-13-75	124.5	1 2
SNOWFLAKE											
343009N1100435.1	(A-13-21)24ccb	324	5,618	Irrigation	1952-58, 1960-61, 1963-76	60.2	5-13-57	97.3	3- 5-70	81.8	1 27
ST. JOHNS											
343018N1092353.1	(A-13-28)29bcd	50	5,800	Domestic	1944-58, 1960-72, 1975-76	7.4	3- 1-67	30.9	5- 3-56	14.0	1-29
TONTO BASIN											
334707N1111543.1	(A-5-11)7dda	-	2,149	Stock	1969, 1972-76	1.4	3- 1-73	14.4	1- 2-76	14.4	1 2
UPPER SALT RIVER BASIN											
332658N1104932.1	(A-1-15)9aad2	-	3,237	Industrial	1970-76	43.8	3-15-74	63.2	1-20-72	59.9	1-13
332055N1104555.1	(D-1-15)13bda	105	3,800	Unused	1946-55, 1957, 1959-76	3.5	5- 5-49	39.5	2-14-61	25.5	1-13
UPPER SAN PEDRO BASIN											
320005N1101709.1	(D-16-20)34acd2	117	3,525	Irrigation	1969-76	79.0	3-18-69	90.1	1-26-76	90.1	1 26

LATITUDE-LONGITUDE	WELL NUMBER	OF WELL (feet)	ALTITUDE (feet above mean sea level)	TYPE OF WELL	AVAILABLE (years)	Highest	Date	Lowest	Date	1976	Date

UPPER SAN PEDRO BASIN--Continued

315500N1101322.1	(D-17-21)32bab	520	3,705	Domestic, stock	1944-76	16.9	12- 9-46	47.8	1-22-75	40.7	1-22
315417N1101400.1	(D-18-21)6aaa2	60	3,620	Domestic	1944-58, 1960-76	25.1	1-22-76	39.7	5-28-54	25.1	1-22
312250N1100639.1	(D-23-22)35dcd2	91.5	4,200	Observation	1954-63, 1966-76	11.5	8-24-55	18.5	7-15-61	14.9	1-20

UPPER SANTA CRUZ BASIN

320824N1105930.1	(D-15-13)11cba	224	2,457	Observation	1968-76	82.0	2-21-68	138.5	8-25-75	137.4	1-27
314718N1104139.1	(D-19-16)15aba	300	4,980	Stock	1952-76	203.7	4-10-69	222.4	1-22-70	212.7	1-14
312758N1105900.1	(D-22-13)35dcd	90	3,430	Irrigation	1939-57, 1959-61, 1963-76	7.4	1-23-68	53.0	3-30-54	27.9	1-21
313225N1104533.1	(D-22-15)12aad	60	4,035	Domestic	1949, 1952-64, 1966-76	10.1	1-25-56	26.0	6- 8-54	24.2	1-14
312419N1105412.1	(D-23-14)27baa	36	3,575	Unused	1939-57, 1959-61, 1963-76	12.6	1- 6-60	21.8	7-28-48	16.9	1-22
312119N1103517.1	(D-24-17)11cda	23	4,650	Observation	1949-76	1.8	12-30-55	14.6	7-24-64	4.3	1-14

UPPER VERDE VALLEY

344306N1115520.1	(A-15-4)4dd	250	3,375	Domestic	1959-76	36.8	8-18-59	56.4	1-22-76	56.4	1-22
350716N1113544.1	(A-20-8)18bbb	1,206	6,830	Unused	1962-63, 1965, 1967-76	571.7	3- 6-74	606.6	2- 6-65	582.8	1-14

WATERMAN WASH

331311N1122529.1	(C-2-2)25ccc	882	1,078	Irrigation	1956-76	222.8	2-28-57	339.7	1- 2-76	339.7	1- 2
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WHITE MOUNTAINS

341429N1100252.1	(A-10-22)30aba	750	6,485	Municipal	1969-76	523.2	3-27-69	532.0	2-13-74	525.5	1-27
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WATER LEVELS IN SELECTED WELLS IN GROUND-WATER AREAS IN ARIZONA--Continued

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LATITUDE-LONGITUDE	LOCAL WELL NUMBER	DEPTH OF WELL (feet)	LAND-SURFACE ALTITUDE (feet above mean sea level)	TYPE OF WELL	RECORDS AVAILABLE (years)	WATER LEVEL, IN FEET BELOW LAND SURFACE					
						Highest	Date	Lowest	Date	1976	Date
WILLCOX BASIN											
321838N1095431.1	(D-13-24)16bbb	1,356	4,210	Observation	1942, 1944-76	29.7	5-13-42	130.7	8-31-62	127.9	1- 6
321323N1095217.1	(D-14-24)14bba2	-	4,167	Domestic	1963-69, 1971-76	9.0	2- 6-63	26.7	1-15-76	26.7	1-15
321115N1055552.1	(D-14-24)30dba	-	4,187	Stock	1942, 1944-57, 1963-76	16.0	10-21-55	33.9	1-14-74	29.0	1-16
320235N1094750.1	(D-16-25)16add	65	4,190	Stock	1942, 1944-57, 1959-76	27.0	2-18-69	43.6	12-19-57	29.8	1-15
WILLIAMSON VALLEY											
344630N1123944.1	(B-16-4)14bbb	353	4,600	Irrigation	1952-53, 1955-56, 1958-76	1.5	3-20-73	7.8	10-23-56	2.0	1- 9
YUMA											
323840N1143201.1	(C-9-22)17dca	195	205	Unused	1945-58, 1960-76	52.5	11-15-60	97.6	9- 5-46	58.7	1-19

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FACTORS FOR CONVERSION OF ENGLISH UNITS TO INTERNATIONAL SYSTEM (SI) UNITS

The following factors may be used to convert the English units published herein to the International System (SI) of Units

<u>Multiply English units</u>	<u>By</u>	<u>To obtain SI units</u>
feet (ft)	0.3048	meters (m)
miles (mi)	1.609	kilometers (km)
acres	4047 .4047 .004047	square meters (m ²) square hectometer (hm ²) square kilometers (km ²)
square miles (mi ²)	2.590	square kilometers (km ²)
gallons (gal)	3.785 x 10 ⁻³ 3.785	cubic meters (m ³) liters (L)
million gallons (10 ⁶ gal)	3785 3.785 x 10 ⁻³	cubic meters (m ³) cubic hectometers (hm ³)
cubic feet (ft ³)	.02832	cubic meters (m ³)
cfs-day (ft ³ /s-day)	2447 2.447 x 10 ⁻³	cubic meters (m ³) cubic hectometers (hm ³)
acre-feet (acre-ft)	1233 1.233 x 10 ⁻³ 1.233 x 10 ⁻⁶	cubic meters (m ³) cubic hectometers (hm ³) cubic kilometers (km ³)
cubic feet per second (ft ³ /s)	.02832	cubic meters per second (m ³ /s)
tons (short)	.9072	tonnes (t)

