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QUALITY OF SURFACE WATERS OF THE UNITED STATES 1944

Prepared by
WATER RESOURCES BRANCH
DIVISION OF QUALITY OF WATER

In cooperation with the States of
Florida, Georgia, Iowa, Louisiana, New Mexico
North Carolina, Pennsylvania, and Texas
and other agencies

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INTRODUCTION

The water analyses given on the following pages indicate the suitability of the waters examined for industrial or agricultural use, and for domestic use so far as such use is affected by the dissolved or suspended mineral matter in the waters. The samples for which analytical data are given were collected between October 1, 1943, and September 30, 1944.

Most of the analyses are of 10-day composites of daily samples collected for a period of a year at a sampling point. The samples were generally taken at points where gaging stations are maintained for measurement of discharge. The discharge reported for a composite sample is usually the average of the mean daily discharges for the normal composite period. For some analyses the composite periods differ from the normal 10- or 11-day period. For these analyses, the discharges reported are the averages of the mean daily discharges either for the sampling days or for the days indicated. The discharges reported in the tables of single analyses are either mean daily discharges or are instantaneous discharges for the particular times when the samples were collected.

In addition to the tables of chemical analyses, records of suspended sediment loads and of daily water temperatures are included for certain rivers. The reported suspended sediment loads were computed from sediment concentrations determined in one or more sets of samples collected daily and from the water discharge. The Colorado River type of depth-integrating sampler was used on streams in the Colorado River Basin throughout the year with two exceptions. The US D–43 depth-integrating sampler was used on the San Juan River near Bluff, Utah, beginning May 1 and on the Colorado River near Grand Canyon, Ariz., beginning June 1. The US D–43 depth-integrating sampler was used on Iowa streams in collecting sediment samples from one to four times daily, depending on the rate of flow. Daily river temperatures are given for a few streams. These data were obtained at the time the water samples were collected for chemical analysis. So far as practicable the water temperatures were observed at about the same time each day for each river station.

ANALYTICAL METHODS

CHEMICAL ANALYSES

Three composite samples were usually analyzed each month. These samples were made by mixing together equal quantities of daily samples collected from the 1st to the 10th, from the 11th to the 20th, and during the remainder of the month. For some streams that are subject to sudden large changes in chemical composition, composite samples were at times made for shorter periods on the basis of the concentration of dissolved solids indicated by measurements of specific conductance of the daily samples.

The samples were analyzed according to methods that are regularly used by the Geological Survey and that are essentially the same or are modifications of methods described in recognized authoritative publications [1] for the mineral analysis of water samples. The mineral constituents are reported in parts per million and also in equivalents per million for most analyses. Results given in parts per million can be converted to grains per United States gallon by dividing by 17.12.

The constituents determined were not the same for all areas. In the analyses of some waters used for irrigation the quantity of dissolved solids is given in tons per acre-foot as well as in parts per million. These analyses also give the percent sodium. In analyses of waters containing fairly large quantities of soluble salts the quantity reported for dissolved solids is the sum of the quantities of the various constituents determined. In other analyses the quantity reported as dissolved solids is the residue on evaporation after heating at 180° C. for 1 hour. The total hardness is calculated as the $CaCO_3$ equivalent of all the significant cations except sodium and potassium. In some of the analyses noncarbonate hardness is also reported. Specific conductance is given for most analyses and was determined by means of a conductance bridge using a standard potassium chloride solution as reference.

Average or weighted-average analyses for the water year are given for most daily sampling stations. An average analysis represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the river each day for the water year. The weighted-average analysis represents approximately the composition of water that would be found in a reservoir containing the water passing a given station during the year after thorough mixing in the reservoir. The weighted-average analysis is

[1] Collins, W. D., Notes on practical water analyses: U. S. Geol. Survey Water-Supply Paper 596-H, pp. 236-261, 1928.

American Public Health Association, Standard methods for the examination of water and sewage, 8th ed., pp. 53-123, 1936.

computed by multiplying the discharge for the sampling period by the quantities of the individual constituents for the corresponding period and dividing the sum of the products by the total discharge for the water year. The weighted-average analysis shows less-concentrated water than that represented by the average of the individual analyses because at times of high discharge the rivers carry the smallest amount of dissolved solids.

SUSPENDED SEDIMENT

Sediment concentrations were determined by filtration or evaporation of the samples as required. For some stations, concentrations were interpolated for those days on which no samples were collected. Sediment concentrations for each day are expressed in percent by weight for streams in the Colorado River Basin where concentrations in excess of 10 percent are not infrequent, and in parts per million by weight for all other streams for which sediment records are reported. One percent is equivalent to 10,000 parts per million.

In addition to these records of total quantities of sediment, records of the sizes of the particles of sediment are included as a guide to estimating the volumes of deposited material. Since much of the material carried in suspension is smaller than the finest sieves, it is customary to determine the sizes of the smaller particles by the bottom withdrawal tube method.[2] As the sizes and the settling rates of the particles in suspension are dependent on the chemical character of the water, the size analyses were made with a settling medium consisting of water similar in character and concentration to the water of the original suspension.

MINERAL CONSTITUENTS IN SOLUTION

All natural waters contain dissolved mineral matter. Water in contact with soils or rocks, even for only a few hours, will dissolve the rock minerals. The quantity of dissolved mineral matter in a natural water depends primarily on the type of rocks or soils through which the water has passed and the length of time it has been in contact with the rocks or soils. The concentration of mineral matter in a river water is frequently increased by drainage from mines or oil fields, by the addition of industrial or municipal wastes, or by return drainage in irrigated regions.

The mineral constituents and physical properties of natural waters reported in the tables of analyses include those that have a practical bearing on the value of the waters for most purposes. The analyses generally include data for silica, iron, calcium, magnesium, sodium,

[2] Iowa Institute of Hydraulic Research, A study of new methods for size analysis of suspended sediment samples: Report No. 7 of a study of methods used in measurement and analysis of sediment loads in streams, 1943.

potassium—or sodium and potassium together as sodium—bicarbonate, sulfate, chloride, fluoride, nitrate, and dissolved solids. Aluminum, manganese, color, hydrogen-ion concentration (pH), acidity, oxygen consumed, and borate are reported for certain streams. The source and significance of the different constituents and other properties of natural waters are discussed in the following paragraphs.

Oxygen consumed.—The term "oxygen consumed" furnishes a rough indication of the oxidizable organic matter in the unfiltered and filtered samples. Oxygen consumed may be roughly proportional to the intensity of the color of natural waters, though waters that are not noticeably colored may contain oxidizable material. Oxygen consumed gives a partial measure of polluting materials such as sewage and oxidizable industrial wastes.

Color.—In water analysis the term "color" refers to the appearance of water that is free from suspended solids. Water for domestic use and some industrial uses should be free from any perceptible color. Color in natural surface waters is due almost entirely to organic matter extracted from leaves, roots, and decaying plant life on the ground and in the soils. At some localities high color in water results from industrial wastes and sewage. A color less than 10 usually passes unnoticed. Some swamp waters have natural color of 200 or 300 or more.

Hydrogen-ion concentration (pH).—The degree of acidity or alkalinity of water, as indicated by the hydrogen-ion concentration, or pH, is related to the corrosive properties of water, and should be known so that proper treatment for coagulation may be made at water-treatment plants. It represents the negative logarithm of the number of moles of ionized hydrogen per liter of water. A pH value of 7.0 indicates that the water is neither acid nor alkaline. Values lower than 7.0 denote increasing acidity, while values higher than 7.0 denote increasing alkalinity. The pH of water indicates its activity towards metal surfaces. As the pH increases the corrosive activities of the water decreases. The pH of most natural surface waters varies between 6.0 and 8.0. Some alkaline surface waters have pH values greater than 8.0, and waters containing free mineral acid usually have values less than 4.5.

Specific conductance ($K \times 10^5$ at 25° C.).—The specific conductance of water is a measure of its ability to conduct a current of electricity. It varies with the temperature and with the concentration and degree of ionization of the different minerals in solution. Specific conductance values are expressed in reciprocal ohms (mhos x 10^5) at 25° C. When considered in conjunction with determinations for other constituents, specific conductance is a useful determination and plays

an important part in following changes in concentration of the total quantity of dissolved minerals in surface waters.

Silica (SiO_2).—Silica is dissolved from practically all rocks. A few natural surface waters contain less than 3 parts per million of silica and some contain more than 50 parts, but the more common range is from 10 to 30 parts per million. Silica affects the usefulness of a water because it contributes to the formation of boiler scales and usually is removed from feed water for high pressure boilers. Silica also forms troublesome deposits on the blades of steam turbines.

Aluminum and manganese (*Al and Mn*).—Aluminum and manganese are dissolved in appreciable quantities from rocks in some sections of the country. Waters impounded in large reservoirs may contain manganese that has been dissolved from the mud on the bottom of the reservoir by the action of carbon dioxide produced by anaerobic fermentation of organic matter. Aluminum and manganese are not regularly determined in areas where these constituents are not present in appreciable quantities. Acid waters may contain relatively large quantities, which can be troublesome in certain uses of the waters. Manganese is especially objectionable in water used in laundry work and in textile processing. It causes a dark-brown or black stain in fabrics and on porcelain fixtures. Appreciable quantities of manganese are often found in waters containing troublesome quantities of iron.

Iron (*Fe*).—Iron is dissolved from many rocks and soils. On exposure to the air, normal basic waters that contain more than 1 part per million of iron soon become turbid with the insoluble reddish ferric oxide produced by oxidation. Surface waters, therefore, seldom contain as much as 1 part per million of dissolved iron, although some acid waters carry large quantities of iron in solution. Iron causes stains on white porcelain or enameled ware and fixtures and on clothing or other fabrics washed in the water.

Calcium (*Ca*).—Calcium is dissolved from practically all rocks, but is usually found in greater quantities in waters in contact with limestone, dolomite, and gypsum. Calcium and magnesium make water hard and are largely responsible for the formation of boiler scale. Most waters associated with granite or silicious sands may contain less than 10 parts per million of calcium; many waters from limestone contain from 30 to 100 parts; and waters that leach deposits of gypsum may contain several hundred parts.

Magnesium (*Mg*).—Magnesium is dissolved from many rocks, particularly from dolomitic rocks. Its effects are similar to those of calcium. The magnesium in soft waters may amount to only 1 or 2 parts per million, but water in areas that contain large quantities of dolomite

or other magnesium-bearing rocks may contain from 20 to 100 or more parts per million of magnesium.

Sodium and potassium (Na and K).—Sodium and potassium are dissolved from practically all rocks, but they make up only a small part of the dissolved mineral matter in most surface waters in humid regions. Sodium may be the predominant basic radical in more highly mineralized waters found in some sections of western United States. Natural waters that contain only 3 or 4 parts per million of the two together are likely to carry almost as much potassium as sodium. As the total quantity of these constituents increases the proportion of sodium becomes greater. Moderate quantities of these constituents have little effect on the usefulness of the water for most purposes, but waters that carry more than 50 or 100 parts per million of the two may require careful operation of steam boilers to prevent foaming. Waters that contain a large proportion of sodium salts may not be satisfactory for irrigation, and a few waters contain so much sodium that they are unfit for nearly all uses.

Carbonate and bicarbonate (CO_3 and HCO_3).—Bicarbonate occurs in waters largely through the action of carbon dioxide, which enables the water to dissolve carbonates of calcium and magnesium. Carbonate is not present in appreciable quantities in most natural waters. The bicarbonate in waters that come from relatively insoluble rocks may amount to 50 parts per million or less; many waters from limestone contain from 200 to 400 parts per million. Bicarbonate in moderate quantities in water has no effect for most uses.

Sulfate (SO_4).—Sulfate is dissolved from rocks and soils and in large quantities from gypsum in beds of shale and from deposits of sodium sulfate. It is also formed by the oxidation of sulfides of iron and is therefore present in considerable quantities in waters from mines. Sulfate in waters that contain much calcium and magnesium causes the formation of hard scale in steam boilers and may increase the cost of softening the water.

Chloride (Cl).—Chloride is dissolved from rock materials in all parts of the country. Surface waters in the humid regions are usually low in chloride, while streams in arid or semiarid regions may have several hundred parts per million of sodium chloride that has been leached from the soils and rocks, especially where they receive return drainage from irrigated lands. Large quantities of chloride may affect the industrial use of water by increasing the corrosiveness of waters that contain large quantities of calcium and magnesium.

Fluoride (F).—Fluoride has been reported as present in rocks to about the same extent as chloride. However, the quantity of fluoride present in natural surface waters is ordinarily very small compared to that of chloride. Fluoride in water is known to be associated with the

dental defect known as mottled enamel, if the water is used for drinking by young children during calcification or formation of the teeth. This condition becomes more noticeable as the quantity of fluoride in water increases above 1 part per million. Present investigations indicate that the incidence of dental caries—decay of teeth—is less when there are small amounts of fluoride present in the water supply than when there is none.

Nitrate (NO_3).—Nitrate in water is considered a final oxidation product of nitrogenous material and may indicate previous contamination by sewage or other organic matter. The quantities of nitrate usually present in surface waters have no effect on the value of water for ordinary uses, though it has been reported that as much as 2 parts per million of nitrate prevent intercrystalline cracking of boiler steel.

Borate (BO_3).—Borate is reported for analyses of most surface waters in arid and semiarid regions of the middle and far west, where irrigation is practiced or contemplated. The element boron (B) has been found to be detrimental to citrus and certain other crops. Very few of the surface waters analyzed have been found to contain boron in harmful concentrations.

Dissolved solids.—The quantity reported as dissolved solids—the residue on evaporation—consists mainly of the dissolved mineral constituents in the water. It also may contain some organic matter and water of crystallization. Waters with less than 500 parts per million of dissolved solids are usually satisfactory for domestic and some industrial uses. Waters with more than 1,000 parts per million of dissolved solids are likely to be unsuitable for most domestic and industrial uses. Waters containing several thousands of parts per million are sometimes successfully used for irrigation where irrigation practices permit removal of soluble salts through the application of large volumes of water on well-drained lands.

Hardness.—Hardness is the characteristic of water that receives the most attention with reference to industrial and domestic use. It is usually recognized by the increased quantity of soap required to produce lather and by the deposits of insoluble salts formed when water is heated.

Hardness is caused almost entirely by compounds of calcium and magnesium. Other constituents, such as iron, manganese, aluminum, barium, strontium, and free acid also cause hardness. Hardness is expressed as the calcium carbonate equivalent of all the significant cations except sodium and potassium. The hardness caused by calcium, magnesium, and other ions equivalent to the bicarbonate or carbonate in a water is called carbonate hardness; the hardness caused by other compounds of calcium and magnesium is called noncarbonate hardness. Water that has less than 60 parts per million

of hardness is usually rated as soft and suitable for most purposes without further softening. Hardness between 60 and 120 parts per million does not seriously interfere with the use of water for most purposes except for use in high-pressure steam boilers and in some industrial processes. Waters with hardness ranging from 121 to 200 are considered hard and in the upper ranges laundries and industries may profitably soften the supply. Water with hardness beyond 200 parts per million usually requires some treatment for removal of hardness before being used for most purposes.

Total acidity.—The total acidity of a natural water represents the content of free carbon dioxide, mineral acids, and salts, especially sulfates of iron and aluminum, which hydrolyze to give hydrogen ions. Acid waters are very corrosive and generally contain excessive amounts of other objectionable constituents, such as iron, aluminum, or manganese.

Corrosiveness.—The corrosiveness of a water is that property which makes the water aggressive to metal surfaces and frequently results in the appearance of "red water" caused by solution of iron. The disadvantages of iron in water have been previously discussed. However, besides the trouble caused by iron in water, corrosion causes the deterioration of water pipes, steam boilers, and water-heating equipment. Many waters that do not appreciably corrode cold-water lines will aggressively attack hot-water lines. Oxygen, carbon dioxide, free acid, and acid-generating salts are the principal constituents in water that cause corrosion. In a general way, very soft waters of low mineral content tend to be more corrosive than hard waters containing appreciable quantities of the carbonates and bicarbonates of calcium and magnesium.

Percent sodium.—"Percent sodium" is reported in most of the analyses of waters collected from streams in the western part of the country where irrigation is practiced extensively. The proportion of sodium to other basic constituents in the water has a bearing on the suitability of a water for irrigation. It is the result obtained by dividing the equivalents per million of sodium by the equivalents per million of the cations (usually calcium, magnesium, sodium, and potassium) and multiplying by 100. Waters in which the percent sodium is more than 60 may be injurious when applied to certain types of soils, particularly when adequate drainage is not provided.

COOPERATION AND DIVISION OF WORK

The analyses of water samples and the determinations of sediment loads given in this report were made in connection with various Federal and cooperative projects as described below. The descriptions of the work and the tables of analyses are arranged by drain-

age basins, according to Geological Survey practice in reporting records of stream flow.

NORTH ATLANTIC SLOPE BASINS

Pennsylvania.—Investigations of the industrial quality of surface waters of Pennsylvania began in July 1944 in cooperation with the Pennsylvania Department of Commerce, Floyd Chalfont, secretary. The investigations were under the direction of W. F. White, district chemist, Washington, D. C. The analyses were made by D. M. Derrick, E. W. Lohr, A. C. Vlisidis, and W. F. White. Records of discharge were furnished by John W. Mangan, district engineer, Harrisburg, Pa.

SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS

North Carolina.—Quality of water studies in North Carolina were begun in the fall of 1943 under a cooperative agreement between the Geological Survey and the North Carolina Department of Conservation and Development, R. Bruce Etheridge, director. The investigations were made under the direction of W. L. Lamar, district chemist, Raleigh, N. C. The analyses were made by E. Holloman and W. L. Lamar. Records of discharge were furnished by E. D. Burchard, district engineer, Raleigh, N. C.

Florida.—The work on the quality of surface waters in Florida was confined to an area in the southeastern part of the State. It formed a part of a general study of the sources of water available for public and private supplies for Miami, Miami Beach, and the surrounding territory. The study was made under a cooperative agreement between the Geological Survey and Dade County and the cities of Miami, Miami Beach, and Coral Gables. The quality of water investigations were under the direction of S. K. Love. Analyses were made in the Geological Survey laboratory in Washington by E. D. Manfredi, S. K. Love, and M. B. Thomas. Records of discharge were furnished by G. E. Ferguson, district engineer, Ocala, Fla.

Georgia.—Quality of water investigations in Georgia were made as part of a general study of the water resources of Georgia under a cooperative agreement between the Geological Survey and the Georgia Department of Mines, Mining, and Geology, Garland Peyton, director. The investigations were made under the direction of W. L. Lamar, district chemist, Raleigh, N. C. The analyses were made by E. Holloman and W. L. Lamar. Records of discharge were furnished by M. T. Thomson, district engineer, Atlanta, Ga.

OHIO RIVER BASIN

Pennsylvania.—Investigations of the industrial quality of surface waters of Pennsylvania began in July 1944 in cooperation with the Pennsylvania Department of Commerce, Floyd Chalfont, secretary. The investigations were under the direction of W. F. White, district chemist, Washington, D. C. The analyses were made by D. M. Derrick, E. W. Lohr, A. C. Vlisidis, and W. F. White. Records of discharge were furnished by John W. Mangan, district engineer, Harrisburg, Pa.

UPPER MISSISSIPPI RIVER BASINS

Iowa.—Investigations of the chemical character and of the suspended sediment loads in surface waters in Iowa were begun in 1944 under a cooperative agreement with the Geological Survey and the Iowa State Geological Survey. The sampling and analysis of the water to determine its chemical quality were made under the direction of S. K. Love, chemist, Washington, D. C. The analyses were made by S. K. Love, E. D. Manfredi, and M. B. Thomas. The collection and analysis of sediment samples were made under the supervision of L. C. Crawford, district engineer, Iowa City. Records of discharge were furnished by Mr. Crawford.

LOWER MISSISSIPPI RIVER BASIN

New Mexico.—In cooperation with the Corps of Engineers, United States Army, records were obtained of the contributions of the Canadian and Conchas Rivers to the storage behind Conchas Dam in New Mexico, and of the quality of the water in the reservoir. The studies were made under the direction of C. S. Howard, district chemist, Albuquerque, N. Mex. The chemical analyses were made by A. W. Carlson, M. Cummings, T. Downer, C. S. Howard, R. T. Kiser, and W. F. White. Records of discharge were furnished by Berkeley Johnson, district engineer, Santa Fe, N. Mex.

Texas and Oklahoma.—Quality of water studies in the lower Mississippi River Basin on the Red and Washita Rivers were made under a cooperative agreement with the Geological Survey and the cities of Denison and Sherman, under the supervision of W. W. Hastings, district chemist, Austin, Tex. Analyses were made by M. L. Begley, W. W. Hastings, and J. H. Rowley. Records of discharge were furnished by J. L. Saunders, district engineer, Fort Smith, Ark., and by the Corps of Engineers, United States Army.

Louisiana.—Quality of water investigations in Louisiana were made under a cooperative agreement between the Geological Survey and the Louisiana State Department of Public Works, under the direction

of W. W. Hastings, district chemist, Austin, Tex. The analyses were made by M. L. Begley, W. W. Hastings, and J. H. Rowley. Records of discharge were furnished by R. E. Marsh, district engineer, Baton Rouge, La.

WESTERN GULF OF MEXICO BASINS

Louisiana.—Quality of water studies in Louisiana were made under a cooperative agreement between the Geological Survey and the Louisiana State Department of Public Works and the Louisiana Department of Conservation. The investigations were under the supervision of W. W. Hastings, district chemist, Austin, Tex. The analyses were made by M. L. Begley, W. W. Hastings, and J. H. Rowley. Records of discharge were furnished by R. E. Marsh, district engineer, Baton Rouge, La.

New Mexico.—Work on the quality of surface waters in New Mexico was done under a cooperative agreement between the Geological Survey and the New Mexico Interstate Stream Commission, Thomas M. McClure, secretary. The quality of water investigations were made under the direction of C. S. Howard, district chemist, Albuquerque, N. Mex. The analyses were made by A. W. Carlson, M. Cummings, T. Downer, J. D. Hem, C. S. Howard, R. T. Kiser, and W. F. White. Records of discharge were furnished by Berkeley Johnson, district engineer, Santa Fe, N. Mex.

Texas.—Quality of water investigations in Texas on the Brazos and Colorado (Texas) Rivers were made in cooperation with the Texas State Board of Water Engineers and the studies on Salt and Toyah Creeks were made in cooperation with the Texas Pecos River Compact Commission. The work on the Pecos River was done under a cooperative agreement with the Red Bluff Water Power Control District. The investigations were under the direction of W. W. Hastings, district chemist, Austin, Tex. Analyses of water samples were made by M. L. Begley, W. W. Hastings, and J. H. Rowley. Records of discharge were furnished by C. E. Ellsworth, district engineer, Austin, Tex.

COLORADO RIVER BASIN

Investigations of the quality of the water and of suspended sediment loads have been carried on as a continuing Federal project under the direction of C. S. Howard, district chemist, Albuquerque, N. Mex., with the cooperation of the following district engineers of the Geological Survey: Robert Follansbee, Denver, Colo.; J. H. Gardiner, Tucson, Ariz.; Berkeley Johnson, Santa Fe, N. Mex., and M. T. Wilson, Salt Lake City, Utah. Water samples for chemical analysis

were collected in the Safford Valley of the Gila River as part of an investigation undertaken at the request of, and financed by, the Defense Plants Corporation. Water samples were collected from Lake Mead by the Bureau of Reclamation. Chemical analyses were made by A. W. Carlson, M. Cummings, T. Downer, J. D. Hem, C. S. Howard, R. T. Kiser, D. C. Lillywhite, H. B. Waha, and W. F. White.

PUBLICATIONS

Records of chemical analyses, suspended sediment loads, and water temperatures of samples of surface water collected regularly during the years ended September 30, 1941, 1942, and 1943, for most of the stations listed in this report are given in Water-Supply Papers 942, 950, and 970, respectively. References to chemical analyses made by the Geological Survey in the Colorado River, Pecos River, and Rio Grande Basins are given in summarized form in Water-Supply Paper 970. Analyses that were representative of a large number of rivers throughout the United States in 1905 to 1912 are given in Professional Paper 135. Analyses of surface waters in Georgia, 1937 to 1941, are given in Water-Supply Paper 889–E.

CHEMICAL ANALYSES, SUSPENDED SEDIMENT, AND WATER TERMPERATURE

NORTH ATLANTIC SLOPE BASINS

MISCELLANEOUS ANALYSES OF STREAMS IN DELAWARE RIVER BASIN IN PENNSYLVANIA

Chemical analyses, in parts per million

Date of collection	Discharge (second-feet)	Temperature (°F.)	Color	pH	Specific conductance (Kx10⁶ at 25° C.)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Hardness as $CaCO_3$		Total acidity as H_2SO_4
																				Total	Non-carbonate	
Lackawaxen River at Honesdale, Pa.																						
Aug. 31, 1944	10.9	73	10	7.1	8.75	0.5	-------	0.02	-------	12	1.5	3.7		36	11	2.0	0.1	0.2	49	36	7	-------
Bushkill Creek at Shoemakers, Pa.																						
July 28, 1944	35.4	70	15	6.9	3.30	3.1	-------	0.01	-------	3.3	1.4	1.4		10	7.6	0.5	0.1	0.0	24	14	6	-------
Lehigh River at Stoddartsville, Pa.																						
July 29, 1944	43.5	70	25	6.2	3.92	2.4	-------	0.02	-------	4.3	1.1	1.7		9	8.0	2.0	0.1	0.2	29	15	8	-------
Lehigh River at Tannery, Pa.																						
July 29, 1944	158	75	13	6.6	2.97	1.2	-------	0.01	-------	3.3	1.1	0.9		7	6.5	1.0	0.0	1.0	23	13	7	-------
Pohopoco Creek near Parryville, Pa.																						
July 28, 1944	69.9	75	7	6.7	3.13	4.9	-------	0.01	-------	2.8	1.2	3.2		9	8.4	1.0	0.1	1.4	23	12	5	-------

Footnotes at end of table.

MISCELLANEOUS ANAYLSES OF STREAMS IN DELAWARE RIVER BASIN IN PENNSYLVANIA—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Discharge (second-feet)	Temperature (°F.)	Color	pH	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Hardness as $CaCO_3$		Total acidity as H_2SO_4
																				Total	Non-carbonate	
Jordan Creek at Allentown, Pa.																						
Sept. 2, 1944	4.26	59	10	7.3	41.1	5.8	-------	0.02	-------	47	21	6.9		130	93	3.8	0.1	12	262	204	97	-------
Monocacy Creek at Bethlehem, Pa.																						
Aug. 30, 1944	14.4	59	6	8.1	36.6	5.8	-------	0.02	-------	43	21	1.5		[1] 186	29	3.6	0.1	11	213	194	41	-------
Tohickon Creek near Pipersville, Pa.																						
July 26, 1944	0.89	79	15	7.8	23.9	2.1	-------	0.01	-------	23	9.5	12		81	42	8.0	0.2	0.3	142	96	30	-------
Neshaminy Creek near Langhorne, Pa.																						
July 26, 1944	22.8	80	9	7.2	18.0	9.0	-------	0.01	-------	16	6.1	9.8		59	23	7.9	0.1	3.4	109	65	17	-------
Schuylkill River at Pottsville, Pa.																						
July 30, 1944	40.3	64	5	3.6	103	17	19	0.06	8.8	92	52	7.6		0	565	3.0	0.1	0.0	843	576	576	176

Little Schuylkill River at Tamaqua, Pa.																				
July 28, 1944	9.77	79	3	4.2	28.3	8.6	5.0	0.02	1.3	25	8.9	5.3	0	123	10	0.0	0.1	192	131	131	31
Perkiomen Creek at Graters Ford, Pa.																				
July 26, 1944	45.2	84	8	7.4	21.8	7.6	-------	0.03	-------	24	9.0	6.0	94	24	5.1	0.1	0.7	123	97	20	-------
Ridley Creek at Moylan, Pa.																				
July 25, 1944	4.26	77	5	6.9	13.5	13	-------	0.02	-------	9.6	5.4	6.8	35	13	8.8	0.1	7.5	82	46	17	-------
Chester Creek near Chester, Pa.																				
June 25, 1944	19.5	76	10	7.2	16.2	15	-------	0.02	-------	12	5.5	11	48	18	10	0.1	4.9	101	53	13	-------
Brandywine Creek at Chadds Ford, Pa.																				
July 25, 1944	241	76	8	7.2	19.8	9.2	-------	0.06	-------	16	5.8	14	61	17	16	0.1	3.4	116	64	14	-------
West Branch Brandywine Creek at Coatesville, Pa.																				
Sept. 5, 1944	6.84	76	8	7.4	10.8	12	-------	0.02	-------	10	3.9	4.7	43	9.5	3.8	0.0	1.0	66	41	6	-------

Footnotes at end of table.

MISCELLANEOUS ANALYSES OF STREAMS IN SUSQUEHANNA RIVER BASIN IN PENNSYLVANIA

Chemical analyses, in parts per million

Date of collection	Discharge (second-feet)	Temperature (°F.)	Color	pH	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Hardness as $CaCO_3$		Total acidity as H_2SO_4
																				Total	Noncarbonate	
Susquehanna River at Towanda, Pa.																						
July 21, 1944	1,570	69	7	7.7	22.3	1.0	-------	-------	-------	31	6.2	4.6		100	19	7.0	0.1	1.2	129	103	21	-------
Susquehanna River at Falls, Pa.																						
Sept. 7, 1944	1,080	73	9	7.8	27.0	1.0	-------	0.18	-------	33	6.3	13		108	24	15	0.2	0.4	147	108	20	-------
Susquehanna River at Wilkes-Barre, Pa.																						
July 29, 1944	2,010	81	10	6.7	35.0	1.6	-------	0.03	-------	41	14	2.9		64	94	10	0.1	1.9	218	160	107	-------
Susquehanna River at Sunbury, Pa.																						
Aug. 8, 1944	3,350	78	4	5.7	40.7	2.6	-------	0.35	-------	44	17	6.3		4	162	8.8	0.1	11	275	180	176	-------
Susquehanna River at Marietta, Pa.																						
Aug. 24, 1944	3,790	73	8	6.9	38.7	2.4	-------	0.01	-------	40	16	11		45	131	10	0.2	1.9	251	166	129	-------
Towanda Creek near Monroeton, Pa.																						
Aug. 31, 1944	9.88	67	5	6.9	10.8	2.4	-------	0.02	-------	12	2.5	3.3		30	16	3.9	0.1	0.6	58	40	16	-------

North Branch Mehoopany Creek near Lovelton, Pa.

Sept. 1, 1944	1.91	70	5	7.4	9.26	3.1	------	0.01	------	12	2.0	3.5	39	9.4	2.6	0.1	0.2	51	38	6	------

Tunkhannock Creek at Dixon, Pa.

Sept. 1, 1944	22.1	70	10	7.2	11.4	2.1	------	0.01	------	16	2.0	3.7	44	15	3.0	0.1	0.2	64	48	12	------

Lackawanna River at Archbald, Pa.

July 20, 1944	48.1	68	3	3.5	56.2	10	7.1	0.08	3.0	34	21	7.2	0	231	4.0	0.1	0.0	344	231	231	69

Toby Creek at Luzerne, Pa.

Sept. 6, 1944	1.87	66	14	7.0	11.9	1.8	------	0.01	------	13	2.3	5.8	35	16	5.5	0.3	0.8	69	42	13	------

Solomon Creek at Wilkes-Barre, Pa.

Sept. 6, 1944	3.9	66	8	2.7	223	33	29	6.4	10	159	93	39	0	1,100	10	------	0.6	1,550	1,070	1,070	365

Wapwallopen Creek near Wapwallopen, Pa.

July 18, 1944	12.9	72	9	6.9	4.33	4.9	------	------	------	4.1	1.5	1.9	12	7.9	1.4	0.1	0.3	30	16	7	------
Aug. 29	6.1	60	------	6.5	4.39	------	------	------	------	------	------	------	14	------	------	------	------	------	------	------	------

Fishing Creek near Bloomsburg, Pa.

July 17, 1944	84.4	73	6	7.0	4.83	4.6	------	------	------	4.2	1.6	2.1	12	7.2	1.8	0.0	2.2	33	17	7	------
Sept. 2	23.7	65	------	6.4	4.83	------	------	------	------	------	------	------	11	------	------	------	------	------	------	------	------

Little Fishing Creek at Eyers Grove, Pa.

Aug. 28, 1944	2.93	63	8	6.9	6.57	1.6	------	0.03	------	6.7	1.7	3.7	21	8.6	3.4	0.0	1.0	37	24	6	------

Footnotes at end of table.

MISCELLANEOUS ANALYSES OF STREAMS IN SUSQUEHANNA RIVER BASIN IN PENNSYLVANIA—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Discharge (second-feet)	Temperature (°F.)	Color	pH	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Hardness as $CaCO_3$		Total acidity as H_2SO_4
																				Total	Noncarbonate	
West Branch Susquehanna River at Bower, Pa.																						
Aug. 7, 1944	98.2	74	4	3.3	72.2	9.2	5.7	0.14	1.1	54	16	21		0	283	5.9	-------	1.6	410	258	258	68
West Branch Susquehanna River at Karthaus, Pa.																						
Aug. 8, 1944	850	75	5	3.2	75.0	9.0	6.9	0.26	1.6	49	15	15		0	266	7.9	-------	0.6	384	256	256	88
West Branch Susquehanna River at Renovo, Pa.																						
Aug. 11, 1944	373	79	4	3.1	90.8	9.8	9.4	0.94	1.8	58	21	19	2.0	0	334	11	0.4	0.9	473	327	327	112
West Branch Susquehanna River at Williamsport, Pa.																						
July 19, 1944	1,550	76	3	6.8	20.4	4.0	-------	-------	-------	21	7.0	5.6		14	71	5.1	0.0	0.9	130	81	70	-------
Clearfield Creek at Dimeling, Pa.																						
Aug. 8, 1944	110	80	8	3.1	65.3	8.4	5.8	0.35	1.6	37	14	----------		0	212	1.8	0.2	0.0	331	224	224	78
Moshannon Creek at Osceola Mills, Pa.																						
Aug. 7, 1944	65.9	76	5	2.8	121	12	18	2.9	2.8	49	21	6.2		0	393	2.2	0.2	0.1	636	399	399	227
Aug. 10	18.0	71	5	2.6	170	20	23	11	3.4	71	29	18		0	593	3.1	-------	1.0	797	584	584	342

Sinnemahoning Creek at Sinnemahoning, Pa.																				
Aug. 10, 1944	39.8	77	5	3.8	33.5	11	6.1	0.14	0.9	22	9.2	6.6	0	126	12	0.2	1.0	205	135	135	59
Driftwood Branch Sinnemahoning Creek at Sterling Run, Pa.																				
Aug. 9, 1944	15.1	85	5	7.1	13.0	3.0	-------	0.02	-------	12	2.6	8.5	20	22	13	0.1	1.6	75	41	12	-------
Kettle Creek near Cross Fork, Pa.																				
Aug. 11, 1944	7.82	73	10	6.8	6.00	3.1	-------	0.01	-------	6.5	1.8	1.7	20	7.9	1.8	0.0	0.2	32	24	7	-------
North Bald Eagle Creek at Beech Creek Station, Pa.																				
Aug. 12, 1944	167	70	9	7.8	32.8	2.7	-------	0.02	-------	40	16	2.0	176	14	5.0	0.0	5.0	188	166	21	-------
Spring Creek near Axemann, Pa.																				
Aug. 10, 1944	54.3	69	5	8.4	33.9	3.3	-------	0.02	-------	44	18	1.0	[1] 197	12	3.2	0.0	9.4	198	184	22	-------
Thompson Spring at State College, Pa.																				
Aug. 12, 1944	8.32	50	5	7.6	38.6	5.3	-------	0.02	-------	47	21	3.2	227	10	3.2	0.0	12	221	204	18	-------
Rock (Benner) Spring near Bellefonte, Pa.																				
Aug. 12, 1944	16.2	50	4	7.8	28.7	5.4	-------	0.02	-------	37	14	2.9	171	5.8	1.9	0.0	9.2	162	150	10	-------
Forked Spring at Fisherman's Paradise near Bellefonte, Pa.																				
Aug. 12, 1944	5.72	53	3	7.6	36.7	6.4	-------	0.02	-------	46	19	4.1	220	11	2.5	0.1	7.7	207	193	13	-------

See footnotes at end of table.

MISCELLANEOUS ANALYSES OF STREAMS IN SUSQUEHANNA RIVER BASIN IN PENNSYLVANIA—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Discharge (second-feet)	Temperature (°F.)	Color	pH	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Hardness as $CaCO_3$		Total acidity as H_2SO_4
																				Total	Non-carbonate	
Kelly Spring near Bellefonte, Pa.																						
Aug. 12, 1944	15.5	50	5	7.7	27.2	6.0	-------	0.08	-------	32	14	4.8		161	5.8	4.5	0.1	4.1	150	137	5	-------
Pine Creek at Cedar Run, Pa.																						
Aug. 30, 1944	53.1	68	4	7.2	13.6	2.4	-------	0.02	-------	14	3.3	6.1		25	26	7.5	1.2	0.6	75	48	28	-------
Blockhouse Creek near English Center, Pa.																						
Aug. 30, 1944	2.91	65	6	7.3	6.68	3.3	-------	0.02	-------	8.2	1.3	2.9		24	8.9	2.0	0.1	0.2	37	26	6	-------
Lycoming Creek near Trout Run, Pa.																						
July 20, 1944	38.3	63	3	6.9	6.59	3.4	-------	-------	-------	7.5	1.7	1.9		15	14	1.5	0.1	0.7	40	26	13	-------
Loyalsock Creek at Loyalsock, Pa.																						
July 20, 1944	103	68	4	7.0	5.08	3.0	-------	-------	-------	6.0	1.4	1.1		13	10	1.2	0.0	0.5	31	21	10	-------
Muncy Creek at Sonestown, Pa.																						
Aug. 31, 1944	2.21	66	7	7.1	4.54	3.0	-------	0.02	-------	5.6	1.0	1.6		13	7.6	1.8	0.1	0.2	28	18	7	-------

Penn Creek at Penns Creek, Pa.

July 17, 1944	202	80	5	8.6	15.0	2.0	------	------	------	24	4.8	------	[8]80	9.0	1.1	0.0	0.8	88	80	14	------

Shamokin Creek at Weigh Scale, Pa.

Aug. 8, 1944	69.2	76	8	3.0	178	21	29	15	10	119	68	17	0	817	22	0.1	0.4	1,260	845	845	342

Mahantango Creek East near Dalmatia, Pa.

July 30, 1944	35.3	81	5	4.6	18.6	5.7	1.0	0.03	1.9	13	9.5	1.8	0	79	0.8	0.1	1.2	120	81	81	6

Frankstown Branch Juniata River at Williamsburg, Pa.

Aug. 9, 1944	85.3	86	160	7.3	43.8	5.2	------	0.08	------	46	14	23	164	64	13	------	4.8	268	172	38	------

Frankstown Branch Juniata River at Huntingdon, Pa.

Aug. 9, 1944	200	78	160	7.5	40.2	5.1	------	0.35	------	42	14	18	174	32	18	0.2	0.4	241	162	20	------

Little Juniata River at Spruce Creek, Pa.

Aug. 10, 1944	79.5	64	260	7.3	47.3	6.1	------	0.08	------	40	14	42	178	43	40	------	1.0	298	157	11	------

Little Bald Eagle Creek at Tyrone, Pa.

Aug. 10, 1944	11.5	89	360	6.7	83.8	6.2	------	0.03	------	72	12	75	96	77	165	------	0.0	564	229	150	------

Arch Spring at Arch Spring, Pa.

Aug. 10, 1944	16.5	54	3	7.3	25.0	6.8	------	0.04	------	37	9.1	------	132	15	1.6	0.1	4.7	141	130	24	------

Footnotes at end of table.

MISCELLANEOUS ANALYSES OF STREAMS IN SUSQUEHANNA RIVER BASIN IN PENNSYLVANIA—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Discharge (second-feet)	Temperature (°F.)	Color	pH	Specific conductance (Kx10⁶ at 25° C.)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Hardness as $CaCO_3$		Total acidity as H_2SO_4
																				Total	Non-carbonate	
Standing Stone Creek near Huntingdon, Pa.																						
Aug. 9, 1944	16.1	78	5	7.9	18.8	3.4	-------	0.03	-------	25	7.3	1.9		90	20	0.9	0.1	0.6	102	92	19	-------
Raystown Branch Juniata River at Saxton, Pa.																						
Aug. 9, 1944	84.4	78	5	7.9	30.0	2.1	-------	0.04	-------	39	16	9.2		120	53	1.9	0.2	2.9	180	163	65	-------
Dunning Creek at Belden, Pa.																						
Aug. 9, 1944	16.6	76	4	8.0	28.9	3.8	-------	0.01	-------	42	12	----------		106	59	1.5	0.1	2.0	176	154	67	-------
Brush Creek at Gapsville, Pa.																						
Aug. 9, 1944	2.34	69	10	6.9	6.96	3.5	-------	0.19	-------	9.0	1.8	0.7		24	6.5	1.5	0.1	3.2	44	30	10	-------
Great Trough Creek near Marklesburg, Pa.																						
Aug. 9, 1944	2.6	76	4	3.6	56.4	14	9.8	0.38	2.3	52	18	----------		0	258	1.5	0.3	1.0	386	274	274	91
Aughwick Creek near Three Springs, Pa.																						
Aug. 10, 1944	8.1	71	5	7.8	20.4	1.2	-------	0.01	-------	29	7.1	1.3		102	18	1.2	0.1	0.2	112	102	18	------

Kishacoquillas Creek at Reedsville, Pa.																				
Aug. 10, 1944	50.2	69	5	8.0	27.6	4.7	------	0.02	------	35	11	5.8	146	16	2.0	0.0	7.5	156	133	13	------
Tuscarora Creek near Port Royal, Pa.																				
Aug. 10, 1944	8.6	81	8	7.8	21.7	0.4	------	0.03	------	30	8.5	4.5	118	19	1.6	0.2	0.4	123	110	13	------
Cocolamus Creek near Millerstown, Pa.																				
Aug. 10, 1944	4.6	76	13	7.1	16.8	3.3	------	0.02	------	25	4.9	0.6	78	14	2.1	0.1	2.7	97	83	19	------
Sherman Creek at Shermandale, Pa.																				
July 14, 1944	32.6	85	6	8.4	16.8	2.3	------	------	------	24	5.9	1.4	86	13	1.6	0.1	0.9	100	84	14	------
Clark Creek near Carsonville, Pa.																				
Aug. 23, 1944	7.41	51	14	6.1	2.34	3.5	------	0.46	0.0	2.2	0.6	2.6	9	4.1	1.0	0.1	0.4	20	8	0	------
Stony Creek near Dauphin, Pa.																				
Aug. 23, 1944	7.91	70	8	7.0	3.22	4.2	------	0.02	------	3.4	0.8	2.5	15	2.7	1.1	0.1	0.3	22	12	0	------
Conodoquinet Creek at Hogestown, Pa.																				
July 14, 1944	221	84	6	8.0	29.0	2.6	------	------	------	44	9.1	2.5	148	15	6.8	0.1	7.2	173	147	26	------
Big Spring near Newville, Pa.																				
Aug. 4, 1944	28.6	50	4	7.6	30.6	6.5	------	0.02	------	50	7.9	0.4	167	9.5	1.4	0.2	11	172	157	20	------
Paxton Creek near Pembrook, Pa.																				
Aug. 10, 1944	0.60	76	20	7.4	22.5	7.7	------	0.23	------	34	4.1	3.9	96	19	3.2	0.2	8.2	140	102	23	------

See footnotes at end of table.

MISCELLANEOUS ANALYSES OF STREAMS IN SUSQUEHANNA RIVER BASIN IN PENNSYLVANIA—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Discharge (second-feet)	Temperature (°F.)	Color	pH	Specific conductance (Kx10⁵ at 25° C.)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Hardness as $CaCO_3$		Total acidity as H_2SO_4
																				Total	Non-carbonate	
Yellow Breeches Creek at Olmstead Mill, Pa.																						
Aug. 25, 1944	133	64	10	6.8	25.1	7.6	-------	0.04	-------	35	9.9	0.9		138	8.9	2.2	0.0	5.6	145	128	15	-------
Boiling Springs at Boiling Springs, Pa.																						
Aug. 4, 1944	34.8	53	3	7.5	22.5	8.9	-------	0.01	-------	31	9.3	0.6		124	7.0	1.2	0.2	7.2	125	116	14	-------
Swatara Creek at Harper Tavern, Pa.																						
Aug. 23, 1944	39.8	69	6	7.7	28.6	6.4	-------	0.02	-------	27	10	10		36	83	8.5	0.1	3.2	176	108	79	-------
West Conewago Creek near Manchester, Pa.																						
Aug. 22, 1944	15.4	77	10	7.1	17.1	3.3	-------	0.02	-------	20	5.2	6.1		74	13	6.5	0.1	1.2	98	71	11	-------
Codorus Creek near York, Pa.																						
Aug. 22, 1944	24.0	74	1,200	7.3	85.9	5.8	-------	0.09	-------	35	6.6	169		400	29	88	-------	0.2	698	114	0	-------
South Branch Codorus Creek near York, Pa.																						
Aug. 22, 1944	2.1	77	8	6.7	10.5	3.1	-------	0.01	-------	9.5	3.0	4.5		34	5.1	6.8	0.1	3.4	58	36	8	-------
Conestoga Creek at Lancaster, Pa.																						
July 24, 1944	119	74	8	7.8	34.9	6.5	-------	0.04	-------	48	14	----------		175	19	4.5	0.1	6.9	203	177	34	-------

[1] Includes equivalent of 8 parts per million of carbonate (CO_3).
[2] Includes equivalent of 10 parts per million of carbonate (CO_3).
[3] Includes equivalent of 5 parts per million of carbonate (CO_3).
[4] Includes equivalent of 8 parts per million of carbonate (CO_3).

MISCELLANEOUS ANALYSES OF STREAMS IN DELAWARE RIVER BASIN IN PENNSYLVANIA

Chemical analyses, in equivalents per million

Date of collection	Discharge (second-feet)	Temperature (°F.)	Color	pH	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Hardness as $CaCO_3$		Total acidity as H_2SO_4
																				Total	Noncarbonate	
Lackawaxen Creek at Honesdale, Pa.																						
Aug. 31, 1944	10.9									0.599	0.123	0.161		0.590	0.229	0.056	0.005	0.003				
Bushkill Creek at Shoemakers, Pa.																						
July 28, 1944	35.4									0.165	0.115	0.061		0.164	0.158	0.014	0.005	0.000				
Lehigh River at Stoddartsville, Pa.																						
July 29, 1944	43.5									0.215	0.090	0.074		0.148	0.167	0.056	0.005	0.003				
Lehigh River at Tannery, Pa.																						
July 29, 1944	158									0.165	0.090	0.039		0.115	0.135	0.028	0.000	0.016				
Pohopoco Creek near Parryville, Pa.																						
July 28, 1944	69.9									0.140	0.099	0.140		0.148	0.175	0.028	0.005	0.023				

MISCELLANEOUS ANALYSES OF STREAMS IN DELAWARE RIVER BASIN IN PENNSYLVANIA—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Discharge (second-feet)	Temperature (°F.)	Color	pH	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Hardness as $CaCO_3$		Total acidity as H_2SO_4
																				Total	Noncarbonate	
Jordan Creek at Allentown, Pa.																						
Sept. 2, 1944	4.26									2.346	1.727	0.300		2.131	1.936	0.107	0.005	0.194				
Monocacy Creek at Bethlehem, Pa.																						
Aug. 30, 1944	14.4									2.146	1.727	0.064		3.049	0.604	0.102	0.005	0.177				
Tohickon Creek near Pipersville, Pa.																						
July 26, 1944	0.89									1.148	0.781	0.515		1.328	0.874	0.226	0.011	0.005				
Neshaminy Creek near Langhorne, Pa.																						
July 26, 1944	22.8									0.799	0.502	0.428		0.967	0.479	0.223	0.005	0.055				
Schuylkill River at Pottsville, Pa.																						
July 30, 1944	40.3						2.113	0.003	0.320	4.592	4.276	0.329		0.000	11.763	0.085	0.005	0.000				

Little Schuylkill River at Tamaqua, Pa.

July 28, 1944	9.77						0.556	0.000	0.047	1.248	0.732	0.230	0.000	2.561	0.282	0.000	0.002			

Perkiomen Creek at Graters Ford, Pa.

July 26, 1944	45.2									1.198	0.740	0.263	1.541	0.500	0.144	0.005	0.011			

Ridley Creek at Moylan, Pa.

July 25, 1944	4.26									0.479	0.444	0.296	0.574	0.271	0.248	0.005	0.121			

Chester Creek near Chester, Pa.

June 25, 1944	19.5									0.599	0.452	0.477	0.787	0.375	0.282	0.005	0.079			

Brandywine Creek at Chadds Ford, Pa.

July 25, 1944	241									0.799	0.477	0.589	1.060	0.354	0.451	0.005	0.055			

West Branch Brandywine Creek at Coatesville, Pa.

Sept. 5, 1944	6.84									0.499	0.321	0.206	0.705	0.198	0.107	0.000	0.016			

MISCELLANEOUS ANALYSES OF STREAMS IN SUSQUEHANNA RIVER BASIN IN PENNSYLVANIA

Chemical analyses, in equivalents per million

Date of collection	Discharge (second-feet)	Temperature (°F.)	Color	pH	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mg)	Calcium sium	Magnesium (Na) (Mg)	Sodium sium	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Hardness as $CaCO_3$		Total acidity as H_2SO_4
																				Total	Noncarbonate	
Susquehanna River at Towanda, Pa.																						
July 21, 1944	1,570									1.547	0.510	0.199		1.639	0.396	0.197	0.005	0.019				
Susquehanna River at Falls, Pa.																						
Sept. 7, 1944	1,080									1.647	0.518	0.545		1.770	0.500	0.423	0.011	0.006				
Susquehanna River at Wilkes-Barre, Pa.																						
July 29, 1944	2,010									2.046	1.151	0.127		1.049	1.957	0.282	0.005	0.031				
Susquehanna River at Sunbury, Pa.																						
Aug. 8, 1944	3,350									2.196	1.398	0.275		0.066	3.373	0.248	0.005	0.177				
Susquehanna River at Marietta, Pa.																						
Aug. 24, 1944	3,790									1.997	1.316	0.476		0.738	2.727	0.282	0.011	0.031				
Towanda Creek near Monroeton, Pa.																						
Aug. 31, 1944	9.88									0.599	0.206	0.145		0.492	0.333	0.110	0.005	0.010				

North Branch Mahoopany Creek near Lovelton, Pa.

Sept. 1, 1944	1.91									0.599	0.164	0.153	0.639	0.196	0.073	0.005	0.003				

Tunkhannock Creek at Dixon, Pa.

Sept. 1, 1944	22.1									0.799	0.164	0.163	0.721	0.312	0.085	0.005	0.003				

Lackawanna River at Archbald, Pa.

July 20, 1944	48.1						0.790	0.004	0.109	1.697	1.727	0.315	0.000	4.809	0.113	0.005	0.000				

Toby Creek at Luzerne, Pa.

Sept. 6, 1944	1.87									0.649	0.189	0.253	0.574	0.333	0.155	0.016	0.013				

Solomon Creek at Wilkes-Barre, Pa.

Sept. 6, 1944	3.9						3.226	0.344	0.364	7.936	7.648	1.712	0.000	22.901	0.282		0.010				

Wapwallopen Creek near Wapwallopen, Pa.

July 18, 1944	12.9									0.205	0.123	0.082	0.197	0.164	0.039	0.005	0.005				
Aug. 29	6.1												.230								

Fishing Creek near Bloomsburg, Pa.

July 17, 1944	84.4									0.210	0.132	0.091	0.197	0.150	0.051	0.000	0.035				
Sept. 2	23.7												.180								

Little Fishing Creek at Eyers Grove, Pa.

Aug. 28, 1944	2.93									0.334	0.140	0.161	0.344	0.179	0.096	0.000	0.016				

MISCELLANEOUS ANALYSES OF STREAMS IN SUSQUEHANNA RIVER BASIN IN PENNSYLVANIA—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Discharge (second-feet)	Temperature (°F.)	Color	pH	Specific conductance (Kx10^5 at 25° C.)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mg)	Calcium	Magnesium (Na) (Mg)	Sodium	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Hardness as $CaCO_3$		Total acidity as H_2SO_4
																				Total	Non-carbonate	
West Branch Susquehanna River at Bower, Pa.																						
Aug. 7, 1944	98.2						0.634	0.008	0.040	2.695	1.316	0.922		0.000	5.892	0.166		0.026				
West Branch Susquehanna River at Karthaus, Pa.																						
Aug. 8, 1944	850						0.768	0.014	0.058	2.446	1.234	0.652		0.000	5.538	0.223		0.010				
West Branch Susquehanna River at Renovo, Pa.																						
Aug. 11, 1944	373						1.046	0.050	0.066	2.895	1.727	0.826	0.056	0.000	6.954	0.310	0.021	0.015				
West Branch Susquehanna River at Williamsport, Pa.																						
July 19, 1944	1,550									1.048	0.576	0.243		0.230	1.478	0.144	0.000	0.015				
Clearfield Creek at Dimeling, Pa.																						
Aug. 8, 1944	110						0.345	0.019	0.053	1.347	1.151			0.000	4.414	0.051	0.011	0.000				
Moshannon Creek at Osceola Mills, Pa.																						
Aug. 7, 1944	65.9						2.002	0.156	0.102	2.446	1.727	0.271		0.000	8.182	0.062	0.011	0.002				
Aug. 10	18.0						2.558	.591	.124	3.544	2.385	.767		.000	12.346	.087		.016				

Sinnemahoning Creek at Sinnemahoning, Pa.

Aug. 10, 1944	39.8						0.678	0.008	0.033	1.098	0.757	0.287	0.000	2.623	0.338	0.011	0.016				

Driftwood Branch Sinnemahoning Creek at Sterling Run, Pa.

Aug. 9, 1944	15.1									0.599	0.214	0.371	0.328	0.458	0.367	0.005	0.026				

Kettle Creek near Cross Fork, Pa.

Aug. 11, 1944	7.82									0.324	0.148	0.074	0.328	0.164	0.051	0.000	0.003				

North Bald Eagle Creek at Beech Creek Station, Pa.

Aug. 12, 1944	167									1.997	1.316	0.085	2.885	0.291	0.141	0.000	0.081				

Spring Creek near Axemann, Pa.

Aug. 10, 1944	54.3									2.196	1.480	0.045	3.229	0.250	0.090	0.000	0.152				

Thompson Spring at State College, Pa.

Aug. 12, 1944	8.32									2.346	1.727	0.140	3.721	0.208	0.090	0.000	0.194				

Rock (Benner) Spring near Bellefonte, Pa.

Aug. 12, 1944	16.2									1.847	1.151	0.128	2.803	0.121	0.054	0.000	0.148				

Forked Spring at Fisherman's Paradise near Bellefonte, Pa.

Aug. 12, 1944	5.72									2.296	1.562	0.177	3.606	0.229	0.071	0.005	0.124				

Kelly Spring near Bellefonte, Pa.

Aug. 12, 1944	15.5									1.597	1.151	0.210	2.639	0.121	0.127	0.005	0.066				

MISCELLANEOUS ANALYSES OF STREAMS IN SUSQUEHANNA RIVER BASIN IN PENNSYLVANIA—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Discharge (second-feet)	Temperature (°F.)	Color	pH	Specific conductance (Kx10^5 at 25° C.)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mg)	Calcium	Magnesium (Na) (Mg)	Sodium	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Hardness as $CaCO_3$		Total acidity as H_2SO_4
																				Total	Non-carbonate	
Pine Creek at Cedar Run, Pa.																						
Aug. 30, 1944	53.1									0.699	0.271	0.266		0.410	0.541	0.212	0.063	0.010				
Blockhouse Creek near English Center, Pa.																						
Aug. 30, 1944	2.91									0.409	0.107	0.126		0.393	0.185	0.056	0.005	0.003				
Lycoming Creek near Trout Run, Pa.																						
July 20, 1944	38.3									0.374	0.140	0.082		0.246	0.292	0.042	0.005	0.011				
Loyalsock Creek at Loyalsock, Pa.																						
July 20, 1944	103									0.299	0.115	0.049		0.213	0.208	0.034	0.000	0.008				
Muncy Creek at Sonestown, Pa.																						
Aug. 31, 1944	2.21									0.280	0.082	0.068		0.213	0.158	0.051	0.005	0.003				
Penn Creek at Penns Creek, Pa.																						
July 17, 1944	202									1.198	0.395			1.311	0.187	0.031	0.000	0.013				

Shamokin Creek at Weigh Scale, Pa.

Aug. 8, 1944	69.2						3.226	0.806	0.364	5.940	5.592	0.745	0.000	17.010	0.620	0.005	0.006			

Mahantango Creek East near Dalmatia, Pa.

July 30, 1944	35.3						0.111	0.002	0.069	0.649	0.781	0.080	0.000	1.645	0.023	0.005	0.019			

Frankstown Branch Juniata River at Williamsburg, Pa.

Aug. 9, 1944	85.3									2.296	1.151	1.017	2.688	1.332	0.367		0.077			

Frankstown Branch Juniata River at Huntingdon, Pa.

Aug. 9, 1944	200									2.096	1.151	0.796	2.852	0.666	0.508	0.011	0.006			

Little Juniata River at Spruce Creek, Pa.

Aug. 10, 1944	79.5									1.997	1.151	1.819	2.918	0.895	1.128		0.016			

Little Bald Eagle Creek at Tyrone, Pa.

Aug. 10, 1944	11.5									3.594	0.987	3.250	1.574	1.603	4.654		0.000			

Arch Spring at Arch Spring, Pa.

Aug. 10, 1944	16.5									1.847	0.748		2.164	0.312	0.045	0.005	0.076			

Standing Stone Creek near Huntingdon, Pa.

Aug. 9, 1944	16.1									1.248	0.600	0.083	1.475	0.416	0.025	0.005	0.010			

Raystown Branch Juniata River at Saxton, Pa.

Aug. 9, 1944	84.4									1.947	1.316	0.401	1.987	1.103	0.536	0.011	0.047			

MISCELLANEOUS ANALYSES OF STREAMS IN SUSQUEHANNA RIVER BASIN IN PENNSYLVANIA—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Discharge (second-feet)	Temperature (°F.)	Color	pH	Specific conductance ($Kx10_5$ at 25° C.)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mg)	Calcium sium	Magnesium (Na) (Mg)	Sodium sium	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Hardness as $CaCO_3$		Total acidity as H_2SO_4
																				Total	Noncarbonate	
Dunning Creek at Belden, Pa.																						
Aug. 9, 1944	16.6									2.096	0.987			1.737	1.228	0.042	0.005	0.032				
Brush Creek at Gapsville, Pa.																						
Aug. 9, 1944	2.34									0.449	0.148	0.030		0.393	0.135	0.042	0.005	0.052				
Great Trough Creek near Marklesburg, Pa.																						
Aug. 9, 1944	2.6						1.090	0.020	0.084	2.595	1.480			0.000	5.371	0.042	0.016	0.016				
Aughwick Creek near Three Springs, Pa.																						
Aug. 10, 1944	8.1									1.447	0.584	0.058		1.672	0.375	0.034	0.005	0.003				
Kishacoquillas Creek at Reedsville, Pa.																						
Aug. 10, 1944	50.2									1.747	0.905	0.251		2.393	0.333	0.056	0.000	0.121				
Tuscarora Creek near Port Royal, Pa.																						
Aug. 10, 1944	8.6									1.497	0.699	0.196		1.934	0.396	0.045	0.011	0.006				

Cocolamus Creek near Millerstown, Pa.																					
Aug. 10, 1944	4.6										1.248	0.403	0.027	1.279	0.291	0.059	0.005	0.044			
Sherman Creek at Shermandale, Pa.																					
July 14, 1944	32.6										1.198	0.485	0.063	1.410	0.271	0.045	0.005	0.015			
Clark Creek near Carsonville, Pa.																					
Aug. 23, 1944	7.41										0.110	0.049	0.113	0.148	0.085	0.028	0.005	0.006			
Stony Creek near Dauphin, Pa.																					
Aug. 23, 1944	7.91										0.170	0.066	0.107	0.246	0.056	0.031	0.005	0.005			
Conodoquinet Creek at Hogestown, Pa.																					
July 14, 1944	221										2.196	0.748	0.107	2.426	0.312	0.192	0.005	0.116			
Big Spring near Newville, Pa.																					
Aug. 4, 1944	28.6										2.496	0.650	0.016	2.737	0.198	0.039	0.011	0.177			
Paxton Creek near Pembrook, Pa.																					
Aug. 10, 1944	0.60										1.697	0.337	0.169	1.574	0.396	0.090	0.011	0.132			
Yellow Breeches Creek at Olmstead Mill, Pa.																					
Aug. 25, 1944	133										1.747	0.814	0.038	2.262	0.185	0.062	0.000	0.090			
Boiling Springs at Boiling Springs, Pa.																					
Aug. 4, 1944	34.8										1.547	0.765	0.027	2.032	0.146	0.034	0.011	0.116			

MISCELLANEOUS ANALYSES OF STREAMS IN SUSQUEHANNA RIVER BASIN IN PENNSYLVANIA—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Discharge (second-feet)	Temperature (°F.)	Color	pH	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mg)	Calcium sium	Magnesium (Na) (Mg)	Sodium sium	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Hardness as $CaCO_3$		Total acidity as H_2SO_4
																				Total	Noncarbonate	
Swatara Creek at Harper Tavern, Pa.																						
Aug. 23, 1944	39.8									1.348	0.822	0.445		0.590	1.728	0.240	0.005	0.052				
West Conewago Creek near Manchester, Pa.																						
Aug. 22, 1944	15.4									0.998	0.428	0.265		1.213	0.271	0.183	0.005	0.019				
Codorus Creek near York, Pa.																						
Aug. 22, 1944	24.0									1.747	0.543	7.356		6.557	0.604	2.482		0.003				
South Branch Codorus Creek near York, Pa.																						
Aug. 22, 1944	2.1									0.474	0.247	0.194		0.557	0.106	0.192	0.005	0.055				
Conestoga Creek at Lancaster, Pa.																						
July 24, 1944	119									2.396	1.151			2.868	0.396	0.127	0.005	0.111				

NEUSE RIVER NEAR CLAYTON, N. C.

LOCATION.—At gaging station at bridge on State Highway 42, 3 miles east of Clayton, Johnston County.
DRAINAGE AREA.—1,140 square miles.
RECORDS AVAILABLE.—Chemical analyses: October 1943 to September 1944.
Water temperatures: October 1943 to September 1944.
EXTREMES, 1943–44.—Dissolved solids: Maximum, 101 parts per million Nov. 21–30; minimum, 47 parts per million Feb. 11–20.
Total hardness: Maximum, 26 parts per million Oct. 1–10; minimum, 14 parts per million Feb. 11–20, Mar. 11–20, 21–31, Apr. 11–20.
Water temperatures: Maximum, 85° F. June 18, July 25, 26, 27, 28; minimum, 32° F. Dec. 19.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in water Supply Paper 1002.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Temperature (°F.)	Suspended matter	Oxygen consumed		Color	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Total hardness as $CaCO_3$
				Unfiltered	Filtered														
Oct. 1–10, 1943	107	66	7	5.5	5.7	32	17	0.03	6.7	2.3	15	3.2	42	5.3	14	0.1	3.1	94	26
Oct. 11–20	105	62	3	4.3	3.4	15	18	.06	6.0	2.2	14		36	4.9	12	.1	4.7	87	24
Oct. 21–31	170	58	14	4.7	3.8	21	17	.03	6.2	2.3	14		37	5.3	12	.1	3.1	89	25
Nov. 1–10	218	58	27	4.8	3.2	28	21	.02	6.2	2.2	14		36	4.6	11	.1	4.9	91	24
Nov. 11–20	192	48	22	4.2	3.6	42	20	.15	6.3	2.2	15		36	4.9	12	.1	6.5	95	25
Nov. 21–30	149	46	6	4.4	2.8	17	20	.02	6.4	2.2	17		36	6.3	13	.1	8.5	101	25
Dec. 1–10	173	49	19	3.5	2.6	13	20	.04	5.6	2.4	13		31	5.1	11	.1	7.7	87	24
Dec. 11–20	162	33	21	3.8	2.8	16	23	.07	6.1	2.3	15		34	5.8	11	.1	8.1	98	25
Dec. 21–31	521	38	75	4.8	3.2	22	15	.20	5.2	2.0	12	2.6	27	6.5	9.9	.1	7.9	84	21
Jan. 1–10, 1944	1,538	38	148	6.8	4.0	16	12	.04	4.7	1.8	6.5	2.0	15	8.2	6.5	.1	3.4	59	19
Jan. 11–20	2,161	38	95	5.5	3.9	23	12	.07	4.1	1.5	6.8		12	8.4	6.9	.1	3.2	56	16
Jan. 21–31	708	44	27	3.4	2.8	35	15	.30	4.4	1.7	8.4		18	7.4	8.0	.1	2.8	65	18
Feb. 1–10	556	44	51	3.8	2.4	16	16	.06	4.7	1.8	8.9		20	6.6	8.5	.1	3.8	67	19
Feb. 11–20	3,989	41	174	8.0	5.6	26	9.0	.02	3.4	1.4	4.4		11	7.6	3.8	.0	1.9	47	14
Feb. 21–29	2,310	49	50	5.7	4.6	22	12	.04	3.4	1.5	5.4		13	7.4	4.6	.0	1.9	51	15
Mar. 1–10	1,873	47	105	5.2	4.1	15	13	.03	3.8	1.6	6.3		17	6.3	5.2	.0	2.0	55	16
Mar. 11–20	3,465	50	110	-------	-------	22	11	.04	3.3	1.4	5.2		14	6.6	4.0	.0	1.5	50	14
Mar. 21–31	4,147	52	69	5.6	5.0	27	11	.07	3.5	1.4	6.3		14	6.7	6.2	.0	1.2	51	14

NEUSE RIVER NEAR CLAYTON, N. C.—Continued

Chemical analyses, in parts per million, water year October 1943 to September 1944—Continued

Date of collection	Mean discharge (second-feet)	Temperature (°F.)	Suspended matter	Oxygen consumed		Color	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Total hardness as $CaCO_3$
				Unfiltered	Filtered														
Apr. 1–10	1,864	51	27	4.8	3.6	16	14	.03	3.7	1.4	6.0	1.2	18	6.0	4.6	0.0	1.7	53	15
Apr. 11–20	4,405	61	28	4.8	5.2	28	10	.03	3.4	1.3	4.8	1.4	18	5.6	3.6	.0	1.4	48	14
Apr. 21–30	1,556	63	76	5.8	5.7	18	13	.05	3.8	1.5	6.5		22	4.9	4.5	.0	.4	54	16
May 1–10	1,143	65	77	5.9	4.6	17	14	.05	4.1	1.6	6.7		21	4.5	5.0	.0	3.1	56	17
May 11–20	585	72	32	5.0	3.8	14	18	.02	4.8	1.8	7.8		26	4.2	6.1	.0	2.7	65	19
May 21–31	586	79	67	5.4	5.4	18	16	.05	5.2	1.9	8.5		30	3.8	6.2	.1	2.1	69	21
June 1–10	374	79	34	4.9	3.3	13	16	.05	5.0	2.1	9.4		30	3.8	6.4	.1	4.6	70	21
June 11–20	306	83	32	4.4	3.6	14	15	.05	5.6	2.1	9.3		32	3.9	6.9	.1	3.2	70	23
June 21–30	169	84	9	3.8	3.2	8	17	.03	5.9	2.1	12	2.2	37	4.0	9.4	.1	3.8	79	23
July 1–10	129	84	5	3.6	3.2	12	16	.02	6.4	2.2	14	2.2	42	3.9	11	.1	3.7	84	25
July 11–20	1,221	79	164	7.1	5.0	18	13	.04	4.4	1.5	7.1	1.9	24	4.7	5.4	.1	1.7	60	17
July 21–31	548	83	108	6.7	5.0	18	14	.02	4.6	1.6	7.4		24	4.6	5.4	.0	2.6	61	18
Aug. 1–10	1,225	80	177	11	7.2	32	12	.03	4.0	1.5	5.3	1.8	19	4.8	4.1	.0	2.0	56	16
Aug. 11–20	282	77	9	6.4	4.8	16	16	.04	5.2	1.9	9.3		31	3.8	6.2	.1	3.2	71	21
Aug. 21–31	167	73	8	4.4	3.6	13	18	.06	6.4	2.2	12		38	4.1	8.2	.1	3.7	80	25
Sept. 1–10	117	78	4	3.9	3.5	13	16	.04	6.5	2.2	15		44	4.4	10	.1	2.6	86	25
Sept. 11–20	472		93	6.8	4.6	12	15	.05	6.3	2.0	14		43	4.8	8.9	.1	2.5	81	24
Sept. 21–30	2,628	71	123	11	7.4	36	8.5	.03	3.6	1.4	4.1	2.2	18	4.1	3.5	.0	1.0	48	15
Average	1,114		58	5.4	4.2	20	15	0.06	5.0	1.8	10		27	5.4	7.6	0.1	3.4	70	20

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Oct. 1–10, 1943	107	66							0.334	0.189	0.652	0.082	0.688	0.110	0.395	0.005	0.050		
Oct. 11–20	105	62							.300	.181	0.630		.590	.102	.338	.005	.076		
Oct. 21–31	170	58							.309	.189	.611		.606	.110	.338	.005	.050		
Nov. 1–10	218	58							.309	.181	.590		.590	.096	.310	.005	.079		
Nov. 11–20	192	48							.314	.181	.645		.590	.102	.338	.005	.105		
Nov. 21–30	149	46							.319	.181	.730		.590	.131	.367	.005	.137		
Dec. 1–10	173	49							.280	.197	.576		.508	.106	.310	.005	.124		
Dec. 11–20	162	33							.304	.189	.631		.557	.121	.310	.005	.131		
Dec. 21–31	521	38							.260	.164	.522	.066	.443	.135	.279	.005	.127		
Jan. 1–10, 1944	1,538	38							.235	.148	.283	.051	.246	.171	.183	.005	.055		
Jan. 11–20	2,161	38							.205	.123	.296		.197	.175	.195	.005	.052		
Jan. 21–31	708	44							.220	.140	.365		.295	.154	.226	.005	.045		
Feb. 1–10	556	44							.235	.148	.388		.328	.137	.240	.005	.061		
Feb. 11–20	3,989	41							.170	.115	.191		.180	.158	.107	.000	.031		
Feb. 21–29	2,310	49							.170	.123	.235		.213	.154	.130	.000	.031		
Mar. 1–10	1,873	47							.190	.132	.273		.279	.137	.147	.000	.032		
Mar. 11–20	3,465	50							.165	.115	.224		.230	.137	.113	.000	.024		
Mar. 21–31	4,147	52							.175	.115	.273		.230	.139	.175	.000	.019		
Apr. 1–10	1,864	51							.185	.115	.261	.031	.295	.125	.130	.000	.027		
Apr. 11–20	4,405	61							.170	.107	.209	.036	.295	.117	.102	.000	.023		
Apr. 21–30	1,556	63							.190	.123	.283		.361	.102	.127	.000	.006		
May 1–10	1,143	65							.205	.132	.292		.344	.094	.141	.000	.050		
May 11–20	585	72							.240	.148	.341		.426	.087	.172	.000	.044		
May 21–31	586	79							.260	.156	.369		.492	.079	.175	.005	.034		
June 1–10	374	79							.250	.173	.407		.492	.079	.180	.005	.074		
June 11–20	306	83							.280	.173	.405		.525	.081	.195	.005	.052		
June 21–30	169	84							.294	.173	.522	.056	.606	.083	.265	.005	.061		
July 1–10	129	84							.319	.181	.609	.056	.688	.081	.310	.005	.060		
July 11–20	1,221	79							.220	.123	.309	.049	.393	.098	.152	.005	.027		
July 21–31	548	83							.230	.132	.321		.393	.096	.152	.000	.042		
Aug. 1–10	1,225	80							.200	.123	.230	.046	.311	.100	.116	.000	.032		
Aug. 11–20	282	77							.260	.156	.403		.508	.079	.175	.005	.052		
Aug. 21–31	167	73							.319	.181	.504		.623	.085	.231	.005	.060		
Sept. 1–10	117	78							.324	.181	.637		.721	.092	.282	.005	.042		
Sept. 11–20	472								.314	.164	.623		.705	.100	.251	.005	.040		
Sept. 21–30	2,628	71							.180	.115	.178	.056	.295	.085	.099	.000	.016		
Average	1,114								0.250	0.148	0.435		0.443	0.112	0.214	0.005	0.055		

NEUSE RIVER NEAR CLAYTON, N. C.—Continued

Temperature (° F.) of water of Neuse River, water year October 1943 to September 1944

Day	October	November	December	January	February	March	April	May	June	July	August	September
1	69	59	42	37	44	48	45	64	81	84	83	78
2	70	60	44	36	43	47	45	65	80	84	83	81
3	70	61	48	41	44	47	45	67	79	83	82	82
4	68	55	51	42	44	48	47	66	78	83	83	83
5	69	51	49	41	45	47	48	66	79	83	80	80
6	61	55	48	41	44	47	48	65	79	83	78	78
7	61	57	----	38	45	46	52	64	78	84	77	75
8	62	65	51	36	44	45	57	61	78	84	77	73
9	63	59	53	35	43	46	59	63	78	84	76	72
10	64	55	51	35	42	46	61	65	77	84	77	73
11	63	49	49	35	41	46	64	67	79	84	78	72
12	62	47	45	36	39	45	62	68	80	84	78	73
13	62	49	42	36	38	47	59	70	81	78	77	----
14	65	48	39	36	38	49	59	71	82	76	78	----
15	68	48	37	37	41	49	61	72	83	76	77	----
16	67	51	34	38	40	53	59	72	84	77	77	----
17	61	48	34	39	41	55	60	73	84	79	77	----
18	57	46	33	40	42	54	61	75	85	79	76	----
19	58	48	32	42	43	53	61	77	84	80	77	----
20	59	49	34	41	43	45	62	77	84	80	76	71
21	60	51	36	42	44	46	60	78	83	82	74	75
22	62	49	39	42	45	45	62	78	84	83	73	73
23	59	46	36	43	48	48	63	78	84	84	73	73
24	58	45	33	43	49	50	64	80	84	84	72	70
25	57	45	34	44	50	56	65	78	84	85	73	68
26	56	46	44	44	51	57	64	77	83	85	73	70
27	56	46	42	46	51	57	63	78	84	85	72	71
28	56	46	41	46	52	56	61	79	84	85	72	71
29	56	44	38	47	49	53	62	79	84	80	72	69
30	57	43	36	46	----	51	64	80	83	81	74	70
31	58	----	38	45	----	51	----	80	----	----	----	----
Average	62	51	41	40	44	49	58	72	82	82	76	74

DEEP RIVER AT MONCURE, N. C.

LOCATION.—At Lockville Power Plant below dam, three-quarters of a mile west of Moncure, Chatham County, and 2 miles downstream from gaging station.
DRAINAGE AREA.—1,410 square miles.
RECORDS AVAILABLE.—Chemical analyses: October 1943 to September 1944.
Water temperatures: October 1943 to September 1944.
EXTREMES, 1943–44.—Dissolved solids: Maximum, 106 parts per million Dec. 11–20; minimum, 38 parts per million Mar. 21–31.
Total hardness: Maximum, 32 parts per million Nov. 21–30, Dec. 1–10; minimum, 12 parts per million Mar. 11–20, 21–31, Apr. 11–20, July 11–20, Aug. 1–10.
Water temperatures: Maximum, 85° F. June 18, 19; minimum, 33° F. Dec. 17, 18, 19.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1002.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Temperature (°F.)	Suspended matter	Oxygen consumed		Color	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Total hardness as $CaCO_3$
				Unfiltered	Filtered														
Oct. 1–10, 1943	69.8	65	19	5.5	5.6	34	6.0	0.07	5.0	2.2	7.4	2.0	28	4.7	7.4	0.0	0.5	55	22
Oct. 11–20	19.6	61	22	4.6	3.8	16	5.9	.01	5.2	2.2	7.2		30	4.1	6.0	.0	.4	49	22
Oct. 21–31	40.9	57	10	5.4	3.8	15	7.0	.02	5.6	2.4	9.8		37	4.2	7.2	.0	.4	59	24
Nov. 1–10	58.6	57	6	5.0	3.9	23	8.9	.02	6.5	2.7	10		39	6.6	7.4	.0	.8	66	27
Nov. 11–20	120	48	6	4.8	3.6	22	16	.02	7.6	2.9	14		40	8.3	14	.0	.4	91	31
Nov. 21–30	70.6	45	7	5.0	4.3	27	6.7	.10	7.1	3.4	17		44	7.7	18	.0	.2	88	32
Dec. 1–10	87.6	48	8	4.3	3.8	22	8.2	.09	7.5	3.3	21		46	8.1	22	.0	.2	100	32
Dec. 11–20	98.6	39	6	4.5	4.0	27	10	.09	7.2	3.2	23		44	8.1	26	.0	.4	106	31
Dec. 21–31	705	37	50	5.4	4.5	38	7.1	.15	6.1	2.6	14	2.1	32	6.3	16	.1	.6	80	26
Jan. 1–10, 1944	2,228	40	123	7.4	6.0	29	7.4	.07	4.4	1.9	6.8	1.6	16	7.1	8.0	.1	1.5	56	19
Jan. 11–20	3,749	38	90	6.0	4.7	29	7.9	.09	3.3	1.5	3.9		10	6.6	4.9	.0	1.2	44	14
Jan. 21–31	605	43	22	4.2	3.7	21	9.6	.03	3.6	1.5	5.2		14	6.5	5.2	.0	1.1	45	15
Feb. 1–10	1,142	44	20	3.2	2.8	16	10	.06	3.9	1.7	6.3		18	5.6	6.6	.0	.9	49	17
Feb. 11–20	6,387	42	112	7.6	6.2	45	6.9	.02	2.9	1.3	3.4		11	5.9	3.0	.0	.0	40	13
Feb. 21–29	2,583	49	42	7.6	6.5	30	8.4	.04	2.9	1.4	3.7		13	5.2	3.1	.0	.7	40	13
Mar. 1–10	2,622	48	44	6.1	5.2	25	10	.03	3.3	1.5	4.4		15	5.1	4.2	.0	.7	46	14
Mar. 11–20	4,895	50	74	6.3	5.2	30	8.4	.02	2.6	1.3	3.5		12	4.9	2.8	.0	.7	39	12
Mar. 21–31	6,512	51	60		4.3	22	8.7	.02	2.8	1.2	3.8		13	4.9	2.8	.0	.6	38	12

DEEP RIVER AT MONCURE, N. C.—Continued

Chemical analyses, in parts per million, water year October 1943 to September 1944—Continued

Date of collection	Mean discharge (second-feet)	Temperature (°F.)	Suspended matter	Oxygen consumed		Color	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulphate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Total hardness as $CaCO_3$
				Unfiltered	Filtered														
Apr. 1-10	1,641	52	20	3.6	3.6	19	10	0.04	3.3	1.4	4.2	0.8	16	4.5	3.4	0.0	0.5	42	14
Apr. 11-20	6,561	60	84	6.7	5.1	28	8.6	.04	3.0	1.2	3.7	.9	14	4.6	2.8	.0	.6	41	12
Apr. 21-30	1,632	62	36	5.4	6.0	27	11	.08	3.6	1.5	5.2		20	4.2	3.8	.1	.2	46	15
May 1-10	2,184	63	62	7.0	6.2	30	10	.12	3.6	1.5	5.5		22	3.6	3.5	.0	.4	46	15
May 11-20	576	71	25	6.9	4.4	22	12	.02	4.6	1.7	5.7		24	4.0	4.8	.0	.4	58	18
May 21-31	477	78	16	4.6	4.4	16	12	.02	4.7	1.8	5.9		26	3.5	4.8	.0	.4	55	19
June 1-10	176	78	20	5.1	4.2	17	11	.07	4.6	2.0	6.0		27	3.1	5.1	.0	.2	55	20
June 11-20	149	83	13	4.8	4.7	14	10	.04	4.9	2.1	7.9		29	3.8	7.0	.0	.7	59	21
June 21-30	103	82	9	3.9	3.4	23	11	.28	5.3	2.3	9.9		35	3.7	8.0	.0	.4	64	23
July 1-10	516	78	82	5.0	4.0	14	9.1	.03	5.0	2.1	8.7	1.4	31	3.7	7.5	.0	.5	59	21
July 11-20	7,522	76	259	14	7.2	32	5.7	.04	2.8	1.2	4.1	1.3	13	4.2	3.5	.0	1.4	40	12
July 21-31	610	78	38	8.2	7.4	33	8.5	.03	3.1	1.2	3.3	1.1	15	4.1	2.2	.0	.6	42	13
Aug. 1-10	2,431	76	182	11	7.6	37	8.3	.04	3.0	1.2	3.2		15	3.3	2.4	.0	.2	40	12
Aug. 11-20	307	79	52	8.7	6.6	25	8.9	.02	3.3	1.3	3.7		17	3.2	2.8	.0	.6	42	14
Aug. 21-31	124	77	12	6.2	5.2	22	11	.05	4.0	1.6	5.4		23	3.3	3.9	.0	.6	49	17
Sept. 1-10	102	80	12	5.3	4.3	22	9.7	.20	4.4	1.8	7.2		27	3.9	5.5	.0	.2	55	18
Sept. 11-20	554	74	36	5.0	4.1	19	7.8	.05	4.4	1.6	6.9		26	3.4	5.2	.0	.4	49	18
Sept. 21-30	2,369	73	80	9.9	6.8	25	8.1	.04	4.0	1.5	6.0	1.6	24	3.7	6.4	.0	.4	51	16
Average	1,657		49	6.2	4.9	25	9.0	0.06	4.4	1.9	7.6		24	4.9	6.9	0.0	0.6	55	19

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Oct. 1–10, 1943	69.8	65							0.250	0.181	0.322 | 0.051		0.459	0.098	0.209	0.000	0.008		
Oct. 11–20	19.6	61							.260	.181	0.311		.492	.085	.169	.000	.006		
Oct. 21–31	40.9	57							.280	.197	.425		.606	.087	.203	.000	.006		
Nov. 1–10	58.6	57							.324	.222	.452		.639	.137	.209	.000	.013		
Nov. 11–20	120	48							.379	.238	.613		.656	.173	.395	.000	.006		
Nov. 21–30	70.6	45							.354	.280	.758		.721	.160	.508	.000	.003		
Dec. 1–10	87.6	48							.374	.271	.901		.754	.169	.620	.000	.003		
Dec. 11–20	98.6	39							.359	.263	1.007		.721	.169	.733	.000	.006		
Dec. 21–31	705	37							.304	.214	.609 | .054		.525	.131	.451	.005	.010		
Jan. 1–10, 1944	2,228	40							.220	.156	.296 | .041		.262	.148	.226	.005	.024		
Jan. 11–20	3,749	38							.165	.123	.170		.164	.137	.138	.000	.019		
Jan. 21–31	605	43							.180	.123	.227		.230	.135	.147	.000	.018		
Feb. 1–10	1,142	44							.195	.140	.276		.295	.117	.186	.000	.015		
Feb. 11–20	6,387	42							.145	.107	.149		.180	.121	.085	.000	.015		
Feb. 21–29	2,583	49							.145	.115	.159		.213	.108	.087	.000	.011		
Mar. 1–10	2,622	48							.165	.123	.193		.246	.106	.118	.000	.011		
Mar. 11–20	4,895	50							.130	.107	.152		.197	.102	.079	.000	.011		
Mar. 21–31	6,512	51							.140	.099	.165		.213	.102	.079	.000	.010		
Apr. 1–10	1,641	52							.165	.115	.183 | .020		.262	.094	.096	.000	.008		
Apr 11–20	6,561	60							.150	.099	.161 | .023		.230	.096	.079	.000	.010		
Apr. 21–30	1,632	62							.180	.123	.227		.328	.087	.107	.005	.003		
May 1–10	2,184	63							.180	.123	.238		.361	.075	.099	.000	.006		
May 11–20	576	71							.230	.140	.247		.393	.083	.135	.000	.006		
May 21–31	477	78							.235	.148	.257		.426	.073	.135	.000	.006		
June 1–10	176	78							.230	.164	.261		.443	.065	.144	.000	.003		
June 11–20	149	83							.245	.173	.344		.475	.079	.197	.000	.011		
June 21–30	103	82							.265	.189	.429		.574	.077	.226	.000	.006		
July 1–10	516	78							.250	.173	.378 | .036		.508	.077	.212	.000	.008		
July 11–20	7,522	76							.140	.099	.178 | .031		.213	.087	.099	.000	.023		
July 21–31	610	78							.155	.099	.144 | .028		.246	.085	.062	.000	.010		
Aug. 1–10	2,431	76							.150	.099	.137		.246	.069	.068	.000	.003		
Aug. 11–20	307	79							.165	.107	.163		.279	.067	.079	.000	.010		
Aug. 21–31	124	77							.200	.132	.234		.377	.069	.110	.000	.010		
Sept. 1–10	102	80							.220	.148	.314		.443	.081	.155	.000	.003		
Sept. 11–20	554	74							.220	.132	.298		.426	.071	.147	.000	.006		
Sept. 21–30	2,369	73							.200	.123	.261 | .041		.393	.077	.180	.000	.006		
Average	1,657								0.220	0.156	0.330		0.393	0.102	0.195	0.000	0.010		

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DEEP RIVER AT MONCURE, N. C.—Continued

Temperature (°F.) of water of Deep River, water year October 1943 to September 1944

Day	October	November	December	January	February	March	April	May	June	July	August	September
1	65	57	42	39	44	50	50	61	77	82	78	78
2	67	58	42	39	43	49	52	62	82	82	74	80
3	69	61	43	39	44	48	54	64	79	80	75	83
4	67	58	52	41	44	50	51	63	76	77	76	82
5	64	56	46	42	44	50	52	67	76	77	78	83
6	66	54	48	42	45	49	50	69	75	77	80	82
7	62	55	49	41	45	47	50	63	80	77	75	83
8	62	58	50	41	44	47	52	60	79	78	75	81
9	62	60	50	38	44	46	54	61	75	73	75	74
10	62	50	53	36	43	44	56	62	77	74	73	72
11	63	52	53	36	43	44	60	65	80	76	74	72
12	60	49	46	36	42	46	58	66	81	77	76	72
13	60	48	44	37	42	48	58	66	82	77	79	76
14	64	46	41	36	40	49	59	69	84	78	80	77
15	67	47	40	37	39	49	59	69	83	76	82	73
16	69	48	37	39	40	50	60	71	81	75	80	73
17	62	48	33	39	45	54	61	75	83	75	82	74
18	53	46	33	40	44	54	60	75	85	75	83	74
19	56	46	33	40	45	54	62	76	85	75	80	75
20	57	47	34	40	45	47	62	76	84	76	78	74
21	59	48	36	40	45	41	61	77	80	75	78	73
22	61	50	36	40	46	48	63	78	78	75	81	74
23	53	46	37	40	48	47	65	78	80	74	78	72
24	57	45	36	41	44	48	64	80	84	76	82	71
25	59	44	36	41	51	----	63	78	82	77	79	68
26	58	44	36	41	51	52	63	76	81	80	79	69
27	57	44	39	46	51	56	64	75	83	82	70	78
28	57	45	39	45	52	57	62	78	83	81	70	70
29	55	44	40	47	53	56	59	81	84	81	70	73
30	55	43	41	47	----	53	59	77	84	80	73	79
31	56	----	40	45	----	50	----	76	----	80	76	----
Average	61	50	41	40	45	49	58	71	81	77	77	76

YADKIN RIVER AT YADKIN COLLEGE, N. C.

LOCATION.—At gaging station at bridge on U. S. Highway 64, 1½ miles south of Yadkin College, Davidson County, and 6¼ miles downstream from Reedy Creek.
DRAINAGE AREA.—2,280 square miles.
RECORDS AVAILABLE.—Chemical analyses: October 1943 to September 1944.
Water temperatures: October 1943 to September 1944.
EXTREMES, 1943–44.—Dissolved solids: Maximum, 47 parts per million Oct. 21–31, June 11–20; minimum, 32 parts per million Mar. 21–31.
Total hardness: Maximum, 17 parts per million Oct. 1–10; minimum, 10 parts per million July 11–20.
Water temperatures: Maximum, 87° F. June 18; minimum, 33° F. Dec. 15, 16, 21, 26.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1002.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Temperature (° F.)	Suspended matter	Oxygen consumed		Color	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Total hardness as $CaCO_3$
				Unfiltered	Filtered														
Oct. 1–10, 1943	1,188	62	17	4.4	2.4	9	12	0.07	4.2	1.6	4.7	1.4	24	3.0	2.8	0.1	0.6	44	17
Oct. 11–20	1,264	59	29	2.8	1.6	4	13	.02	4.1	1.4	4.8		23	3.2	2.6	.0	.7	46	16
Oct. 21–31	1,260	55	10	2.2	2.0	7	14	.03	4.0	1.4	5.9		26	3.0	2.8	.0	.3	47	16
Nov. 1–10	1,679	56	68	3.5	2.3	12	13	.06	3.6	1.3	5.6		22	4.0	2.5	.0	1.0	44	14
Nov. 11–20	1,506	43	47	4.4	1.4	10	12	.04	3.0	1.2	5.5		19	4.2	2.5	.0	1.2	43	12
Nov. 21–30	1,308	42	45	2.6	1.6	9	13	.08	3.8	1.5	4.6		22	3.4	2.5	.0	.6	44	16
Dec. 1–10	1,356	48	65	3.0	1.6	8	12	.03	3.7	1.4	5.0		22	3.1	2.8	.0	.7	43	15
Dec. 11–20	1,180	38	54	2.4	1.5	6	12	.02	4.0	1.5	5.2		24	3.0	2.8	.0	1.0	45	16
Dec. 21–31	2,093	36	74	3.9	2.0	9	11	.09	3.3	1.2	3.8	1.2	18	3.5	2.1	.1	1.0	41	13
Jan. 1–10, 1944	3,216	39	259	6.8	2.0	11	9.6	.09	2.9	1.2	3.5	1.4	14	3.8	2.1	.1	1.8	39	12
Jan. 11–20	2,626	38	71	2.8	1.3	19	11	.30	3.2	1.2	5.1		18	3.7	3.0	.0	1.4	42	13
Jan. 21–31	1,677	45	21	1.9	1.2	14	12	.11	3.8	1.3	4.6		20	3.3	2.9	.0	1.2	43	15
Feb. 1–10	1,586	44	219	5.6	2.2	6	10	.02	3.3	1.4	4.1		18	3.2	2.2	.1	1.9	40	14
Feb. 11–20	5,732	40	116	4.0	2.5	9	10	.04	3.4	1.3	3.9		17	3.7	2.1	.1	1.6	39	14
Feb. 21–29	3,267	51	89	4.0	2.2	6	10	.01	2.8	1.2	3.4		15	3.1	1.9	.1	1.2	36	12
Mar. 1–10	2,600	48	219	5.5	2.1	9	11	.03	2.8	1.2	3.9		16	3.1	2.0	.1	1.3	38	12
Mar. 11–20	4,381	50	203	4.0	2.3	6	10	.02	2.7	1.1	3.9		15	3.3	1.9	.0	1.6	34	11
Mar. 21–31	7,992	47	283	5.2	2.1	6	9.4	.05	2.6	1.0	3.6		14	3.6	1.5	.0	1.4	32	11

YADKIN RIVER AT YADKIN COLLEGE, N. C.—Continued

Chemical analyses, in parts per million, water year October 1943 to September 1944—Continued

Date of collection	Mean discharge (second-feet)	Temperature (° F.)	Suspended matter	Oxygen consumed		Color	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Total hardness as $CaCO_3$
				Unfiltered	Filtered														
Apr. 1-10	3,595	52	71	2.6	1.5	7	12	0.07	3.1	1.1	3.4	1.0	16	2.6	1.8	0.0	1.3	37	12
Apr. 11-20	5,220	60	288	6.0	2.2	12	11	.03	3.0	1.1	3.2	1.1	18	3.1	1.8	.0	1.1	37	12
Apr. 21-30	3,130	63	148	4.4	1.9	5	12	.02	3.2	1.2	4.3		19	2.8	2.0	.1	1.0	37	13
May 1-10	3,238	68	126	4.6	2.6	9	11	.02	3.0	1.2	4.2		18	2.7	2.6	.0	.4	40	12
May 11-20	2,360	73	75	3.4	2.0	11	12	.03	3.6	1.3	4.6		21	2.6	2.6	.0	1.0	43	14
May 21-31	2,495	77	426	8.0	5.0	7	12	.01	3.0	1.1	3.2		16	2.5	2.2	.1	.0	40	12
June 1-10	2,196	75	358	7.2	2.6	5	12	.03	3.2	1.3	4.9		19	2.7	2.6	.1	2.1	44	13
June 11-20	2,255	81	539	8.4	3.3	12	12	.02	3.4	1.3	4.1		19	3.1	2.5	.1	.1	47	14
June 21-30	1,599	80	246	6.3	2.4	3	12	.02	3.7	1.3	5.5		22	2.8	2.8	.0	2.0	45	15
July 1-10	2,021	78	487	9.2	2.4	3	9.8	.02	3.2	1.2	4.1	1.3	18	3.0	2.4	.1	2.0	40	13
July 11-20	4,998	77	1,340	26	3.6	8	9.7	.04	2.6	.9	3.1	1.5	13	4.0	1.8	.1	2.1	35	10
July 21-31	2,167	80	298	7.0	2.0	3	12	.03	3.1	1.2	4.4		18	3.1	2.2	.1	1.1	39	13
Aug. 1-10	2,184	80	483	8.6	2.0	3	11	.02	2.8	1.1	4.6		18	2.7	1.9	.1	1.1	36	12
Aug. 11-20	1,369	82	140	4.6	1.8	3	13	.01	3.8	1.3	5.4		23	2.8	2.8	.0	1.2	44	15
Aug. 21-31	1,348	75	78	3.6	1.9	3	11	.03	4.0	1.3	6.0		25	2.5	3.0	.1	1.1	44	15
Sept. 1-10	1,335	78	124	4.8	2.0	6	12	.03	3.4	1.1	7.1		25	2.6	2.9	.1	1.0	44	13
Sept. 11-20	2,453	71	425	10	2.4	7	11	.02	3.4	1.2	5.8		22	3.2	2.5	.1	1.0	40	13
Sept. 21-30	4,056	69	434	12	2.6	7	11	.02	3.3	1.1	4.2	1.7	22	3.0	2.8	.1	.8	40	13
Average	2,653		222	5.6	2.2	8	11	0.04	3.3	1.2	4.7		19	3.1	2.4	0.1	1.1	41	13

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Oct. 1–10, 1943	1,188	62							0.210	0.132	0.204	0.036	0.393	0.062	0.079	0.005	0.010	
Oct. 11–20	1,264	59							.205	.115		.208	.377	.067	.073	.000	.011	
Oct. 21–31	1,260	55							.200	.115		.257	.426	.062	.079	.000	.005	
Nov. 1–10	1,679	56							.180	.107		.244	.361	.083	.071	.000	.016	
Nov. 11–20	1,506	43							.150	.099		.239	.311	.087	.071	.000	.019	
Nov. 21–30	1,308	42							.190	.123		.200	.361	.071	.071	.000	.010	
Dec. 1–10	1,356	48							.185	.115		.216	.361	.065	.079	.000	.011	
Dec. 11–20	1,180	38							.200	.123		.227	.393	.062	.079	.000	.016	
Dec. 21–31	2,093	36							.165	.099	.165	.031	.295	.073	.059	.005	.016	
Jan. 1–10, 1944	3,216	39							.145	.099	.152	.036	.229	.079	.059	.005	.029	
Jan. 11–20	2,626	38							.160	.099		.221	.295	.077	.085	.000	.023	
Jan. 21–31	1,677	45							.190	.107		.201	.328	.069	.082	.000	.019	
Feb. 1–10	1,586	44							.165	.115		.180	.295	.067	.062	.005	.031	
Feb. 11–20	5,732	40							.170	.107		.169	.279	.077	.059	.005	.026	
Feb. 21–29	3,267	51							.140	.099		.150	.246	.065	.054	.005	.019	
Mar. 1–10	3,600	48							.140	.099		.170	.262	.065	.056	.005	.021	
Mar. 11–20	4,981	50							.135	.090		.170	.246	.069	.054	.000	.026	
Mar. 21–31	7,992	47							.130	.082		.158	.230	.075	.042	.000	.023	
Apr. 1–10	3,595	52							.155	.090	.148	.026	.262	.054	.051	.000	.021	
Apr. 11–20	5,220	60							.150	.090	.139	.028	.295	.065	.051	.000	.018	
Apr. 21–30	3,130	63							.160	.099		.187	.311	.058	.056	.005	.016	
May 1–10	3,238	68							.150	.099		.181	.295	.056	.073	.000	.006	
May 11–20	2,360	73							.180	.107		.200	.344	.054	.073	.000	.016	
May 21–31	2,495	77							.150	.090		.141	.262	.052	.062	.005	.000	
June 1–10	2,196	75							.160	.107		.212	.311	.056	.073	.005	.034	
June 11–20	2,255	81							.170	.107		.177	.311	.065	.071	.005	.002	
June 21–30	1,599	80							.185	.107		.238	.361	.058	.079	.000	.032	
July 1–10	2,021	78							.160	.099	.178	.033	.295	.062	.068	.005	.032	
July 11–20	4,998	77							.130	.074	.135	.038	.213	.083	.051	.005	.034	
July 21–31	2,167	80							.155	.099		.191	.295	.065	.062	.005	.018	
Aug. 1–10	2,184	80							.140	.090		.198	.295	.056	.054	.005	.018	
Aug. 11–20	1,369	82							.190	.107		.236	.377	.058	.079	.000	.019	
Aug. 21–31	1,348	75							.200	.107		.263	.410	.052	.085	.005	.018	
Sept. 1–10	1,335	78							.170	.090		.307	.410	.054	.082	.005	.016	
Sept. 11–20	2,453	71							.170	.099		.251	.361	.067	.071	.005	.016	
Sept. 21–30	4,056	69							.165	.090	.183	.043	.361	.062	.079	.005	.013	
Average	2,653								0.165	0.099	0.204		0.311	0.065	0.068	0.005	0.018	

YADKIN RIVER AT YADKIN COLLEGE, N. C.—Continued

Temperature (°F.) of water of Yadkin River, water year October 1943 to September 1944

Day	October	November	December	January	February	March	April	May	June	July	August	September
1	63	55	38	37	45	49	49	66	75	83	77	78
2	64	57	39	37	42	46	56	69	79	81	80	76
3	67	58	45	38	42	49	55	70	78	80	78	82
4	65	56	51	41	45	56	54	72	78	78	84	80
5	61	56	51	40	45	51	49	71	76	79	86	79
6	59	51	50	42	46	49	51	68	74	75	82	79
7	59	54	50	41	45	46	52	63	77	76	81	80
8	59	57	50	39	44	44	51	64	74	76	77	75
9	59	55	52	37	43	42	59	66	72	74	79	78
10	61	56	53	36	46	44	65	69	71	77	80	69
11	61	43	50	37	41	41	63	66	75	78	82	68
12	58	44	47	37	39	45	60	73	73	82	83	68
13	67	43	43	37	38	48	59	69	80	83	84	69
14	60	44	40	37	36	45	60	71	82	77	82	72
15	60	42	33	36	36	53	58	75	82	75	83	74
16	62	45	33	38	39	56	61	76	83	75	82	70
17	59	43	34	39	39	58	62	75	79	----	86	72
18	55	41	35	40	42	55	59	75	87	77	83	73
19	54	41	34	39	42	52	60	77	84	73	77	72
20	55	43	36	41	48	44	61	73	82	75	77	73
21	56	46	33	41	46	46	64	72	79	75	79	74
22	58	42	37	42	46	47	62	77	77	76	81	71
23	56	44	34	48	46	47	62	79	81	77	82	68
24	56	42	34	41	52	51	64	79	79	79	83	67
25	57	42	33	42	54	53	65	77	79	81	79	66
26	55	41	34	42	52	54	62	77	76	83	74	68
27	55	41	38	44	55	60	63	77	82	85	68	70
28	53	42	39	49	55	56	65	76	83	82	67	70
29	50	41	40	51	52	45	63	79	84	79	69	71
30	51	41	38	49	----	48	31	75	81	81	72	67
31	53	----	39	47	----	51	----	78	----	80	74	----
Average	58	47	41	41	45	49	59	73	79	78	79	73

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH CAROLINA

Chemical analyses, in parts per million

Source	Date	Discharge (second-feet)	Suspended matter	Color	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Total hardness as $CaCO_3$
Abbotts Creek at Lexington	Aug. 12, 1944	22	43	7	20	0.02	9.9	3.4	19	59	5.8	18	0.2	0.8	109	39
Bracket Creek at Forest City	June 30, 1944		6	2	11	.02	2.0	1.0	3.2	14	1.6	1.4	.1	.8	30	9
Cane Creek at Fletcher	Dec. 4, 1943			5	12	.03	2.9	1.2	3.1	19	1.7	1.0	.1	.0	33	12
Dan River near Francisco	Aug. 11, 1944	126	454	7	8.5	.07	2.6	1.1	2.7	16	1.9	1.0	.0	.5	28	11
Dan River at Leaksville	Aug. 9, 1944	719	30	7	12	.05	5.2	1.3	4.0	18	3.5	5.0	.1	1.6	48	18
Deep River near Randleman	Aug. 12, 1944	12	11	17	15	.04	12	4.0	64	53	21	80	.0	8.0	242	46
Deep River at Moncure [1]	1943-44	1,657	49	25	9.0	.06	4.4	1.9	7.6	24	4.9	6.9	.0	.6	55	19
East Fork of Deep River near High Point	Aug. 12, 1944	3.4	8	3	27	.03	7.8	3.2	7.5	52	2.1	2.5	.1	.3	78	33
Eno River at Hillsboro	Sept. 26, 1944		21	18	16	.06	6.0	2.1	6.2	28	5.7	5.0	.1	1.0	64	24
Fisher River near Copeland	Aug. 11, 1944	94	16	4	9.5	.05	2.1	.9	3.3	16	1.4	1.0	.0	.2	27	9
Fishing Creek near Enfield	July 11, 1944	45	35	14	16	.03	5.8	2.2	5.5	34	2.8	2.8	.0	.8	61	24
Flat Creek near Black Mountain	Dec. 6, 1943			10	7.6	.06	1.9	1.0	2.6	13	2.0	1.1	.0	.3	25	9
Forbush Creek near Yadkinville	Aug. 11, 1944	14	32	2	13	.04	3.1	1.3	4.3	22	2.0	1.4	.0	.3	37	13
French Broad River at Asheville	Nov. 30, 1943			21	9.6	.07	3.7	2.3	17	15	37	3.1	.0	.1	84	19
Haw River at Haw River	Sept. 26, 1944	94	36	14	15	.02	5.5	2.1	17	41	11	8.0	.3	2.5	87	22
Horsepen Creek at Battle Ground	Aug. 12, 1944	4.2	18	16	23	.19	7.4	3.2	6.5	47	2.5	2.5	.1	1.1	74	32
Johns River at Collettsville	Dec. 12, 1943			4	10	.02	2.4	.8	2.7	15	1.5	1.0	.0	.0	25	9
Little River (Neuse River Basin) near Princeton.	July 14, 1944	20	5	18	8.0	.22	2.4	1.2	6.1	21	1.9	3.5	.0	.2	44	11
Mackeys Creek (at highway bridge) at Mackeys. [2]	June 29, 1944		11	330	10	1.5	12	3.5	11	50	5.4	16		.2	145	44
Mackeys Creek (at railway bridge) at Mackeys. [2]	do		16	260	10	1.1	12	3.5	8.6	45	6.0	14		.1	136	44
Mayo River near Price	Aug. 10, 1944	135	71	4	14	.02	3.5	1.4	3.7	22	2.0	1.2	.1	.6	40	14
Middle Creek near Clayton	Sept. 1, 1944	12	9	17	12	.07	2.8	1.3	5.2	21	2.1	2.9	.0	.3	43	12
Mill Creek at Old Fort	Dec. 5, 1943			6	8.7	.02	3.4	1.4	2.2	17	3.6	.9	.0	.0	34	14
Neuse River near Clayton [1]	1943-44	1,123	58	20	15	.06	5.0	1.8	10	27	5.4	7.6	.1	3.4	70	20
Neuse River near Goldsboro	July 13, 1944	270	29	17	9.3	.11	5.0	2.0	10	34	3.7	7.5	.0	1.0	62	21
Neuse River at Kinston	do	376	22	14	9.3	.04	5.3	1.8	9.2	30	5.8	7.0	.0	.2	70	21
North Toe River at Spruce Pine	Dec. 3, 1943			6	8.4	.02	2.8	1.3	2.0	16	2.0	1.0	.0	.1	27	12
Plott Creek near Hazelwood	May 24, 1944		26	11	11	.03	2.0	.8	2.4	13	1.8	.5	.0	.4	29	8
Reems Creek at Weaverville	Dec. 4, 1943			7	18	.05	3.0	1.6	3.8	20	3.4	1.4	.1	.3	48	14
Richland Creek at Waynesville	May 24, 1944		18	10	9.2	.04	2.0	.8	2.4	13	1.7	.6	.0	.4	26	8

See footnotes at end of table.

MISCELLANEOUS ANALYSES OF STREAMS IN NORTH CAROLINA—Continued

Chemical analyses, in parts per million—Continued

Source	Date	Discharge (second-feet)	Suspended matter	Color	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Total hardness as $CaCO_3$
Rocky River (directly tributary to South Yadkin River) at Turnersburg.	Aug. 11, 1944	46	37	1	13	0.02	2.8	1.3	3.6	21	1.2	1.1	0.0	0.3	34	12
Second Broad River near Forest City	June 14, 1944		207	5	17	.04	3.7	1.6	4.6	26	1.9	1.5	.1	.3	44	16
Second Broad River near Forest City	June 21, 1944		109	5	16	.02	3.8	1.7	3.7	25	2.0	1.2	.0	.2	44	16
Smith River at Spray	Aug. 9, 1944	276	40	7	10	.05	4.7	1.8	4.0	26	3.2	1.6	.0	1.1	43	19
South Yadkin River near Mocksville	Aug. 12, 1944	130	96	3	14	.02	3.4	1.6	3.7	24	1.5	1.2	.0	.4	40	15
South Yadkin River at Cooleemee	do	238	135	3	14	.02	3.4	1.6	5.2	27	1.7	1.5	.0	.5	45	15
Spring Creek at Hot Springs	Dec. 4, 1943			8	9.3	.03	3.6	1.2	3.5	21	2.7	.9	.1	.0	34	14
Tar River near Tar River	July 10, 1944	4.7	51	14	10	.03	6.4	2.6	5.3	37	3.2	2.8	.1	.4	54	27
Tar River near Nashville	July 12, 1944	121	21	12	15	.03	4.0	1.6	6.5	29	1.8	3.6	.0	.1	52	17
Tar River at Tarboro	do	229	17	13	14	.03	5.4	1.8	6.6	29	4.4	4.2	.0	1.2	61	21
Tar River at Greenville	July 13, 1944		17	24	11	.13	5.4	1.8	6.5	26	6.6	4.5	.0	.7	58	21
Third Creek at Cleveland	Aug. 11, 1944	37	131	4	20	.02	6.4	2.7	19	40	4.0	22	.1	.5	98	27
West Fork of Deep River near High Point.	Aug. 12, 1944	5.2	21	13	22	.14	5.6	2.2	7.3	40	2.0	2.4	.1	.5	64	23
Yadkin River at Yadkin College [1]	1943–44	2,653	222	8	11	.04	3.3	1.2	4.7	19	3.1	2.4	.1	1.1	41	13
Yadkin River at High Rock	Aug. 11, 1944	3,900	64	6	9.8	.03	3.6	1.4	5.3	22	3.7	2.4	.0	1.1	43	15

Chemical analyses, in equivalents per million

Abbotts Creek at Lexington	Aug. 12, 1944	22					0.494	0.280	0.845	0.967	0.121	0.508	0.010	0.013		
Bracket Creek at Forest City	June 30, 1944						.100	.082	.138	.230	.033	.039	.005	.013		
Cane Creek at Fletcher	Dec. 4, 1943						.145	.099	.135	.311	.035	.028	.005	.000		
Dan River near Francisco	Aug. 11, 1944	126					.130	.090	.118	.262	.040	.028	.000	.008		
Dan River at Leaksville	Aug. 9, 1944	719					.260	.107	.173	.295	.073	.141	.005	.026		
Deep River near Randleman	Aug. 12, 1944	12					.599	.329	2.763	.869	.437	2.256	.000	.129		
Deep River at Moncure [1]	1943–44	1,657					.220	.156	.330	.393	.102	.195	.000	.010		
East Fork of Deep River near High Point	Aug. 12, 1944	3.4					.389	.263	.325	.852	.044	.071	.005	.005		
Eno River at Hillsboro	Sept. 26, 1944						.299	.173	.268	.459	.119	.141	.005	.016		
Fisher River near Copeland	Aug. 11, 1944	94					.105	.074	.143	.262	.029	.028	.000	.003		
Fishing Creek near Enfield	July 11, 1944	45					.289	.181	.237	.557	.058	.079	.000	.013		
Flat Creek near Black Mountain	Dec. 6, 1943						.095	.082	.114	.213	.042	.031	.000	.005		
Forbush Creek near Yadkinville	Aug. 11, 1944	14					.155	.107	.185	.361	.042	.039	.000	.005		
French Broad River at Asheville	Nov. 30, 1943						.185	.189	.731	.246	.770	.087	.000	.002		
Haw River at Haw River	Sept. 26, 1944	94					.275	.173	.735	.672	.229	.226	.016	.040		

Horsepen Creek at Battle Ground	Aug. 12, 1944	4.2					.369	.263	.284	.770	.052	.071	.005	.018	
Johns River at Collettsville	Dec. 12, 1943						.120	.066	.119	.246	.031	.028	.000	.000	
Little River (Neuse River Basin) near Princeton.	July 14, 1944	20					.120	.099	.267	.344	.040	.099	.000	.003	
Mackeys Creek (at highway bridge) at Mackeys.[2]	June 29, 1944						.599	.288	.499	.820	.112	.451		.003	
Mackeys Creek (at railway bridge) at Mackeys.[3]	do						.599	.288	.373	.738	.125	.395		.002	
Mayo River near Price	Aug. 10, 1944	135					.175	.115	.162	.361	.042	.034	.005	.010	
Middle Creek near Clayton	Sept. 1, 1944	12					.140	.107	.228	.344	.044	.082	.000	.005	
Mill Creek at Old Fort	Dec. 5, 1943						.170	.115	.094	.279	.075	.025	.000	.000	
Neuse River near Clayton [1]	1943–44	1,123					.250	.148	.435	.443	.112	.214	.005	.055	
Neuse River near Goldsboro	July 13, 1944	270					.250	.164	.448	.557	.077	.212	.000	.016	
Neuse River at Kinston	do	376					.265	.148	.400	.492	.121	.197	.000	.003	
North Toe River at Spruce Pine	Dec. 3, 1943						.140	.107	.087	.262	.042	.028	.000	.002	
Plott Creek near Hazelwood	May 24, 1944						.100	.066	.104	.213	.037	.014	.000	.006	
Reems Creek at Weaverville	Dec. 4, 1943						.150	.132	.166	.328	.071	.039	.005	.005	
Richland Creek at Waynesville	May 24, 1944						.100	.066	.105	.213	.035	.017	.000	.006	
Rocky River (directly tributary to South Yadkin River) at Turnersburg.	Aug. 11, 1944	46					.140	.107	.158	.344	.025	.031	.000	.005	
Second Broad River near Forest City	June 14, 1944						.185	.132	.201	.426	.040	.042	.005	.005	
Second Broad River near Forest City	June 21, 1944						.190	.140	.159	.410	.042	.034	.000	.003	
Smith River at Spray	Aug. 9, 1944	276					.235	.148	.173	.426	.067	.045	.000	.018	
South Yadkin River near Mocksville	Aug. 12, 1944	130					.170	.132	.162	.393	.031	.034	.000	.006	
South Yadkin River at Cooleemee	do	238					.170	.132	.226	.443	.035	.042	.000	.008	
Spring Creek at Hot Springs	Dec. 4, 1943						.180	.099	.151	.344	.056	.025	.005	.000	
Tar River near Tar River	July 10, 1944	4.7					.319	.214	.230	.606	.067	.079	.005	.006	
Tar River near Nashville	July 12, 1944	121					.200	.132	.284	.475	.037	.102	.000	.002	
Tar River at Tarboro	do	229					.270	.148	.286	.475	.092	.118	.000	.019	
Tar River at Greenville	July 13, 1944						.270	.148	.283	.426	.137	.127	.000	.011	
Third Creek at Cleveland	Aug. 11, 1944	37					.319	.222	.831	.656	.083	.620	.005	.008	
West Fork of Deep River near High Point.	Aug. 12, 1944	5.2					.280	.181	.318	.656	.042	.068	.005	.008	
Yadkin River at Yadkin College [1]	1943–44	2,653					.165	.099	.204	.311	.065	.068	.005	.018	
Yadkin River at High Rock	Aug. 11, 1944	3,900					.180	.115	.229	.361	.077	.068	.000	.018	

[1] Average of analyses of composites of daily samples.
[2] Large proportion of organic matter; sum of mineral constituents, 84 parts.
[3] Large proportion of organic matter; sum of mineral constituents, 77 parts.

CANALS IN BROWARD, DADE, AND PALM BEACH COUNTIES FLA.

[Single samples collected at monthly intervals at gaging stations]

Chemical analyses, in parts per million

Date of collection	Color	pH	Specific conductance ($K \times 10^6$ at 25° C.)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Dissolved solids	Total hardness as $CaCO_3$
Hillsboro Canal near Deerfield Beach												
Oct. 7, 1943	300	7.0	51.2	55	13	30	190	16	60	0.4	268	191
Nov. 2	240	6.9	59.3	54	15	43	194	16	80	.4	304	196
Nov. 30	190	6.7	113	25	7.4	12	72	5.6	38	.2	124	93
Dec. 31	150	7.0	52.2	46	12	40	156	12	79	.2	266	164
Jan. 31, 1944	120	7.1	79.4	70	15	74	242	23	123	.8	425	236
Feb. 29	82	7.2	103	99	17	97	334	33	156	.5	567	317
Mar. 31	66	7.3	94.6	82	18	92	288	39	144	.1	517	278
May 2	80	7.4	83.8	91	15	69	319	26	106	.1	464	288
May 31	90	7.2	131	92	26	147	388	34	216	.2	706	336
July 1	180	7.2	106	97	29	89	430	19	129	.2	575	361
North New River Canal near Fort Lauderdale												
Oct. 7, 1943	124	7.2	75.1	81	22	51	306	37	80	0.2	422	292
Nov. 4	110	7.1	60.0	83	16	16	272	20	45	1.1	315	273
Nov. 30	90	7.3	58.1	79	16	21	268	26	44	.6	319	263
Jan. 7, 1944	80	7.4	53.5	67	16	23	232	26	46	.5	293	233
Jan. 31	70	8.4	55.2	76	16	14	248	23	42	.3	294	256
Feb. 29	85	7.6	64.2	91	17	23	312	22	49	.3	356	297
Mar. 31	62	7.4	62.9	84	16	28	286	29	51	.2	349	276
May 1	85	7.6	70.8	79	23	42	290	54	63	.2	404	292
June 1	50	7.3	54.5	60	14	34	220	29	50	.2	296	207
June 30	90	7.3	79.1	89	22	47	342	36	69	.2	432	312
Tamiami Canal near Coral Gables												
Oct. 11, 1943	35	7.2	44.6	86	6.8	1.2	256	13	15	0.6	249	242
Nov. 7	45	7.3	44.5	84	7.2	------	254	8.0	15	.5	------	239
Dec. 8	60	7.3	44.7	83	8.3	------	252	8.4	18	.8	------	241
Dec. 30	58	7.4	44.0	81	8.7	------	248	8.4	18	.6	------	238
Jan. 27, 1944	53	7.3	42.4	79	7.4	2.3	242	6.4	19	.6	234	228
Mar. 1	57	7.6	46.7	88	7.4	2.3	272	6.0	18	.8	256	250
Mar. 28	40	7.5	44.6	82	6.3	4.6	252	6.4	19	.8	243	230
May 3	34	7.3	41.4	78	5.9	6.0	238	8.8	19	1.3	236	219
May 30	30	7.1	48.0	88	5.9	5.5	268	10	18	.4	260	244
July 3	35	7.2	44.4	79	5.6	6.9	246	9.3	17	.3	239	220
Aug. 10	65	7.3	49.2	86	6.3	13	274	9.3	24	.5	274	240
Sept. 6	60	7.2	48.0	88	8.5	1.2	274	5.6	18	1.0	257	254
West Palm Beach Canal at West Palm Beach												
Oct. 7, 1943	160	6.8	29.4	34	6.6	12	98	10	33	0.3	144	112
Nov. 2	58	7.2	67.7	52	16	63	184	37	102	.8	361	196
Nov. 30	120	6.8	85.6	54	17	101	222	36	145	1.0	463	205
Dec. 31	95	7.4	107	62	22	132	252	58	188	.8	587	245
Jan. 31, 1944	70	7.3	85.7	59	17	97	220	49	138	1.0	469	217
Mar. 1	70	7.5	84.6	60	18	89	204	53	138	1.5	460	224
Mar. 31	65	7.4	88.8	62	17	100	222	54	144	1.5	488	224
May 3	55	7.5	64.3	57	13	60	196	37	89	.4	353	196
May 31	30	7.1	51.0	53	12	35	178	28	58	.4	274	182
July 1	70	7.2	105	60	20	133	272	49	175	.2	571	232
Miami Canal at Water Plant, Hialeah												
Oct. 8, 1943	100	7.2	47.7	91	8.7	------	266	19	15	0.2	------	263
Nov. 4	105	7.3	50.1	96	8.1	------	288	13	16	.3	------	273
Dec. 2	90	7.4	48.5	90	9.2	1.4	278	11	18	.6	267	262
Feb. 1, 1944	90	8.3	55.8	99	12	------	292	7.2	20	1.3	------	297
Mar. 1	90	7.3	52.8	96	10	3.9	308	7.2	20	1.3	290	280
Mar. 31	63	7.6	51.9	94	8.3	5.8	302	3.1	21	1.1	282	268
May 3	60	7.8	50.1	87	9.2	8.0	282	4.5	26	.8	274	255
May 31	65	7.2	53.8	94	8.2	10	306	7.4	22	.5	293	268
June 30	65	7.2	51.7	91	7.2	9.0	292	5.3	22	.3	279	256
Aug. 4	80	7.2	51.8	90	7.6	8.7	284	13	19	1.0	279	256
Sept. 5	100	7.2	54.0	102	6.6	2.3	304	10	19	.2	290	282

CANALS IN BROWARD, DADE, AND PALM BEACH COUNTIES, FLA.—Continued

Chemical analyses, in equivalents per million

Date of collection	Color	pH	Specific conductance ($K \times 10^6$ at 25° C.)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Dissolved solids	Total hardness as $CaCO_3$
Hillsboro Canal near Deerfield Beach												
Oct. 7, 1943				2.75	1.07	1.32	3.11	0.33	1.69	0.01		
Nov. 2				2.70	1.23	1.85	3.18	.33	2.26	.01		
Nov. 30				1.25	.61	.51	1.18	.12	1.07	.00		
Dec. 31				2.30	.99	1.75	2.56	.25	2.23	.00		
Jan. 31, 1944				3.49	1.23	3.21	3.97	.48	3.47	.01		
Feb. 29				4.94	1.40	4.23	5.47	.69	4.40	.01		
Mar. 31				4.09	1.48	4.02	4.72	.81	4.06	.01		
May 2				4.54	1.23	2.99	5.23	.54	2.99	.00		
May 31				4.59	2.14	6.43	6.36	.71	6.09	.00		
July 1				4.84	2.38	3.87	7.05	.40	3.64	.01		
North New River Canal near Fort Lauderdale												
Oct. 7, 1943				4.04	1.80	2.21	5.02	0.77	2.26	0.01		
Nov. 4				4.14	1.32	.71	4.46	.42	1.27	.02		
Nov. 30				3.94	1.32	.92	4.39	.54	1.24	.01		
Jan. 7, 1944				3.34	1.32	.99	3.80	.54	1.30	.01		
Jan. 31				3.79	1.32	.63	4.06	.48	1.18	.01		
Feb. 29				4.54	1.40	1.01	5.11	.46	1.38	.01		
Mar. 31				4.19	1.32	1.22	4.69	.60	1.44	.01		
May 1				3.94	1.89	1.82	4.75	1.12	1.78	.01		
June 1				2.99	1.15	1.48	3.61	.60	1.41	.01		
June 30				4.44	1.81	2.06	5.61	.75	1.95	.01		
Tamiami Canal near Coral Gables												
Oct. 11, 1943				4.29	0.56	0.05	4.20	0.27	0.42	0.01		
Nov. 7				4.19	.59	------	4.16	.17	.42	.01		
Dec. 8				4.14	.68	------	4.13	.17	.51	.01		
Dec. 30				4.04	.72	------	4.06	.17	.51	.01		
Jan. 27, 1944				3.94	.61	.10	3.97	.13	.54	.01		
Mar. 1				4.39	.61	.10	4.46	.12	.51	.01		
Mar. 28				4.09	.52	.20	4.13	.13	.54	.01		
May 3				3.89	.49	.26	3.90	.18	.54	.03		
May 30				4.39	.49	.24	4.39	.21	.51	.01		
July 3				3.94	.46	.30	4.03	.19	.48	.00		
Aug. 10				4.29	.52	.56	4.49	.19	.68	.01		
Sept. 6				4.39	.70	.05	4.49	.12	.51	.03		
West Palm Beach Canal at West Palm Beach												
Oct. 7, 1943				1.70	0.54	0.51	1.61	0.21	0.93	0.00		
Nov. 2				2.60	1.32	2.76	3.02	.77	2.88	.01		
Nov. 30				2.70	1.40	4.40	3.64	.75	4.09	.03		
Dec. 31				3.09	1.81	5.75	4.13	1.21	5.30	.01		
Jan. 31, 1944				2.94	1.40	4.20	3.61	1.02	3.89	.03		
Mar. 1				2.99	1.48	3.88	3.34	1.10	3.89	.03		
Mar. 31				3.09	1.40	4.35	3.64	1.12	4.06	.03		
May 3				2.84	1.07	2.59	3.21	.77	2.51	.01		
May 31				2.65	.99	1.51	2.92	.58	1.64	.01		
July 1				2.99	1.64	5.79	4.46	1.02	4.94	.00		
Miami Canal at Water Plant, Hialeah												
Oct. 8, 1943				4.54	0.72	------	4.36	0.40	0.42	0.00		
Nov. 4				4.79	.67	------	4.72	.27	.45	.00		
Dec. 2				4.49	.76	0.06	4.56	.23	.51	.01		
Feb. 1, 1944				4.94	.99	------	4.78	.15	.56	.03		
Mar. 1				4.79	.82	.17	5.05	.15	.56	.03		
Mar. 31				4.69	.68	.25	4.95	.06	.59	.03		
May 3				4.34	.76	.35	4.62	.09	.73	.01		
May 31				4.69	.67	.44	5.02	.15	.62	.01		
June 30				4.54	.59	.39	4.79	.11	.62	.00		
Aug. 4				4.49	.62	.38	4.66	.27	.54	.03		
Sept. 5				5.09	.54	.10	4.98	.21	.54	.00		

TIDAL CANALS IN AND NEAR MIAMI, FLA.

[Single samples collected at semimonthly or monthly intervals at several bridges on each canal to give information about extent of salt-water contamination from Biscayne Bay. The values reported were determined on bottom samples]

Biscayne Canal at U. S. Highway 1

Date	Specific conductance ($K \times 10^6$ at 25° C.)	Chloride (Cl, p. p. m.)	Date	Specific conductance ($K \times 10^6$ at 25° C.)	Chloride (Cl, p. p. m.)	Date	Specific conductance ($K \times 10^6$ at 25° C.)	Chloride (Cl, p. p. m.)
1943			*1944*			*1944*		
Oct. 6	394	1,090	Feb. 5	4,890	18,100	May 8	5,070	19,300
Nov. 2	4,230	15,400	Feb. 23	3,370	11,900	May 30	2,920	10,200
Nov. 24	4,400	16,000	Mar. 9	4,780	17,700	June 21	3,310	11,800
Dec. 27	4,680	17,400	Mar. 28	3,340	17,200	July 26 [1]	464	129
			Apr. 18	5,010	18,500	July 26 [2]	4,740	17,600
1944								
Jan. 18	3,790	14,100						

Biscayne Canal at Northeast Sixth Avenue

1943			*1944*			*1944*		
Oct. 6	60.4	49	Feb. 5	3,950	14,100	May 8	4,350	16,000
Nov. 2	83.5	83	Feb. 23	3,890	13,900	May 30	2,850	8,340
Nov. 24	3,860	13,900	Mar. 9	1,600	5,230	June 21	3,820	13,900
Dec. 27	1,575	5,140	Mar. 28	3,270	11,500	July 26 [1]	124	238
			Apr. 18	4,630	16,900	July 26 [2]	2,810	9,670
1944								
Jan. 18	2,140	7,460						

Biscayne Canal at West Dixie Highway

1943			*1944*			*1944*		
Oct. 6	54.3	38	Feb. 5	2,210	7,400	May 8	2,600	9,030
Nov. 2	63.7	55	Feb. 23	2,290	10,400	May 30	67.2	55
Nov. 24	64.6	43	Mar. 9	702	2,100	June 21	2,210	7,460
Dec. 27	141	275	Mar. 28	2,260	7,900	July 26 [1]	114	200
			Apr. 18	3,930	14,000	July 26 [2]	149	320
1944								
Jan. 18	62.7	40						

Biscayne Canal at Northwest Seventh Avenue

1943			*1944*			*1944*		
Oct. 6	47.4	16	Feb. 5	57.1	19	May 8	60.1	31
Nov. 2	50.2	18	Feb. 23	61.0	30	May 30	48.6	17
Nov. 24	44.8	14	Mar. 9	50.8	27	June 21	50.2	18
Dec. 27	51.0	19	Mar. 28	59.5	25	July 26 [1]	51.6	29
			Apr. 18	973	2,950	July 26 [2]	55.9	38
1944								
Jan. 18	47.8	16						

Biscayne Canal at Northwest Twenty-seventh Avenue

1943			*1944*			*1944*		
Oct. 6	47.5	13	Feb. 5	51.2	16	May 8	50.8	19
Nov. 2	50.8	15	Feb. 23	55.4	9	May 30	51.0	17
Nov. 24	45.2	13	Mar. 9	49.5	16	June 21	50.0	17
Dec. 27	51.1	19	Mar. 28	52.5	17	July 26 [1]	58.4	16
			Apr. 18	53.7	18	July 26 [2]	51.1	18
1944								
Jan. 18	50.1	17						

Biscayne Canal at Le Jeune Road

1943			*1944*			*1944*		
Oct. 6	47.4	14	Feb. 5	52.2	16	May 8	51.2	16
Nov. 2	50.8	15	Feb. 23	51.7	16	May 30	51.6	16
Nov. 24	46.1	17	Mar. 9	49.8	15	June 21	50.6	16
Dec. 27	51.1	17	Mar. 28	52.9	16	July 26	50.7	19
			Apr. 18	51.7	16			
1944								
Jan. 18	50.0	15						

See footnotes at end of table.

TIDAL CANALS IN AND NEAR MIAMI, FLA.—Continued

Biscayne Canal at Red Road

Date	Specific conductance ($K \times 10^5$ at 25° C.)	Chloride (Cl, p. p. m.)	Date	Specific conductance ($K \times 10^5$ at 25° C.)	Chloride (Cl, p. p. m.)	Date	Specific conductance ($K \times 10^5$ at 25° C.)	Chloride (Cl, p. p. m.)
1943			*1944*			*1944*		
Oct. 6	48.9	13	Feb. 5	58.1	14	May 8	49.0	15
Nov. 2	49.8	16	Feb. 23	70.4	15	May 30	62.5	15
Nov. 24	47.9	12	Mar. 9	51.4	14	June 21	50.6	15
Dec. 27	49.7	16	Mar. 28	50.1	15	July 26	50.1	15
1944			Apr. 18	53.6	16			
Jan. 18	49.2	15						

Little River Canal at U. S. Highway 1

1943			*1944*			*1944*		
Oct. 6	3,455	12,700	Feb. 5	4,280	15,500	May 8	4,710	17,600
Nov. 2	3,590	12,800	Feb. 23	4,250	15,400	May 30	3,550	12,700
Nov. 24	4,370	15,900	Mar. 9	4,730	18,100	June 21	4,550	17,000
Dec. 27	4,700	17,300	Mar. 28	3,520	12,500	July 26	4,100	14,800
1944			Apr. 18	4,960	18,300			
Jan. 18	4,170	15,600						

Little River Canal at Northeast Second Avenue

1943			*1944*			*1944*		
Oct. 6	683	2,020	Feb. 5	3,420	12,200	May 8	2,120	7,110
Nov. 2	2,660	9,180	Feb. 23	3,890	13,900	May 30	2,470	8,390
Nov. 24	3,590	12,900	Mar. 9	3,250	11,800	June 21	3,850	13,900
Dec. 27	3,660	13,100	Mar. 28	3,930	14,200	July 26	2,200	7,410
1944			Apr. 18	4,500	16,400			
Jan. 18	3,080	11,000						

Little River Canal at Northwest Seventh Avenue

1943			*1944*			*1944*		
Oct. 6	564	27	Feb. 5	2,440	8,290	May 8	2,170	7,510
Nov. 2	61.2	30	Feb. 23	2,800	9,710	May 30	412	1,090
Nov. 24	1,210	3,820	Mar. 9	2,720	9,470	June 21	2,290	7,850
Dec. 27	2,500	8,540	Mar. 28	2,650	9,220	July 26	237	562
1944			Apr. 18	3,530	12,400			
Jan. 18	1,550	5,140						

Little River Canal at Northwest Ninety-fifth Street

1943			*1944*			*1944*		
Oct. 6	48.3	24	Feb. 5	1,580	5,100	May 30	52.6	27
Nov. 2	50.8	23	Feb. 23	1,800	5,980	June 21	1,040	3,250
Nov. 24	50.6	17	Mar. 9	1,920	6,620	July 26	189	418
Dec. 27	22.2	520	Apr. 18	3,240	11,300			
1944			May 8	1,220	3,850			
Jan. 18	356	980						

Little River Canal at Northwest Twenty-seventh Avenue

1943			*1944*			*1944*		
Oct. 6	44.3	12	Feb. 5	55.3	16	May 8	54.2	16
Nov. 2	51.6	24	Feb. 23	64.8	19	May 30	47.9	15
Nov. 24	45.0	12	Mar. 9	60.7	23	June 21	47.6	16
Dec. 27	52.0	15	Mar. 28	59.4	20	July 26	55.4	39
1944			Apr. 18	163	312			
Jan. 18	48.7	15						

See footnote at end of table.

TIDAL CANALS IN AND NEAR MIAMI, FLA.—Continued

Little River Canal at Le Jeune Road

Date	Specific conductance ($K \times 10^5$ at 25° C.)	Chloride (Cl, p. p. m.)	Date	Specific conductance ($K \times 10^5$ at 25° C.)	Chloride (Cl, p. p. m.)	Date	Specific conductance ($K \times 10^5$ at 25° C.)	Chloride (Cl, p. p. m.)
1943			*1944*			*1944*		
Oct. 6	46.7	12	Feb. 5	52.0	16	May 8	50.8	16
Nov. 2	50.8	14	Feb. 23	59.2	17	May 30	49.5	15
Nov. 24	48.7	13	Mar. 9	54.4	17	June 21	50.2	16
Dec. 27	51.0	16	Mar. 28	51.1	18	July 26	49.8	16
1944			Apr. 18	60.8	16			
Jan. 18	50.0	16						

Little River Canal at Red Road

1943			*1944*			*1944*		
Oct. 6	51.3	13	Feb. 5	69.5	19	May 8	53.6	16
Nov. 2	59.8	16	Feb. 23	82.9	19	May 30	58.8	15
Nov. 24	46.7	12	Mar. 9	59.9	16	June 21	52.3	17
Dec. 27	55.5	16	Mar. 28	58.7	16			
1944			Apr. 18	56.8	16			
Jan. 18	52.8	16						

Little River Canal at Northeast Seventy-ninth Street

1943								
Oct. 6	2,870	10,100						

Tamiami Canal at Northwest South River Drive

1943			*1944*			*1944*		
Oct. 6	97.6	163	Feb. 5	107	182	May 8	3,100	10,900
Nov. 2	64.6	63	Feb. 23	795	2,420	May 30	425	1,180
Nov. 24	51.8	35	Mar. 9	1,880	6,030	June 21	2,740	9,570
Dec. 27	58.4	40	Mar. 28	3,440	12,200			
1944			Apr. 18	1,230	3,850			
Jan. 18	48.5	29						

Tamiami Canal at Le Jeune Road

1943			*1944*			*1944*		
Oct. 6	56.7	44	Feb. 5	50.7	26	May 8	2,510	8,540
Nov. 2	50.0	27	Feb. 23	294	750	May 30	170	378
Nov. 24	50.9	29	Mar. 9	624	1,750			
Dec. 27	54.1	32	Mar. 28	2,340	7,900			
1944			Apr. 18	1,010	3,100			
Jan. 18	45.8	22						

Tamiami Canal at Red Road

1943			*1944*			*1944*		
Oct. 6	45.5	14	Feb. 5	47.8	18	May 8	82.5	92
Nov. 2	49.0	26	Feb. 23	48.6	18	May 30	47.5	17
Nov. 24	44.7	16	Mar. 9	47.9	18	June 21	48.0	19
Dec. 27	47.3	18	Mar. 28	51.4	21	July 26	47.8	18
1944			Apr. 18	46.5	17			
Jan. 18	44.1	19						

See footnotes at end of table.

TIDAL CANALS IN AND NEAR MIAMI, FLA.—Continued

Coral Gables Canal at Ingraham Highway

Date	Specific conductance ($K \times 10^6$ at 25° C.)	Chloride (Cl, p. p. m.)	Date	Specific conductance ($K \times 10^6$ at 25° C.)	Chloride (Cl, p. p. m.)	Date	Specific conductance ($K \times 10^6$ at 25° C.)	Chloride (Cl, p. p. m.)
1943			*1944*			*1944*		
Dec. 27	3,570	12,700	Feb. 23	4,620	17,100	May 8	5,220	19,700
			Mar. 9	4,510	16,400	May 30	4,730	17,500
1944			Mar. 28	5,120	18,800	June 21	5,540	20,800
Jan. 18	4,480	17,000	Apr. 18	5,090	18,800	July 26	5,160	19,100
Feb. 5	4,470	16,600						

Coral Gables Canal at Hardee Road

1943			*1944*			*1944*		
Oct. 6	3,360	12,200	Feb. 5	4,100	14,600	May 30	4,590	16,700
Nov. 2	3,200	11,300	Feb. 23	4,320	15,600	June 21	4,990	18,700
Nov. 24	4,010	14,600	Mar. 9	3,900	14,400	July 26	4,980	18,500
Dec. 27	3,560	12,700	Apr. 18	4,780	17,500			
			May 8	4,920	18,200			
1944								
Jan. 18	4,440	16,700						

Coral Gables Canal at U. S. Highway 1

1943			*1944*			*1944*		
Oct. 6	944	2,980	Feb. 5	640	1,830	May 8	3,780	13,600
Nov. 2	188	418	Feb. 23	2,990	10,400	May 30	1,900	6,270
Nov. 24	239	565	Mar. 9	1,490	4,720	June 21	3,640	12,900
Dec. 27	834	2,300	Mar. 28	3,280	11,500	July 26	1,310	4,120
			Apr. 18	1,370	4,300			
1944								
Jan. 18	1,920	6,520						

Coral Gables Canal at Granada Boulevard

1943			*1944*			*1944*		
Oct. 6	80.7	113	Feb. 5	244	610	May 8	2,250	7,560
Nov. 2	74.5	95	Feb. 23	1,580	5,180	May 30	316	820
Nov. 24	80.3	111	Mar. 9	335	860	June 21	2,070	6,920
Dec. 27	283	740	Mar. 28	2,500	8,440	July 26	295	815
			Apr. 18	1,060	3,280			
1944								
Jan. 18	81.6	111						

Coral Gables Canal at Red Road

1943			*1944*			*1944*		
Oct. 6	58.7	13	Feb. 5	62.2	16	May 8	47.0	19
Nov. 2	52.3	14	Feb. 23	50.4	15	May 30	45.9	16
Nov. 24	48.8	14	Mar. 9	47.8	16	June 21	45.3	16
Dec. 27	47.3	15	Mar. 28	48.5	17	July 26	51.2	17
			Apr. 18	42.9	6.0			
1944								
Jan. 18	48.6	15						

[1] 10:20 a. m.
[2] 3:45 p. m.

LAKE OSBORN AND TRIBUTARY CANALS AT LAKE WORTH, FLA.

Chemical analyses, in parts per million

Date of collection	Color	pH	Specific conductance ($K \times 10^6$ at 25°C.)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Dissolved solids	Total hardness as $CaCO_3$
Canal E-4 at Lucerne Road												
Feb. 17, 1944	78	7.4	98.3	62	19	114	232	53	166	0.9	529	232
Mar. 1	75	7.3	80.6	58	17	85	209	47	127	.5	438	214
Mar. 13	50	7.3	74.3	55	16	76	196	43	115	.4	402	204
Mar. 31	60	7.2	86.1	62	19	89	218	47	140	.6	465	232
Apr. 19	55	7.2	78.5	60	18	78	211	43	123	.5	426	224
May 2	50	7.2	69.7	56	15	72	214	42	98	.7	389	202
May 16	42	7.3	60.7	58	13	48	190	30	82	.4	325	198
May 30	60	6.9	50.4	64	10	22	190	18	53	.2	261	200
June 30	50	7.1	60.5	57	14	40	184	22	80	.6	304	200
Aug. 3	70	7.1	40.3	58	8.3	11	164	16	36	.2	210	178
Aug. 31	70	7.1	39.1	64	6.8	4.6	176	10	30	.4	202	188
West Canal at DeWeese Road												
Feb. 17, 1944	60	7.4	46.8	77	9.0	6.9	230	7.4	34	0.2	239	229
Mar. 1	53	7.3	46.3	78	8.1	6.2	231	6.6	32	.2	245	228
Mar. 13	50	7.5	46.0	78	5.9	9.9	225	7.6	34	.2	246	219
Mar. 31	50	7.2	54.0	84	7.6	19	248	10	48	.2	291	240
Apr. 19	50	7.3	52.8	80	7.9	20	237	12	48	.4	285	232
May 2	55	7.6	52.5	77	7.2	24	235	12	48	------	284	222
May 16	52	7.1	46.2	72	5.9	15	213	6.8	38	1.0	244	204
May 30	60	7.0	40.7	70	7.2	1.2	198	6.0	27	.2	209	204
June 30	70	7.0	45.4	80	7.0	1.4	224	3.7	31	.4	234	228
Aug. 3	70	7.1	45.1	82	6.3	------	216	9.3	28	.2	------	230
Aug. 31	80	6.9	33.1	55	7.0	------	156	5.1	22	.2	------	166
Canal E-4 at Hypoluxo Road												
Feb. 17, 1944	65	7.5	80.9	63	15	85	225	38	126	1.0	439	218
Mar. 1	65	7.4	88.3	63	19	92	225	44	144	.5	473	235
Mar. 13	50	7.6	79.4	60	18	76	206	43	124	.2	423	224
Mar. 31	55	7.2	75.2	58	17	73	206	38	117	.5	405	214
Apr. 19	50	7.1	73.6	59	15	72	204	36	114	.5	397	208
May 2	53	7.0	78.6	61	16	91	252	35	122	.4	450	218
May 16	55	7.0	71.2	58	14	69	200	33	109	.4	382	202
May 30	200	6.9	37.5	57	7.2	1.6	168	1	26	.2	176	172
June 30	80	6.7	41.7	58	6.3	14	168	4.3	41	.4	205	170
Aug. 3	160	6.9	31.6	53	5.9	------	128	15	23	.4	------	157
Lake Osborn at Lantana Road												
Feb. 17, 1944	65	7.6	89.9	65	18	99	232	48	149	0.4	494	236
Mar. 1	65	7.7	84.4	62	17	88	222	41	135	.4	453	224
Mar. 13	45	7.8	78.3	60	17	76	206	44	120	.3	419	220
Mar. 31	50	7.5	77.4	60	15	80	209	41	121	.4	420	211
Apr. 19	50	7.6	74.9	62	14	74	214	35	114	.4	405	212
May 2	48	7.6	78.5	61	16	79	217	40	120	.4	423	218
May 16	45	7.6	70.9	55	16	68	196	37	107	.4	380	204
May 30	80	7.0	44.6	56	9.2	17	152	21	48	.4	226	178
June 30	80	6.7	45.1	58	7.4	19	164	14	48	.4	228	175
Aug. 31	100	6.6	33.0	45	6.6	13	150	9.5	25	.2	173	140
Lake Osborn, North Arm												
Feb. 17, 1944	52	7.7	77.3	63	16	73	210	37	121	0.9	414	223
Aug. 3	40	7.1	56.7	51	13	41	160	27	79	.4	290	181
Aug. 31	50	7.1	45.5	51	9.4	27	164	18	50	.8	237	166

MISCELLANEOUS ANALYSES OF STREAMS NEAR FORT MYERS, FLA.

Chemical analyses, in parts per million

Date of collection	Depth (feet)	Color	pH	Specific conductance ($K \times 10^6$ at 25° C.)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Dissolved solids	Total hardness as $CaCO_3$
Orange River near Fort Myers													
Feb. 3, 1944	1 (bottom)	37	7.9	57.4	82	14	7.1	262	13	35	0.2	280	262
May 5	Top	38	7.6	66.2	84	13	16	277	14	37	.6	301	263
Aug. 22	do	70	7.0	24.5	36	5.5	4.6	116	5	16	.1	124	112
Billy's Creek at First Street													
Feb. 3, 1944	Top	32	7.3	2,950				174		10,200			
Feb. 3	Bottom	25	7.4	3,360				164		11,800			
May 5	Top	24	7.3	4,140				150		15,100			
May 5	Bottom	25	7.4	4,140				148		15,000			
Aug. 24	Top			543						1,540			
Billy's Creek at Palmetto Avenue													
Feb. 3, 1944	3	37	7.5	211	128	52	224	256	149	465		1,140	534
May 5	Top	30	7.2	473	152	116	657	199	305	1,280		2,610	856
Aug. 24	do			84.7						136			
Creek at Michigan Avenue and Cemetery													
Feb. 3, 1944	Bottom	30	7.5	158	130	29	143	262	75	328		834	444
May 5	Top	30	7.3	167	126	31	172	259	92	360	0.1	909	442
Aug. 24	do			164						330			
Line A Canal, a quarter of a mile upstream from U. S. Highway 41													
Feb. 3, 1944	0.2	32	8.2	199	105	54	232	200	171	458		1,120	484
May 4	Top	35	8.1	168	93	38	186	112	135	398	0.1	905	388
Aug. 23	do			25.9						40			
Line A Canal, on east side of Page Field													
Feb. 3, 1944	1.5	8	7.4	343	126	104	442	164	335	865		1,950	742
May 4	1	12	7.7	352	123	108	450	149	345	885		1,980	751
Aug. 23	Top			74.7						152			
Line A Canal, three quarters of a mile south of Page Field													
Feb. 3, 1944	1	10	7.8	346	128	104	447	172	337	870		1,970	747
Ditch into Billy's Creek at Michigan and Palmetto Avenues													
Feb. 3, 1944	1.5	33	7.1	329	132	91	146	186	286	405		1,150	704
May 5	2	27	7.2	341	136	93	449	189	304	870		1,950	722
Billy's Creek at Nuna Avenue													
Feb. 3, 1944	0.3	35	7.7	124	126	28	222	330	55	415		1,010	430
Atlantic Coast Line Railroad ditch at Second Street													
Feb. 3, 1944	0.3	112	7.2	195	95	51	233	166	216	420		1,100	446
May 4	Top	75	7.0	222	97	58	277	132	256	502	0.0	1,260	480
Manuel's Branch at McGregor Boulevard													
Feb. 3, 1944	2	29	7.3	2,900				172		10,100			
May 5	Top	30	7.1	3,900				194		14,100			

MISCELLANEOUS ANALYSES OF STREAMS NEAR FORT PIERCE, FLA.

Chemical analyses, in parts per million

Date of collection	Depth (feet)	Color	pH	Specific conductance ($K \times 10^6$ at 25° C.)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Dissolved solids	Total hardness as $CaCO_3$
Ten Mile Creek, 250 feet upstream from bridge													
Mar. 21, 1944	5.5	29	7.6	93.5	86	20	78	205	98	139	0.4	522	296
Apr. 18	Top	85	7.1	62.4	67	13	42	163	69	76	.2	348	220
May 24	9	30	7.6	101	107	21	79	272	116	128	.4	585	354
June 21	1.4	----	----	100	----	----	----	----	----	128	----	----	----
June 21	1.4	40	7.6	101	----	----	109	260	116	125	.1	----	273
July 19	Top	60	7.4	44.3	50	15	15	124	42	52	.0	235	186
Sept. 14	Integrated	80	7.3	44.6	52	13	17	114	52	52	.2	242	184
Ten Mile Creek													
Mar. 21, 1944	2	30	7.8	87.1	79	20	70	184	96	128	0.4	484	279
North Fork St. Lucie River at White City													
Mar. 21, 1944 [1]	Top	37	7.6	89.7	80	20	76	196	88	138	0.4	499	282
Mar. 21	Bottom	40	7.4	391	38	80	606	216	196	1,070	----	2,160	574
Mar. 21 [2]	Top and bottom.	35	7.8	133	82	33	149	216	149	235	.2	755	340
Canal I at King's Highway													
June 21, 1944	1	----	7.7	78.5	98	12	53	270	55	92	0.0	443	294
July 16	Top	60	7.3	75.6	96	16	38	238	56	96	----	419	306
Savanna Canal													
Mar. 21, 1944	6.2	170	6.0	20.8	9.6	3.6	21	21	7.7	43	0.2	97	39

[1] Point A.
[2] Point G.

LAKE OSBORNE AND TRIBUTARY CANALS AT LAKE WORTH, FLA.

Chemical analyses, in equivalents per million

Date of collection	Color	pH	Specific conductance ($K \times 10^6$ at 25° C.)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Dissolved solids	Total hardness as $CaCO_3$
Canal E-4 at Lucerne Road												
Feb. 17, 1944				3.09	1.56	4.94	3.80	1.10	4.68	0.01		
Mar. 1				2.89	1.40	3.71	3.43	.98	3.58	.01		
Mar. 13				2.75	1.32	3.29	3.21	.90	3.24	.01		
Mar. 31				3.09	1.56	3.86	3.57	.98	3.95	.01		
Apr. 19				2.99	1.48	3.37	3.46	.90	3.47	.01		
May 2				2.80	1.23	3.12	3.51	.87	2.76	.01		
May 16				2.89	1.07	2.09	3.11	.62	2.31	.01		
May 30				3.19	.82	.96	3.11	.37	1.49	.00		
June 30				2.84	1.15	1.76	3.02	.46	2.26	.01		
Aug. 3				2.89	.68	.47	2.69	.33	1.02	.00		
Aug. 31				3.19	.56	.20	2.88	.21	.85	.01		
West Canal at DeWeese Road												
Feb. 17, 1944				3.84	0.74	0.30	3.77	0.15	0.96	0.00		
Mar. 1				3.89	.67	.27	3.79	.14	.90	.00		
Mar. 13				3.89	.49	.43	3.69	.16	.96	.00		
Mar. 31				4.19	.62	.81	4.06	.21	1.35	.00		
Apr. 19				3.99	.65	.85	3.88	.25	1.35	.01		
May 2				3.84	.59	1.03	3.85	.25	1.35	.01		
May 16				3.59	.49	.64	3.49	.14	1.07	.02		
May 30				3.49	.59	.05	3.25	.12	.76	.00		
June 30				3.99	.58	.06	3.67	.08	.87	.01		
Aug. 3				4.09	.52		3.54	.19	.79	.00		
Aug. 31				2.74	.58		2.56	.11	.62	.00		
Canal E-4 at Hypoluxo Road												
Feb. 17, 1944				3.14	1.23	3.68	3.69	0.79	3.55	0.02		
Mar. 1				3.14	1.56	3.98	3.69	.92	4.06	.01		
Mar. 13				2.99	1.48	3.31	3.38	.90	3.50	.00		
Mar. 31				2.89	1.40	3.19	3.38	.79	3.30	.01		
Apr. 19				2.94	1.23	3.15	3.34	.75	3.22	.01		
May 2				3.04	1.32	3.95	4.13	.73	3.44	.01		
May 16				2.89	1.15	3.01	3.28	.69	3.07	.01		
May 30				2.84	.59	.07	2.75	.02	.73	.00		
June 30				2.89	.52	.60	2.75	.09	1.16	.01		
Aug. 3				2.65	.49		2.10	.31	.65	.01		
Lake Osborn at Lantana Road												
Feb. 17, 1944				3.24	1.48	4.29	3.80	1.00	4.20	0.01		
Mar. 1				3.09	1.40	3.82	3.64	.85	3.81	.01		
Mar. 13				2.99	1.40	3.29	3.38	.92	3.38	.00		
Mar. 31				2.99	1.23	3.48	3.43	.85	3.41	.01		
Apr. 19				3.09	1.15	3.23	3.51	.73	3.22	.01		
May 2				3.04	1.32	3.42	3.56	.83	3.38	.01		
May 16				2.75	1.32	2.94	3.21	.77	3.02	.01		
May 30				2.80	.76	.73	2.49	.44	1.35	.01		
June 30				2.89	.61	.84	2.69	.29	1.35	.01		
Aug. 31				2.25	.54	.58	2.46	.20	.71	.00		
Lake Osborn, North Arm												
Feb. 17, 1944				3.14	1.32	3.17	3.44	0.77	3.41	0.01		
Aug. 3				2.55	1.07	1.80	2.62	.56	2.23	.01		
Aug. 31				2.55	.77	1.17	2.69	.37	1.41	.01		

MISCELLANEOUS ANALYSES OF STREAMS NEAR FORT MYERS, FLA.

Chemical analyses, in equivalents per million.

Date of collection	Depth (feet)	Color	pH	Specific conductance ($K \times 10^5$ at 25° C.)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Dissolved solids	Total hardness as $CaCO_3$
Orange River near Fort Myers													
Feb. 3, 1944	1 (bottom)				4.09	1.15	0.31	4.29	0.27	0.99	0.00		
May 5	Top				4.19	1.07	.71	4.54	.29	1.04	.10		
Aug. 22	do				1.80	.45	.20	1.90	.10	.45	.00		
Billy's Creek at First Street													
Feb. 3, 1944	Top							2.85		287.67			
Feb. 3	Bottom							2.69		332.80			
May 5	Top							2.46		425.87			
May 5	Bottom							2.43		423.05			
Aug. 24	Top									43.43			
Billy's Creek at Palmetto Avenue													
Feb. 3, 1944	3				6.39	4.28	9.74	4.20	3.10	13.11			
May 5	Top				7.59	9.54	28.58	3.26	6.35	36.10			
Aug. 24	do									3.84			
Creek at Michigan Avenue and Cemetery													
Feb. 3, 1944	Bottom				6.49	2.38	6.23	4.29	1.56	9.25			
May 5	Top				6.29	2.55	7.48	4.25	1.92	10.15	0.00		
Aug. 24	do									5.41			
Line A Canal, a quarter of a mile upstream from U. S. Highway 41													
Feb. 3, 1944	0.2				5.24	4.44	10.08	3.28	3.56	12.92			
May 4	Top				4.64	3.12	8.11	1.84	2.81	11.22	0.00		
Aug. 23	do									1.13			
Line A Canal, on east side of Page Field													
Feb. 3, 1944	1.5				6.29	8.55	19.22	2.69	6.97	24.40			
May 4	1				6.14	8.88	19.56	2.44	7.18	24.96			
Aug. 23	Top									4.29			
Line A Canal, three quarters of a mile south of Page Field													
Feb. 3, 1944	1				6.39	8.55	19.44	2.82	7.02	24.54			
Ditch into Billy's Creek at Michigan and Palmetto Avenues													
Feb. 3, 1944	1.5				6.59	7.48	6.35	3.05	5.95	11.42			
May 5	2				6.79	7.65	19.53	3.10	6.33	24.54			
Billy's Creek at Nuna Avenue													
Feb. 3, 1944	0.3				6.29	2.30	9.67	5.41	1.15	11.70			
Atlantic Coast Line Railroad ditch at Second Street													
Feb. 3, 1944	0.3				4.74	4.19	10.14	2.72	4.50	11.85			
May 4	Top				4.84	4.77	12.04	2.16	5.33	14.16	0.00		
Manuel's Branch at McGregor Boulevard													
Feb. 3, 1944	2							2.82		284.85			
May 5	Top							3.18		397.67			

MISCELLANEOUS ANALYSES OF STREAMS NEAR FORT PIERCE, FLA.

Chemical analyses, in equivalents per million

Date of collection	Depth (feet)	Color	pH	Specific conductance ($K \times 10^6$ at 25° C.)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Nitrate (NO_3)	Dissolved solids	Total hardness as $CaCO_3$
Ten Mile Creek, 250 feet upstream from bridge													
Mar. 21, 1944	5.5				4.29	1.64	3.40	3.36	2.04	3.92	0.0		
Apr. 18	Top				3.34	1.07	1.84	2.67	1.44	2.14	.0		
May 24	9				5.34	1.73	3.43	4.46	2.42	3.61	.0		
June 21	1.4									3.61			
June 21	1.4						4.75	4.26	2.42	3.53	.0		
July 19	Top				2.50	1.23	.64	2.03	.87	1.47	.0		
Sept. 14	Integrated				2.60	1.07	.75	1.87	1.08	1.47	.0		
Ten Mile Creek													
Mar. 21, 1944	2				3.94	1.64	3.06	3.02	2.00	3.61	0.0		
North Fork, St. Lucie River at White City													
Mar. 21, 1944 [1]	Top				3.99	1.64	3.31	3.21	1.83	3.89	0.01		
Mar. 21	Bottom				4.89	6.58	26.33	3.54	4.08	30.18			
Mar. 21 [2]	Top and bottom.				4.09	2.71	6.47	3.54	3.10	6.63	.00		
Canal I at King's Highway													
June 21, 1944	1				4.89	0.99	2.29	4.43	1.15	2.59			
July 16	Top				4.79	1.32	1.67	3.90	1.17	2.71			
Savanna Canal													
Mar. 21, 1944	6.2				0.48	0.30	0.93	0.34	0.16	1.21	0.00		

[1] Point A.
[2] Point G.

FLINT RIVER AT MONTEZUMA, GA.

LOCATION.—At gaging station at bridge on State Highways 26 and 49, half a mile downstream from Buck Creek, and 1 mile west of Montezuma.
DRAINAGE AREA.—2,900 square miles.
RECORDS AVAILABLE.—Chemical analyses: October 1943 to September 1944.
Water temperatures: October 1943 to September 1944.
EXTREMES.—Dissolved solids: Maximum, 42 parts per million May 21–31; minimum, 26 parts per million Feb. 21–29.
Total hardness: Maximum, 12 parts per million Oct. 1–31, Nov. 11–30, Mar. 11–20, May 21–31, June 21–30, July 21–31; minimum, 8 parts per million Jan. 11–20, Feb. 21–29, Sept. 1–10.
Water temperatures: Maximum, 85° F. June 15; minimum, 43° F. Dec. 20, 21, Jan. 1, 19.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1002.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Suspended matter	Oxygen consumed		Color	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Total hardness as $CaCO_3$
			Unfiltered	Filtered														
Oct. 1–10, 1943	1,088	28	4.8	15	18	12	0.03	2.8	1.3	3.9	1.3	17	3.2	2.4	0.1	0.4	41	12
Oct. 11–20	1,024	18	4.0	2.8	18	9.6	.21	2.4	1.1	4.4		16	3.0	2.4	.0	.5	35	10
Oct. 21–31	1,033	12	2.8	2.1	14	9.4	.19	2.7	1.2	3.0		15	2.5	2.2	.0	.2	32	12
Nov. 1–10	1,475	32	5.0	3.4	16	9.2	.02	3.1	.9	2.9		14	3.0	2.1	.0	.3	34	11
Nov. 11–20	2,072	42	5.1	2.9	14	9.6	.02	2.9	1.2	3.7		15	3.3	2.9	.0	.5	38	12
Nov. 21–30	1,440	14	3.7	2.2	12	10	.01	2.9	1.2	3.0		15	2.6	2.5	.0	.3	35	12
Dec. 1–10	1,580	25	3.5	2.0	11	10	.07	2.2	1.1	4.0		15	2.3	2.6	.0	.4	34	10
Dec. 11–20	1,782	23	3.2	2.9	13	11	.05	2.3	1.1	3.5		13	3.1	2.6	.0	.3	35	10
Dec. 21–31	3,151	54	4.4	2.8	22	8.9	.31	2.0	1.0	2.9	1.1	9.0	3.2	2.8	.0	1.2	35	9
Jan. 1–10, 1944	3,973	60	4.8	3.0	30	10	.58	2.0	.9	3.1	1.2	12	3.2	2.5	.0	.7	37	9
Jan. 11–20	5,000	81	4.8	2.4	16	9.0	.07	2.0	.8	3.3		9.0	3.4	2.8	.0	.8	32	8
Jan. 21–31	3,491	29	2.4	1.4	8	11	.02	2.2	.9	3.9		12	2.8	3.1	.0	.8	34	9
Feb. 1–10	2,473	36	3.2	2.2	6	11	.03	2.2	1.1	3.7		14	2.4	2.4	.0	.3	34	10
Feb. 11–20	5,097	78	5.1	3.6	16	9.8	.02	2.0	1.0	3.1		11	3.0	2.2	.0	.8	33	9
Feb. 21–29	8,912	85	6.5	4.2	19	6.5	.02	1.8	.9	2.1		10	2.4	1.1	.0	.6	26	8
Mar. 1–10	5,269	75	4.5	2.9	15	11	.07	2.2	1.1	3.5		14	2.3	2.2	.0	.8	35	10
Mar. 11–20	4,196	49	4.1	2.9	10	12	.03	2.8	1.1	4.1		17	2.6	2.2	.0	.8	40	12
Mar. 21–31	27,785	67	.....	4.3	15	9.4	.02	2.2	1.0	3.1		12	3.0	2.0	.0	.8	34	10
Apr. 1–10	13,947	47	4.4	2.8	16	8.4	.02	2.2	.9	3.2	1.1	14	2.7	2.0	.0	.6	31	9
Apr. 11–20	5,902	44	4.5	3.0	16	9.4	.03	2.3	1.0	3.3	1.0	16	2.3	2.1	.0	.8	34	10
Apr. 21–30	12,922	50	5.6	4.2	17	7.6	.03	2.2	.9	2.9		13	2.2	1.6	.0	.4	30	9
May 1–10	9,429	38	4.6	4.3	12	9.2	.03	2.4	1.1	3.8		16	2.1	2.0	.0	.8	32	10

May 11-20	3,921	30	3.7	3.2	12	10	.02	2.5	1.1	3.4	15	2.1	2.1	.0	.8	34	11
May 21-31	2,902	43	3.8	3.3	14	11	.06	3.0	1.2	4.0	18	2.0	2.8	.1	.1	42	12
June 1-10	2,276	47	3.8	2.4	6	10	.03	2.4	1.1	3.8	15	2.2	2.2	.0	1.3	33	10
June 11-10	3,197	76	4.6	2.6	6	10	.04	2.6	1.1	3.3	14	2.4	2.2	.0	1.3	35	11
June 21-30	1,912	37	3.6	2.0	6	10	.10	2.9	1.2	3.5	17	2.1	2.2	.0	.7	36	12
July 1-10	3,575	82	5.2	3.0	4	9.7	.03	2.0	.9	2.6 | 1.2	12	2.4	1.8	.0	.8	30	9
July 11-20	3,064	67	5.7	3.5	12	10	.02	2.1	.9	3.1 | 1.0	12	2.4	2.0	.0	.7	33	9
July 21-31	2,582	56	6.4	2.6	7	11	.02	2.9	1.2	4.0	19	2.3	2.0	.0	.3	37	12
Aug. 1-10	2,506	84	5.7	3.2	12	9.8	.03	2.1	.9	3.1	13	1.9	1.9	.0	.5	32	9
Aug. 11-20	2,533	62	4.9	2.5	7	9.4	.02	2.2	.8	5.3	18	2.1	2.1	.0	.5	31	9
Aug. 21-31	1,937	38	3.8	2.4	7	9.9	.04	2.7	1.0	4.1	18	1.9	1.9	.0	.4	34	11
Sept. 1-10	1,699	32	5.6	3.8	12	8.5	.03	2.0	.8	3.8	14	1.8	2.2	.0	.2	31	8
Sept. 11-20	3,027	46	4.8	3.5	12	9.4	.04	2.2	.9	3.6	14	2.1	2.1	.1	.3	32	9
Sept. 21-30	1,767	32	3.8	2.4	4	10	.02	2.4	1.0	3.1 | 1.2	17	1.9	2.2	.0	.3	33	10
Average	4,463	48	4.5	3.3	13	9.8	0.07	2.4	1.0	3.6	14	2.5	2.2	0.0	0.6	34	10

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Oct. 1-10, 1943	1,088							0.140	0.107	0.170 | 0.033	0.279	0.067	0.068	0.005	0.006		
Oct. 11-20	1,024							.120	.090	.190	.262	.062	.068	.000	.008		
Oct. 21-31	1,033							.135	.099	.129	.246	.052	.062	.000	.003		
Nov. 1-10	1,475							.155	.074	.126	.229	.062	.059	.000	.005		
Nov. 11-20	2,072							.145	.099	.161	.246	.069	.082	.000	.008		
Nov. 21-30	1,440							.145	.099	.132	.246	.054	.071	.000	.005		
Dec. 1-10	1,580							.110	.090	.173	.246	.048	.073	.000	.006		
Dec. 11-20	1,782							.115	.090	.151	.213	.065	.073	.000	.005		
Dec. 21-31	3,151							.100	.082	.126 | .028	.148	.067	.079	.000	.019		
Jan. 1-10, 1944	3,973							.100	.074	.135 | .031	.197	.067	.071	.000	.011		
Jan. 11-20	5,000							.100	.066	.145	.148	.071	.079	.000	.013		
Jan. 21-31	3,491							.110	.074	.171	.197	.058	.087	.000	.013		
Feb. 1-10	2,473							.110	.090	.161	.230	.050	.068	.000	.013		
Feb. 11-20	5,097							.100	.082	.135	.180	.062	.062	.000	.013		
Feb. 21-29	8,912							.090	.074	.091	.164	.050	.031	.000	.010		
Mar. 1-10	5,269							.110	.090	.153	.230	.048	.062	.000	.013		
Mar. 11-20	4,196							.140	.090	.178	.279	.054	.062	.000	.013		
Mar. 21-31	27,785							.110	.082	.136	.197	.062	.056	.000	.013		
Apr. 1-10	13,947							.110	.074	.130 | .008	.230	.053	.056	.000	.010		
Apr. 11-20	5,902							.115	.082	.144 | .026	.262	.048	.059	.000	.013		
Apr. 21-30	12,922							.110	.074	.126	.213	.046	.045	.000	.006		
May 1-10	9,429							.120	.090	.165	.262	.044	.056	.000	.013		
May 11-20	3,921							.125	.090	.147	.246	.044	.059	.000	.013		
May 21-31	2,902							.150	.099	.172	.295	.042	.079	.005	.002		

FLINT RIVER AT MONTEZUMA, GA.—Continued

Chemical analyses, in equivalents per million, water year October 1943 to September 1944—Continued

Date of collection	Mean discharge (second-feet)	Suspended matter	Oxygen consumed		Color	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Total hardness as $CaCO_3$
			Unfiltered	Filtered														
June 1–10	2,276							0.120	0.090	0.165		0.246	0.046	0.062	0.000	0.021		
June 11–20	3,197							.130	.090	.143		.230	.050	.062	.000	.021		
June 21–30	1,912							.145	.099	.152		.279	.044	.062	.000	.011		
July 1–10	3,575							.100	.074	.113	.031	.197	.050	.051	.000	.013		
July 11–20	3,064							.105	.074	.135	.026	.197	.050	.056	.000	.011		
July 21–31	2,582							.145	.099	.176		.311	.048	.056	.000	.005		
Aug. 1–10	2,506							.105	.074	.136		.213	.040	.054	.000	.008		
Aug. 11–20	2,533							.110	.066	.230		.295	.044	.059	.000	.008		
Aug. 21–31	1,937							.135	.082	.178		295	.040	.054	.000	.006		
Sept. 1–10	1,699							.100	.066	.166		.230	.037	.062	.000	.003		
Sept. 11–20	3,027							.110	.074	.168		.229	.044	.059	.005	.005		
Sept. 21–30	1,767							.120	.082	.135	.031	.279	.040	.062	.000	.005		
Average	4,463							0.120	0.082	0.157		0.229	0.052	0.062	0.000	0.010		

Temperature (° F.) of water of Flint River, water year October 1943 to September 1944

Day	October	November	December	January	February	March	April	May	June	July	August	September
1	66	58	51	43	52	59	57	66	80	82	80	79
2	65	59	50	44	52	58	60	65	80	83	80	77
3	66	59	52	44	52	57	58	66	81	78	81	79
4	67	60	53	47	53	56	57	67	81	72	80	79
5	66	58	54	47	53	60	56	67	81	73	82	76
6	65	58	55	44	56	61	58	66	81	74	80	79
7	67	58	53	45	53	59	58	67	80	75	81	78
8	66	57	52	44	53	58	59	69	79	76	80	77
9	65	54	55	45	52	58	61	65	80	78	81	75
10	65	53	56	44	52	60	64	70	81	79	81	74
11	63	53	47	45	53	55	65	70	82	82	80	75
12	63	51	46	44	55	56	66	70	82	80	81	75
13	63	49	46	45	55	58	66	76	83	82	80	81
14	65	49	46	45	----	57	67	71	83	83	81	79
15	66	----	46	45	54	57	63	76	85	81	80	80
16	66	50	45	45	45	58	68	77	83	81	81	79
17	59	50	45	44	47	57	66	78	84	82	82	77
18	57	51	44	44	50	57	67	77	84	80	79	78
19	57	51	44	43	54	61	64	78	81	81	82	81
20	57	52	43	44	53	64	65	80	82	80	82	82
21	59	51	43	49	63	63	65	79	83	80	81	76
22	56	50	44	50	62	61	65	78	83	82	82	76
23	58	50	46	----	62	59	64	79	83	81	83	77
24	61	51	44	51	61	59	66	78	83	80	83	77
25	60	51	44	50	62	58	65	77	84	82	79	77
26	58	51	45	50	62	59	64	78	83	82	77	78
27	57	52	45	51	63	58	62	78	84	82	75	77
28	56	49	44	55	64	59	63	79	82	81	77	76
29	56	49	45	52	63	60	64	80	81	83	78	78
30	55	48	45	52	----	60	64	80	81	84	79	78
31	56	----	44	52	----	58	----	80	----	82	79	----
Average	61	53	47	47	56	59	63	74	82	80	80	78

OHIO RIVER BASIN

MISCELLANEOUS ANALYSES OF STREAMS IN OHIO RIVER BASIN IN PENNSYLVANIA

Chemical analyses, in parts per million

Date of collection	Discharge (second-feet)	Temperature (°F.)	Color	pH	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Hardness as $CaCO_3$		Total acidity as H_2SO_4
																				Total	Noncarbonate	
Allegheny River at Eldred, Pa.																						
Aug. 25, 1944	71	64	6	7.0	74.9	2.9	-------	0.02	-------	42	9.4	84		48	11	194	0.1	0.6	418	143	104	-------
Allegheny River near Kinzua, Pa.																						
Aug. 12, 1944	320	81	7	7.5	51.0	1.6	-------	0.17	-------	36	6.6	52		78	18	104	0.3	0.3	282	117	53	-------
Allegheny River at West Hickory, Pa.																						
Aug. 10, 1944	586	82	5	7.6	42.0	1.0	-------	0.04	-------	33	6.4	39		82	20	75	0.2	0.2	230	109	46	-------
Allegheny River near Rimer, Pa.																						
Aug. 8, 1944	1,810	83	10	7.5	36.1	1.0	-------	0.01	-------	30	6.7	29		61	45	48	0.1	0.3	212	102	52	-------
Allegheny River at Natrona, Pa.																						
Sept. 8, 1944	1,890	69	8	4.2	64.8	6.2	4.2	0.05	2.0	57	15	35		0	243	39	-------	0.6	419	233	233	39

Conewango Creek at Russell, Pa.

Aug. 12, 1944	145	78	12	7.5	27.5	3.0	-------	0.02	-------	38	6.6	10	131	23	6.4	0.2	4.4	160	122	15	-------

Brokenstraw Creek at Youngsville, Pa.

Aug. 12, 1944	46	68	5	7.7	21.6	4.6	-------	0.04	-------	31	5.7	7.1	116	13	3.9	0.2	1.9	122	101	6	-------

Tionesta Creek at Mayburg, Pa.

Aug. 11, 1944	31	74	10	7.2	12.9	1.3	-------	0.01	-------	9.6	2.9	12	44	7.8	12	0.0	0.4	70	36	3	-------

Oil Creek at Rouseville, Pa.

Aug. 10, 1944	45	73	10	7.3	33.1	1.0	-------	0.01	-------	31	7.6	21	85	20	45	0.1	0.2	186	109	39	-------

French Creek at Venango, Pa.

Aug. 8, 1944	77	78	15	7.5	21.9	2.4	-------	0.02	-------	33	6.9	2.4	112	18	3.1	.0.2	0.6	120	111	19	-------

French Creek at Utica, Pa.

Aug. 9, 1944	148	78	9	7.4	27.1	2.4	-------	0.01	-------	38	6.9	6.5	101	43	6.0	0.1	1.4	162	123	40	-------

Clarion River at Cooksburg, Pa.

Aug. 14, 1944	74.8	79	85	6.8	66.0	5.2	-------	0.01	-------	71	9.1	47	99	134	68	0.2	0.4	431	215	133	-------

Clarion River at St. Petersburg, Pa.

Aug. 14, 1944	44.4	87	60	7.0	36.0	2.4	-------	0.74	-------	35	6.5	26	43	77	38	0.2	0.5	232	144	79	-------

MISCELLANEOUS ANALYSES OF STREAMS IN OHIO RIVER BASIN IN PENNSYLVANIA—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Discharge (second-feet)	Temperature (°F.)	Color	pH	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Hardness as $CaCO_3$		Total acidity as H_2SO_4
																				Total	Noncarbonate	
Redbank Creek at St. Charles, Pa.																						
Aug. 5, 1944	46	84	4	6.7	38.8	1.6	-------	0.02	-------	30	8.9	31		18	114	32	0.2	0.6	232	111	97	-------
Mahoning Creek at Punxsutawney, Pa.																						
Aug. 4, 1944	25	78	5	7.0	99.7	10	-------	0.09	-------	88	24	99		67	442	12	0.3	1.4	734	318	263	-------
Crooked Creek at Idaho, Pa.																						
Aug. 3, 1944	15	80	2	3.9	94.9	10	4.6	0.11	-------	60	23	90		0	399	38	0.2	0.6	652	275	275	40
Stony Creek at Ferndale, Pa.																						
Aug. 1, 1944	30	79	3	2.8	147	6.4	16	6.1	4.6	101	36	17		0	592	8.0	0.2	0.4	-------	592	592	202
Conemaugh River at Seward, Pa.																						
Aug. 2, 1944	241	80	4	3.9	96.7	14	2.1	0.27	9.2	103	28	38		0	444	18	0.5	0.8	682	406	406	10
Kiskiminetas River at Vandergrift, Pa.																						
Sept. 4, 1944	448	71	5	2.7	174	19	15	3.8	8.2	112	38	33	9.5	0	686	16	0.5	1.3	950	642	642	246

Little Conemaugh River at East Conemaugh, Pa.

Aug. 2, 1944	18	70	8	2.7	222	8.0	29	15	10	155	48	50	0	950	14	0.3	0.8	-------	902	902	349

Blacklick Creek at Blacklick, Pa.

Aug. 2, 1944	65	77	17	2.6	225	7.2	39	36	3.2	92	36	84	0	934	22	0.3	0.2	-------	821	821	560

Loyalhanna Creek at Kingston, Pa.

Aug. 1, 1944	17	75	5	6.3	26.1	5.4	-------	0.02	-------	28	9.0	5.1	6	102	3.9	0.1	1.4	169	107	102	-------

Buffalo Creek near Freeport, Pa.

Sept. 6, 1944	8.05	70	7	7.4	48.0	3.4	-------	0.01	-------	45	9.3	35	76	86	52	0.2	0.4	280	151	88	-------

Monongahela River near Greensboro, Pa.

Aug. 15, 1944	2,180	82	7	3.3	65.0	3.9	5.8	0.13	1.2	35	13	18	0	214	10	0.2	1.3	336	199	199	73

Monongahela River at Braddock, Pa.

Sept. 9, 1944	1,430	80	8	3.7	99.4	12	5.0	0.04	2.6	82	22	73	3.8	0	451	25	0.4	0.8	704	336	336	56

Dunkard Creek at Shannopin, Pa.

Aug. 15, 1944	7.3	83	4	3.4	130	11	5.3	0.24	4.2	103	40	83	0	570	45	0.7	0.1	901	478	478	65

South Fork Tenmile Creek at Jefferson, Pa.

Aug. 15, 1944	1.22	75	10	7.3	49.5	3.4	-------	0.02	-------	43	8.8	46	130	72	43	0.1	1.6	294	144	37	-------

MISCELLANEOUS ANALYSES OF STREAMS IN OHIO RIVER BASIN IN PENNSYLVANIA—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Discharge (second-feet)	Temperature (°F.)	Color	pH	Specific conductance (Kx10⁶ at 25° C.)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Hardness as $CaCO_3$		Total acidity as H_2SO_4
																				Total	Noncarbonate	
Dunlap Creek at Allison, Pa.																						
Aug. 17, 1944	13	69	5	7.0	364	2.5	-------	0.07	-------	253	97	526	246	1,680	152	0.6	9.8	2,930	1,030	829	-------
Redstone Creek at Waltersburg, Pa.																						
Aug. 17, 1944	29	72	32	2.4	365	27	13	127	10	244	97	137	0	1,830	20	-------	0.8	2,500	1,640	1,640	824
Youghiogheny River at Connellsville, Pa.																						
Aug. 17, 1944	316	81	4	5.5	12.7	2.9	-------	0.02	-------	13	3.4	3.2	4	43	2.5	0.1	1.8	77	46	43	-------
Youghiogheny River at Sutersville, Pa.																						
Aug. 18, 1944	384	77	7	3.2	77.7	7.0	5.0	0.16	1.2	54	18	27	0	293	16	0.3	0.3	462	269	269	52
Casselman River at Markleton, Pa.																						
Aug. 16, 1944	54	77	3	3.4	82.7	8.6	9.7	0.15	4.2	74	26	11	0	372	4.9	0.2	1.0	557	372	372	99
Laurel Hill Creek at Ursina, Pa.																						
Aug. 16, 1944	27.5	82	8	7.1	6.86	0.9	-------	0.01	-------	8.1	2.2	1.2	22	11	1.2	0.1	0.4	39	29	11	-------

Turtle Creek at Trafford, Pa.

Sept. 9, 1944	3.34	68	23	3.4	115	27	19	11	3.6	99	25	47	0	526	38	-------	1.9	840	510	510	189

Chartiers Creek at Carnegie, Pa.

Sept. 8, 1944	57	64	55	2.6	279	20	31	112	7.2	156	73	167	0	1,470	94	-------	0.4	2,480	1,300	1,300	-------

Beaver River at Wampum, Pa.

Aug. 30, 1944	640	66	10	6.6	43.7	4.0	-------	0.01	-------	52	12	16	47	131	20	0.6	12	291	179	141	-------

Shenango River at Sharpsville, Pa.

Aug. 7, 1944	290	76	9	6.7	17.8	2.2	-------	0.02	-------	23	5.1	4.5	50	38	3.8	0.1	2.4	114	78	37	-------

Little Shenango River at Greenville, Pa.

Aug. 7, 1944	21.2	77	10	7.5	23.8	5.4	-------	0.01	-------	34	7.6	1.9	106	26	3.2	0.1	1.9	142	116	29	-------

Connoquenessing Creek at Hazen, Pa.

Aug. 31, 1944	3.78	67	8	6.8	161	1.0	-------	0.02	-------	118	44	147	69	269	315	3.4	6.3	975	475	419	-------

Slippery Rock Creek at Wurtenberg, Pa.

Aug. 31, 1944	45	66	9	7.7	44.2	2.8	-------	0.02	-------	54	11	11	92	95	21	0.1	0.4	274	180	105	-------

MISCELLANEOUS ANALYSES OF STREAMS IN OHIO RIVER BASIN IN PENNSYLVANIA—Continued

Chemical analyses, in equivalents per million

Date of collection	Discharge (second-feet)	Temperature (°F.)	Color	pH	Specific conductance (Kx10⁶ at 25° C.)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Hardness as $CaCO_3$		Total acidity as H_2SO_4
																				Total	Noncarbonate	
Allegheny River at Eldred, Pa.																						
Aug. 25, 1944	71									2.096	0.773	3.633		0.787	0.229	5.471	0.005	0.010				
Allegheny River near Kinzua, Pa.																						
Aug. 12, 1944	320									1.797	0.543	2.268		1.279	0.375	2.933	0.016	0.005				
Allegheny River at West Hickory, Pa.																						
Aug. 10, 1944	586									1.647	0.526	1.716		1.344	0.416	2.115	0.011	0.003				
Allegheny River near Rimer, Pa.																						
Aug. 8, 1944	1,810									1.497	0.551	1.253		1.000	0.937	1.354	0.005	0.005				
Allegheny River at Natrona, Pa.																						
Sept. 8, 1944	1,800						0.467	0.003	0.073	2.845	1.234	1.516		0.000	5.059	1.100		0.010				
Conewango Creek at Russell, Pa.																						
Aug. 12, 1944	145									1.897	0.543	0.449		2.147	0.479	0.181	0.011	0.071				

Brokenstraw Creek at Youngsville, Pa.																					
Aug. 12, 1944	46									1.547	0.469	0.308	1.901	0.271	0.110	0.011	0.031				
Tionesta Creek at Mayburg, Pa.																					
Aug. 11, 1944	31									0.479	0.238	0.510	0.721	0.162	0.338	0.000	0.006				
Oil Creek at Rouseville, Pa.																					
Aug. 10, 1944	45									1.547	0.625	0.914	1.393	0.416	1.269	0.005	0.003				
French Creek at Venango, Pa.																					
Aug. 8, 1944	77									1.647	0.567	0.105	1.836	0.375	0.087	0.011	0.010				
French Creek at Utica, Pa.																					
Aug. 9, 1944	78									1.897	0.567	0.284	1.656	0.895	0.169	0.005	0.023				
Clarion River at Cooksburg, Pa.																					
Aug. 14, 1944	74.8									3.544	0.748	2.056	1.623	2.790	1.918	0.011	0.006				
Clarion River at St. Petersburg, Pa.																					
Aug. 14, 1944	44.4									1.747	0.535	1.117	0.705	1.603	1.072	0.011	0.008				
Redbank Creek at St. Charles, Pa.																					
Aug. 5, 1944	46									1.497	0.732	1.363	0.295	2.373	0.903	0.011	0.010				

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MISCELLANEOUS ANALYSES OF STREAMS IN OHIO RIVER BASIN IN PENNSYLVANIA—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Discharge (second-feet)	Temperature (°F.)	Color	pH	Specific conductance (K x 10⁶ at 25° C.)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Hardness as $CaCO_3$		Total acidity as H_2SO_4
																				Total	Non-carbonate	
Mahoning Creek at Punxsutawney, Pa.																						
Aug. 4, 1944	25	------	------	------	-------	-------	-------	-------	-------	4.392	1.974	4.311		1.098	9.202	0.338	0.016	0.023	-------	-------	------	-------
Crooked Creek at Idaho, Pa.																						
Aug. 3, 1944	15	------	------	------	-------	-------	0.512	0.006	-------	2.995	1.891	3.902		0.000	8.307	1.072	0.011	0.010	-------	-------	------	-------
Stony Creek at Ferndale, Pa.																						
Aug. 1, 1944	30	------	------	------	-------	-------	1.780	0.328	0.168	5.041	2.960	0.738		0.000	12.325	0.226	0.011	0.006	-------	-------	------	-------
Conemaugh River at Seward, Pa.																						
Aug. 2, 1944	241	------	------	------	-------	-------	0.234	0.015	0.335	5.141	2.303	1.669		0.000	9.244	0.508	0.026	0.013	-------	-------	------	-------
Kiskiminetas River at Vandergrift, Pa.																						
Sept. 4, 1944	448	------	------	------	-------	-------	1.669	0.204	0.299	5.590	3.125	1.435	0.243	0.000	14.282	0.451	0.026	0.021	-------	-------	------	-------
Little Conemaugh River at East Conemaugh, Pa.																						
Aug. 2, 1944	18	------	------	------	-------	-------	3.226	0.806	0.364	7.736	3.947	2.161		0.000	19.779	0.395	0.016	0.013	-------	-------	------	-------

Blacklick Creek at Blacklick, Pa.

Aug. 2, 1944	65						4.338	1.934	0.116	4.592	2.960	3.664	0.000	19.445	0.620	0.016	0.003			

Loyalhanna Creek at Kingston, Pa.

Aug. 1, 1944	17									1.398	0.740	0.222	0.098	2.124	0.110	0.005	0.023			

Buffalo Creek near Freeport, Pa.

Sept. 6, 1944	8.05									2.246	0.765	1.509	1.246	1.790	1.467	0.011	0.006			

Monongahela River near Greensboro, Pa.

Aug. 15, 1944	2,180						0.645	0.007	0.044	1.747	1.069	0.787	0.000	4.455	0.282	0.011	0.021			

Monongahela River at Braddock, Pa.

Sept. 9, 1944	1,430						0.556	0.002	0.095	4.093	1.809	3.174	0.097	0.000	9.390	0.705	0.021	0.013		

Dunkard Creek at Shannopin, Pa.

Aug. 15, 1944	7.3						0.590	0.013	0.153	5.141	3.290	3.622	0.000	11.867	1.269	0.037	0.002			

South Fork Tenmile Creek at Jefferson, Pa.

Aug. 15, 1944	1.22									2.146	0.724	2.004	2.131	1.499	1.213	0.005	0.026			

Dunlap Creek at Allison, Pa.

Aug. 17, 1944	13									12.628	7.977	22.881	4.032	34.977	4.287	0.032	0.158			

MISCELLANEOUS ANALYSES OF STREAMS IN OHIO RIVER BASIN IN PENNSYLVANIA—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Discharge (second-feet)	Temperature (°F.)	Color	pH	Specific conductance (Kx10⁵ at 25° C.)	Silica (SiO_2)	Aluminum (Al)	Iron (Fe)	Manganese (Mn)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Hardness as $CaCO_3$		Total acidity as H_2SO_4
																				Total	Noncarbonate	
Redstone Creek at Waltersburg, Pa.																						
Aug. 17, 1944	29						1.446	6.822	0.364	12.179	7.977	5.940	0.000	38.100	0.564		0.013					
Youghiogheny River at Connellsville, Pa.																						
Aug. 17, 1944	316									0.649	0.280	0.137	0.066	0.895	0.071	0.005	0.029					
Youghiogheny River at Sutersville, Pa.																						
Aug. 18, 1944	384						0.556	0.009	0.044	2.695	1.480	1.189	0.000	6.100	0.451	0.016	0.005					
Casselman River at Markleton, Pa.																						
Aug. 16, 1944	54						1.079	0.008	0.153	3.694	2.138	0.472	0.000	7.745	0.138	0.011	0.016					
Laurel Hill Creek at Ursina, Pa.																						
Aug. 16, 1944	27.5									0.404	0.181	0.050	0.361	0.229	0.034	0.005	0.006					
Turtle Creek at Trafford, Pa.																						
Sept. 9, 1944	3.34						2.113	0.394	0.131	4.941	2.056	2.053	0.000	10.951	1.072		0.031					

Chartiers Creek at Carnegie, Pa.

Sept. 8, 1914	57						3.448	6.016	0.262	7.786	6.003	7.267	0.000	30.605	2.651		0.006			

Beaver River at Wampum, Pa.

Aug. 30, 1944	640									2.595	0.987	0.705	0.770	2.727	0.564	0.032	0.194			

Shenango River at Sharpsville, Pa.

Aug. 7, 1944	290									1.148	0.419	0.195	0.820	0.791	0.107	0.005	0.039			

Little Shenango River at Greenville, Pa.

Aug. 7, 1944	21.2									1.697	0.625	0.083	1.738	0.541	0.090	0.005	0.031			

Connoquenessing Creek at Hazen, Pa.

Aug. 31, 1944	3.78									5.890	3.618	6.388	1.131	5.600	8.884	0.179	0.102			

Slippery Rock Creek at Wurtenberg, Pa.

Aug. 31, 1944	45									2.695	0.905	0.489	1.508	1.978	0.592	0.005	0.006			

UPPER MISSISSIPPI RIVER BASIN

IOWA RIVER AT IOWA CITY, IOWA

LOCATION.—At Benton Street Bridge
DRAINAGE AREA.—3,230 square miles.
RECORDS AVAILABLE.—Chemical analyses: January to September 1944.
Sediment records: October 1943 to September 1944.
Water temperatures: January to September 1944.
EXTREMES.—Dissolved solids: Maximum, 402 parts per million Jan. 11–20; minimum, 167 parts per million May 21–31.
Total hardness: Maximum, 337 parts per million Jan. 11–20; minimum, 133 parts per million May 21–31.
Sediment loads: Maximum, 177,000 tons per day May 23; minimum, 6.2 tons per day Jan. 25.
Water temperatures: Maximum, 84° F. Aug. 10–16; minimum, 32° F. several days in January, February and March.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1005.

Chemical analyses, in parts per million, January to September 1944

Date of collection	Mean discharge (second-feet)	Color	pH	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids	Total hardness as $CaCO_3$
Jan. 1–10, 1944	360	------	7.8	62.1	16	0.03	86	28	11	3.5	334	65	9.0	0.2	6.2	0.1	392	330
Jan. 11–20	284	------	7.8	63.0	17	.02	89	28	12	3.5	342	67	9.5	.2	5.8	.1	402	337
Jan. 21–31	963	------	7.7	46.0	12	.04	59	21	9.6	4.7	232	49	8.0	.2	5.6	.1	285	234
Feb. 1–10	1,076	------	7.6	47.6	14	.04	64	21	7.3	4.3	238	45	7.0	.2	8.0	.1	292	246
Feb. 11–20	468	------	7.7	59.6	16	.02	82	27	9.6	3.7	311	59	8.5	.2	7.6	.3	372	316
Feb. 21–29	2,304	------	7.4	37.9	13	.49	49	14	5.8	5.5	177	38	5.0	.2	9.0	.1	239	180
Mar. 1–10	1,345	------	7.5	46.2	15	.10	61	20	7.2	5.9	226	46	6.0	.2	8.6	.2	287	234
Mar. 11–20	3,832	------	7.4	35.2	14	.36	45	13	6.5	5.2	162	36	4.5	.2	11	.2	226	166
Mar. 21–31	3,233	15	8.3	44.3	16	.02	59	20	8.5	3.6	226	43	6.5	.3	7.4	.2	282	229
Apr. 1–10	2,237	20	8.1	50.5	17	.03	68	22	9.5	3.7	262	49	6.5	.2	9.3	.2	319	260
Apr. 11–20	3,878	20	8.4	45.5	15	.03	62	20	9.2	3.6	228	47	5.0	.3	13	.2	293	236
Apr. 21–30	4,956	15	8.2	47.5	15	.03	64	20	7.4	3.5	238	47	4.5	.3	14	.2	303	242
May 1–10	4,265	15	8.2	47.8	15	.02	66	22	8.0	3.4	240	46	4.0	.3	16	.3	310	255
May 11–20	4,979	28	8.3	50.5	15	.04	69	23	7.8	3.8	260	47	4.5	.3	15	.3	329	266
May 21–31	19,370	35	7.3	27.6	12	.07	35	11	5.0	4.2	128	25	3.5	.4	5.5	.1	167	133

June 1–10	7,002	30	7.3	50.0	17	.03	66	22	6.9	4.0	250	42	4.5	.4	13	.1	304	255
June 11–20	11,740	25	7.5	33.3	12	.06	43	14	6.0	4.0	157	30	3.5	.3	9.2	.1	204	165
June 21–30	7,698	30	7.6	41.6	15	.04	55	17	6.3	4.5	206	35	4.0	.4	9.2	.1	254	207
July 1–10	3,582	30	7.6	49.3	18	.02	67	21	6.4	4.1	246	43	4.5	.4	15	.1	307	254
July 11–20	2,452	20	7.3	50.4	16	.04	67	22	7.4	3.6	257	44	6.5	.2	12	.1	314	258
July 21–31	1,633	25	7.3	49.2	15	.12	66	22	8.0	3.9	255	44	6.5	.3	8.0	.1	307	255
Aug. 1–10	1,693	28	7.3	44.0	13	.06	57	19	7.1	4.2	223	40	6.5	.3	8.0	.1	272	220
Aug. 11–20	1,063	25	7.4	50.8	14	.04	66	23	9.1	4.0	258	50	8.5	.3	5.5	.1	317	259
Aug. 21–31	924	30	7.3	48.1	8.0	.04	62	22	8.2	4.3	245	46	8.0	.3	4.6	.1	293	245
Sept. 1–10	1,003	30	7.5	52.8	12	.02	65	24	8.0	4.9	275	47	6.5	.4	8.0	.1	327	260
Sept. 11–20	709	25	7.2	49.1	12	.18	59	26	9.1	4.9	256	50	3.0	.3	1.5	.1	293	254
Sept. 21–30	678	30	7.3	49.6	12	.18	60	25	9.9	5.4	260	48	2.0	.3	1.5	.1	296	260
Weighted average	-------	27	-------	41.0	14	0.07	54	18	6.8	4.1	202	38	4.6	0.3	9.7	0.1	255	209

IOWA RIVER AT IOWA CITY, IOWA—Continued

Chemical analyses, in equivalents per million, January to September 1944

Date of collection	Mean discharge (second-feet)	Color	pH	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids	Total hardness as $CaCO_3$
Jan. 1–10, 1944	360						4.29	2.30	0.48	0.09	5.47	1.35	0.25	0.01	0.10			
Jan. 11–20	284						4.44	2.30	.52	.09	5.61	1.39	.27	.01	.09			
Jan. 21–31	963						2.94	1.73	.42	.12	3.80	1.02	.23	.01	.09			
Feb. 1–10	1,076						3.19	1.73	.32	.11	3.90	.94	.20	.01	.13			
Feb. 11–20	468						4.09	2.22	.42	.09	5.10	1.23	.24	.01	.12			
Feb. 21–29	2,304						2.45	1.15	.25	.14	2.90	.79	.14	.01	.15			
Mar. 1–10	1,345						3.04	1.64	.31	.15	3.70	.96	.17	.01	.14			
Mar. 11–20	3,832						2.25	1.07	.28	.13	2.66	.75	.13	.01	.18			
Mar. 21–31	3,233						2.94	1.64	.37	.09	3.70	.90	.18	.02	.12			
Apr. 1–10	2,237						3.39	1.81	.41	.09	4.29	1.02	.18	.01	.15			
Apr. 11–20	3,878						3.09	1.64	.40	.09	3.74	.98	.14	.02	.21			
Apr. 21–30	4,956						3.19	1.64	.32	.09	3.90	.98	.13	.02	.23			
May 1–10	4,265						3.29	1.81	.35	.09	3.93	.96	.11	.02	.26			
May 11–20	4,979						3.44	1.89	.34	.10	4.26	.98	.13	.02	.24			
May 21–31	19,370						1.75	.90	.22	.11	2.10	.52	.10	.02	.09			
June 1–10	7,002						3.29	1.81	.30	.10	4.10	.87	.13	.02	.21			
June 11–20	11,740						2.15	1.15	.26	.10	2.57	.62	.10	.02	.15			
June 21–30	7,698						2.74	1.40	.27	.12	3.38	.73	.11	.02	.15			
July 1–10	3,582						3.34	1.73	.28	.10	4.03	.90	.13	.02	.24			
July 11–20	2,452						3.34	1.81	.32	.09	4.21	.92	.18	.01	.19			
July 21–31	1,633						3.29	1.81	.35	.10	4.18	.92	.18	.02	.13			
Aug. 1–10	1,693						2.84	1.56	.31	.11	3.66	.83	.18	.02	.13			
Aug. 11–20	1,063						3.29	1.89	.40	.10	4.23	1.04	.24	.02	.09			
Aug. 21–31	924						3.09	1.81	.36	.11	4.02	.96	.23	.02	.07			
Sept. 1–10	1,003						3.24	1.97	.35	.13	4.51	.98	.18	.02	.13			
Sept. 11–20	709						2.94	2.14	.40	.13	4.20	1.04	.08	.02	.02			
Sept. 21–30	678						2.99	2.06	.43	.14	4.26	1.00	.06	.02	.02			
Weighted average							2.70	1.48	0.30	0.10	3.31	0.79	0.13	0.02	0.16			

Water temperatures (°F.), January to September 1944

Day	January	February	March	April	May	June	July	August	September
1	33	33	36	40	61	79	77	78	71
2	33	33	38	40	62	81	77	80	72
3	33	34	40	41	58	80	77	81	75
4	33	35	37	42	56	79	77	77	78
5	33	35	36	44	58	76	78	78	76
6	33	34	35	46	51	68	77	77	72
7	32	35	34	48	50	67	78	78	70
8	32	35	33	48	50	65	78	80	70
9	32	35	32	48	52	64	78	80	70
10	33	34	33	49	56	63	80	84	70
11	33	33	34	46	60	63	79	84	69
12	33	32	34	44	64	66	78	84	67
13	33	32	33	46	67	72	79	84	66
14	33	----------	33	46	69	74	79	84	65
15	33	----------	34	45	71	78	80	84	----------
16	33	32	34	45	73	78	77	84	65
17	33	32	35	44	75	80	78	81	71
18	33	32	36	44	73	81	78	79	73
19	33	32	36	46	71	65	79	78	74
20	33	33	37	47	64	71	77	76	74
21	33	33	38	48	66	72	77	76	74
22	33	33	38	48	69	74	77	77	71
23	33	33	38	50	70	78	77	76	67
24	33	33	40	53	71	78	77	----------	66
25	33	34	42	52	71	79	78	76	66
26	34	34	41	52	72	79	78	68	65
27	34	35	40	54	73	80	78	66	67
28	35	36	39	54	74	81	77	66	66
29	33	37	40	55	75	----------	77	68	66
30	32	----------	37	58	78	78	77	68	66
31	32	----------	36	----------	79	----------	78	69	----------
Average	33	34	36	47	66	74	78	77	70

IOWA RIVER AT IOWA CITY, IOWA—Continued

Suspended sediment, water year October 1943 to September 1944

Day	October			November			December		
	Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment	
		Mean concentration (p. p. m.)	Tons per day		Mean concentration (p. p. m.)	Tons per day		Mean concentration (p. p. m.)	Tons per day
1	807	62	135	788	58	123	641	9	16
2	774	66	138	866	59	138	653	9	16
3	749	62	125	713	36	69	613	8	13
4	743	46	92	707	26	50	618	7	12
5	707	46	88	683	24	44	565	7	11
6	689	55	102	701	33	70	731	12	24
7	707	65	124	1,360	224	823	985	32	85
8	695	69	129	1,290	202	704	1,030	30	83
9	683	72	133	1,150	172	534	1,030	50	139
10	641	71	123	992	126	337	1,030	49	136
11	695	78	146	866	87	203	892	41	99
12	560	89	135	892	57	137	930	29	73
13	665	99	178	846	36	82	431	25	29
14	635	89	153	852	23	53	374	22	22
15	618	61	102	866	18	42	335	19	17
16	596	47	76	872	14	33	360	17	17
17	591	41	65	840	12	27	352	20	19
18	580	42	66	788	10	21	490	23	30
19	641	46	80	794	9	19	550	27	40
20	586	54	85	725	8	16	565	28	43
21	624	83	140	768	6	12	555	30	45
22	635	101	173	768	5	10	521	31	44
23	613	91	151	737	5	9.9	485	32	42
24	635	71	122	707	6	11	449	33	40
25	570	49	75	683	8	15	417	33	37
26	570	38	58	653	10	18	405	33	36
27	575	33	51	653	14	25	413	33	37
28	516	32	45	641	11	19	384	32	33
29	535	33	48	641	8	14	402	28	30
30	555	37	55	591	8	13	388	25	26
31	695	42	79				352	22	21
Total load (tons)			3,272			3,672			1,315

	January			February			March		
1	391	22	23	1,690	825	3,860	1,790	425	2,050
2	380	19	19	1,420	380	1,460	1,600	340	1,470
3	402	17	18	1,320	302	1,080	1,460	320	1,260
4	356	16	15	1,180	292	930	1,600	325	1,400
5	346	15	14	1,040	230	646	1,710	345	1,590
6	352	14	13	957	164	424	1,670	365	1,650
7	380	13	13	906	120	294	1,340	275	995
8	335	13	12	846	89	203	781	130	274
9	341	13	12	768	68	141	719	65	126
10	317	14	12	635	50	86	781	45	95
11	337	14	13	380	37	38	1,360	95	410
12	297	13	10	336	25	23	2,630	828	5,930
13	245	13	8.6	320	21	18	2,920	1,600	12,800
14	269	12	8.7	481	20	26	4,040	2,860	31,200
15	332	12	11	485	20	26	4,640	2,740	34,300
16	287	11	8.5	530	19	27	4,450	1,920	23,100
17	263	11	8.0	560	18	27	4,440	2,010	24,100
18	234	12	7.6	560	18	27	4,510	1,740	21,200
19	282	13	9.9	516	18	25	4,610	1,360	16,900
20	298	14	11	508	18	25	4,720	1,070	13,600
21	296	16	13	473	18	23	4,340	935	10,800
22	284	18	14	950	154	605	3,280	895	7,930
23	284	14	11	2,020	560	3,050	3,280	910	8,060
24	311	10	8.4	2,080	905	5,180	3,330	1,040	9,350
25	329	7	6.2	3,220	2,010	18,900	3,340	1,150	10,400
26	404	7	7.6	4,690	3,840	48,600	3,590	1,390	13,500
27	1,670	1,860	12,500	3,130	2,060	18,000	3,410	1,060	9,760
28	1,660	1,550	8,780	2,320	1,300	8,140	2,990	825	6,660
29	1,450	660	2,580	1,850	680	3,480	2,780	575	4,320
30	1,630	1,210	6,000				2,660	480	3,450
31	2,270	1,590	9,530				2,560	490	3,390
Total load (tons)			39,700			115,400			282,100

IOWA RIVER AT IOWA CITY, IOWA—Continued

Day	April			May			June		
	Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment	
		Mean concentration (p. p. m.)	Tons per day		Mean concentration (p. p. m.)	Tons per day		Mean concentration (p. p. m.)	Tons per day
1	2,450	490	3,240	3,920	685	7,250	10,700	435	12,600
2	2,420	460	3,010	3,780	705	7,200	9,740	440	11,600
3	2,350	430	2,730	3,780	760	7,760	9,050	455	11,100
4	2,260	400	2,440	3,840	835	8,680	8,070	375	8,170
5	2,160	375	2,190	3,960	1,020	10,900	7,230	340	6,640
6	2,090	375	2,120	4,270	1,520	17,500	6,500	345	6,050
7	2,100	455	2,580	4,460	748	9,010	5,640	380	5,790
8	2,130	475	2,730	4,620	565	7,050	4,280	500	5,780
9	2,150	475	2,760	4,870	480	6,310	4,270	650	7,490
10	2,260	510	3,110	5,150	440	6,120	4,540	740	9,070
11	2,440	675	4,450	5,580	480	7,230	4,760	710	9,120
12	2,710	760	5,560	5,990	490	7,920	5,190	725	10,200
13	3,100	1,050	8,880	5,820	460	7,230	5,380	700	10,200
14	3,590	1,920	18,600	5,300	485	6,940	6,010	595	9,660
15	4,330	2,420	27,600	4,260	500	5,750	9,810	972	26,900
16	4,480	2,060	24,900	3,410	500	4,600	14,200	1,440	55,900
17	4,520	1,780	21,700	3,060	495	4,090	15,800	1,020	43,500
18	4,640	1,090	13,700	2,780	490	3,680	18,700	1,290	67,400
19	4,520	890	10,900	3,090	982	8,520	22,200	1,510	90,500
20	4,450	920	11,100	10,500	3,860	109,000	15,400	835	36,000
21	4,260	870	10,000	11,800	2,440	79,200	10,700	545	15,700
22	4,890	1,430	20,100	20,700	3,060	171,000	9,950	723	18,500
23	6,160	2,590	43,700	27,700	2,400	177,000	9,900	751	20,400
24	5,960	1,360	22,100	30,100	1,840	150,000	8,330	440	9,790
25	5,360	850	12,300	25,400	1,380	94,600	8,000	555	12,000
26	5,000	720	9,720	20,800	960	53,900	8,030	520	11,400
27	4,760	820	10,500	19,100	930	48,000	6,700	380	6,870
28	4,540	760	9,320	18,200	790	38,800	5,710	500	7,710
29	4,430	710	8,490	14,500	580	22,700	5,090	595	8,180
30	4,200	700	7,940	12,800	515	17,800	4,570	610	7,530
31				12,000	480	15,600			
Total load (tons)			328,500			1,121,000			561,800

Day	July			August			September		
1	3,900	560	5,900	1,480	190	759	1,380	119	443
2	3,610	635	6,190	1,360	130	477	1,330	99	356
3	3,320	590	5,290	1,300	102	358	1,190	87	280
4	3,320	585	5,240	1,310	121	428	1,090	87	256
5	3,630	1,140	11,200	1,570	178	755	984	86	228
6	3,850	1,260	13,100	2,650	1,050	7,510	926	76	190
7	4,060	906	9,930	2,100	968	5,490	876	61	144
8	4,000	585	6,320	2,030	482	2,640	774	59	123
9	3,270	535	4,720	1,680	375	1,700	762	58	119
10	2,860	460	3,550	1,450	220	861	714	58	112
11	2,660	480	3,450	1,310	134	474	687	58	108
12	2,700	490	3,570	1,230	100	332	774	58	121
13	2,750	578	4,290	1,120	82	248	750	57	115
14	2,790	998	7,520	1,010	71	194	834	56	126
15	2,890	940	7,220	965	66	172	698	56	106
16	2,380	1,350	8,680	906	67	164	704	55	105
17	2,130	588	3,380	1,090	72	212	687	55	102
18	1,970	372	1,980	965	88	229	670	55	99
19	2,290	582	3,790	1,000	92	248	600	65	105
20	1,960	790	4,180	1,030	89	248	687	69	128
21	1,650	305	1,360	882	101	240	858	76	176
22	1,510	206	840	792	111	237	792	82	175
23	1,490	150	603	804	113	245	670	83	150
24	1,540	150	624	732	109	215	670	80	145
25	1,440	149	579	704	98	186	638	73	126
26	1,380	134	499	704	82	156	648	74	129
27	1,330	121	435	756	70	143	632	76	130
28	1,500	138	586	698	66	124	654	77	136
29	2,380	359	2,380	1,040	73	205	605	77	126
30	2,060	516	2,870	1,490	92	370	610	77	127
31	1,680	315	1,430	1,560	118	497			
Total load (tons)			131,700			26,120			4,786
Total load for year (tons)									2,620,000

CEDAR RIVER AT CEDAR RAPIDS, IOWA

LOCATION.—At 8th Avenue Bridge, 500 feet downstream from gaging station, and 2.6 miles upstream from Prairie Creek.
DRAINAGE AREA.—6,640 square miles.
RECORDS AVAILABLE.—Chemical analyses: January to September 1944.
Sediment records: October 1943 to September 1944.
Water temperatures: January to September 1944.
EXTREMES.—Dissolved solids: Maximum, 374 parts per million Jan. 11–20; minimum, 207 parts per million, Mar. 11–20.
Total hardness: Maximum, 293 parts per million Jan. 11–20; minimum, 154 parts per million Mar. 11–20.
Sediment loads: Maximum, 78,700 tons per day on June 17; minimum, 1.6 tons per day Jan. 21.
Water temperatures: Maximum, 85° F. Aug. 11, 14, and 15; minimum, 32° F. on Jan. 7, and Mar. 7, 9.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1005.

Chemical analyses, in parts per million, January to September 1944

Date of collection	Mean discharge (second-feet)	Color	pH	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids	Total hardness as $CaCO_3$
Jan. 1–10, 1944	729	-------	7.7	59.9	11	0.02	76	24	19	3.0	294	45	24	0.2	12	0.1	361	288
Jan. 11–20	719	-------	7.8	61.9	12	.04	78	24	21	2.7	300	45	28	.2	9.9	.1	374	293
Jan. 21–31	1,204	-------	7.6	48.7	9.4	.06	59	18	18	3.0	222	37	24	.2	11	.1	290	221
Feb. 1–10	1,592	-------	7.3	47.8	11	.06	59	18	17	4.3	215	36	21	.2	9.2	.1	287	221
Feb. 11–20	846	-------	7.6	57.5	13	.02	74	22	18	4.3	276	42	22	.2	12	.2	348	275
Feb. 21–29	2,943	-------	7.4	41.0	10	.19	53	15	11	5.0	188	32	14	.2	6.3	.2	253	194
Mar. 1–10	2,796	-------	7.3	37.6	9.9	.07	48	14	11	5.8	165	30	12	.2	11	.1	232	178
Mar. 11–20	6,297	-------	7.3	32.9	10	.22	42	12	7.6	5.3	141	28	9.0	.2	12	.2	207	154
Mar. 21–30	4,936	33	7.9	37.9	12	.04	48	14	11	4.5	176	32	12	.3	8.4	.2	237	178
Apr. 1–10	3,660	27	7.7	44.4	13	.02	59	17	9.4	3.8	220	36	10	.2	7.6	.2	274	217
Apr. 11–20	4,703	29	8.1	45.8	13	.02	62	18	11	3.7	226	40	9.0	.3	7.8	.2	287	228
Apr. 21–30	5,813	28	7.9	49.9	14	.04	68	21	10	3.1	250	45	9.5	.3	9.2	.2	317	256
May 1–10	7,660	30	8.2	45.7	12	.02	62	19	8.8	3.0	224	41	8.0	.3	12	.3	295	232
May 11–20	6,733	28	8.3	48.6	11	.02	66	21	10	3.8	244	44	9.5	.2	13	.1	314	251
May 21–31	13,430	40	7.4	39.3	14	.16	53	15	8.5	4.8	196	32	6.5	.4	4.8	.1	241	194

June 1-10	5,638	35	7.3	50.8	15	.10	68	21	9.1	4.7	265	38	9.0	.4	6.0	.1	308	256
June 11-20	14,940	30	7.5	37.0	12	.04	49	14	7.2	4.5	183	29	7.0	.4	6.2	.1	224	180
June 21-30	11,040	35	7.6	41.1	14	.10	54	16	7.1	3.6	203	32	8.5	.3	8.6	.2	252	201
July 1-10	5,692	30	7.6	42.0	14	.03	54	17	7.6	3.6	206	34	8.5	.3	7.9	.1	256	205
July 11-20	4,051	25	7.4	46.9	13	.08	63	19	9.2	3.7	238	37	12	.2	5.9	.1	291	235
July 21-31	3,294	30	7.4	42.4	9.9	.08	55	17	8.8	4.0	217	32	11	.3	3.6	.1	258	208
Aug. 1-10	2,701	30	7.4	41.6	7.4	.14	51	18	11	3.8	205	35	13	.4	2.1	.1	248	202
Aug. 11-20	2,187	30	7.3	36.7	4.8	.16	39	17	11	4.2	169	34	15	.3	.6	.1	215	168
Aug. 21-31	1,840	30	7.3	42.2	5.2	.12	49	19	11	3.6	203	36	15	.3	2.2	.1	249	200
Sept. 1-10	1,726	35	7.3	40.6	4.4	.10	43	20	12	4.0	187	38	16	.3	.8	.1	238	190
Sept. 11-20	1,457	20	7.2	41.4	6.1	.07	44	20	13	4.3	192	38	15	.3	2.0	.2	236	200
Sept. 21-30	1,836	25	7.2	44.5	9.0	.06	52	21	13	5.0	218	37	16	.3	4.5	.2	261	216
Weighted average		32		41.6	12	0.08	54	17	9.0	4.1	204	34	9.9	0.3	7.4	0.1	257	205

CEDAR RIVER AT CEDAR RAPIDS, IOWA—Continued

Chemical analyses, in equivalents per million, January to September 1944

Date of collection	Mean discharge (second-feet)	Color	pH	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids	Total hardness as $CaCO_3$
Jan. 1–10, 1944	729						3.79	1.97	0.83	0.08	4.82	0.94	0.68	0.01	0.19			
Jan. 11–20	719						3.89	1.97	.91	.07	4.92	.94	.79	.01	.16			
Jan. 21–31	1,204						2.94	1.48	.78	.08	3.64	.77	.68	.01	.18			
Feb. 1–10	1,592						2.94	1.48	.74	.11	3.52	.75	.59	.01	.15			
Feb. 11–20	846						3.69	1.81	.78	.11	4.52	.87	.62	.01	.19			
Feb. 21–29	2,943						2.65	1.23	.48	.13	3.08	.67	.39	.01	.10			
Mar. 1–10	2,796						2.40	1.15	.48	.15	2.70	.62	.34	.01	.18			
Mar. 11–20	6,297						2.10	.99	.33	.14	2.31	.58	.25	.01	.19			
Mar. 21–31	4,936						2.40	1.15	.48	.12	2.88	.67	.34	.02	.14			
Apr. 1–10	3,660						2.94	1.40	.41	.10	3.61	.75	.28	.01	.12			
Apr. 11–20	4,703						3.09	1.48	.48	.09	3.70	.83	.25	.02	.13			
Apr. 21–30	5,813						3.39	1.73	.43	.08	4.10	.94	.27	.02	.15			
May 1–10	7,660						3.09	1.56	.38	.08	3.67	.85	.23	.02	.19			
May 11–20	6,733						3.29	1.73	.43	.10	4.00	.92	.27	.01	.21			
May 21–31	13,430						2.64	1.23	.28	.12	3.21	.67	.18	.02	.08			
June 1–10	5,638						3.39	1.73	.40	.12	4.34	.79	.25	.02	.01			
June 11–20	14,940						2.45	1.15	.31	.12	3.00	.60	.20	.02	.10			
June 21–30	11,040						2.70	1.32	.31	.09	3.33	.67	.24	.02	.14			
July 1–10	5,692						2.70	1.40	.33	.09	3.38	.71	.24	.02	.13			
July 11–20	4,051						3.14	1.56	.40	.09	3.90	.77	.34	.01	.10			
July 21–31	3,294						2.75	1.40	.38	.10	3.56	.67	.31	.02	.06			
Aug. 1–10	2,701						2.55	1.48	.48	.10	3.36	.73	.37	.02	.03			
Aug. 11–20	2,187						1.95	1.40	.48	.11	2.77	.71	.42	.02	.01			
Aug. 21–31	1,840						2.45	1 56	48	.09	3.33	.75	.42	.02	.04			
Sept. 1–10	1,726						2.15	1.64	.52	.10	3.07	.79	.45	.02	.01			
Sept. 11–20	1,457						2.20	1.64	.57	.11	3.15	.79	.42	.02	.03			
Sept. 21–30	1,836						2.60	1.73	.57	.13	3.57	.77	.45	.02	.07			
Weighted average							2.70	1.40	0.39	0.10	3.34	0.71	0.28	0.02	0.12			

Water temperatures (°F.), January to September 1944

Day	January	February	March	April	May	June	July	August	September
1	33	34	35	39	58	78	76	79	71
2	35	34	36	41	63	80	77	81	72
3	35	34	39	40	61	80	80	83	77
4	34	34	36	41	54	80	80	78	77
5	33	35	37	44	52	74	80	79	75
6	33	34	34	47	51	66	80	80	72
7	32	34	32	48	52	67	80	80	70
8	34	34	33	50	52	63	78	80	70
9	34	34	32	52	54	63	79	81	70
10	35	34	34	49	56	----	78	84	69
11	33	33	34	39	61	64	78	85	66
12	33	35	33	45	65	67	77	84	65
13	35	34	33	47	65	71	78	----	65
14	35	34	34	48	70	75	78	85	65
15	35	34	34	45	73	73	79	85	65
16	35	34	34	42	74	75	80	84	64
17	35	34	35	46	75	75	78	77	64
18	35	35	35	47	72	78	80	75	64
19	36	36	37	48	71	74	78	76	72
20	35	35	37	48	69	73	76	74	74
21	35	34	38	49	70	72	76	77	72
22	34	35	38	51	72	75	77	77	69
23	34	35	41	55	70	77	78	76	65
24	34	34	44	52	69	77	79	75	62
25	35	35	44	53	70	80	78	72	62
26	35	34	40	51	72	79	78	68	65
27	35	34	40	53	71	82	78	65	67
28	34	35	40	55	73	82	75	65	67
29	34	36	38	54	74	78	76	69	64
30	34	----	38	58	76	78	76	70	63
31	34	----	40	----	75	----	79	70	----
Average	34	34	37	48	66	74	78	77	68

CEDAR RIVER AT CEDAR RAPIDS, IOWA—Continued

Suspended sediment, water year October 1943 to September 1944

Day	October			November			December		
	Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment	
		Mean concentration (p. p. m.)	Tons per day		Mean concentration (p. p. m.)	Tons per day		Mean concentration (p. p. m.)	Tons per day
1	1,450	52	204	1,420	30	115	1,370	12	44
2	1,440	29	113	1,350	27	98	1,220	11	36
3	1,380	16	60	1,320	23	82	1,320	11	39
4	1,250	12	40	1,240	21	70	1,280	10	35
5	1,280	11	38	1,280	20	69	1,330	10	36
6	1,250	16	54	1,380	20	75	1,670	25	113
7	1,190	20	64	1,540	25	104	1,780	30	144
8	1,220	26	86	1,730	38	177	1,820	30	147
9	1,130	33	101	1,600	28	121	1,600	30	130
10	1,110	40	120	1,520	23	94	1,670	30	135
11	1,110	48	144	1,630	20	88	1,450	25	98
12	1,050	56	159	1,730	16	75	1,280	20	69
13	1,140	70	215	1,690	13	59	1,100	12	36
14	1,050	24	68	1,690	11	50	620	5	8.4
15	1,110	17	51	1,650	10	45	600	5	8.1
16	1,080	19	55	1,610	9	39	550	5	7.4
17	1,130	21	64	1,630	9	40	650	7	12
18	1,140	24	74	1,450	9	35	940	10	25
19	1,110	27	81	1,520	8	33	1,000	15	40
20	1,110	30	90	1,470	7	28	1,000	20	54
21	1,160	29	91	1,510	9	37	920	21	52
22	1,240	27	90	1,520	11	45	880	22	52
23	1,320	27	96	1,510	13	53	840	22	50
24	1,240	26	87	1,490	15	60	840	22	50
25	1,200	28	91	1,400	15	57	840	23	52
26	1,190	31	100	1,470	14	56	847	23	53
27	1,160	34	106	1,440	14	54	809	23	50
28	1,100	37	110	1,400	13	49	847	23	53
29	1,110	40	120	1,370	13	48	822	21	47
30	1,170	39	123	1,330	12	43	747	20	40
31	1,300	34	119				822	19	42
Total load (tons)			3,014			1,999			1,758

	January			February			March		
1	724	14	27	2,070	110	615	4,080	308	3,390
2	735	11	22	1,670	61	275	4,710	352	4,480
3	735	8	16	1,840	41	204	4,260	208	2,390
4	735	5	9.9	2,070	34	190	3,560	122	1,170
5	730	5	10	1,730	30	140	3,060	88	727
6	730	5	9.9	1,420	24	92	2,780	64	480
7	730	5	9.9	1,470	20	79	2,090	47	265
8	710	5	9.6	1,270	14	48	1,220	33	109
9	720	5	9.7	1,190	12	39	1,160	22	69
10	740	10	20	1,190	12	39	1,040	14	39
11	740	14	28	760	7	14	1,450	12	47
12	720	12	23	700	5	9.4	3,060	86	890
13	720	11	21	700	5	9.4	4,260	134	1,540
14	700	9	17	700	5	9.4	4,600	289	3,860
15	700	8	15	800	5	11	7,600	796	16,300
16	720	8	16	900	5	12	8,670	520	12,200
17	740	8	16	950	5	13	9,160	380	9,400
18	760	8	16	1,000	5	14	9,230	265	6,600
19	712	5	9.6	950	4	10	8,570	250	5,780
20	678	1	1.8	1,000	5	14	6,370	185	3,180
21	611	1	1.6	920	5	12	4,770	138	1,780
22	644	3	5.2	1,250	29	111	4,290	115	1,330
23	689	3	5.6	3,680	335	3,330	4,230	138	1,580
24	667	4	7.2	2,600	275	1,930	4,620	188	2,350
25	747	6	12	2,380	162	1,040	5,080	342	4,690
26	873	15	35	4,200	540	6,120	5,390	375	5,460
27	1,140	28	86	4,400	600	8,130	6,050	348	5,680
28	1,520	53	218	3,500	240	2,270	5,990	255	4,120
29	1,710	93	429	3,560	222	2,130	5,300	165	2,360
30	2,140	140	809				4,500	115	1,400
31	2,500	153	1,030				4,080	98	1,080
Total load (tons)			2,946			26,910			104,700

CEDAR RIVER AT CEDAR RAPIDS, IOWA—Continued

Day	April			May			June		
	Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment	
		Mean concentration (p. p. m.)	Tons per day		Mean concentration (p. p. m.)	Tons per day		Mean concentration (p. p. m.)	Tons per day
1	4,020	100	1,090	5,670	146	2,240	8,630	217	5,060
2	3,910	111	1,170	5,170	161	2,250	7,310	197	3,890
3	3,620	111	1,080	5,050	188	2,560	6,370	195	3,350
4	3,560	109	1,050	5,450	214	3,150	5,670	189	2,890
5	3,730	108	1,090	6,150	216	3,590	5,080	176	2,410
6	3,820	107	1,100	7,580	282	5,770	4,710	161	2,050
7	3,620	106	1,040	8,930	270	6,510	4,380	139	1,640
8	3,480	105	987	10,400	277	7,780	4,380	123	1,450
9	3,420	98	905	11,400	245	7,540	4,770	135	1,740
10	3,420	87	803	10,800	176	5,260	5,080	196	2,690
11	3,450	74	689	9,060	132	3,310	5,270	173	2,460
12	4,260	168	2,020	7,940	117	2,510	6,440	350	6,090
13	5,020	322	4,360	7,250	132	2,580	7,480	385	7,780
14	5,110	298	4,110	6,530	144	2,540	8,530	355	8,180
15	5,300	258	3,690	6,180	152	2,540	8,930	280	6,750
16	4,990	212	2,860	6,340	159	2,720	12,500	420	14,500
17	4,680	167	2,110	5,990	163	2,640	25,000	1,140	78,700
18	4,770	162	2,090	5,270	182	2,590	28,400	952	73,000
19	4,770	150	1,930	5,420	237	3,470	26,700	620	44,700
20	4,680	131	1,660	7,350	901	18,500	20,200	375	20,500
21	4,560	116	1,430	9,230	1,020	25,400	15,700	300	12,400
22	4,560	109	1,340	10,800	750	21,900	15,700	655	27,800
23	4,990	145	1,950	13,200	620	22,100	19,100	984	50,700
24	5,480	200	2,960	16,600	580	26,000	17,100	630	29,800
25	5,770	198	3,080	17,800	445	21,400	11,600	405	13,100
26	6,090	182	2,990	17,300	395	18,500	8,070	270	5,880
27	6,470	172	3,000	15,400	257	10,700	6,630	222	3,970
28	6,820	164	3,020	13,700	216	7,990	6,020	184	2,990
29	6,980	158	2,980	12,600	204	6,940	5,480	174	2,570
30	6,410	148	2,560	11,100	200	5,990	4,990	159	2,140
31				9,970	200	5,380			
Total load (tons)			61,140			262,400			441,200

	July			August			September		
1	4,800	161	2,090	2,430	69	453	2,120	62	355
2	4,650	237	2,980	2,270	67	411	2,010	65	353
3	4,470	178	2,150	2,120	69	395	1,990	72	387
4	4,650	163	2,050	2,340	79	499	1,800	83	403
5	5,520	420	6,260	2,720	115	846	1,710	65	300
6	6,820	405	7,460	3,480	178	1,670	1,650	69	307
7	8,070	295	6,430	3,230	132	1,150	1,560	63	265
8	8,140	205	4,560	3,040	98	804	1,510	60	245
9	5,420	181	2,650	2,830	83	634	1,420	61	234
10	4,380	135	1,600	2,550	79	544	1,490	49	197
11	4,200	120	1,360	2,340	78	493	1,520	57	234
12	4,020	120	1,300	2,120	76	435	1,450	54	211
13	3,970	126	1,350	1,970	68	362	1,420	60	230
14	4,000	169	1,830	1,780	60	288	1,370	65	240
15	3,820	148	1,530	1,610	58	252	1,440	59	229
16	3,850	136	1,410	1,650	72	321	1,400	55	208
17	3,390	102	934	2,720	193	1,420	1,380	57	212
18	3,620	94	919	3,040	200	1,640	1,370	62	229
19	5,050	217	3,000	2,410	136	885	1,490	62	249
20	4,590	234	2,930	2,230	78	470	1,730	66	308
21	3,820	144	1,490	1,970	65	346	1,600	75	324
22	3,390	112	1,030	1,840	65	323	1,670	70	316
23	3,120	96	809	1,990	71	381	1,820	73	359
24	3,010	82	666	1,800	77	374	1,990	55	296
25	2,720	90	661	1,730	84	392	2,180	51	300
26	2,650	73	522	1,610	71	309	2,030	55	301
27	3,650	131	1,360	1,650	56	249	1,860	51	256
28	4,380	256	2,950	1,820	53	260	1,800	59	287
29	3,700	190	1,920	1,860	60	301	1,740	65	305
30	3,090	128	1,070	1,940	63	330	1,670	60	271
31	2,700	95	693	2,030	63	345			
Total load (tons)			67,960			17,580			8,411
Total load for year									1,000,000

Miscellaneous sediment determinations and discharge measurements made during the 1944 floods in Iowa

Stream and location	Drainage area (square miles)	Date	Discharge [1] (second-feet)	Sediment		
				Average concentration (p. p. m.)	Tons [2]	
					Per day	Per day per square mile
Mississippi River at Keokuk	119,000	July 1	209,000	765	432,000	3.63
Little Maquoketa River near Durango	130	June 26	6,120	18,800	[3] 264,000	2,030
Maquoketa River near Maquoketa	1,550	June 27	43,700	5,440	[3] 643,000	415
Wapsipinicon River at Central City	1,270	June 18	9,270	431	10,800	8.50
Wapsipinicon River near Dewitt	2,300	June 27	23,100	1,580	[3] 99,000	43.0
Wapsipinicon River near Dewitt	2,300	June 29	17,000	856	39,300	17.1
Iowa River near Belle Plains	2,420	June 17	.....	860	[3] 38,000	15.7
Iowa River above Coralville	3,060	May 22	22,000	1,730	103,000	33.6
Iowa River at Iowa City	3,230	May 24	30,600	1,840	152,000	47.1
Do	3,230	May 22	23,000	3,030	188,000	58.3
Iowa River at Wapello	12,480	May 29	45,900	309	38,300	3.07
Do	12,480	June 21	51,600	440	61,300	4.91
Cedar River at Waterloo	5,190	June 15	18,800	150	7,610	1.46
Cedar River at Cedar Rapids	6,640	June 18	28,100	955	72,500	10.9
Cedar River at Rochester	7,272	June 19	30,900	684	57,100	7.85
Cedar River near Conesville	7,840	May 29	19,800	178	9,520	1.21
Do	7,840	June 20	30,400	524	43,000	5.48
Shell Rock River at Marble Rock	1,330	June 13	13,000	463	16,300	12.3
Lime Creek at Mason City	535	June 12	6,510	826	14,500	27.1
Skunk River at Coppock	2,890	May 25	35,300	1,210	115,000	39.9
Skunk River at Augusta	4,290	May 26	43,700	1,750	206,000	46.1
Des Moines River near Boone	5,490	June 17	.....	212	[3] 10,300	1.88
Des Moines River at Des Moines	6,180	...do.....	28,900	490	[3] 30,900	5.00
Des Moines River below Raccoon River at Des Moines	9,770	...do.....	43,800	553	65,400	6.69
Raccoon River at Van Meter	3,410	...do.....	.....	388	[3] 14,900	4.37
Des Moines River at Tracy	12,400	May 25	61,400	960	[3] 159,000	12.8
Do	12,400	May 29	44,700	474	57,200	4.61
Des Moines River at Ottumwa	13,200	May 26	63,200	1,030	176,000	13.7
Do	13,200	May 29	52,800	671	95,700	7.25
Des Moines River at Keosauqua	13,900	May 26	67,200	1,110	[3] 202,000	14.5

[1] Result of current-meter measurement.
[2] Sediment discharge rate at time of sampling, but not, in general, representative of conditions for the entire day.
[3] Discharge used in computing tons per day taken from rating curve.

CANADIAN RIVER NEAR SANCHEZ, N. MEX.

LOCATION.—At Sabinoso, N. Mex., about 5 miles upstream from gaging station which is at bridge on State Highway 65, 1 mile upstream from Lagartija Creek, 3 miles northeast of Sanchez, 10 miles downstream from Mora River and 24 miles southwest of Mosquero.

DRAINAGE AREA.—6,000 square miles.

RECORDS AVAILABLE.—Chemical analyses: October 1940 to September 1944.

EXTREMES, 1943–44.—Dissolved solids: Maximum, 1,570 parts per million Oct. 1–8; minimum, 272 parts per million June 29–30, July 1–2.

Total hardness: Maximum, 830 parts per million Oct. 1–8; minimum, 176 parts per million June 29–30, and July 1–2.

EXTREMES, 1940–44.—Dissolved solids: Maximum, 2,320 parts per million June 10–11; 1943; minimum, 264 parts per million May 11–20, 1941.

Total hardness: Maximum, 1,260 parts per million June 10–11, 1943; minimum, 104 parts per million Sept. 22, 28, 29, 1941.

REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1007.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–8, 1943	28.3	202	10	0.02	176	95	182		164	982	47	0.4	0.6	0.3	1,570	2.14	120	830	695	32
Oct. 9–10	33.5	215							166		51									
Oct. 11–20	37.8	182	6.0	.02	151	86	157		181	828	42	.3	.6	.8	1,360	1.85	139	730	582	32
Oct. 21–31	39.7	174	7.5	.02	146	83	145		190	777	39	.3	.1	.8	1,290	1.75	138	706	550	31
Nov. 1–10	46.0	187	5.5	.05	162	91	154		197	856	42	.3	.0	.8	1,410	1.92	175	778	617	30
Nov. 11–20	55.5	177	9.5	.05	155	85	144		209	788	40	.3	.0	.8	1,320	1.80	198	736	565	30
Nov. 21–30	64.7	173	5.0	.02	150	83	138		199	766	38	.3	.1	.8	1,280	1.74	224	716	553	29
Dec. 1–7	61.6	166	5.5	.05	147	79	131		212	722	36	.4	.4	.8	1,230	1.67	205	692	518	29
Dec. 11–15	71.8	179	7.0	.05	162	86	141		228	787	40	.2	1.0	.8	1,340	1.82	260	758	571	29
Dec. 22–29, 31	58.0	189	10	.05	170	93	154		247	844	42	.2	2.1	.3	1,440	1.96	226	807	604	29
Jan. 1, 7–10, 1944	61.0	167	14	.05	152	80	131		258	698	37	.3	1.6	.3	1,240	1.69	204	708	497	29
Jan. 12–20	60.9	151	12	.02	140	71	114		257	605	33	.3	2.0	.2	1,100	1.50	181	642	431	28
Jan. 21–31	62.6	141	10	.05	130	64	106		217	571	30	.2	2.0	.2	1,020	1.39	172	588	410	28
Feb. 1–10	117	158	10	.05	144	74	125		215	682	33	.3	2.2	.3	1,180	1.60	373	664	488	29
Feb. 11–20	116	177	9.0	.02	156	86	149		216	802	37	.2	1.6	.3	1,350	1.84	423	743	566	30
Feb. 21–29	117	179	9.0	.05	155	88	147		205	812	38	.2	1.0	.3	1,350	1.84	426	749	581	30
Mar. 1–10	68.0	166	7.0	.05	142	79	133		191	733	35	.2	.2	.3	1,220	1.66	224	680	523	30

CANADIAN RIVER NEAR SANCHEZ, N. MEX.—Continued

Chemical analyses, in parts per million, water year October 1943 to September 1944—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^3$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Mar. 11–14	61.8	168	6.0	.05	140	82	143		183	762	38	0.3	0.1	0.3	1,260	1.71	210	686	536	31
Mar. 15–20	60.2	173	9.0	.05	148	84	143		178	792	38	.3	.6	.6	1,300	1.77	211	715	569	30
Mar. 21–31	65.6	168	10	.05	144	81	132		188	743	37	.2	.5	1.0	1,240	1.69	220	692	538	29
Apr. 1–10	64.6	158	12	.05	135	75	132		182	703	36	.3	.7	1.0	1,180	1.60	206	646	496	31
Apr. 11–16, 19–20	90.5	173	12	.05	149	83	147		187	793	37	.3	1.1	1.0	1,310	1.78	320	714	560	31
Apr. 17–18	130	243							185	1,270										
Apr. 21–30	303	129	16	.10	109	56	105		185	519	26	.3	2.1	.8	925	1.26	757	502	351	31
May 1–10	514	79.6	16	.04	74	30	55		173	255	11	.3	3.6	.1	530	.72	736	308	166	28
May 11–20	1,022	58.4	20	.06	62	21	32		152	165	7	.4	2.6	.4	385	.52	1,060	241	116	22
May 21–31	726	65.9	16	.06	66	24	43		152	209	9.0	.3	2.2	.1	444	.60	870	263	138	26
June 1–6	605	70.8	16	.04	68	26	46		155	223	11	.4	2.7	.2	470	.64	768	276	150	27
June 7, 9–10	317	84.1			85	31	58		176	287	14		2.5	.2	564	.77	483	340	196	27
June 8	364	49.1							171	104										
June 11–20	185	100	15	.03	97	39	76		191	367	18	.4	2.5	.4	709	.96	354	402	246	29
June 21–28	40.0	122	14	.04	102	52	103		172	493	25	.4	1.0	.3	875	1.19	94	468	328	32
June 29–30, July 1–2	501	45.4			49	13	26		127	113	6.8		1.5	.3	272	.37	368	176	72	24
July 3–10	294	103	13	.08	97	39	81		170	392	21	.4	2.0	.3	729	.99	579	402	263	31
July 11–19	177	93.1	13	.02	94	35	65		183	334	14	.4	2.5	.3	648	.88	310	378	228	27
July 20	190	153							168	685										
July 21–31	140	91.7	15	.04	91	35	65		177	330	15	.4	2.5	.3	641	.87	242	371	226	28
Aug. 1–5	27.6	101	14	.02	92	41	77		174	377	20	.4	.8	.3	708	.96	53	398	256	29
Aug. 8–10	400	105							148	427	14									
Aug. 11–19	89.4	143	12	.05	130	61	120		146	651	26	.5	.9	.5	1,070	1.46	258	576	456	31
Aug. 20–21	350	59.4							154	174	9									
Aug. 22–31	101	118	8.5	.04	112	49	87		159	484	23	.5	1.7	.3	844	1.15	230	481	350	28
Sept. 1–10	33.9	152	10	.08	136	67	126		163	679	32	.5	1.0	.5	1,130	1.54	103	615	482	31
Sept. 11–20	28.6	174	8.5	.06	152	80	153		164	817	38	.4	1.8	.5	1,330	1.81	103	708	574	32
Sept. 21–30	15.6	137	9.5	.08	116	62	119		175	588	32	.4	1.2	.5	1,010	1.37	43	544	401	32
Weighted average	167	100	15	0.05	93	42	74		171	384	18	0.3	2.1	0.4	713	0.97	321	404	264	28

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Oct. 1–8, 1943	28.3				8.78	7.81	7.90	2.69	20.44	1.33	0.02	0.01							32
Oct. 9–10	33.5							2.72		1.44									
Oct. 11–20	37.8				7.54	7.07	6.81	2.97	17.24	1.18	.02	.01							32
Oct. 21–31	39.7				7.29	6.83	6.29	3.11	16.18	1.10	.02	.00							31
Nov. 1–10	46.0				8.09	7.48	6.68	3.23	17.82	1.18	.02	.00							30
Nov. 11–20	55.5				7.74	6.99	6.26	3.43	16.41	1.13	.02	.00							30
Nov. 21–30	64.7				7.49	6.83	5.98	3.26	15.95	1.07	.02	.00							29
Dec. 1–7	61.6				7.34	6.50	5.71	3.47	15.03	1.02	.02	.01							29
Dec. 11–15	71.8				8.09	7.07	6.12	3.74	16.38	1.13	.01	.02							29
Dec. 22–29, 31	58.0				8.49	7.65	6.70	4.05	17.57	1.18	.01	.03							29
Jan. 1, 7–10, 1944	61.0				7.59	6.58	5.68	4.23	14.53	1.04	.02	.03							29
Jan. 12–20	60.9				6.99	5.84	4.96	4.21	12.60	.93	.02	.03							28
Jan. 21–31	62.6				6.49	5.26	4.59	3.56	11.89	.85	.01	.03							28
Feb. 1–10	117				7.19	6.09	5.43	3.52	14.20	.93	.02	.04							29
Feb. 11–20	116				7.79	7.07	6.46	3.54	16.70	1.04	.01	.03							30
Feb. 21–29	117				7.74	7.24	6.39	3.36	16.91	1.07	.01	.02							30
Mar. 1–10	68.0				7.09	6.50	5.80	3.13	15.26	.99	.01	.00							30
Mar. 11–14	61.8				6.99	6.74	6.22	3.00	15.86	1.07	.02	.00							31
Mar. 15–20	60.2				7.39	6.91	6.21	2.92	16.49	1.07	.02	.01							30
Mar. 21–31	65.6				7.19	6.66	5.76	3.08	15.47	1.04	.01	.01							29
Apr. 1–10	64.6				6.74	6.17	5.76	2.98	14.64	1.02	.02	.01							31
Apr. 11–16, 19–20	90.5				7.44	6.83	6.39	3.07	16.51	1.04	.02	.02							31
Apr. 17–18	130							3.03	26.44										
Apr. 21–30	303				5.44	4.61	4.57	3.03	10.81	.73	.02	.03							31
May 1–10	514				3.69	2.47	2.38	2.84	5.31	.31	.02	.06							28
May 11–20	1,022				3.09	1.73	1.37	2.49	3.44	.20	.02	.04							22
May 21–31	726				3.29	1.97	1.89	2.49	4.35	.25	.02	.04							26
June 1–6	605				3.39	2.14	2.02	2.54	4.64	.31	.02	.04							27
June 7, 9–10	317				4.24	2.55	2.50	2.88	5.98	.39		.04							27
June 8	364							2.80	2.17										
June 11–20	185				4.84	3.21	3.29	3.13	7.64	.51	.02	.04							29
June 21–28	40.0				5.09	4.28	4.46	2.82	10.26	.71	.02	.02							32
June 29–30, July 1–2	501				2.45	1.07	1.12	2.08	2.35	.19		.02							24
July 3–10	294				4.84	3.21	3.54	2.79	8.16	.59	.02	.03							31
July 11–19	177				4.69	2.88	2.83	3.00	6.95	.39	.02	.04							27
July 20	190							2.75	14.26										
July 21–31	140				4.54	2.88	2.83	2.90	6.87	.42	.02	.04							28
Aug. 1–5	27.6				4.59	3.37	3.33	2.85	7.85	.56	.02	.01							29
Aug. 8–10	400							2.43	8.89	.39									
Aug. 11–19	89.4				6.49	5.02	5.20	2.39	13.55	.73	.03	.01							31
Aug. 20–21	350							2.52	3.62	.25									
Aug. 22–31	101				5.59	4.03	3.78	2.61	10.08	.65	.03	.03							28
Sept. 1–10	33.9				6.79	5.51	5.46	2.67	14.14	.90	.03	.02							31
Sept. 11–20	28.6				7.59	6.58	6.65	2.69	17.01	1.07	.02	.03							32
Sept. 21–30	15.6				5.79	5.10	5.16	2.87	12.24	.90	.02	.02							32
Weighted average	167				4.64	3.45	3.22	2.80	7.99	0.51	0.02	0.03							28

RESERVOIR BEHIND CONCHAS DAM, N. MEX.

Chemical analyses, in parts per million

Date of collection	Sampling point	Depth (feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Dissolved solids	Total hardness as $CaCO_3$
Monthly composite samples											
Oct. 7, 14, 21, 28, 1943	Station 1 [1]		91.4				160				
Nov. 6, 11, 19, 25			93.8				166				
Dec. 3, 17, 23, 31			94.7				161	342			
Jan. 6, 13, 21, 27, 1944			96.0				167	345			
Feb. 3, 12, 18, 26			97.8				168	358			
Mar. 2, 11			98.4				170	358			
Mar. 16, 23, 31			100				154	365			
Apr. 6, 11, 20, 27			101				169	368			
May 4, 11, 20, 28			102				157	384			
June 9			102								
June 15, 22			102				165	384			
July 1, 6, 26			100				156	375			
July 14, 18			102					378			
Aug. 4, 11, 15, 25			101				156	380			
Aug. 31			101					384			
Sept. 9, 15, 21, 29			101					377			
Oct. 7, 14, 21, 28, 1943	Station 2 [2]		90.8				161				
Nov. 6, 11, 25			93.5				166				
Dec. 17, 23, 31			95.7				165	346			
Jan. 6, 13, 21, 27, 1944			95.8				165	349			
Feb. 3, 12, 18, 26			97.9				169	356			
Mar. 2			97.6				170	361			
Mar. 11, 16, 23, 31			100				157	339			
Apr. 6, 11, 20, 27			101				154	367			
May 4, 11, 20, 28			102				152	373			
June 9			102								
June 15, 22			102				166	385			
July 1, 6, 26			101				159	373			
July 14, 18			102					377			
Aug. 4, 11, 15, 25			100				155	374			
Aug. 31			101					379			
Sept. 9, 15, 21, 29			100					378			
Oct. 7, 14, 21, 28, 1943	Station 3 [3]		91.0				162				
Nov. 6, 11, 25			93.7				164				
Dec. 17, 23, 31			96.3				166	351			
Jan. 6, 13, 21, 27, 1944			95.8				164	351			
Feb. 3, 12, 18, 26			98.1				166	363			
Mar. 2, 11			98.4				170	361			
Mar. 16, 23, 31			100				168	363			
Apr. 6, 11, 20, 27			101				158	372			
May 4, 11, 20, 28			102				155	377			
June 9			102								
June 15, 22			103				165	379			
July 1, 6, 26			101				158	378			
July 14, 18			102					382			
Aug. 4, 11, 15, 25			100				155	375			
Aug. 31			102					383			
Sept. 9, 15, 21, 29			100					379			

See footnotes at end of table.

RESERVOIR BEHIND CONCHAS DAM, N. MEX.—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Sampling point	Depth (feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Dissolved solids	Total hardness as $CaCO_3$
Samples from different depths											
Dec. 11, 1943	Station 1 [1]	Surface	94.7	82	37	71	165	335	20	626	356
		25	96.8	84	38	73	164	347	20	643	366
		50	94.7	----	----	------	------	------	------	------	------
		75	95.0	----	----	------	------	------	------	------	------
		100	94.2	----	----	------	------	------	------	------	------
		110	93.7	----	----	------	------	------	------	------	------
		115	94.0	----	----	------	------	------	------	------	------
		120	94.0	----	----	------	161	------	------	------	------
		125	88.8	65	39	73	166	291	22	579	372
Apr. 3, 1944	Station 1 [1]	Surface	101	84	40	84	166	370	25	685	374
		25	99.2	----	----	------	------	------	------	------	------
		50	99.5	----	----	------	------	------	------	------	------
		75	100	----	----	------	------	------	------	------	------
		100	99.5	----	----	------	------	------	------	------	------
		113	100	----	----	------	168	------	------	------	------
		118	100	----	----	------	------	------	------	------	------
		123	100	----	----	------	167	------	------	------	------
		128	101	----	----	------	180	------	------	------	------
June 1, 1944	Station 1 [1]	Surface	103	----	----	------	169	379	------	------	------
		25	102	----	----	------	------	------	------	------	------
		50	102	----	----	------	------	------	------	------	------
		75	103	----	----	------	------	------	------	------	------
		100	104	----	----	------	------	------	------	------	------
		105	104	----	----	------	------	------	------	------	------
		110	104	----	----	------	------	------	------	------	------
		115	105	----	----	------	------	------	------	------	------
		120	105	----	----	------	------	------	------	------	------
		Bottom	119	----	----	------	383	------	------	------	------
Dec. 11, 1943	Station 2 [2]	Surface	------	----	----	------	------	------	------	------	------
		25	------	----	----	------	------	------	------	------	------
		50	------	----	----	------	------	------	------	------	------
		75	------	----	----	------	------	------	------	------	------
		100	95.0	82	37	73	160	340	21	632	356
		112	95.1	----	----	------	------	------	------	------	------
		117	94.8	----	----	------	------	------	------	------	------
		122	94.8	----	----	------	------	------	------	------	------
		127	95.3	----	----	------	------	------	------	------	------
		132	91.2	80	37	68	192	295	20	604	352
Apr. 3, 1944	Station 2 [2]	Surface	100	91	41	80	170	374	28	698	396
		25	99.2	----	----	------	------	------	------	------	------
		50	99.2	----	----	------	------	------	------	------	------
		75	99.5	----	----	------	168	------	------	------	------
		100	100	----	----	------	------	------	------	------	------
		117	100	----	----	------	------	------	------	------	------
		122	100	----	----	------	------	------	------	------	------
		127	99.7	----	----	------	------	------	------	------	------
		132	99.7	83	40	83	168	367	23	679	372
		137	105	102	39	80	196	381	22	721	415
June 1, 1944	Station 2 [2]	Surface	103	----	----	------	168	377	------	------	------
		25	103	----	----	------	------	------	------	------	------
		50	102	----	----	------	------	------	------	------	------
		75	104	----	----	------	------	------	------	------	------
		100	106	----	----	------	------	------	------	------	------
		115	106	----	----	------	------	------	------	------	------
		120	106	----	----	------	------	------	------	------	------
		125	106	----	----	------	------	------	------	------	------
		130	106	----	----	------	------	------	------	------	------
		135	110	----	----	------	190	------	------	------	------

See footnotes at end of table.

RESERVOIR BEHIND CONCHAS DAM, N. MEX.—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Sampling point	Depth (feet)	Specific conductance ($K \times 10^3$ at 25° C.)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Dissolved solids	Total hardness as $CaCO_3$
Samples from different depths—Continued											
Apr. 3, 1944	Station 3 [3]	Surface	99.5	84	41	80	170	366	23	678	378
		25	99.2								
		50	99.2								
		75	99.5								
		100	99.7								
		108	99.5				168				
		117	99.7								
		121	100								
		126	101								
		131	101				168				
		136	102								
June 1, 1944	Station 3 [3]	Surface	102				165	377			
		25	103								
		50	102								
		75	102								
		100	105								
		105	107								
		110	107								
		115	106								
		120	107								
		125	109				193				
Apr. 3, 1944	Station 6 [4]	Surface	99.2	85	42	85	165	372	34	699	384
		25	98.9								
		50	98.9								
		75	98.9								
		80	98.9				167				
		85	98.6								
		90	98.9				172				
		95	99.5	90	40	74	159	373	22	677	389
May 31, 1944	Station 6 [4]	Surface	99.7				162	366			
		25	102								
		50	103								
		75	103								
		80	103								
		85	104								
		90	104								
		95	104								
		100	104								
		Bottom									
Apr. 3, 1944	Station 7 [5]	Surface	101	89	42	89	174	396	24	726	394
		25	101								
		50	101								
		75	103								
		97	102				168				
		102	104								
		107	105								
		112	105				172				
		117	101				173				
May 31, 1944	Station 7 [5]	Surface	103				169	378			
		25	99.4								
		50	101								
		75	104								
		80	107								
		85	108								
		90	107								
		95	106								
		100	107								
		105	108				202				

[1] Station 1: Conchas River arm of reservoir, approximately 3,000 feet above dam.
[2] Station 2: 400 feet above dam.
[3] Station 3: Canadian River arm of reservoir, 800 feet above dam.
[4] Station 6: Conchas River arm of reservoir, 5 miles above dam.
[5] Station 7: Canadian River arm of reservoir, 5 miles above dam.

RED RIVER NEAR GAINESVILLE, TEX.

LOCATION.—At gaging station at bridge on U. S. Highway 77, a quarter of a mile downstream from Gulf, Colorado and Santa Fe Railway Bridge, 5 miles downstream from Fish Creek, and 7 miles north of Gainesville.

DRAINAGE AREA.—29,460 square miles.

RECORDS AVAILABLE.—Chemical analyses: May 1944 to September 1944.

EXTREMES, MAY 1944–SEPTEMBER 1944.—Dissolved solids: Maximum, 4,790 parts per million Sept. 21–30; minimum, 757 parts per million June 13–16. Total hardness: Maximum, 1,380 parts per million July 21–25; minimum, 285 parts per million June 13–16.

REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1007.

Chemical analyses, in parts per million, May 1944 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids: Parts per million	Dissolved solids: Tons per acre-foot	Dissolved solids: Tons per day	Hardness as $CaCO_3$: Total	Hardness as $CaCO_3$: Non-carbonate	Percent sodium
May 1–10, 1944	1,610	276	------	------	143	44	373		143	289	658	------	3.2	------	1,580	2.15	6,870	538	421	60
May 11–20	508	425	------	------	207	63	616		153	471	1,060	------	1.5	------	2,490	3.39	3,420	776	650	63
May 21–22, 24–26, 28	748	293	------	------	150	49	403		176	300	705	------	2.2	------	1,700	2.31	3,430	576	432	60
May 23, 27, 29–31	1,498	174	------	------	98	27	221		127	170	392	------	2.2	------	973	1.32	3,940	356	252	57
June 1–10	2,113	440	------	------	240	60	647		134	659	1,030	------	4.6	------	2,710	3.69	15,500	846	736	63
June 11–12, 17–20	8,902	279	------	------	178	35	397		126	465	610	------	3.8	------	1,750	2.38	42,100	588	484	59
June 13–16	957	132	------	------	83	19	163		115	181	252	------	2.2	------	757	1.03	1,960	285	191	55
June 21–30	1,527	274	------	------	178	36	379		136	438	600	------	3.2	------	1,700	2.31	7,010	592	480	58
July 1–10	496	393	------	------	232	62	560		143	604	925	------	2.0	------	2,460	3.35	3,290	834	717	59
July 11–20	650	600	------	------	352	84	940		131	921	1,560	------	2.8	------	3,920	5.33	6,880	1,220	1,120	63
July 21–25	1,228	660	------	------	420	80	1,030		108	1,140	1,650	------	5.5	------	4,380	5.96	14,500	1,380	1,290	62
July 26–31	1,590	296	------	------	178	39	388		110	442	635	------	4.0	------	1,740	2.37	7,470	604	514	58
Aug. 1–10	984	294	------	------	180	41	371		116	434	620	------	2.0	------	1,710	2.33	4,540	618	522	57
Aug. 11–20	369	349	------	------	207	56	452		132	528	760	------	.8	------	2,070	2.82	2,060	747	639	57
Aug. 21–31	365	527	------	------	300	93	743		119	782	1,300	------	1.2	------	3,280	4.46	3,230	1,130	1,030	59
Sept. 1–2, 7–10	794	377	------	------	215	54	532		110	519	910	------	2.8	------	2,290	3.11	4,910	758	668	60
Sept. 3–6	1,606	188	------	------	118	27	232		102	253	398	------	3.2	------	1,080	1.47	4,680	406	322	55
Sept. 11–15	377	407	------	------	216	63	571		122	480	1,020	------	1.8	------	2,410	3.28	2,450	798	698	61
Sept. 16–20	[illegible]	330	------	------	[illegible]	[illegible]	[illegible]		107	[illegible]	1,800	------	1.2	------	3,000	5.43	3,100	1,300	1,210	61
Sept. 21–22, 24–30	[1] 276	753	------	------	384	86	1,240		144	940	2,070	------	1.8	------	4,790	6.51	3,570	1,310	1,190	67
Weighted average	1,459	307	------	------	181	43	433		126	450	705	------	3.3	------	1,880	2.56	7,410	628	525	60

[1] Includes discharge for Sept. 23.

RED RIVER NEAR GAINESVILLE, TEX.—Continued

Chemical analyses, in equivalents per million, May to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
May 1–10, 1944	1,610				7.14	3.62	16.21		2.34	6.00	18.56		0.05							60
May 11–20	508				10.33	5.18	26.73		2.51	9.81	29.90		.02							63
May 21–22, 24–26, 28	748				7.49	4.03	17.53		2.88	6.25	19.88		.04							60
May 23, 27, 29–31	1,498				4.89	2.22	9.61		2.08	3.54	11.06		.04							57
June 1–10	2,113				11.98	4.93	28.31		2.20	13.72	29.05		.07							63
June 11–12, 17–20	8,902				8.88	2.88	17.25		2.07	9.68	17.20		.06							59
June 13–16	957				4.14	1.56	7.10		1.88	3.77	7.11		.04							55
June 21–30	1,527				8.88	2.96	16.48		2.23	9.12	16.92		.05							58
July 1–10	496				11.58	5.10	24.35		2.34	12.57	26.09		.03							59
July 11–20	650				17.57	6.91	40.89		2.15	19.17	44.00		.05							63
July 21–25	1,228				20.96	6.58	44.59		1.77	23.73	46.54		.09							62
July 26–31	1,590				8.88	3.21	16.88		1.80	9.20	17.91		.06							58
Aug. 1–10	984				8.98	3.37	16.12		1.91	9.04	17.49		.03							57
Aug. 11–20	369				10.33	4.61	19.65		2.16	10.99	21.43		.01							57
Aug. 21–31	365				14.97	7.65	32.29		1.95	16.28	36.66		.02							59
Sept. 1–2, 7–10	794				10.73	4.44	23.15		1.80	10.81	25.66		.05							60
Sept. 3–6	1,606				5.89	2.22	10.10		1.67	5.27	11.22		.05							55
Sept. 11–15	377				10.78	5.18	24.83		2.00	9.99	28.77		.03							61
Sept. 16–20	296				18.27	7.65	40.55		1.75	19.57	45.13		.02							61
Sept. 21–22, 24–30	276				19.17	7.07	54.10		2.36	19.57	58.38		.03							67
Weighted average	1,459				9.03	3.54	18.83		2.07	9.37	19.88		0.05							60

RED RIVER AT DENISON DAM, NEAR COLBERT, OKLA.

LOCATION.—Immediately below dam on Red River, 1.7 miles upstream from Sand Creek, and 5 miles north of Denison. Discharge records reported are for gaging station at old highway toll bridge 1.3 miles downstream from Sand Creek, 2 miles south of Colbert. No appreciable inflow between dam and gaging station except during periods of heavy local rains.

DRAINAGE AREA.—38,330 square miles above dam. 38,700 miles above gaging station.

RECORDS AVAILABLE.—Chemical analyses: May 1944 to September 1944.

EXTREMES, MAY 1944–SEPTEMBER 1944.—Dissolved solids: Maximum, 1,430 parts per million Aug. 11–20 and Sept. 1–10; minimum, 902 parts per million June 11–20. Total hardness: Maximum, 522 parts per million Aug. 11–20 and Sept. 1–10; minimum, 352 parts per million June 11–20.

REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1007.

Chemical analyses, in parts per million, May to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
May 1, 3–10, 1944	[1] 94.4	159	------	------	102	28	194		181	177	323	------	2.2	------	915	1.24	233	370	221	53
May 11–20	49.8	167	------	------	104	29	200		150	190	348	------	2.8	------	948	1.29	127	378	256	54
May 21–31	259	167	------	------	104	26	192		151	185	330	------	3.2	------	915	1.24	640	366	242	53
June 1–3, 5–10	[2] 89.3	163	------	------	100	27	201		155	186	335	------	5.6	------	931	1.27	224	360	234	55
June 12–17, 19–20	[3] 204	161	------	------	98	26	194		158	183	318	------	4.8	------	902	1.23	497	352	222	54
June 21–24, 26–30	[4] 872	175	------	------	108	28	217		159	207	360	------	3.5	------	1,000	1.36	2,350	384	254	55
July 3–10	[5] 218	238	------	------	140	34	319		154	301	525	------	3.8	------	1,400	1.90	824	490	364	59
July 11–20	106	231	------	------	140	34	298		164	288	495	------	6.7	------	1,340	1.82	384	490	355	57
July 21–31	170	207	------	------	129	32	260		165	251	438	------	5.5	------	1,200	1.63	551	454	319	55
Aug. 1–5, 7–10	[6] 873	196	------	------	126	30	238		164	247	398	------	4.2	------	1,120	1.52	2,640	438	304	54
Aug. 12, 14–16, 18–19	[7] 746	243	------	------	148	37	315		162	323	520	------	4.9	------	1,430	1.94	2,880	522	389	57
Aug. 21–26, 28–31	[8] 448	238	------	------	145	37	309		159	319	510	------	4.5	------	1,400	1.90	1,690	514	384	57
Sept. 1–3, 5–9	[9] 89.6	244	------	------	148	37	316		170	326	515	------	3.5	------	1,430	1.94	346	522	382	57
Sept. 11–16, 18–20	[10] 126	207	------	------	129	33	260		170	264	430	------	2.8	------	1,200	1.63	408	458	318	55
Sept. 21–30	117	197	------	------	124	33	233		170	248	390	------	4.4	------	1,120	1.52	354	445	306	53
Weighted average	297	204	------	------	126	32	255		161	255	424	------	4.2	------	1,180	1.60	946	446	314	55

See footnotes at end of table.

RED RIVER AT DENISON DAM, NEAR COLBERT, OKLA.—Continued

Chemical analyses, in equivalents per million, May to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids: Parts per million	Dissolved solids: Tons per acre-foot	Dissolved solids: Tons per day	Hardness as $CaCO_3$: Total	Hardness as $CaCO_3$: Non-carbonate	Percent sodium
May 1, 3–10, 1944	[1] 94.4				5.09	2.30	8.42		2.97	3.69	9.11		0.04							53
May 11–20	49.8				5.19	2.38	8.71		2.46	3.96	9.81		.05							54
May 21–31	259				5.19	2.14	8.36		2.48	3.85	9.31		.05							53
June 1–3, 5–10	[2] 89.3				4.99	2.22	8.74		2.54	3.87	9.45		.09							55
June 12–17, 19–20	[3] 204				4.89	2.14	8.42		2.59	3.81	8.97		.08							54
June 21–24, 26–30	[4] 872				5.39	2.30	9.44		2.61	4.31	10.15		.06							55
July 3–10	[5] 218				6.99	2.80	13.87		2.52	6.27	14.81		.06							59
July 11–20	106				6.99	2.80	12.97		2.69	6.00	13.96		.11							57
July 21–31	170				6.44	2.63	11.30		2.70	5.23	12.35		.09							55
Aug. 1–5, 7–10	[6] 873				6.29	2.47	10.36		2.69	5.14	11.22		.07							54
Aug. 12, 14–16, 18–19	[7] 746				7.39	3.04	13.70		2.66	6.72	14.67		.08							57
Aug. 21–26, 28–31	[8] 448				7.24	3.04	13.42		2.61	6.64	14.38		.07							57
Sept. 1–3, 5–9	[9] 89.6				7.39	3.04	13.73		2.79	6.79	14.52		.06							57
Sept. 11–16, 18–20	[10] 126				6.44	2.71	11.32		2.79	5.50	12.13		.05							55
Sept. 21–30	117				6.19	2.71	10.12		2.79	5.16	11.00		.07							53
Weighted average	297				6.29	2.63	11.09		2.64	5.31	11.96		0.07							55

[1] Includes discharge for May 2.
[2] Includes discharge for June 4.
[3] Includes discharge for June 11, 18.
[4] Includes discharge for June 25.
[5] Includes discharge for July 1–2.
[6] Includes discharge for Aug. 6.
[7] Includes discharge for Aug. 11, 13, 17, 20.
[8] Includes discharge for Aug. 27.
[9] Includes discharge for Sept. 4, 10.
[10] Includes discharge for Sept. 17.

RED RIVER AT DENISON DAM, NEAR COLBERT, OKLA.—Continued

Temperature (°F.) of water of Red River at Denison Dam, May to September 1944

	May	June	July	August	September
1		69		74	73
2		69		76	75
3		69	72	78	77
4			72	75	
5		70	71	77	76
6		69	70		76
7		68	72	77	75
8		68	74	77	73
9		70	75	77	74
10		70	76	76	
11			76		72
12		71	75	77	74
13		72	75		74
14		70	75	76	72
15		72	76	76	73
16		71	72	77	74
17		72	72		
18				77	74
19		73	73	76	74
20		73	73		73
21	68	75	71	77	74
22	66	76	71	77	74
23	66	75		78	72
24	71	76	71	78	
25	68		72	77	71
26	69	77	74	75	73
27	68	76	75		75
28	70	74	74	73	75
29	68	73	73	72	71
30	69	74		72	74
31	69		73	75	

WASHITA RIVER NEAR DURWOOD, OKLA.

LOCATION.—At gaging station at Mulkey Bridge on State Highway 18, 1½ miles downstream from Caddo Creek and 4 miles north of Durwood.

DRAINAGE AREA.—7,310 square miles.

RECORDS AVAILABLE.—Chemical analyses: May 1944 to September 1944.

EXTREMES, MAY 1944–SEPTEMBER 1944.—Dissolved solids: Maximum, 936 parts per million July 21–25, 30–31; minimum, 267 parts per million May 23, 28–31. Total hardness: Maximum, 568 parts per million July 21–25, 30–31; minimum, 188 parts per million May 23, 28–31.

REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1007.

Chemical analyses, in parts per million, May 1944 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance (K×10⁶ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
May 1-2, 6-10, 1944	1,711	90.1	------	------	116	32	43		217	257	47	------	4.2	------	706	0.82	3,260	421	243	18
May 3-5	5,213	39.1	------	------	59	17	28		173	92	27	------	3.2	------	373	.42	5,250	217	75	22
May 11-20	657	88.9	------	------	112	33	40		206	247	51	------	4.8	------	657	.80	1,170	415	246	17
May 21-22, 24-27	1,920	82.5	------	------	94	31	42		208	211	42	------	3.7	------	590	.72	3,060	362	191	20
May 23, 28-31	3,108	42.3	------	------	52	14	15		162	59	17	------	2.8	------	267	.33	2,240	188	55	15
June 1-3, 9-10	2,528	60.0	------	------	77	20	13		194	97	28	------	4.0	------	376	.46	2,570	274	115	9.4
June 4-8	1,164	90.8	------	------	92	32	64		211	255	40	------	5.6	------	657	.81	2,060	361	188	28
June 11-20	5,380	45.7	------	------	58	14	19		171	70	19	------	3.8	------	284	.36	4,130	202	62	17
June 21-30	1,792	66.8	------	------	89	23	19		187	165	21	------	3.8	------	465	.56	2,250	316	163	12
July 1-10	1,014	65.2	------	------	89	22	18		185	160	22	------	3.2	------	459	.55	1,260	312	161	11
July 11-20	472	111	------	------	133	45	51		237	326	65	------	1.8	------	824	1.00	1,050	517	322	18
July 21-25, 30-31	465	125	------	------	145	50	67		230	393	81	------	2.0	------	936	1.16	1,180	568	378	20
July 26-29	725	80.8	------	------	92	33	35		203	200	46	------	2.2	------	561	.69	1,100	365	198	17
Aug. 1-6	928	99.4	------	------	124	40	33		176	322	44	------	5.8	------	724	.89	1,810	474	330	13
Aug. 7-10	354	83.0	------	------	93	22	14		143	177	15	------	6.6	------	428	.53	756	298	180	9.3
Aug. 11-20	292	70.2	------	------	91	26	20		193	180	20	------	4.2	------	490	.69	3,5	334	178	12
Aug. 21-31	357	101	------	------	113	41	55		233	280	61	------	3.0	------	718	.91	692	450	260	21
Sept. 1-10	648	62.7	------	------	69	24	23		173	126	32	------	3.0	------	406	.49	710	270	128	16
Sept. 11-20	301	88.9	------	------	109	34	35		211	244	42	------	3.0	------	618	.78	502	412	238	16
Sept. 21-30	213	82.2	------	------	92	37	31		193	222	41	------	1.2	------	519	.71	298	382	223	15
Weighted average	1,301	64.8	------	------	80	23	25		187	143	30	------	3.7	------	452	0.61	1,590	294	140	16

Chemical analyses, in equivalents per million, May 1944 to September 1944

May 1–2, 6–10, 1944	1,711				5.79	2.63	1.89	3.56	5.35	1.33		0.07							18
May 3–5	5,213				2.94	1.40	1.23	2.84	1.92	.76		.05							22
May 11–20	657				5.59	2.71	1.75	3.39	5.14	1.44		.08							17
May 21–22, 24–27	1,920				4.69	2.55	1.81	3.42	4.39	1.18		.06							20
May 23, 28–31	3,108				2.59	1.15	.66	2.65	1.23	.48		.04							15
June 1–3, 9–10	2,528				3.84	1.64	.57	3.18	2.02	.79		.06							9.4
June 4–8	1,164				4.59	2.63	2.77	3.46	5.31	1.13		.09							28
June 11–20	5,380				2.89	1.15	.81	2.80	1.46	.54		.06							17
June 21–30	1,792				4.44	1.89	.83	3.07	3.44	.59		.06							12
July 1–10	1,014				4.44	1.81	.78	3.03	3.33	.62		.05							11
July 11–20	472				6.64	3.70	2.21	3.90	6.79	1.83		.03							18
July 21–25, 30–31	465				7.24	4.11	2.92	3.78	8.18	2.28		.03							20
July 26–29	725				4.59	2.71	1.53	3.33	4.16	1.30		.04							17
Aug. 1–6	928				6.19	3.29	1.43	2.88	6.70	1.24		.09							13
Aug. 7–10	654				4.14	1.81	.61	2.34	3.69	.42		.11							9.3
Aug. 11–20	292				4.54	2.14	.87	3.17	3.75	.56		.07							12
Aug. 21–31	357				5.64	3.37	2.41	3.82	5.83	1.72		.05							21
Sept. 1–10	648				3.44	1.97	1.00	2.84	2.62	.90		.05							16
Sept. 11–20	301				5.44	2.80	1.54	3.47	5.08	1.18		.05							16
Sept. 21–30	213				4.59	3.04	1.34	3.17	4.62	1.16		.02							15
Weighted average	1,301				3.99	1.89	1.08	3.07	2.98	0.85		0.06							16

COMITE RIVER NEAR COMITE, LA.

LOCATION.—At bridge on State Highway 877, in NW¼ sec. 24, T. 6 S., R. 1 E., St. Helena Meridian, 0.5 mile downstream from Black Water Bayou and 2.6 miles West of Comite.
DRAINAGE AREA. 332 square miles.
RECORDS AVAILABLE.—Chemical analyses: April 1944 to September 1944.
EXTREMES, APRIL–SEPTEMBER 1944.—Dissolved solids: Maximum, 84 parts per million June 11–20; minimum, 68 parts per million Apr. 11–20. Total hardness: Maximum, 22 parts per million June 21–30; minimum, 12 parts per million Apr. 21–30.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1007.

Chemical analyses, in parts per million, April to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^3$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Apr. 1–10, 1944	356	5.8	15	0.52	3.2	1.3	7.5	1.7	18	4.0	7.0	0.9	1.0	------	72	0.10	69	13	0	58
Apr. 11–20	251	6.2	15	.44	3.2	1.2	7.2	1.9	17	3.6	7.0	.9	1.5	------	68	.09	46	13	0	58
Apr. 21–30	1,240	4.7	12	.34	2.6	1.4	5.6	1.0	14	3.4	5.0	.9	1.5	------	69	.09	231	12	1	52
May 1–10	285	6.4	15	.17	2.9	1.5	9.7	1.1	19	3.8	9.0	1.0	1.2	------	70	.10	54	13	0	63
May 11–20	134	7.5	15	.15	3.2	1.8	11	1.0	21	3.0	12	1.1	1.8	------	74	.10	27	15	0	63
May 21–31	556	5.5	14	.68	3.1	1.5	4.9	1.0	16	4.3	4.0	.3	2.2	------	74	.10	111	14	1	46
June 1–10	144	7.8	19	.46	4.8	1.7	8.1	1.2	22	4.0	9.0	.6	2.2	------	74	.10	29	19	1	50
June 11–20	329	5.8	15	.87	4.2	1.3	4.7	1.3	17	3.7	5.0	.4	2.2	------	84	.11	75	16	2	43
June 21–30	106	8.8	16	.39	4.6	1.8	4.9	2.2	19	2.9	9.0	.9	2.8	------	75	.10	21	22	7	48
July 1–10	126	7.5	16	.94	3.8	1.4	3.5	2.6	18	3.9	2.0	.9	2.8	------	80	.11	27	15	1	42
July 11–20	82	8.1	16	.60	4.2	1.5	8.7	2.6	20	2.6	11	.9	2.5	------	71	.10	16	16	0	57
July 21–27	177	8.8	18	.51	5.0	1.9	5.7	4.3	22	3.3	10	.9	.2	------	75	.10	16	20	2	47
Aug. 1–10	375	7.5	21	.56	3.3	1.5	7.1		17	3.0	6.0	.9	2.5	------	80	.11	81	14	0	52
Aug. 11–20	334	5.7	18	.66	3.0	1.3	6.1		14	3.7	5.0	.9	1.8	------	74	.10	67	13	1	51
Aug. 21–31	202	7.3	16	.55	3.6	1.2	7.0		17	2.9	6.0	.7	2.5	------	69	.09	38	14	0	52
Sept. 1–10	547	6.4	20	.77	3.3	1.2	7.0		18	3.0	5.0	.7	2.2	------	81	.11	120	13	0	54
Sept. 11–20	121	7.0	13	.87	4.0	2.2	3.9		22	2.7	7.0	.6	2.2	------	74	.10	24	19	1	44
Sept. 21–30	157	8.3	18	.94	4.4	1.6	11		23	2.2	11	.7	2.8	------	75	.10	32	18	0	57

Chemical analyses, in equivalents per million, April to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C)	Temperature (°F)	pH	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids: Parts per million	Dissolved solids: Tons per acre-foot	Dissolved solids: Tons per day	Hardness as $CaCO_3$: Total	Hardness as $CaCO_3$: Noncarbonate	Percent sodium
Apr. 1–10, 1944	356						0.160	0.107	0.328	0.043	0.295	0.083	0.197	0.047	0.016							58
Apr. 11–20	251						.160	.099	.314	.049	.279	.075	.197	.047	.024							58
Apr. 21–30	1,240						.130	.115	.242	.026	.230	.071	.141	.047	.024							52
May 1–10	285						.145	.123	.420	.028	.311	.079	.254	.053	.019							63
May 11–20	134						.160	.148	.497	.026	.344	.062	.338	.058	.029							63
May 21–31	556						.155	.123	.212	.026	.262	.090	.113	.016	.035							46
June 1–10	144						.240	.140	.354	.031	.361	.083	.254	.032	.035							50
June 11–20	329						.210	.107	.203	.033	.279	.077	.141	.021	.035							43
June 21–30	106						.300	.148	.213	.056	.311	.060	.254	.047	.045							48
July 1–10	126						.190	.115	.152	.067	.295	.081	.056	.047	.045							42
July 11–20	82						.210	.123	.379	.067	.328	.054	.310	.047	.040							57
July 21–27	[1] 77						.250	.156	.246	.110	.361	.069	.282	.047	.003							47
Aug. 1–10	375						.165	.123	0.309		.279	.062	.169	.047	.040							52
Aug. 11–20	334						.150	.107	.266		.229	.077	.141	.047	.029							51
Aug. 21–31	202						.180	.099	.306		.279	.060	.169	.037	.040							52
Sept. 1–10	547						.165	.099	.306		.295	.062	.141	.037	.035							54
Sept. 11–20	121						.200	.181	.300		.361	.056	.197	.032	.035							44
Sept. 21–30	157						.220	.132	.463		.377	.046	.310	.037	.045							57

[1] Includes discharge for July 28–31.

MISCELLANEOUS ANALYSES OF STREAMS IN LOUISIANA

Chemical analyses, in parts per million

Date of collection	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Total hardness as $CaCO_3$
Pearl River near Bogalusa, La.														
Oct. 7, 1943	4.8							15		5.0				33
Feb. 8, 1944	4.6							11		4.0				18
Bouge Chitto at Franklington, La.														
Oct. 8, 1943	3.7							14		5.0				33
Feb. 8, 1944	3.7							14		4.0				20
Apr. 5	3.3	9.9	0.41	2.4	0.9	2.8	1.6	11	2.1	3.0	0.6	1.0	41	10
Apr. 7	3.2	11	.40	2.2	.8	1.6	1.0	8.0	2.1	2.0	.4	1.2	44	9
Twelve Mile Bayou near Dixie, La.														
Oct. 15, 1943	523			104	51	840		154	50	1,500		2.0	2,620	469
Mar. 18, 1944	13.8							20		21				51
Apr. 27	22.2			10	4.7	28		36	10	47		.0	163	44
Black Bayou near Hosston, La.														
Nov. 18, 1943	1,010							26		3,220				546
Jan. 21, 1944	131							8.0		376				112
Feb. 27	33.5							6.0		90				51
Black Bayou near Gilliam, La.														
Nov. 18, 1943	824							225		2,490				465
Jan. 21, 1944	126							18		363				135
Mar. 18	63.3							40		171				72

Bayou Bodcau near Serapta, La.

Oct. 18, 1943	11.9						19		18				30
Jan. 22, 1944	11.7						21		18				48
Feb. 28	4.7						10		4.0				21

Bayou Dorcheat near Minden, La.

May 26, 1943							34		100				54
June 17	54.2			16	7.2	76	37	3	143		0.2	344	70
July 17	68.9						34		167				90
Aug. 21	77.4						30		207				84
Sept. 17	69.2						29		186				69
Oct. 17	56.3						26		149				63
Jan. 22, 1944	68.9						5.0		195				87
Mar. 19	29.0						17		76				50
Apr. 29	17.2						12		44				21

Cypress Bayou near Keithville, La.

Dec. 19, 1943	41.4						88		59				132
Jan. 20, 1944	24.4						31		37				75

Boggy Bayou near Keithville, La.

Jan. 20, 1941	19.9						21		35				60

Saline Bayou near Lucky, La.

Dec. 20, 1943	4.8						11		5.0				32
Jan. 24, 1944	6.0						9.0		6.0				30
Mar. 20	5.0						14		3.0				21

Black Lake Bayou near Castor, La.

Nov. 25, 1943	5.3						15		6.0				36
Jan. 24, 1944	5.6						5.0		4.0				15
Mar. 20	5.4						21		3.0				36

MISCELLANEOUS ANALYSES OF STREAMS IN LOUISIANA—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Total hardness as $CaCO_3$
Nantaches Creek near Montgomery, La.														
Oct. 27, 1943	11.4							29		7.0				42
Feb. 24, 1944	5.1							12		5.0				38
Chatlan Lake Canal near Lecompte, La.														
Oct. 27, 1943	10.0							38		8.0				66
Jan. 15, 1944	10.9							51		2.0				90
Bayou Des Glaises Diversion Canal near Moreauville, La.														
Aug. 16, 1943	56.8			48	23	36		216	55	41		1.5	366	214
Dec. 15	33.2							121		18				108
Jan. 11, 1944	12.0							57		3.0				62
Feb. 21	15.6							81		5.0				90
Apr. 24	18.7							89		7.0				93
May 19	17.5							45		10				66
Bayou Bartholomew near Beekman, La.														
Aug. 24, 1943	26.9			26	8.7	20		152	2	12		0.0	176	100
Nov. 24	24.9							129		15				96
Apr. 2, 1944	4.0							18		1.0				33
Apr. 5	3.9			1.2	1.7	1.9		22	2	1.0		.0	67	13
May 19	5.2							27		2.0				33
Cheniere Creek near Bawcomville, La.														
Nov. 22, 1943	8.5							13		9.0				36
Jan. 25, 1944	5.2							12		7.0				18
Mar. 2	3.8			2.0	1.5	1.3		10	2	2.0		1.2	64	11

Bayou D'Arbonne near Dubach, La.

Oct. 21, 1943	25.6						54		42				54
Jan. 25, 1944	8.1						12		12				51
Feb. 29	4.0			2.8	1.3	4.3	13	3	5.0		1.0	62	12
March 27	5.6						16		7.0				21

Middle Fork of Bayou D'Arbonne near Bernice, La.

Nov. 27, 1943	23.8						10		57				48
Jan. 25, 1944	10.3						15		18				60
Feb. 29	4.5						16		4.0				30
Mar. 27	6.9						14		11				36

Cornie Bayou near Lillie, La.

Oct. 21, 1943	155						8.0		455				202
Jan. 25, 1944	127						8.0		372				180
Feb. 29	18.8			12	2.8	18	9.0	3	50		0.0	171	41
Mar. 27	33.7						12		94				51
May 5	3.1						11		1.0				12

Boeuf River near Girard, La.

Nov. 24, 1943	77.0						314		61				330
Mar. 25, 1944	10.0						48		4.0				57

Bayou La Fourche near Crew Lake, La.

Nov. 22, 1943	121						437		152				69
Mar. 25, 1944	26.5						112		28				63

Tensas River at Tendal, La.

Nov. 24, 1943	66.1						290		58				188
Mar. 26, 1944	27.2						132		13				96

MISCELLANEOUS ANALYSES OF STREAMS IN LOUISIANA—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Total hardness as $CaCO_3$
Bayou Macon near Delhi, La.														
Nov. 24, 1943	71.8							340		45				246
Mar. 26, 1944	13.6							70		2.0				66
Dugdemona River near Jonesboro, La.														
Jan. 24, 1944	33.5							108		34				45
Feb. 24	10.5							30		10				21
Mar. 16	12.8							44		8.0				42
May 1	7.3			4.9	2.2	9.3		27	13	4.0		0.2	85	21
May 24	8.6							23		4.0				21
Bayou Castor near Grayson, La.														
Jan. 18, 1944	3.8							24		3.0				18
Feb. 23	5.4							14		5.0				27
Bayou Funny Louis near Trout, La.														
Oct. 12, 1943	26.7							24		63				80
Jan. 18, 1944	11.5							10		26				36
Big Creek at Pollock, La.														
Aug. 17, 1943	4.5	23	0.17	2.0	1.3	5.7	2.3	22	1.0	4.0	0.2	0.5	55	10

Chefuncte River near Folsom, La.

Oct. 7, 1943	3.6							15		4.0				20
Feb. 7, 1944	3.3							10		5.0				16
Apr. 26	3.0	7.5	0.07	1.6	1.1	2.0	1.3	8.0	1.0	4.0	0.3	0.5	39	8

Tangiphoa River at Robert, La.

Oct. 6, 1943	4.7							15		4.0				39
Feb. 9, 1944	5.0							19		5.0				36
Apr. 27	3.7	10	0.46	2.3	0.9	3.2	1.9	13	2.2	3.0	0.3	1.0	55	9

Natalbany River at Baptist, La.

Oct. 6, 1943	8.2							24		8.0				32
Feb. 10, 1944	4.2							11		5.0				18
Apr. 27	5.2	10	0.18	2.4	1.0	4.7	1.9	12	3.9	5.0	0.3	1.2	63	10

Tickfaw River at Holden, La.

Oct. 6, 1943	4.0							14		4.0				26
Feb. 10, 1944	5.3							26		5.0				21

Amite River near Denham Springs, La.

Oct. 8, 1943	5.6			2.9	1.6	5.5		19	3	5.0		0.0	53	14
Feb. 10, 1944	6.0							18		5.0				30
May 4	5.4	15	0.43	2.8	1.1	4.1	1.6	15	1.9	5.0	0.1	1.0	58	12

Comite River near Denham Springs, La.

Oct. 8, 1943	9.3							24		10				42

Comite River near Olive Branch, La.

Oct. 8, 1943	9.0							23		11				45
Feb. 7, 1944	6.3							16		8.0				27
Mar. 2	6.9	14	0.64	3.5	1.3	5.9	2.9	17	2.5	8.0	0.4	2.2	65	14

MISCELLANEOUS ANALYSES OF STREAMS IN LOUISIANA—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Specific conductance ($K \times 10^3$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Dissolved solids	Total hardness as $CaCO_3$
Bayou Teche near Arnaudville, La.														
Feb. 21, 1944	9.9							58		7.0				39
Apr. 5	9.5	25	0.89	8.9	4.3	4.3	2.9	48	2.2	6.0	0.5	2.0	114	40
Bayou Teche at Port Barre, La.														
Oct. 11, 1943	9.0							40		6.0				54
Bayou Cocodrie near Clearwater, La.														
Aug. 16, 1943	7.4			4.0	1.9	10		30	3	8.0		1.2	84	18
Feb. 21, 1944	5.9							23		5.0				36
Apr. 9	3.7	12	0.68	3.1	1.1	2.2	2.0	13	1.6	4.0	0.5	0.5	59	12
May 19	3.9							16		5.0				12
Vermilion River at Lafayette, La.														
Oct. 11, 1943	13.1							32		21				54
Feb. 21, 1944	37.9							32		92				64
Apr. 5	28.9	14	0.72	10	4.4	38	4.2	41	3.0	64	0.6	1.8	199	43
Bayou Nezpique near Basile, La.														
Oct. 12, 1943	8.6							26		13				54
Apr. 6, 1944	4.7	11	0.68	2.9	1.2	4.8	2.2	15	3.6	5.0	0.5	1.2	79	12

Bayou Queue De Tortue at Riceville, La.

Oct. 12, 1943	10.8							42		9.0				48
Jan. 27, 1944	6.4							32		5.0				42
Apr. 5	13.2	30	1.0	6.1	2.8	13	2.6	34	6.7	14	0.5	2.0	151	26

Bayou Plaquemine Brule near Crowley, La.

Oct. 11, 1943	21.5							96		17				69
Jan. 26, 1944	10.6							28		14				44
Apr. 5	8.7	26	1.0	5.5	2.2	7.3	5.1	22	7.5	11	0.5	3.2	162	23

Bayou Des Cannes near Eunice, La.

Oct. 12, 1943	13.3							54		14				58
Apr. 6, 1944	7.4	25	0.88	4.5	1.8	4.6	3.2	13	6.3	8.0	0.5	3.8	126	19

Calcasieu River near Oberlin, La.

Oct. 14, 1943	9.2							34		7.0				45
Jan. 6, 1944	3.1							8.0		2.0				15
May 18	4.7	11	0.06	3.6	1.3	2.6	1.9	14	1.7	4.0	0.9	1.5	59	14

Calcasieu River near Glenmora, La.

Oct. 14, 1943	6.9							28		8.0				30
May 18, 1944	5.6	16	0.12	4.6	1.6	3.8	1.2	19	2.3	5.0	0.8	1.0	67	18

Whiskey Chitto Creek near Oberlin, La.

Oct. 13, 1943	5.9							24		6.0				42
Jan. 6, 1944	2.7							11		2.0				21
May 17	4.9	18	0.04	3.0	1.4	5.7	1.4	18	1.2	6.0	0.9	0.8	58	13

Bundick Creek at Dry Creek, La.

Oct. 13, 1943	9.1							34		8.0				50
Jan. 9, 1944	4.9							11		6.0				39
May 12	6.9	25	0.02	3.6	1.7	8.0	1.5	25	1.5	7.0	0.9	1.2	72	16

WESTERN GULF OF MEXICO BASINS

CALCASIEU RIVER NEAR KINDER, LA.

[Composites of daily samples at gaging station at bridge on State Highway 7, 0.5 mile downstream from Whiskey Chito Creek and 4 miles west of Kinder. Drainage area, 1,700 square miles.]

Chemical analyses, in parts per million

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Apr. 1, 3–10, 1944	[1] 2,608	4.1	11	0.06	2.8	1.6	2.8	1.2	14	2.4	3.0	0.9	0.8	------	60	0.08	422	14	3	36
Apr. 11–16, 18–20	[2] 1,382	5.2	18	.06	3.5	1.9	3.3	1.4	18	2.0	4.0	.9	.8	------	68	.09	254	17	2	35
Apr. 21–24, 28–30	[3] 4,625	4.4	8.6	.04	2.3	1.3	8.6	1.2	23	2.1	5.0	.9	1.0	------	77	.10	962	11	0	64
May 1–10	11,058	3.1	6.3	.03	2.8	1.1	4.7	.6	14	3.2	3.0	.9	1.2	------	48	.07	1,430	12	0	49
May 11–20	4,877	3.5	9.2	.02	2.0	1.4	5.4	.8	16	2.4	4.0	.8	.2	------	53	.07	698	11	0	54
May 21–31	2,847	4.1	11	.03	2.0	1.3	7.3	1.0	18	2.8	5.0	.9	.5	------	62	.08	477	10	0	62
June 1–10	1,571	6.1	21	.41	5.0	1.4	5.2	1.2	24	2.8	5.0	.3	.8	------	72	.10	305	18	0	41
June 11–20	898	5.9	17	.10	4.0	1.4	6.1	1.2	23	3.3	5.0	.3	.5	------	72	.10	175	16	0	48

Chemical analyses, in equivalents per million

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Noncarbonate	
Apr. 1, 3–10, 1944	[1] 2,608				0.140	0.132	0.121	0.031	0.229	0.050	0.085	0.047	0.013							36
Apr. 11–16, 18–20	[2] 1,382				.175	.156	.143	.036	.295	.042	.113	.047	.013							35
Apr. 21–24, 28–30	[3] 4,625				.115	.107	.372	.031	.377	.044	.141	.047	.016							64
May 1–10	11,058				.140	.090	.203	.015	.230	.067	.085	.047	.019							49
May 11–20	4,877				.100	.115	.235	.020	.262	.050	.113	.042	.003							54
May 21–31	2,847				.100	.107	.316	.026	.295	.058	.141	.147	.008							62
June 1–10	1,571				.250	.115	.225	.031	.393	.058	.141	.016	.013							41
June 11–20	898				.200	.115	.265	.031	.377	.069	.141	.016	.008							48

[1] Includes discharge for Apr. 7.

[2] Includes discharge for Apr. 17.

[3] Includes discharge for Apr. 25–27.

BRAZOS RIVER NEAR SOUTH BEND, TEX.

LOCATION.—At gaging station at bridge on State Highway 67, 0.3 mile upstream from Wichita Falls and Southern Railroad bridge, 1.6 miles downstream from Clear Fork of Brazos River, and 2.0 miles northeast of South Bend.
DRAINAGE AREA.—21,600 square miles, of which 9,240 square miles is probably noncontributing.
RECORDS AVAILABLE.—Chemical analyses: January 1942 to September 1944.
EXTREMES, 1943–44.—Dissolved solids: Maximum, 6,350 parts per million Dec. 11–20; minimum, 431 parts per million Sept. 1–3, 6.
Total hardness: Maximum, 1,950 parts per million Dec. 11–20; minimum, 182 parts per million Sept. 1–3, 6.
EXTREMES, JANUARY 1942–SEPTEMBER 1944.—Dissolved solids: Maximum, 8,480 parts per million May 20, 1942; minimum, 312 parts per million Apr. 8–10, 1942.
Total hardness: Maximum, 1,950 parts per million Dec. 11–20, 1943; minimum, 123 parts per million Apr. 8–10, 1942.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1008.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1943	21.2	610	------	------	340	93	810		137	244	1,860	------	3.5	------	3,420	4.65	196	1,230	1,120	59
Oct. 11–20	10.2	852	------	------	458	133	1,160		152	244	2,720	------	4.5	------	4,800	6.53	132	1,690	1,570	60
Oct. 21–31	5.50	767	------	------	404	122	1,040		160	262	2,380	------	4.0	------	4,290	5.83	64	1,510	1,380	60
Nov. 1–10	1.18	628	------	------	328	102	883		162	314	1,910	------	4.5	------	3,620	4.92	12	1,240	1,100	61
Nov. 11–20	.94	682	------	------	346	107	1,050		163	368	2,180	------	6.0	------	4,140	5.63	11	1,300	1,170	64
Nov. 21–30	1.26	778	------	------	392	119	1,070		131	349	2,360	------	2.0	------	4,360	5.93	15	1,470	1,360	61
Dec. 1–4, 6–10	2.51	960	------	------	472	141	1,420		155	328	3,100	------	3.0	------	5,540	7.53	38	1,760	1,630	64
Dec. 5	5.90	470	------	------	251	65	640		89	282	1,360	------	1.8	------	2,640	3.59	42	894	821	61
Dec. 11–20	3.35	1,080	------	------	538	148	1,650		167	390	3,540	------	2.5	------	6,350	8.64	57	1,950	1,810	65
Dec. 21–31	3.45	1,070	------	------	500	150	1,640		152	389	3,480	------	3.0	------	6,240	8.49	58	1,860	1,740	66
Jan. 1–3, 1944	89.3	901	------	------	440	117	1,330		139	385	2,800	------	7.0	------	5,150	7.00	1,240	1,580	1,460	65
Jan. 4–10	44.0	559	------	------	272	72	782		150	334	1,560	------	7.0	------	3,100	4.22	368	975	852	64
Jan. 11–20	11.8	719	------	------	300	72	1,170		137	330	2,000	------	3.5	------	4,000	5.35	127	1,000	928	73
Jan. 21–31	7.48	904	------	------	332	181	1,190		161	366	2,640	------	4.0	------	4,820	6.56	97	1,650	1,520	61
Feb. 1–10	17.5	793	------	------	308	86	1,340		129	779	2,210	------	8.8	------	4,800	6.53	227	1,120	1,020	72
Feb. 11–20	28.7	846	------	------	320	89	1,460		137	837	2,380	------	2.5	------	5,160	7.02	400	1,160	1,050	73
Feb. 21–25	31.2	1,020	------	------	352	103	1,720		134	762	2,940	------	3.0	------	5,950	8.09	501	1,300	1,190	74
Feb. 26–28	746	385	------	------	162	46	553		111	251	1,020	------	5.3	------	2,090	2.84	4,210	594	502	67
Feb. 29	5,120	87.1	------	------	56	15	90		121	45	172	------	10	------	448	.61	6,190	202	102	49
Mar. 1–3	1,473	203	------	------	102	19	289		121	209	452	------	7.4	------	1,140	1.55	4,530	332	234	65

Mar. 4–10	190	379			183	35	578	104	470	905		8.0		2,230	3.03	1,140	600	516	68
Mar. 11–15, 19–20	49.0	590			222	43	987	122	551	1,560		4.2		3,430	4.66	454	731	631	75
Mar. 16–18	67.7	394			162	40	606	119	363	1,000		1.5		2,230	3.03	408	569	472	70
Mar. 21–31	34.6	618			240	72	998	130	646	1,620		2.5		3,640	4.95	340	895	788	71
Apr. 1, 5–8	52.1	575			268	73	921	154	633	1,550		2.0		3,520	4.79	495	969	843	67
Apr. 2, 9	130	183			87	20	264	87	180	435		1.5		1,030	1.40	361	299	228	66
Apr. 3, 4, 10	16.7	370			165	40	552	116	334	945		2.2		2,100	2.86	95	576	482	68
Apr. 11–13	6.17	495			240	58	776	149	493	1,340		2.0		2,980	4.05	50	838	716	67
Apr. 14–20	4.63	759			334	91	1,230	165	802	2,070		1.5		4,610	6.27	58	1,210	1,070	69
Apr. 21–22, 27–28	78.6	717			338	98	1,050	136	384	2,140		1.2		4,080	5.55	866	1,250	1,140	65
Apr. 23–24	48.0	256			131	38	351	126	160	690		3.5		1,440	1.96	187	483	380	61
Apr. 25–26, 29–30	151	447			220	58	647	109	191	1,350		1.5		2,520	3.43	1,030	788	698	64
May 1, 6–8	[1] 171	212			122	28	285	105	267	475		5.5		1,230	1.67	568	420	334	60
May 2–5	1,796	90.0			62	11	103	109	76	181		.0		487	.66	2,360	200	110	53
May 11–20	16.3	434			248	54	629	115	608	1,050		2.0		2,650	3.60	117	841	747	62
May 21–23	308	511			286	73	715	125	660	1,260		2.5		3,060	4.16	2,540	1,010	912	61
May 24–29	1,527	251			186	33	344	117	451	552		3.2		1,630	2.22	6,720	600	504	55
May 30–31	3,035	122			89	15	145	124	180	217		3.8		711	.97	5,830	284	182	53
June 1, 9–11, 13	[2] 1,027	153			100	16	187	116	208	288		4.1		860	1.17	2,380	316	220	56
June 8	[3] 452	485			250	41	819	111	592	1,320		4.8		3,080	4.19	3,760	792	702	69
June 12, 14–20	956	316			182	26	441	101	454	680		5.1		1,840	2.50	4,750	561	478	63
June 21–22	[4] 110	403			254	37	604	108	602	980		3.2		2,530	3.44	751	786	698	63
July 6–10	[5] 34.1	172			102	22	226	145	161	388		2.5		973	1.32	90	345	226	59
July 11–12	19.0	180			107	29	214	145	139	415		3.8		979	1.33	50	386	267	55
July 13–17	[6] 27.5	435			231	55	629	112	422	1,160		3.9		2,560	3.48	190	802	710	63
July 22–31	[7] 1,240	237			160	31	297	113	351	505		3.8		1,400	1.90	4,690	527	434	55
Aug. 1–10	91.2	349			214	37	506	110	570	780		2.8		2,160	2.94	532	686	596	62
Aug. 11–20	29.6	354			191	38	477	115	347	860		2.0		1,970	2.68	157	632	538	62
Aug. 21–29	19.1	425			229	51	596	146	362	1,120		1.0		2,430	3.30	125	781	662	62
Aug. 30–31	2,240	144			78	16	176	79	47	375		.5		731	.99	4,420	260	196	59
Sept. 1–3, 6	568	82.1			55	11	90	95	50	174		4.3		431	.59	661	182	104	52
Sept. 4–5, 7–9	395	219			141	30	205	99	235	420		4.0		1,080	1.47	1,150	476	394	48
Sept. 10	75.0	489			229	39	764	89	465	1,300		2.8		2,840	3.86	575	732	659	69
Sept. 11–13	47.7	511	10	0.05	230	38	835	98	522	1,360	0.5	2.8		3,040	4.13	392	730	650	71
Sept. 14–20	30.6	309			175	36	416	108	296	773		2.8		1,750	2.38	145	584	496	61
Sept. 21–30	18.2	380			188	44	545	118	261	1,040		.8		2,140	2.91	105	650	554	65
Weighted average	236	232			139	27	318	113	284	539		4.9		1,370	1.86	873	458	366	60

BRAZOS RIVER NEAR SOUTH BEND, TEX.—Continued

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1943	21.2				16.97	7.65	35.23		2.25	5.08	52.46		0.06							59
Oct. 11–20	10.2				22.86	10.94	50.55		2.49	5.08	76.71		.07							60
Oct. 21–31	5.50				20.16	10.03	45.06		2.62	5.45	67.12		.06							60
Nov. 1–10	1.18				16.37	8.39	38.38		2.66	6.54	53.87		.07							61
Nov. 11–20	.94				17.27	8.80	45.84		2.67	7.66	61.48		.10							64
Nov. 21–30	1.26				19.57	9.79	46.65		2.15	7.27	66.56		.03							61
Dec. 1–4, 6–10	2.51				23.56	11.60	61.69		2.54	6.83	87.43		.05							64
Dec. 5	5.90				12.53	5.35	27.84		1.46	5.87	38.36		.03							61
Dec. 11–20	3.35				26.85	12.17	71.72		2.74	8.12	99.84		.04							65
Dec. 21–31	3.45				24.96	12.34	71.49		2.49	8.10	98.15		.05							66
Jan. 1–3, 1944	89.3				21.96	9.62	57.80		2.28	8.02	78.97		.11							65
Jan. 4–10	44.0				13.58	5.92	34.02		2.46	6.95	44.00		.11							64
Jan. 11–20	11.8				15.97	5.92	51.04		2.74	13.12	56.97		.10							70
Jan. 21–31	7.48				18.07	14.88	51.83		2.64	7.62	74.46		.06							61
Feb. 1–10	17.5				15.37	7.07	58.36		2.11	16.22	62.33		.14							72
Feb. 11–20	28.7				15.97	7.32	63.55		2.25	17.43	67.12		.04							73
Feb. 21–25	31.2				17.57	8.47	74.99		2.20	15.86	88.92		.05							74
Feb. 26–28	746				8.09	3.78	24.04		1.82	5.23	28.77		.09							67
Feb. 29	5,120				2.80	1.23	3.90		1.98	.94	4.85		.16							49
Mar. 1–3	1,473				5.09	1.56	12.55		1.98	4.35	12.75		.12							65
Mar. 4–10	190				9.13	2.88	25.13		1.70	9.79	25.52		.13							68
Mar. 11–15, 19–20	49.0				11.08	3.54	42.90		2.00	11.47	44.00		.07							75
Mar. 16–18	67.7				8.09	3.29	26.35		1.95	7.56	28.20		.02							70
Mar. 21–31	34.6				11.98	5.92	43.41		2.13	13.45	45.69		.04							71
Apr. 1, 5–8	52.1				13.38	6.00	40.06		2.52	13.18	43.71		.03							67
Apr. 2, 9	130				4.34	1.64	11.49		1.43	3.75	12.27		.02							66
Apr. 3, 4, 10	16.7				8.24	3.29	24.01		1.90	6.95	26.65		.04							68
Apr. 11–13	6.17				11.98	4.78	33.76		2.44	10.26	37.79		.03							67
Apr. 14–20	4.63				16.67	7.48	53.65		2.70	16.70	58.38		.02							69
Apr. 21–22, 27–28	78.6				16.87	8.06	45.66		2.23	7.99	60.35		.02							65
Apr. 23–24	48.0				6.54	3.12	15.26		2.07	3.33	19.46		.06							61
Apr. 25–26, 29–30	151				10.98	4.77	28.11		1.79	3.98	38.07		.02							64
May 1, 6–8	[1]171				6.09	2.30	12.38		1.72	5.56	13.40		.09							60
May 2–5	1,796				3.09	.90	4.48		1.79	1.58	5.10		.00							53

May 11–20	16.3				12.38	4.44	27.36	1.88	12.66	29.61		.03						62
May 21–23	308				14.28	6.00	31.09	2.05	13.74	35.54		.04						61
May 24–29	1,527				9.28	2.71	14.94	1.92	9.39	15.57		.05						55
May 30–31	3,035				4.44	1.23	6.29	2.03	3.75	6.12		.06						53
June 1, 9–11, 13	[2] 1,027				4.99	1.32	8.11	1.90	4.33	8.12		.07						56
June 8	[3] 452				12.48	3.37	35.61	1.82	12.33	37.23		.08						69
June 12, 14–20	956				9.08	2.14	19.19	1.66	9.49	19.18		.08						63
June 21–22	[4] 110				12.68	3.04	26.27	1.77	12.53	27.64		.05						63
July 6–10	[5] 34.1				5.09	1.81	9.81	2.38	3.35	10.94		.04						59
July 11–12	19.0				5.34	2.38	9.31	2.38	2.89	11.70		.06						55
July 13–17	[6] 27.5				11.53	4.52	27.36	1.84	8.79	32.72		.06						63
July 22–31	[7] 1,240				7.99	2.55	12.92	1.85	7.31	14.24		.06						55
Aug. 1–10	91.2				10.68	3.04	22.00	1.80	11.87	22.00		.05						62
Aug. 11–20	29.6				9.53	3.12	20.73	1.88	7.22	24.25		.03						62
Aug. 21–29	19.1				11.43	4.19	25.92	2.39	7.54	31.59		.02						62
Aug. 30–31	2,240				3.89	1.32	7.65	1.29	.98	10.58		.01						59
Sept. 1–3, 6	568				2.75	.90	3.93	1.56	1.04	4.91		.07						52
Sept. 4–5, 7–9	395				7.04	2.47	8.91	1.62	4.89	11.85		.06						48
Sept. 10	75.0				11.43	3.21	33.21	1.46	9.68	36.66		.05						69
Sept. 11–13	47.7				11.48	3.12	36.29	1.61	10.87	38.36		.05						71
Sept. 14–20	30.6				8.73	2.96	18.09	1.77	6.16	21.80		.05						61
Sept. 21–30	18.2				9.38	3.62	23.70	1.93	5.43	29.33		.01						65
Weighted average	236				6.94	2.22	13.83	1.85	5.91	14.20		0.08						60

[1] Includes discharge for May 9–10.
[2] Includes discharge for June 2–5.
[3] Includes discharge for June 6–7.
[4] Includes discharge for June 23–30.
[5] Includes discharge for July 1–5.
[6] Includes discharge for July 18–20.
[7] Includes discharge for July 21.

BRAZOS RIVER AT POSSUM KINGDOM DAM, NEAR GRAFORD, TEX.

LOCATION.—Immediately below dam on Brazos River, 2.6 miles upstream from Loving Creek, and 11.3 miles southwest of Graford. Discharge records reported are for gaging station at bridge on Palo Pinto-Graford Highway, 300 feet downstream from Dark Valley Creek and 6½ miles north of Palo Pinto. The gage is about 15 miles downstream from Possum Kingdom Dam. No appreciable inflow between dam and gaging station except during periods of heavy local rains.

DRAINAGE AREA.—22,500 square miles above dam; 22,760 square miles above gaging station.

RECORDS AVAILABLE.—Chemical analyses: January 1942 to September 1944.

EXTREMES 1943–44.—Dissolved solids: Maximum, 1,390 parts per million Feb. 11–20; minimum, 1,230 parts per million Dec. 21–31.

Total hardness: Maximum, 494 parts per million May 1–10; minimum, 426 parts per million Nov. 11–20.

EXTREMES, JANUARY 1942–SEPTEMBER 1944.—Dissolved solids: Maximum, 2,131 parts per million Feb. 2–9, 1942; minimum, 829 parts per million Sept. 1–10, 1942.

Total hardness: Maximum, 661 parts per million Feb. 2–9, 1942; minimum, 318 parts per million Dec. 21–31, 1942.

REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1008.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1943	27.6	230	------	------	138	28	308		164	256	515	------	3.0	------	1,330	1.81	99	460	325	59
Oct. 11–20	143	230	------	------	135	28	307		156	257	512	------	2.2	------	1,320	1.80	510	452	324	60
Oct. 21–31	82.9	230	------	------	137	29	302		161	263	502	------	3.5	------	1,320	1.80	295	461	329	59
Nov. 1–10	57.7	226	------	------	130	28	303		153	265	492	------	4.0	------	1,300	1.77	203	440	314	60
Nov. 11–20	30.2	225	------	------	126	27	324		157	278	502	------	3.5	------	1,340	1.82	109	426	297	62
Nov. 21–30	41.9	233	------	------	138	28	304		157	270	502	------	2.2	------	1,320	1.80	149	460	330	59
Dec. 1–10	65.2	221	------	------	135	28	291		144	273	482	------	3.5	------	1,280	1.74	225	452	334	58
Dec. 11–20	43.2	219	------	------	134	28	290		150	273	475	------	2.8	------	1,280	1.74	149	450	326	58
Dec. 21–31	40.0	220	------	------	131	27	275		136	276	450	------	3.2	------	1,230	1.67	133	438	326	58
Jan. 1–10, 1944	125	222	------	------	134	26	294		148	275	475	------	3.0	------	1,280	1.74	432	442	320	59
Jan. 11–20	125	221	------	------	136	24	293		148	272	475	------	1.2	------	1,270	1.73	429	438	316	59
Jan. 21–31	127	222	------	------	135	31	290		149	275	485	------	1.8	------	1,290	1.75	442	464	342	58
Feb. 1–9	[1] 203	235	------	------	141	28	309		144	276	518	------	3.8	------	1,350	1.85	740	470	349	59
Feb. 11–20	73.3	235	------	------	138	23	336		148	279	535	------	2.5	------	1,390	1.89	275	439	318	62
Feb. 21–29	403	237	------	------	136	27	323		151	267	530	------	3.2	------	1,360	1.85	1,480	450	328	61
Mar. 1–10	105	239	------	------	130	29	331		142	279	532	------	6.8	------	1,380	1.88	391	444	327	62
Mar. 11–20	106	239	------	------	131	27	327		147	280	520	------	5.2	------	1,360	1.85	389	438	318	62
Mar. 21–31	109	227	------	------	135	27	313		138	275	515	------	2.2	------	1,340	1.82	394	448	335	60

Apr. 1-10	52.9	225			138	28	308	149	275	510		1.5		1,330	1.81	190	460	338	59
Apr. 11-20	46.4	231			136	25	316	153	274	508		2.2		1,340	1.82	168	442	317	61
Apr. 21-30	183	229			134	27	314	153	278	505		1.0		1,330	1.81	657	446	320	61
May 1-8	[2] 128	228			142	34	285	138	281	500		4.5		1,310	1.78	453	494	382	56
May 11-20	170	226			140	27	296	144	274	495		2.2		1,310	1.78	601	460	342	58
May 21-31	220	226			140	25	307	149	281	498		2.8		1,330	1.81	790	452	330	60
June 1-10	114	226			136	32	296	148	276	498		4.4		1,320	1.80	406	471	350	58
June 11-20	143	226			138	28	300	150	277	495		2.8		1,310	1.78	506	460	336	59
June 21-30	392	226			138	27	308	156	276	502		2.5		1,330	1.81	1,410	456	328	60
July 1-10	79.1	231			138	28	304	152	277	500		1.8		1,320	1.80	282	460	335	59
July 11-18	[3] 330	228			139	30	293	144	281	492		4.9		1,310	1.78	1,170	470	352	58
July 22, 24-31	[4] 252	226			140	30	294	152	281	492		2.0		1,310	1.78	891	473	348	57
Aug. 1-10	322	226			138	29	295	152	277	490		1.5		1,310	1.78	1,140	464	339	58
Aug. 11-20	577	229			140	26	290	151	272	482		1.2		1,290	1.75	2,010	456	332	58
Aug. 21-31	395	223			139	26	288	149	266	482		.5		1,270	1.73	1,350	454	332	58
Sept. 1-10	225	222			138	29	299	156	269	500		1.5		1,310	1.78	796	464	336	58
Sept. 11-20	82.3	224			138	31	289	157	268	490		2.8		1,300	1.77	289	472	344	57
Sept. 21-30	298	221			136	26	303	155	269	495		1.5		1,310	1.78	1,050	446	320	60
Weighted average	164	227			137	28	301	152	274	498		2.5		1,310	1.78	580	457	332	59

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Oct. 1-10, 1943	27.6				6.89	2.30	13.40	2.69	5.33	14.52		0.05						59
Oct. 11-20	143				6.74	2.30	13.35	2.56	5.35	14.44		.04						60
Oct. 21-31	82.9				6.84	2.38	13.12	2.64	5.48	14.16		.06						59
Nov. 1-10	57.7				6.49	2.30	13.17	2.50	5.52	13.88		.06						60
Nov. 11-20	30.2				6.29	2.22	14.07	2.57	5.79	14.16		.06						62
Nov. 21-30	41.9				6.89	2.30	13.20	2.58	5.62	14.16		.03						59
Dec. 1-10	65.2				6.74	2.30	12.65	2.36	5.68	13.59		.06						58
Dec. 11-20	43.2				6.69	2.30	12.60	2.46	5.68	13.40		.05						58
Dec. 21-31	40.0				6.54	2.22	11.96	2.23	5.75	12.69		.05						58
Jan. 1-10, 1944	125				6.69	2.14	12.78	2.43	5.73	13.40		.05						59
Jan. 11-20	125				6.79	1.97	12.75	2.43	5.66	13.40		.02						59
Jan. 21-31	127				6.74	2.55	12.59	2.44	5.73	13.68		.03						58
Feb. 1-9	[1] 203				7.04	2.30	13.44	2.36	5.75	14.61		.06						59
Feb. 11-20	73.3				6.89	1.89	14.59	2.43	5.81	15.09		.04						62
Feb. 21-29	403				6.79	2.20	14.03	2.48	5.56	14.95		.05						61
Mar. 1-10	105				3.49	2.33	14.38	2.33	5.81	15.00		.11						62
Mar. 11-20	106				6.54	2.22	14.23	2.41	5.83	14.67		.08						62
Mar. 21-31	109				6.74	2.22	13.59	2.26	5.73	14.52		.04						60

See footnotes at end of table.

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BRAZOS RIVER AT POSSUM KINGDOM DAM, NEAR GRAFFORD, TEX.—Continued

Chemical analyses, in equivalents per million, water year October to September 1944—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° (C)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids: Parts per million	Dissolved solids: Tons per acre-foot	Dissolved solids: Tons per day	Hardness as $CaCO_3$: Total	Hardness as $CaCO_3$: Noncarbonate	Percent sodium
Apr. 1–10	52.9				6.89	2.30	13.38		2.44	5.73	14.38		.02							59
Apr. 11–20	46.4				6.79	2.06	13.73		2.51	5.70	14.33		.04							61
Apr. 21–30	[2] 183				6.69	2.22	13.65		2.51	5.79	14.24		.02							61
May 1–8	128				7.09	2.80	12.39		2.26	5.85	14.10		.07							56
May 11–20	170				6.99	2.22	12.85		2.36	5.70	13.96		.04							58
May 21–31	220				6.99	2.06	13.34		2.44	5.85	14.05		.05							60
June 1–10	114				6.79	2.63	12.88		2.43	5.75	14.05		.07							60
June 11–20	143				6.89	2.30	13.05		2.46	5.77	13.96		.05							58
June 21–30	392				6.89	2.22	13.40		2.56	5.75	14.16		.04							59
July 1–10	79.1				6.89	2.30	13.20		2.49	5.77	14.10		.03							59
July 11–18	[3] 330				6.94	2.47	12.76		2.36	5.85	13.88		.08							58
July 22, 24–31	[4] 252				6.99	2.47	12.79		2.49	5.85	13.88		.03							57
Aug. 1–10	322				6.89	2.38	12.83		2.49	5.77	13.82		.02							58
Aug. 11–20	577				6.99	2.14	12.62		2.48	5.66	13.59		.02							58
Aug. 21–31	395				6.94	2.14	12.50		2.44	5.54	13.59		.01							58
Sept. 1–10	225				6.89	2.38	13.01		2.56	5.60	14.10		.02							58
Sept. 11–20	82.3				6.89	2.55	12.58		2.57	5.58	13.82		.05							57
Sept. 21–30	298				6.79	2.14	13.19		2.54	5.60	13.96		.02							60
Weighted average	164				6.84	2.30	13.09		2.49	5.70	14.05		0.04							59

[1] Includes discharge for Feb. 10.
[2] Includes discharge for May 9–10,
[3] Includes discharge for July 19–20.
[4] Includes discharge for July 21, 23.

COLORADO RIVER AT WHARTON, TEX.

LOCATION.—At gaging station on bridge on U. S. Highway 96 in Wharton, 1,000 feet downstream from Texas and New Orleans Railroad Bridge and 12 miles upstream from Jones Creek.
DRAINAGE AREA.—29,350 square miles (contributing area).
RECORDS AVAILABLE.—Chemical analyses: April to September 1944.
EXTREMES, APRIL–SEPTEMBER 1944.—Dissolved solids: Maximum, 323 parts per million, Apr. 21–30; minimum, 229 parts per million Sept. 1–10.
Total hardness: Maximum, 205 parts per million Apr. 21–30; minimum, 150 parts per million Sept. 1–10.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water Supply Paper 1008.

Chemical analyses, in parts per million, April to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Apr. 12–20, 1944	1,641	51.3	------	------	54	16	35		207	37	47	------	2.5	------	322	0.40	1,430	201	31	28
Apr. 21–30	1,430	53.1	------	------	54	17	36		211	36	51	------	2.0	------	323	.41	1,250	205	32	28
May 1–10	2,688	44.7	------	------	50	13	27		168	35	42	------	3.5	------	275	.34	2,000	178	41	25
May 11–14, 16–19	[1] 2,869	42.4	------	------	51	10	21		149	39	34	------	5.4	------	267	.32	2,070	168	46	22
May 24–31	[2] 5,059	40.3	------	------	46	11	20		151	29	34	------	2.2	------	249	.30	3,400	160	36	21
June 1–10	2,715	51.1	------	------	54	15	27		188	35	44	------	3.2	------	304	.37	2,230	196	42	23
June 11–17, 19–20	[3] 2,476	50.8	------	------	52	15	27		188	35	41	------	2.2	------	311	.36	2,080	192	38	24
June 21–30	2,032	52.0	------	------	48	17	30		178	33	51	------	4.0	------	322	.37	1,770	190	44	26
July 1, 3–4, 6–10	[4] 2,096	51.7	------	------	50	17	36		191	34	56	------	3.8	------	313	.40	1,770	195	38	29
July 11–14, 17–19	[5] 2,541	49.3	------	------	44	18	33		176	37	49	------	4.5	------	295	.37	2,020	184	40	28
July 22–31	[6] 2,575	49.6	------	------	46	17	36		198	33	46	------	2.0	------	287	.38	2,000	185	23	30
Aug. 1–3, 5, 8–10	[7] 2,518	51.0	------	------	49	18	26		185	33	47	------	1.2	------	300	.36	2,040	196	45	22
Aug. 11–18, 20	[8] 2,191	48.7	------	------	46	18	26		180	32	45	------	1.2	------	291	.35	1,720	189	41	23
Aug. 23–31	[9] 2,216	46.5	------	------	44	18	23		177	29	41	------	.5	------	274	.33	1,640	184	39	21
Sept. 1–8, 10	[10] 4,220	35.2	------	------	40	12	17		149	23	28	------	1.5	------	229	.27	2,610	150	27	20
Sept. 11–20	2,338	42.6	------	------	46	13	22		174	26	32	------	.3	------	250	.31	1,580	178	26	22
Sept. 21–22, 24–30	[11] 3,131	43.3	------	------	44	13	29		178	24	38	------	1.2	------	252	.32	2,130	153	17	28
Weighted average	2,649	46.0	------	------	47	15	26		175	32	41	------	2.4	------	279	0.38	2,000	179	36	24

COLORADO RIVER AT WHARTON, TEX.—Continued

Chemical analyses, in equivalents per million, April to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° (C)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids: Parts per million	Dissolved solids: Tons per acre-foot	Dissolved solids: Tons per day	Hardness as $CaCO_3$: Total	Hardness as $CaCO_3$: Non-carbonate	Percent sodium
Apr. 12-20, 1944	1,641				2.70	1.32	1.53		3.40	0.77	1.33		0.04							28
Apr. 21-30	1,430				2.70	1.40	1.58		3.46	.75	1.44		.03							28
May 1-10	2,688				2.496	1.069	1.159		2.754	.729	1.185		.056							25
May 11-14, 16-19	[1] 2,869				2.546	.822	.932		2.442	.812	.959		.087							22
May 24-31	[2] 5,059				2.296	.905	.872		2.475	.604	.959		.035							21
June 1-10	2,715				2.70	1.23	1.17		3.08	.73	1.24		.05							23
June 11-17, 19-20	[3] 2,476				2.60	1.23	1.18		3.08	.73	1.16		.04							24
June 21-30	2,032				2.40	1.40	1.31		2.92	.69	1.44		.06							26
July 1, 3-4, 6-10	[4] 2,096				2.50	1.40	1.58		3.13	.71	1.58		.06							29
July 11-14, 17-19	[5] 2,541				2.50	1.48	1.43		2.89	.77	1.38		.07							28
July 22-31	[6] 2,575				2.30	1.40	1.56		3.24	.69	1.30		.03							30
Aug. 1-3, 5, 8-10	[7] 2,518				2.45	1.48	1.14		3.03	.69	1.33		.02							22
Aug. 11-18, 20	[8] 2,191				2.296	1.480	1.129		2.951	.666	1.269		.019							23
Aug. 23-31	[9] 2,216				2.196	1.480	.993		2.901	.604	1.156		.008							21
Sept. 1-8, 10	[10] 4,220				1.997	.987	.751		2.442	.479	.790		.024							20
Sept. 11-20	2,338				2.296	1.069	.944		2.852	.541	.903		.013							22
Sept. 21-22, 24-30	[11] 3,131				2.196	1.069	1.244		2.918	.500	1.072		.019							28
Weighted average	2,649				2.346	1.234	1.131		2.868	0.666	1.156		0.039							24

[1] Includes discharge for May 15, 20.
[2] Includes discharge for May 21-23.
[3] Includes discharge for June 18.
[4] Includes discharge for July 2, 5.
[5] Includes discharge for July 15-16, 20.
[6] Includes discharge for July 21.
[7] Includes discharge for Aug. 4, 6-7.
[8] Includes discharge for Aug. 19.
[9] Includes discharge for Aug. 21-22.
[10] Includes discharge for Sept. 9.
[11] Includes discharge for Sept. 23.

COLORADO RIVER AT WHARTON, TEX.—Continued

Temperature (°F.) of water of Colorado River, April to September 1944

Day	April	May	June	July	August	September
1			78	64	82	76
2			78		83	79
3			77	78	83	80
4			79	79		80
5			80		83	78
6			79	78		80
7			79	81		78
8			79	81	83	81
9			79	82	82	
10			81	80	83	78
11			81	80	82	75
12			82	78	82	76
13			80	81	83	74
14			81	82	82	74
15	71		81		81	75
16	71		81		83	78
17	69		81	83	80	76
18	71			83	82	76
19	70		82	82		76
20	73		83		81	78
21			83			79
22	75		82	79		81
23	71		83	83	80	
24	70	77	84	83	81	79
25	69	75	83	83	82	76
26	73	74	83	83	82	78
27	70	75	83	83	82	75
28	69	74	81	83	81	75
29	73		81	83	82	73
30	74	75	79	84	80	76
31				83	74	

RIO GRANDE AT SAN ACACIA, N. MEX.

LOCATION.—At San Acacia diversion dam, which is 0.2 mile above the San Acacia gaging station, half a mile east of San Acacia, and 2 miles downstream from Rio Salado.

DRAINAGE AREA.—26,770 square miles, including 2,940 square miles in closed basin in northern part of San Luis Valley, Colo.

RECORDS AVAILABLE.—Chemical analyses: July 1937 to December 1937 and March 1939 to September 1944.

EXTREMES, 1943–44.—Dissolved solids: Maximum, 1,030 parts per million Aug. 18–20; minimum, 216 parts per million June 1–10. Total hardness: Maximum, 502 parts per million Aug. 18–20; minimum, 120 parts per million May 21–29, 31 and June 1–10.

EXTREMES, 1937, 1939–44.—Dissolved solids: Maximum, 1,631 parts per million June 29–30, 1943; minimum, 183 parts per million June 1–10, 1942. Total hardness: Maximum, 686 parts per million June 29–30, 1943; minimum, 101 parts per million June 11–20, 1942.

REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1008.

Chemical analyses, in parts per million, water year, October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^8$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1943	332	73.1	27	0.04	72	13	64	5.8	192	173	28	0.6	2.8	0.6	481	0.65	431	233	76	37
Oct. 11, 13–20	282	75.6	26	.04	72	14	62	4.6	210	172	32	.6	1.6	.4	488	.66	372	237	65	36
Oct. 21–31	253	77.1	25	.06	74	15	73	5.0	210	179	36	.6	2.5	.4	514	.70	351	246	74	39
Nov. 1–10	300	78.2	28	.02	74	14	73	7.0	212	170	38	.4	3.2	.5	512	.70	415	242	68	39
Nov. 11–12, 14–20	202	86.4	28	.02	80	16	87	6.2	232	198	46	.4	1.0	.6	577	.78	315	266	76	41
Nov. 21–30	472	77.4	27	.02	73	15	74	6.6	214	172	40	.5	1.0	.6	515	.70	656	244	68	39
Dec. 1–10	567	90.9	30	.02	81	17	92	6.8	220	199	61	.5	4.0	1.0	600	.82	919	272	92	42
Dec. 11–18	810	104	35	.02	82	19	113	5.6	213	210	95	.5	4.0	.8	669	.91	1,460	282	108	46
Jan. 3–10, 1944	649	73.5	29	.02	65	14	74	4.2	201	146	47	.4	1.3	.8	480	.65	841	220	55	42
Jan. 11–20	527	77.4	30	.02	68	14	80	4.8	207	158	50	.4	1.9	.8	509	.69	724	227	58	43
Jan. 21–31	971	69.1	28	.02	61	13	70	3.8	188	137	43	.4	2.0	.8	451	.61	1,180	206	52	42
Feb. 1–10	842	68.1	25	.06	62	12	64	5.0	191	133	40	.5	2.0	.2	438	.60	996	204	48	40
Feb. 12–20	786	64.1	26	.06	60	12	60	4.3	184	125	37	.5	1.6	.4	417	.57	885	199	48	39
Feb. 21–23, 25–29	754	34.4	25	.03	59	12	59	5.1	134	125	33	.5	1.7	.4	415	.57	847	196	48	39
Mar. 1–10	794	62.3	35	.04	57	11	63	3.0	184	118	32	.5	2.5	.4	413	.56	885	188	36	42
Mar. 11–20	780	60.7	32	.04	56	11	59	3.2	177	120	30	.5	3.0	.4	402	.55	847	185	40	40
Mar. 21–27, 29–31	759	63.4	30	.02	58	11	64	5.0	181	129	32	.5	3.2	.5	422	.57	865	190	41	41
Apr. 1–10	524	69.5	33	.05	61	12	68	4.3	195	140	36	.5	3.3	.5	454	.62	642	202	42	42
Apr. 11–13, 15–20	1,050	62.1	30	.05	56	10	63	4.0	179	121	32	.5	4.0	.5	409	.56	1,160	181	34	42

Apr. 21-30	684	63.2	31	.05	59	11	61	4.2	185	129	32	.5	2.0	.5	421	.57	778	192	40	40
May 1-10	1,244	58.9	29	.06	56	10	56	4.2	173	119	28	.5	2.5	.5	390	.53	1,310	181	39	40
May 11-20	7,392	41.6	28	.10	43	7.5	33	3.8	141	71	15	.5	2.0	.6	273	.37	5,450	138	23	33
May 21-29, 31	8,358	33.9	25	.15	38	6.2	23	3.0	129	53	10	.5	1.0	.2	223	.30	5,030	120	15	29
June 1-10	6,982	32.7	23	.14	38	6.2	21	3.0	128	51	8.8	.5	1.0	.1	216	.29	4,070	120	16	27
June 11-20	3,557	35.5	25	.10	42	7.3	19	4.8	127	58	12	.4	.4	.1	232	.32	2,230	135	31	23
June 22-23, 25-30	2,443	37.0	25	.10	50	6.8	16	4.3	123	68	14	.3	.8	.1	246	.33	1,620	158	52	22
July 1-4, 9-10	[1] 2,057	42.8	29	.01	48	8.2	31	3.9	144	82	12	.4	1.4	.1	287	.39	1,590	154	36	30
July 5	2,020	154								581	48									
July 6	2,290	61.9								158	18									
July 11-19	1,382	46.3	33	.06	48	9.6	36	4.2	156	89	15	.4	.9	.1	313	.43	1,170	160	32	32
July 20-23	2,600	125			122	26	131		245	416	44		.4		860	1.17	6,040	412	210	41
July 24-31	752	76.4	28	.06	73	14	71	6.1	192	200	29	.5	1.0	.3	517	.70	1,050	240	82	38
Aug. 1-9	271	74.0	32	.06	68	14	72	5.9	198	174	34	.5	1.0	.3	499	.68	365	227	64	40
Aug. 10-13	1,520	122			138	24	112		231	423	40		1.0		852	1.16	3,500	443	254	36
Aug. 14-17	1,126	70.0			68	13	66		183	174	25		.5		437	.59	1,330	223	73	39
Aug. 18-20	2,480	145			150	31	145		215	551	47		.5		1,030	1.40	6,900	502	326	39
Aug. 21-31	564	75.8	26	.2	74	14	72	3.4	205	181	31	.5	1.0	.7	504	.69	767	242	74	39
Sept. 1-10	80.2	80.1	24	.00	74	14	81	3.7	220	184	37	.5	.8	.7	527	.72	114	242	62	42
Sept. 11-20	359	63.7	32	.05	62	13	56	5.1	181	143	24	.5	.5	.4	425	.58	412	208	60	36
Sept. 21-30	524	73.5	27	.14	70	15	68	4.5	199	173	32	.5	1.0	.5	489	.67	692	236	73	38
Weighted average	1,442	52.3	27	0.10	53	9.7	44	3.9	156	110	22	0.5	1.5	0.3	348	0.47	1,350	172	44	35

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Oct. 1-10, 1943	332				3.59	1.07	2.78	0.15	3.15	3.60	0.79	0.03	0.05							37
Oct. 11, 13-20	282				3.59	1.15	2.70	.12	3.44	3.58	.90	.03	.03							36
Oct. 21-31	253				3.69	1.23	3.17	.13	3.44	3.73	1.02	.03	.04							39
Nov. 1-10	300				3.69	1.15	3.17	.18	3.47	3.54	1.07	.02	.05							39
Nov. 11-12, 14-20	202				3.99	1.32	3.78	.16	3.80	4.12	1.30	.02	.02							41
Nov. 21-30	472				3.64	1.23	3.22	.17	3.51	3.58	1.13	.03	.02							39
Dec. 1-10	567				4.04	1.40	4.00	.17	3.61	4.14	1.72	.03	.06							42
Dec. 11-18	810				4.09	1.56	4.91	.14	3.49	4.37	2.68	.03	.06							46
Jan. 3-10, 1944	649				3.24	1.15	3.22	.11	3.29	3.04	1.33	.02	.02							42
Jan. 11-20	527				3.39	1.15	3.48	.12	3.39	3.29	1.41	.02	.03							43
Jan. 21-31	971				3.04	1.07	3.04	.10	3.08	2.85	1.21	.02	.03							42
Feb. 1-10	842				3.09	.99	2.78	.13	3.13	2.77	1.13	.03	.03							40
Feb. 12-20	786				2.99	.99	2.63	.11	3.02	2.60	1.04	.03	.03							39
Feb. 21-23, 25-29	754				2.94	.99	2.57	.13	3.02	2.60	1.07	.03	.03							39
Mar. 1-10	794				2.85	.90	2.74	.08	3.02	2.46	.90	.03	.04							42
Mar. 11-20	780				2.80	.90	2.57	.08	2.90	2.50	.85	.03	.05							40
Mar. 21-27, 29-31	759				2.89	.90	2.78	.13	2.97	2.69	.90	.03	.05							41
Apr. 1-10	524				3.04	.99	2.96	.11	3.20	2.91	1.02	.03	.05							42
Apr. 11-13, 15-20	1,050				2.80	.82	2.72	.10	2.93	2.52	.90	.03	.06							42

RIO GRANDE AT SAN ACACIA, N. MEX.—Continued

Chemical analyses, in equivalents per million, water year October 1943 to September 1944—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° (C)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Noncarbonate	
Apr. 21–30	684				2.94	0.90	2.65	0.11	3.03	2.69	0.90	0.03	0.03							40
May 1–10	1,244				2.80	.82	2.44	.11	2.84	2.48	.79	.03	.04							40
May 11–20	7,392				2.15	.62	1.43	.10	2.31	1.48	.42	.03	.03							33
May 21–29, 31	8,358				1.90	.51	1.00	.08	2.11	1.10	.28	.03	.02							29
June 1–10	6,982				1.90	.51	.91	.08	2.10	1.06	.25	.03	.02							27
June 11–20	3,557				2.10	.60	.83	.12	2.08	1.21	.34	.02	.01							23
June 22–23, 25–30	2,443				2.50	.56	.69	.11	2.02	1.42	.39	.02	.01							22
July 1–4, 9–10	[1] 2,057				2.40	.67	1.35	.10	2.36	1.71	.34	.02	.02							30
July 5	2,020									12.10	1.35									
July 6	2,290									3.29	.51									
July 11–19	1,382				2.40	.79	1.57	.11	2.56	1.85	.42	.02	.01							32
July 20–23	2,600				6.09	2.14	5.70		4.02	8.66	1.24		.01							41
July 24–31	752				3.64	1.15	3.09	.16	3.15	4.16	.82	.03	.02							38
Aug. 1–9	271				3.39	1.15	3.13	.15	3.25	3.62	.96	.03	.02							40
Aug. 10–13	1,520				6.89	1.97	4.89		3.79	8.81	1.13		.02							36
Aug. 14–17	1,126				3.39	1.07	2.88		3.00	3.62	.71		.01							39
Aug. 18–20	2,480				7.49	2.55	6.29		3.52	11.47	1.33		.01							39
Aug. 21–31	564				3.69	1.15	3.13	.09	3.36	3.77	.87	.03	.02							39
Sept. 1–10	80.2				3.69	1.15	3.52	.09	3.61	3.83	1.04	.03	.01							42
Sept. 11–20	359				3.09	1.07	2.44	.13	2.97	2.98	.68	.03	.01							36
Sept. 21–30	524				3.49	1.23	2.96	.12	3.26	3.60	.90	.03	.02							38
Weighted average	1,442				2.65	0.80	1.91	0.10	2.56	2.29	0.62	0.03	0.02							35

[1] Discharge for July 7 and 8 omitted; no samples collected on these days. Specific conductance on July 4, 40.7; July 5, 154; July 6, 61.9; July 9, 44.8.

RIO GRANDE NEAR BROWNSVILLE, TEX.

At pumping plant of Cameron County District No. 5, 3 miles southeast of Brownsville, Tex.

Chemical analyses, in parts per million, October 1943 to February 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1943	4,952	98.0	------	------	69	16	95		122	164	121	------	3.5	------	529	0.72	7,060	238	138	46
Oct. 11–20	5,176	85.8	------	------	71	14	87		133	170	95	------	4.0	------	506	.69	7,070	234	126	45
Oct. 21–31	2,672	113	------	------	84	20	124		158	196	160	------	3.2	------	665	.90	4,760	292	162	48
Nov. 1–10	2,459	130	------	------	85	25	158		154	245	195	------	1.5	------	785	1.07	5,210	315	188	52
Nov. 11–14, 19–20	1,682	123	------	------	83	24	145		156	226	182	------	1.2	------	738	1.00	3,330	306	178	51
Nov. 15–18	1,738	72.2	------	------	54	16	75		124	126	92	------	1.2	------	425	.58	2,000	201	100	45
Nov. 21–30	1,895	139	------	------	88	28	160		148	258	206	------	1.8	------	815	1.11	4,160	334	213	51
Dec. 1–10	2,598	144	------	------	91	29	164		144	253	225	------	3.8	------	837	1.14	5,860	346	228	51
Dec. 11–20	2,273	142	------	------	90	27	159		153	250	222	------	2.2	------	820	1.12	5,040	336	220	50
Dec. 21–31	2,075	163	------	------	94	35	206		141	293	280	------	2.0	------	985	1.34	5,510	378	253	54
Jan. 1–10, 1944	2,156	164	------	------	99	33	203		155	301	270	------	3.8	------	986	1.34	5,720	382	255	54
Jan. 11–20	1,995	165	------	------	98	33	206		168	308	260	------	3.8	------	992	1.35	5,330	380	242	54
Jan. 21–31	1,503	163	------	------	98	34	190		164	286	257	------	3.5	------	938	1.28	3,810	384	250	52
Feb. 1–10	1,362	158	------	------	90	33	207		156	294	265	------	2.8	------	969	1.32	3,560	360	232	56
Feb. 11–20	746	163	------	------	92	36	183		159	249	272	------	2.0	------	912	1.24	1,830	378	247	51
Feb. 21–29	390	160	------	------	94	36	167		182	216	262	------	1.5	------	866	1.18	911	382	233	49

Chemical analyses, in equivalents per million, October 1943 to February 1944

Oct. 1–10, 1943	----------	-------	-------	------	3.44	1.32	4.12		2.00	3.41	3.41	------	0.06	------	-------	-------	-------	-------	-------	46
Oct. 11–19	----------	-------	-------	------	3.54	1.15	3.77		2.18	3.54	2.68	------	.06	------	-------	-------	-------	-------	-------	45
Oct. 21–31	----------	-------	-------	------	4.19	1.64	5.40		2.59	4.08	4.51	------	.05	------	-------	-------	-------	-------	-------	48
Nov. 1–10	----------	-------	-------	------	4.24	2.06	6.85		2.53	5.10	5.50	------	.02	------	-------	-------	-------	-------	-------	52
Nov. 11–14, 19–20	----------	-------	-------	------	4.14	1.97	6.31		2.56	4.71	5.13	------	.02	------	-------	-------	-------	-------	-------	51
Nov. 15–18	----------	-------	-------	------	2.70	1.32	3.24		2.03	2.62	2.59	------	.02	------	-------	-------	-------	-------	-------	45
Nov. 21–30	----------	-------	-------	------	4.39	2.30	6.95		2.43	5.37	5.81	------	.03	------	-------	-------	-------	-------	-------	51
Dec. 1–10	----------	-------	-------	------	4.54	2.38	7.13		2.37	5.27	6.35	------	.06	------	-------	-------	-------	-------	-------	51
Dec. 11–20	----------	-------	-------	------	4.49	2.22	6.91		2.32	5.20	6.26	------	.04	------	-------	-------	-------	-------	-------	50
Dec. 21–31	----------	-------	-------	------	4.69	2.88	8.97		2.51	6.10	7.90	------	.03	------	-------	-------	-------	-------	-------	54
Jan. 1–10, 1944	----------	-------	-------	------	4.94	2.71	8.84		2.55	6.27	7.61	------	.06	------	-------	-------	-------	-------	-------	54
Jan. 11–20	----------	-------	-------	------	4.89	2.71	8.96		2.76	6.41	7.33	------	.06	------	-------	-------	-------	-------	-------	54
Jan. 21–31	----------	-------	-------	------	4.89	2.80	8.26		2.69	5.95	7.25	------	.06	------	-------	-------	-------	-------	-------	52
Feb. 1–10	----------	-------	-------	------	4.49	2.71	9.00		2.56	6.12	7.47	------	.05	------	-------	-------	-------	-------	-------	56
Feb. 11–20	----------	-------	-------	------	4.59	2.96	7.94		2.61	5.18	7.67	------	.03	------	-------	-------	-------	-------	-------	51
Feb. 21–29	----------	-------	-------	------	4.69	2.96	7.25		2.99	4.50	7.39	------	.02	------	-------	-------	-------	-------	-------	49

PECOS RIVER BELOW ALAMOGORDO DAM, N. MEX.

LOCATION.—Approximately 600 feet upstream from gaging station, which is located 1,200 feet downstream from Alamogordo Dam, 1½ miles downstream from Alamogordo Creek and 4½ miles northeast of Guadalupe.
DRAINAGE AREA.—4,390 square miles (contributing area).
RECORDS AVAILABLE.—Chemical analyses: June 1937 to September 1944.
EXTREMES, 1943–44.—Dissolved solids: Maximum, 2,180 parts per million May 1–6; minimum, 1,220 parts per million June 11–20.
Total Hardness: Maximum, 1,470 parts per million May 1–6; minimum, 894 parts per million June 11–20.
EXTREMES, 1937–44.—Dissolved solids: Maximum, 2,590 parts per million Apr. 21–30, 1938; minimum, 435 parts per million Oct. 1–8, 1941.
Total hardness: Maximum, 1,640 parts per million Apr. 11–30, 1938; minimum, 294 parts per million Oct. 1–8, 12–20, 1941.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1008.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1943	109	201	19	0.02	354	53	68	2.7	104	1,010	88	0.5	1.9	1.0	1,650	2.24	486	1,100	1,020	12
Oct. 11–20	101	209	15	.02	378	53	69	4.3	110	1,050	92	.4	1.2	1.0	1,720	2.34	469	1,160	1,070	11
Oct. 21–31	99.8	220	15	.02	396	57	74	3.4	116	1,110	100	.4	2.0	1.0	1,810	2.46	488	1,220	1,130	12
Nov. 1–10	76.6	218	13	.04	390	58	74	3.4	90	1,110	98	.3	.6	.2	1,790	2.43	370	1,210	1,140	12
Nov. 11–20	1.96	231	13	.04	424	60	78	2.7	116	1,170	107	.3	1.0	.2	1,910	2.60	10	1,300	1,210	11
Nov. 21–27, 30	1.88	231	13	.04	428	61	80	2.7	118	1,190	108	.3	1.0	.2	1,940	2.64	9.8	1,320	1,220	12
Dec. 1–10	2.04	225	8.0	.04	412	59	77	2.6	125	1,140	105	.3	1.0	.2	1,870	2.54	10	1,270	1,170	12
Dec. 11–20	1.70	230	13	.05	412	63	81	5.0	118	1,180	108	.5	2.0	.8	1,920	2.61	8.8	1,290	1,190	12
Dec. 21–31	1.37	228	13	.05	416	63	79	4.6	128	1,160	110	.5	1.8	.8	1,910	2.60	7.1	1,300	1,190	12
Jan. 1–10, 1944	1.50	228	14	.05	415	63	79	4.4	130	1,170	115	.5	1.6	.8	1,930	2.62	7.8	1,290	1,190	12
Jan. 11–20	1.58	232	15	.01	418	72	75		105	1,210	110	.3	1.7	.2	1,950	2.65	8.3	1,340	1,250	11
Jan. 21–30	1.85	239	20	.01	424	76	92	2.6	117	1,240	120	.3	1.6	.2	2,030	2.76	10	1,370	1,270	13
Feb. 1–10	2.20	236	14	.08	427	69	81	3.7	130	1,200	113	.4	1.0	.4	1,970	2.68	12	1,350	1,240	12
Feb. 11–20	1.15	218	17	.08	346	73	93	3.2	174	1,010	115	.4	1.0	.4	1,740	2.37	5.4	1,160	1,020	15
Feb. 21–29	.40	226	16	.08	372	73	96	5.4	167	1,080	116	.3	1.0	.4	1,840	2.50	2.0	1,230	1,090	14
Mar. 1–10	70.4	238	21	.05	432	62	90	1.6	103	1,240	113	.2	1.0	.2	2,010	2.73	382	1,330	1,250	13
Mar. 11–12, 14–20	1,660	240	17	.05	443	62	89	1.8	98	1,270	114	.4	.6	.2	2,050	2.79	919	1,360	1,280	12
Mar. 13	1,880	201							102		101									
Mar. 21–31	111	243	21	.10	449	62	90	1.8	113	1,280	115	.4	.4	.2	2,080	2.83	623	1,380	1,280	12

Apr. 1–10	101	248	17	.10	458	70	88	3.6	86	1,330	120	.6	2.6	.4	2,130	2.90	581	1,430	1,360	12
Apr. 11–20	93.6	251	18	.07	470	70	87	3.2	92	1,350	121	.5	2.2	.4	2,170	2.95	548	1,460	1,390	11
Apr. 21–30	91.9	251	14	.10	470	71	89	2.8	79	1,360	123	.5	2.2	.4	2,170	2.95	538	1,460	1,400	12
May 1–6	91.3	252	18	.10	474	70	90	3.2	84	1,360	122	.5	2.2	.4	2,180	2.96	537	1,470	1,400	12
May 11–20	96.9	231	27	.20	416	63	73	7.2	60	1,210	110	.4	1.0	.2	1,940	2.64	508	1,300	1,170	11
May 21–29	99.3	214	25	.30	400	66	57	7.8	68	1,110	101	.3	1.5	.2	1,800	2.45	483	1,230	1,170	9
June 1–10	1,943	176	20	.40	320	52	42	6.0	56	897	79	.3	1.0	.2	1,450	1.97	7,610	1,010	962	8
June 11–20	664	154	18	.20	284	45	20	6.4	98	734	61	.3	1.0	.2	1,220	1.66	219	894	814	5
June 21–30	97.1	162	18	.10	310	39	22	6.6	121	772	67	.3	1.0	.2	1,300	1.77	341	934	835	5
July 1–10	91.0	172	19	.12	316	42	53	7.0	130	826	68	.4	1.2	.2	1,400	1.90	344	961	854	11
July 11–20	726	174	16	.08	317	42	55	6.4	132	837	70	.4	1.0	.2	1,410	1.92	2,760	964	856	11
July 21–31	98.1	182	16	.03	331	45	60	6.8	131	878	76	.4	1.2	.2	1,480	2.01	392	1,010	904	11
Aug. 1–10	102	191	19	.08	351	51	59	6.0	131	935	79	.5	1.0	.1	1,570	2.14	432	1,090	978	11
Aug. 11–20	109	201	20	.07	371	52	64	4.8	128	1,020	84	.5	1.0	.1	1,680	2.28	494	1,140	1,040	11
Aug. 21–31	97.9	197	25	.08	357	53	65	4.8	126	976	83	.5	1.0	.1	1,630	2.22	431	1,110	1,010	11
Sept. 1–10	436	204	26	.08	370	53	68	4.0	127	1,010	86	.5	1.0	.1	1,680	2.28	1,980	1,140	1,040	11
Sept. 11–20	90.7	223	19	.06	412	65	55	4.2	136	1,120	100	.5	1.0	.1	1,840	2.50	451	1,300	1,180	8
Sept. 21–30	92.6	235	19	.07	439	68	80	4.0	131	1,230	107	.5	.5	.1	2,010	2.73	503	1,380	1,270	11
Weighted average	203	200	19	0.17	366	54	60	4.7	95	1,020	90	0.4	1.0	0.2	1,660	2.26	910	1,140	1,060	10

PECOS RIVER BELOW ALAMOGORDO DAM, N. MEX.—Continued

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1943	109				17.67	4.36	2.96	0.07	1.70	21.03	2.48	0.03	0.03							12
Oct. 11–20	101				18.87	4.36	3.00	.11	1.80	21.86	2.59	.02	.02							11
Oct. 21–31	99.8				19.77	4.69	3.22	.09	1.90	23.11	2.82	.02	.03							12
Nov. 1–10	76.6				19.47	4.77	3.22	.09	1.48	23.11	2.76	.02	.01							12
Nov. 11–20	1.96				21.16	4.93	3.39	.07	1.90	24.36	3.02	.02	.02							11
Nov. 21–27, 30	1.88				21.36	5.02	3.48	.07	1.93	24.78	3.05	.02	.02							12
Dec. 1–10	2.04				20.56	4.85	3.35	.07	2.05	23.73	2.96	.02	.02							12
Dec. 11–20	1.70				20.56	5.18	3.52	.13	1.93	24.57	3.05	.03	.03							12
Dec. 21–31	1.37				20.76	5.18	3.44	.12	2.10	24.15	3.10	.03	.03							12
Jan. 1–10, 1944	1.50				20.71	5.18	3.44	.11	2.13	24.36	3.24	.03	.03							12
Jan. 11–20	1.58				20.86	5.92	3.28		1.72	25.19	3.10	.02	.03							11
Jan. 21–30	1.85				21.16	6.25	4.00	.07	1.92	25.82	3.38	.02	.03							13
Feb. 1–10	2.20				21.31	5.67	3.52	.09	2.13	24.98	3.19	.02	.02							12
Feb. 11–20	1.15				17.27	6.00	4.04	.08	2.85	21.03	3.24	.02	.02							15
Feb. 21–29	.40				18.57	6.00	4.17	.14	2.74	22.49	3.27	.02	.02							14
Mar. 1–10	70.4				21.56	5.10	3.91	.04	1.69	25.82	3.19	.01	.02							13
Mar. 11–12, 14–20	1,660				22.11	5.10	3.87	.05	1.61	26.44	3.22	.02	.01							12
Mar. 13	1,880								1.67		2.85									
Mar. 21–31	111				22.41	5.10	3.91	.05	1.85	26.65	3.24	.02	.01							12
Apr. 1–10	101				22.86	5.76	3.83	.09	1.41	27.69	3.38	.03	.04							12
Apr. 11–20	93.6				23.46	5.76	3.78	.08	1.51	28.11	3.41	.03	.04							11
Apr. 21–30	91.9				23.46	5.84	3.87	.07	1.29	28.31	3.47	.03	.04							12
May 1–6	91.3				23.66	5.76	3.91	.08	1.38	28.31	3.44	.03	.04							12
May 11–20	96.9				20.76	5.18	3.17	.18	.98	25.19	3.10	.02	.02							11
May 21–29	99.3				19.47	5.10	2.48	.20	1.11	23.11	2.85	.02	.02							9
June 1–10	1,943				15.97	4.28	1.83	.15	.92	18.68	2.23	.02	.02							8
June 11–20	664				14.18	3.70	.87	.16	1.61	15.28	1.72	.02	.02							5
June 21–30	97.1				15.47	3.21		.17	1.98	16.07	1.89	.02	.02							5

July 1–10	91.0				15.77	3.45	2.30	.18	2.13	17.20	1.92	.02	.02						11
July 11–20	726				15.82	3.45	2.39	.16	2.16	17.43	1.97	.02	.02						11
July 21–31	98.1				16.52	3.70	2.61	.17	2.15	18.28	2.14	.02	.02						11
Aug. 1–10	102				17.52	4.19	2.57	.15	2.15	19.47	2.23	.03	.02						11
Aug. 11–20	109				18.52	4.28	2.78	.12	2.10	21.24	2.37	.03	.02						11
Aug. 21–31	97.9				17.82	4.36	2.83	.12	2.07	20.32	2.34	.03	.02						11
Sept. 1–10	436				18.47	4.36	2.96	.10	2.08	21.03	2.43	.03	.02						11
Sept. 11–20	90.7				20.56	5.35	2.40	.11	2.23	23.32	2.82	.03	.02						8
Sept. 21–30	92.6				21.91	5.59	3.48	.10	2.15	25.61	3.02	.03	.01						11
Weighted average	203				18.27	4.44	2.61	0.12	1.56	21.24	2.54	0.02	0.02						10

PECOS RIVER NEAR ACME, N. MEX.

LOCATION.—At highway bridge on U. S. Highway 70, approximately 3 miles above gaging station, which is located 1 mile southeast of Melena railroad station, 3½ miles downstream from Salt Creek, 5 miles southwest of Acme, and 13 miles northeast of Roswell.
DRAINAGE AREA.—11,380 square miles (contributing area).
RECORDS AVAILABLE.—Chemical analyses: July 1937 to September 1944.
EXTREMES, 1943–44.—Dissolved solids: Maximum, 5,670 parts per million Mar. 1–10; minimum, 1,900 parts per million June 11–20.
Total hardness: Maximum, 2,520 parts per million May 21–26, 28–31; minimum, 1,200 June 11–20, Sept. 20–23, 28–30.
EXTREMES, 1937–44.—Dissolved solids: Maximum, 19,870 parts per million May 23–June 2, 1938; minimum, 806 parts per million May 24, 1941.
Total hardness: Maximum, 5,320 parts per million May 23–June 2, 1938; minimum, 528 parts per million May 24, 1941.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water Supply Paper 1008.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1943	44.1	276	9.0	.....	414	80	168		103	1,260	234	.....	2.0	.....	2,220	3.02	264	1,360	1,280	21
Oct. 11–20	27.7	315	10	.....	472	97	199		107	1,460	284	.....	1.0	.....	2,580	3.51	193	1,580	1,490	22
Oct. 21–30	[a] 39.2	339	10	.....	500	99	233		110	1,540	332	.....	.5	.....	2,770	3.77	293	1,660	1,560	23
Oct. 31	42	350																		
Nov. 1–10	46.6	359	10	.....	494	96	271		115	1,550	360	.....	2.5	.....	2,840	3.86	357	1,630	1,530	27
Nov. 11–20	40.7	372	11	.....	492	99	298		116	1,530	420	.....	2.5	.....	2,910	3.96	320	1,640	1,540	28
Nov. 21–30	30.4	443	9.0	.....	512	114	415		122	1,600	625	.....	2.5	.....	3,340	4.54	274	1,750	1,650	34
Dec. 1–10	43.5	469	8.5	.....	527	114	468		131	1,630	705	.....	2.5	.....	3,520	4.79	413	1,780	1,680	36
Dec. 11–20	66.9	507	9.0	.....	464	108	593		122	1,450	908	.....	2.5	.....	3,590	4.88	648	1,600	1,500	45
Dec. 21–31	27.0	556	11	.....	532	129	645		141	1,650	1,010	.....	2.5	.....	4,040	5.51	295	1,860	1,740	43
Jan. 1–10, 1944	37.9	565	10	.....	540	138	762		146	1,690	1,200	.....	2.5	.....	4,410	6.00	451	1,920	1,800	46
Jan. 11–20	27.6	573	12	.....	542	135	671		143	1,710	1,040	.....	3.6	.....	4,180	5.68	311	1,910	1,790	43
Jan. 21–31	27.0	575	18	.....	552	137	678		139	1,760	1,040	.....	3.7	.....	4,260	5.79	311	1,940	1,830	43
Feb. 1–10	22.0	623	14	.....	572	144	765		117	1,860	1,170	.....	.2	.....	4,580	6.23	272	2,020	1,920	45
Feb. 11–20	13.7	662	13	.....	606	156	806		138	1,950	1,250	.....	.2	.....	4,850	6.60	179	2,150	2,040	45
Feb. 21–29	19.7	722	13	.....	596	159	929		133	1,940	1,440	.....	1.5	.....	5,140	6.99	273	2,140	2,030	49
Mar. 1–10	[b] 13.9	785	13	.....	640	173	1,050		145	2,100	1,620	.....	2.0	.....	5,670	7.71	213	2,310	2,190	50
Mar. 11	[b] 5.5	830									1,720									
Mar. 12–13	674	372	.....	.....	551	121	249		131	1,760	335	.....	2.5	.....	3,080	4.19	5,600	1,870	1,760	22
Mar. 14–20	1,404	275	15	.....	493	74	122		127	1,410	160	.....	4.0	.....	2,340	3.18	8,870	1,540	1,430	15
Mar. 21–31	399	329	13	.....	540	87	213		131	1,590	285	.....	2.5	.....	2,800	3.81	3,020	1,700	1,600	21

Apr. 1-10	37.2	449	11		580	114	432	125	1,810	615		1.5		3,630	4.94	365	1,920	1,810	33
Apr. 12-20	17.0	553	13		682	150	559	130	2,160	835		1.0		4,460	6.07	205	2,320	2,210	34
Apr. 21-30	20.8	529	13		672	152	505	125	2,170	735		1.0		4,310	5.86	242	2,300	2,200	32
May 1-10	19.5	529	14		686	153	493	119	2,140	770		1.5		4,320	5.88	227	2,340	2,240	31
May 11-20	16.0	520	15		696	158	464	116	2,180	730		1.5		4,300	5.85	186	2,390	2,290	30
May 21-26, 28-31	[e] 9.24	561	14		732	169	533	119	2,330	820		1.0		4,660	6.34	116	2,520	2,420	31
June 1	[e] 9.8	533								710									
June 3-10	1,148	258	18		437	67	122	121	1,230	178		1.5		2,110	2.87	6,540	1,370	1,270	16
June 11-20	598	226	21		386	57	119	116	1,120	138		1.5		1,900	2.58	3,070	1,200	1,100	18
June 21-28	[d] 34.9	323	22		554	104	172	102	1,670	256		0.5		2,830	3.85	267	1,810	1,730	17
June 29	[d] 91	155								70									
June 30	[d] 19	740								1,580									
July 1-3	[e] 6.43	696								1,340									
July 4-9	[e] 25.8	358	20		442	99	282	97	1,380	430		1.5		2,700	3.67	188	1,510	1,430	29
July 11	[f] 1.3	677								1,220									
July 12-20	[f] 244	371	19		508	107	273	103	1,580	405		1.5		2,940	4.00	1,940	1,710	1,620	26
July 21	[f] 891	356						97	1,560	382									
July 22-29	[g] 133	277	27		426	74	161	109	1,230	245		3.4		2,220	3.02	797	1,370	1,280	20
July 30-31	[g] .10	416						110	1,710	515									
Aug. 1-10	0	376	29		524	95	279	110	1,550	425		1.5		2,960	4.03		1,700	1,610	26
Aug. 11-20	0	367	19		630	88	189	89	1,740	325		2.2		3,040	4.13		1,930	1,860	18
Aug. 21-22, 25-29, 31	[h] 132	367	23		466	86	316	103	1,430	445		2.5		2,820	3.84	1,010	1,520	1,430	31
Aug. 24	[h] 30	1,600								4,650									
Aug. 30	[h] 18	797								1,830									
Sept. 1, 5-10	[i] 241	286	23		456	78	157	117	1,350	210		2.5		2,330	3.17	1,520	1,460	1,360	19
Sept. 2-4	[i] 5.33	719								1,480									
Sept. 11-19	75.1	362	23		474	86	289	96	1,400	445		2.0		2,770	3.77	562	1,540	1,460	29
Sept. 20-23, 28-30	129	266	20		371	66	206	101	1,140	266		2.0		2,120	2.88	738	1,200	1,110	27
Weighted average	131	312	17		474	82	208	120	1,400	295		2.3		2,540	3.45	898	1,520	1,420	23

See footnotes at end of table.

PECOS RIVER NEAR ACME, N. MEX.—Continued

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1943	44.1				20.66	6.58	7.31		1.69	26.23	6.60		0.03							21
Oct. 11–20	27.7				23.56	7.98	8.64		1.75	30.40	8.01		.02							22
Oct. 21–30	[a] 39.2				24.96	8.14	10.13		1.80	32.06	9.36		.01							23
Oct. 31	[a] 42																			
Nov. 1–10	46.6				24.66	7.89	11.79		1.88	32.27	10.15		.04							27
Nov. 11–20	40.7				24.56	8.14	12.94		1.90	31.85	11.85		.04							28
Nov. 21–30	30.4				25.56	9.37	18.05		2.00	33.31	17.63		.04							34
Dec. 1–10	43.5				26.30	9.37	20.34		2.15	33.94	19.88		.04							36
Dec. 11–20	66.9				23.16	8.88	25.80		2.00	30.19	25.61		.04							45
Dec. 21–31	27.0				26.55	10.61	28.03		2.31	34.35	28.49		.04							43
Jan. 1–10, 1944	37.9				26.95	11.35	33.15		2.39	35.18	33.84		.04							46
Jan. 11–20	27.6				27.05	11.10	29.18		2.34	35.60	29.33		.06							43
Jan. 21–31	27.0				27.55	11.27	29.49		2.28	36.64	29.33		.06							43
Feb. 1–10	22.0				28.55	11.84	33.25		1.92	38.72	33.00		.00							45
Feb. 11–20	13.7				30.25	12.83	35.03		2.26	40.60	35.25		.00							45
Feb. 21–29	19.7				29.75	13.08	40.37		2.18	40.39	40.61		.02							49
Mar. 1–10	[b] 13.9				31.94	14.23	45.65		2.38	43.72	45.69		.03							50
Mar. 11	[b] 5.5										48.51									
Mar. 12–13	674				27.50	9.95	10.79		2.15	36.64	9.45		.04							22
Mar. 14–20	1,404				24.61	6.09	5.31		2.08	29.36	4.51		.06							15
Mar. 21–31	399				26.95	7.15	9.24		2.15	33.10	8.04		.04							21
Apr. 1–10	37.2				28.95	9.37	18.77		2.05	37.68	17.34		.02							33
Apr. 12–20	17.0				34.04	12.34	24.29		2.13	44.97	23.55		.02							34
Apr. 21–30	20.8				33.54	12.50	21.94		2.05	45.18	20.73		.02							32
May 1–10	19.5				34.24	12.58	21.42		1.95	44.55	21.72		.02							31
May 11–20	16.0				34.74	12.99	20.17		1.90	45.39	20.59		.02							30
May 21–26, 28–31	[c] 9.24				36.54	13.90	23.17		1.95	48.51	23.13		.02							31
June 1	[c] 9.8										20.02									
June 3–10	1,148				21.81	5.51	5.31		1.98	25.61	5.02		.02							16
June 11–20	598				19.27	4.69	5.17		1.90	23.32	3.89		.02							18
June 21–28	[d] 34.9				27.65	8.55	7.47		1.67	34.77	7.22		.01							17
June 29	[d] 91										1.97									
June 30	[d] 19										44.56									

July 1–3	[e] 6.43									37.79									
July 4–9	[e] 25.8				22.06	8.14	12.27	1.59	28.73	12.13		.02							29
July 11	[f] 1.3									34.69									
July 12–20	[f] 244				25.36	8.80	11.86	1.69	32.89	11.42		.02							26
July 21	[f] 891							1.59	32.48	10.77									
July 22–29	[g] 133				21.26	6.09	7.01	1.79	25.61	6.91		.05							20
July 30–31	[g] .10							1.80	35.60	14.52									
Aug. 1–10	0				26.15	7.81	12.12	1.80	32.27	11.99		.02							26
Aug. 11–20	0				31.44	7.24	8.22	1.46	36.23	9.17		.04							18
Aug. 21–23, 25–29, 31	[h] 132				23.26	7.07	13.72	1.69	29.77	12.55		.04							31
Aug. 24	[h] 30									131.14									
Aug. 30	[h] 18									51.61									
Sept. 1, 5–10	[i] 241				22.76	6.41	6.82	1.92	28.11	5.92		.04							19
Sept. 2–4	[i] 5.33									41.74									
Sept. 11–19	75.1				23.66	7.07	12.57	1.57	29.15	12.55		.03							29
Sept. 20–23, 28–30	129				18.52	5.43	8.97	1.66	23.73	7.50		.03							27
Weighted average	131				23.66	6.74	9.04	1.97	29.15	8.32		0.04							23

[a] Mean discharge for Oct. 31 included in computing mean for Oct. 21–30.
[b] Mean discharge for Mar. 11 included in computing mean for Mar. 1–10.
[c] Mean discharge for June 1–2 included in computing mean for May 21–26, 28–31.
[d] Mean discharge for June 29–30 included in computing mean for June 21–28.
[e] Mean discharge for July 1–3, 10 included in computing mean for July 4–9.
[f] Mean discharge for July 11, 21 included in computing mean for July 12–20.
[g] Mean discharge for July 30 included in computing mean for July 22–29. No flow at gage July 31.
[h] Mean discharge for Aug. 24, 30 included in computing mean for Aug. 21–23, 25–29, 31. No flow at gage Aug. 21–23.
[i] Mean discharge for Sept. 2–4 included in computing mean for Sept. 1, 5–10.

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PECOS RIVER NEAR ARTESIA, N. MEX.

LOCATION.—At gaging station at bridge on Artesia-Lovington highway, 4.2 miles east of Artesia, 6.5 miles north of mouth of Rio Penasco, and 16.5 miles north of McMillan Dam.
DRAINAGE AREA.—15,300 square miles (contributing area).
RECORDS AVAILABLE.—Chemical analyses: July 1937 to September 1944.
EXTREMES, 1943–44.—Dissolved solids: Maximum, 7,970 parts per million Aug. 11–21; minimum, 2,290 parts per million June 11–20.
Total hardness: Maximum, 2,830 parts per million Aug. 11–21; minimum, 1,400 parts per million June 11–20.
EXTREMES, 1937–44.—Dissolved solids: Maximum, 10,800 parts per million Sept. 4–5, 1940; minimum, 681 parts per million Sept. 6, 1938.
Total hardness: Maximum, 3,250 parts per million Sept. 4–5, 1940; minimum, 404 parts per million Sept. 6, 1938.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1008.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1943	116	483	15	------	474	143	493	13	122	1,570	805	0.5	3.0	1.0	3,580	4.87	1,120	1,770	1,670	37
Oct. 11–20	92.6	528	12	------	508	168	542	10	135	1,720	905	.8	2.5	1.0	3,930	5.34	983	1,960	1,850	37
Oct. 21–22, 24–26, 28–31	91.9	565	10	------	518	177	625	10	136	1,780	1,020	.8	2.5	1.0	4,210	5.73	1,040	2,020	1,910	40
Nov. 1–10	118	555	18	0.06	500	165	613	7.2	140	1,720	965	.7	3.7	.4	4,060	5.52	1,290	1,930	1,810	41
Nov. 11–20	132	557	16	.04	488	165	627	7.2	127	1,740	980	.7	4.5	.4	4,090	5.56	1,460	1,900	1,790	42
Nov. 21–30	129	603	15	.04	508	175	718	7.2	154	1,740	1,130	.8	5.0	.4	4,370	5.94	1,520	1,990	1,860	44
Dec. 1–10	146	598	14	.06	492	168	716	11	164	1,700	1,120	.8	4.5	.4	4,310	5.86	1,700	1,920	1,780	45
Dec. 11, 13–20	248	622	13	.06	482	163	785	8.8	187	1,600	1,240	.8	4.5	.4	4,390	5.97	2,940	1,870	1,720	48
Dec. 21–31	184	619	24	.02	486	181	768	13	181	1,700	1,200	.8	9.6	1.0	4,470	6.08	2,220	1,960	1,810	46
Jan. 1–10, 1944	213	654	22	.02	482	182	845	13	189	1,680	1,320	.8	10	1.0	4,650	6.32	2,670	1,950	1,800	48
Jan. 11–20	205	607	21	.02	476	177	741	11	196	1,640	1,180	.8	11	1.0	4,350	5.92	2,410	1,920	1,760	45
Jan. 21–31	206	583	18	.02	468	174	718	11	178	1,620	1,110	.8	10	1.0	4,220	5.74	2,350	1,880	1,740	45
Feb. 1–10	180	596	28	.04	460	173	754	16	111	1,670	1,140	.9	7.0	.5	4,200	5.35	2,300	1,800	1,770	47
Feb. 11–20	130	640	9	.05	492	190	810	14	130	1,810	1,240	.8	6.8	.6	4,660	6.34	1,640	2,010	1,900	46
Feb. 21–22, 24, 26–29	127	666	23	.07	508	201	847	18	143	1,880	1,300	1.0	7.4	.5	4,860	6.61	1,670	2,090	1,980	47
Mar. 1–10	122	709	23	.07	528	209	938	18	154	1,960	1,410	.8	6.2	.4	5,170	7.03	1,700	2,180	2,050	48
Mar. 11–14	234	708	------	------	548	212	878	14	147	2,010	1,380	1.0	5.8	------	5,120	6.96	3,230	2,240	2,120	46
Mar. 15–20	1,445	324	16	.07	518	95	195	5.6	133	1,540	265	.5	3.4	.4	2,700	3.67	10,500	1,680	1,570	20
Mar. 21–31	593	379	16	.04	524	120	290	9.6	122	1,650	450	.4	2.5	.8	3,120	4.24	5,000	1,800	1,700	26
Apr. 1–10	113	609	19	.04	560	197	696	8.0	124	1,970	1,120	.8	4.0	.8	4,640	6.31	1,420	2,210	2,110	41
Apr. 11–20	82.8	704	17	.03	588	225	856	8.8	144	2,110	1,410	.7	4.0	1.0	5,290	7.19	1,180	2,390	2,270	44

Apr. 21–30	76.2	748	17	.02	598	243	934	9.6	149	2,180	1,510	.9	2.0	1.0	5,570	7.58	1,150	2,490	2,370	45
May 1–10	88.7	708	23	.04	568	231	851	11	137	2,140	1,370	.9	4.0	1.2	5,270	7.17	1,260	2,370	2,260	44
May 11–20	77.2	741	23	.04	584	235	913	11	151	2,140	1,480	1.1	2.0	1.2	5,460	7.43	1,140	2,420	2,300	45
May 21–31	56.7	782	22	.02	590	242	984	9.6	156	2,190	1,600	.9	1.0	1.2	5,720	7.78	876	2,470	2,340	46
June 1–4	73.0	814	23	.04	604	244	1,100	14	155	2,200	1,740	1.1	1.0	1.6	6,000	8.16	1,180	2,510	2,380	49
June 5–10	1,103	325	24	.03	506	93	223	6.8	138	1,480	314	.7	1.5	.8	2,720	3.70	8,100	1,650	1,530	23
June 11–20	765	280	26	.03	442	73	173	7.2	123	1,250	252	.6	1.5	.8	2,290	3.11	4,730	1,400	1,300	21
June 21–23, 25–30	83.2	514	29	.04	520	157	559	6.0	118	1,740	875	.8	1.0	.6	3,950	5.37	887	1,940	1,850	38
July 1–10	75.5	676	19	.13	560	191	829	22	121	1,920	1,320	.8	4.5	.4	4,930	6.70	1,000	2,180	2,080	45
July 11–19	89.1	633	16	.10	512	196	766	19	120	1,850	1,200	.8	5.2	.4	4,620	6.28	1,110	2,080	1,990	44
July 21–30	330	357	17	.32	458	103	282	11	115	1,400	435	.5	4.1	.4	2,770	3.77	2,470	1,570	1,470	28
July 31, Aug. 1–10	19.38	734	30	.08	592	213	908	27	107	2,130	1,440	.9	4.0	.4	5,400	7.34	283	2,350	2,270	45
Aug. 11–21	1.65	1,100	18	.07	711	256	1,670	32	105	2,660	2,570	1.0	2.5	.6	7,970	10.84	36	2,830	2,740	56
Aug. 22–26	148	629	21	.18	526	165	799	24	116	1,860	1,170	.8	3.5	.4	4,630	6.30	1,850	1,990	1,900	46
Aug. 27–31	240	427	20	.07	468	97	450	19	125	1,420	675	.8	7.2	.4	3,220	4.38	2,090	1,570	1,460	38
Sept. 1–7	82.6	589	21	.07	470	158	730	22	114	1,630	1,140	.9	4.0	.5	4,230	5.75	943	1,820	1,730	46
Sept. 8–10	597	335			484	95	230		127	1,480	320		4.5		2,680	3.64	4,320	1,600	1,490	24
Sept. 11–20	151	458	19	.07	492	139	447	21	115	1,640	695	.9	4.0	.5	3,510	4.77	1,430	1,800	1,710	35
Sept. 21–30	229	389	25	.22	418	117	358		135	1,330	570	.8	2.2	.4	2,890	3.93	1,790	1,520	1,410	34
Weighted average	204	473	20	0.07	497	139	488	10	139	1,620	755	0.7	4.2	0.7	3,600	4.90	1,980	1,810	1,700	37

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Oct. 1–10, 1943	116				23.66	11.76	21.44	0.33	2.00	32.69	22.70	0.03	0.05						37
Oct. 11–20	92.6				25.36	13.82	23.57	.26	2.21	35.81	25.52	.04	.04						37
Oct. 21–22, 24–26, 28–31	91.9				25.85	14.56	27.18	.26	2.23	37.06	28.77	.04	.04						40
Nov. 1–10	118				24.96	13.57	26.66	.18	2.29	35.81	27.22	.04	.06						41
Nov. 11–20	132				24.36	13.57	27.26	.18	2.08	36.23	27.64	.04	.07						42
Nov. 21–30	129				25.36	14.39	31.22	.18	2.52	36.23	31.87	.04	.08						44
Dec. 1–10	146				24.56	13.82	31.13	.28	2.69	35.39	31.59	.04	.07						45
Dec. 11, 13–20	248				24.06	13.40	34.13	.23	3.07	33.31	34.97	.04	.07						48
Dec. 21–31	184				24.26	14.88	33.40	.33	2.97	35.39	33.84	.04	.15						46
Jan. 1–10, 1944	213				24.06	14.97	36.74	.33	3.10	34.98	37.23	.04	.16						48
Jan. 11–20	205				23.76	14.56	32.22	.28	3.21	34.14	33.28	.04	.18						45
Jan. 21–31	206				23.36	14.31	31.22	.28	2.92	33.73	31.31	.04	.16						45
Feb. 1–10	180				22.96	14.23	32.79	.41	1.82	34.77	32.15	.05	.11						47
Feb. 11–20	130				24.56	15.62	35.22	.36	2.13	37.68	34.97	.04	.11						46
Feb. 21–22, 24, 26–29	127				25.36	16.53	36.83	.46	2.34	39.14	36.66	.05	.12						47
Mar. 1–10	122				26.35	17.19	40.79	.46	2.52	40.81	39.77	.04	.10						48
Mar. 11–14	234				27.35	17.43	38.18	.36	2.41	41.85	38.92	.05	.09						46
Mar. 15–20	1,445				25.85	7.81	8.48	.14	2.18	32.06	7.47	.03	.05						20
Mar. 21–31	593				26.15	9.87	12.61	.25	2.00	34.35	12.69	.02	.04						26
Apr. 1–10	113				27.95	16.20	30.26	.20	2.03	41.01	31.59	.04	.06						41
Apr. 11–20	82.8				29.35	18.50	37.22	.23	2.36	43.93	39.77	.04	.06						44

PECOS RIVER NEAR ARTESIA, N. MEX.—Continued

Chemical analyses, in equivalents per million, water year October 1943 to September 1944—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Noncarbonate	
Apr. 21–30	76.2				29.85	19.98	40.61	0.25	2.44	45.39	42.59	0.05	0.03							45
May 1–10	88.7				28.35	19.00	37.00	.28	2.25	44.55	38.64	.05	.06							44
May 11–20	77.2				29.15	19.33	39.70	.28	2.48	44.55	41.74	.06	.03							45
May 21–31	56.7				29.45	19.90	42.79	.25	2.56	45.59	45.13	.05	.02							46
June 1–4	73				30.15	20.07	47.83	.36	2.54	45.80	49.07	.06	.02							49
June 5–10	1,103				25.26	7.65	9.70	.17	2.26	30.81	8.86	.04	.02							23
June 11–20	765				22.06	6.00	7.52	.18	2.02	26.02	7.11	.03	.02							21
June 21–23, 25–30	83.2				25.95	12.91	24.31	.15	1.93	36.23	24.68	.04	.02							38
July 1–10	75.5				27.95	15.71	36.05	.56	1.98	39.97	37.23	.04	.07							45
July 11–19	89.1				25.56	16.12	33.31	.49	1.97	38.52	33.84	.04	.08							44
July 21–30	330				22.86	8.47	12.26	.28	1.88	29.15	12.27	.03	.07							28
July 31, Aug. 1–10	19.38				29.55	17.52	39.48	.69	1.75	44.35	40.61	.05	.06							45
Aug. 11–21	1.65				35.49	21.05	72.62	.82	1.72	55.38	72.48	.05	.04							56
Aug. 22–26	148				26.25	13.57	34.74	.61	1.90	38.72	33.00	.04	.06							46
Aug. 27–31	240				23.36	7.98	19.57	.49	2.05	29.56	19.04	.04	.12							38
Sept. 1–7	82.6				23.46	12.99	31.74	.56	1.87	33.94	32.15	.05	.06							46
Sept. 8–10	597				24.16	7.81	10.02		2.08	30.81	9.03		.07							24
Sept. 11–20	151				24.56	11.43	19.44	.54	1.88	34.14	19.60	.05	.06							35
Sept. 21–30	229				20.86	9.62	15.58		2.21	27.69	16.08	.04	.04							34
Weighted average	204				24.81	11.43	21.22	0.26	2.28	33.73	21.29	0.04	0.07							37

PECOS RIVER AT DAM SITE 3, NEAR CARLSBAD, N. MEX., 1944

[Samples collected approximately once a week from the Pecos River at dam site 3, near Carlsbad, N. Mex., in sec. 6, T. 21 S., R. 26 E.]

Date	Specific conductance (K x 10^5 at 25° C.)	Chloride (Cl, ppm)	Date	Specific conductance (K x 10^5 at 25° C.)	Chloride (Cl, ppm)	Date	Specific conductance (K x 10^5 at 25° C.)	Chloride (Cl, ppm)
Feb. 3	438	560	June 5	720		Oct. 3	499	
Feb. 7	432	555	June 28	506		Oct. 4	497	
Feb. 22	450	595	July 3	503	785	Oct. 5	495	
Feb. 28	454	610	July 5	502	765	Oct. 6	497	
Mar. 8	461	625	July 13	502	770	Oct. 7	496	
Mar. 15	464	650	Aug. 2	426	605	Oct. 8	495	
Mar. 21	474	665	Aug. 11	505	755	Oct. 9	494	
Mar. 27	480	685	Aug. 18	503	765	Oct. 10	495	
Apr. 3	458	615	Sept. 8	460		Oct. 11	493	
Apr. 10	491	715	Sept. 22	501		Oct. 12	494	
Apr. 17	490	690	Sept. 27	488		Oct. 13	493	
Apr. 24	501	750	Sept. 28	496		Oct. 14	491	
May 8	530	810	Sept. 29	497		Oct. 15	488	
May 15	512	790	Sept. 30	499		Oct. 25	486	715
May 22	513	795	Oct. 1	497		Nov. 10	472	680
May 30	511	790	Oct. 2	499		Nov. 17	478	680

PECOS RIVER AT CARLSBAD, N. MEX.

LOCATION.—At gaging station at Green Street Bridge in Carlsbad, half a mile upstream from Dark Canyon.
DRAINAGE AREA.—18,100 square miles (contributing area).
RECORDS AVAILABLE.—Chemical analyses: May 1937 to September 1944.
EXTREMES, 1943–44.—Dissolved solids: Maximum, 3,080 parts per million Feb. 1–10; minimum, 2,280 parts per million Sept. 1–3, 5–10.
Total hardness: Maximum, 1,730 parts per million Feb. 1–10; minimum, 1,300 parts per million July 1–10, Sept. 1–3, 5–10.
EXTREMES, 1937–44.—Dissolved solids: Maximum, 3,590 parts per million Aug. 11–20, 1938; minimum, 360 parts per million May 22, 1941.
Total hardness: Maximum, 1,970 parts per million May 1, 1941; minimum, 290 parts per million May 22, 1941.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1008.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^3$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1943	89.0	332	22	.....	346	113	290		160	1,160	438	.....	4.3	.....	2,450	3.34	589	1,330	1,200	35
Oct. 11–20	86.9	325	20	.....	346	111	281		171	1,140	426	.....	4.6	.....	2,410	3.28	565	1,320	1,180	32
Oct. 21–28, 31	86.6	322	12	.....	352	109	256		197	1,090	414	.....	3.5	.....	2,330	3.17	545	1,330	1,170	30
Nov. 1–10	86.7	385	14	.....	448	121	328		182	1,400	510	.....	2.5	.....	2,910	3.96	681	1,620	1,470	31
Nov. 11–20	112	374	14	.....	438	117	278		179	1,300	480	.....	2.5	.....	2,720	3.70	823	1,570	1,430	28
Nov. 21–30	134	377	13	.....	436	118	313		186	1,340	500	.....	2.5	.....	2,810	3.82	1,020	1,570	1,420	30
Dec. 1–10	138	381	12	.....	446	118	314		181	1,370	500	.....	2.5	.....	2,850	3.88	1,060	1,600	1,450	30
Dec. 11–20	159	388	13	.....	457	118	329		173	1,420	510	.....	2.5	.....	2,930	3.98	1,260	1,630	1,480	31
Dec. 23–31	166	395	13	.....	454	126	334		174	1,450	510	.....	6.8	.....	2,980	4.05	1,340	1,650	1,510	31
Jan. 1–10, 1944	222	395	13	.....	474	124	328		172	1,480	510	.....	6.0	.....	3,020	4.11	1,810	1,690	1,550	30
Jan. 11–20	190	393	13	.....	472	124	324		172	1,480	500	.....	7.4	.....	3,010	4.09	1,540	1,690	1,550	29
Jan. 21–31	190	397	14	.....	476	121	347		167	1,510	515	.....	6.4	.....	3,070	4.18	1,570	1,690	1,550	31
Feb. 1–10	204	407	12	.....	484	128	326		126	1,560	505	.....	5.0	.....	3,080	4.19	1,700	1,730	1,630	29
Feb. 11–20	175	394	10	.....	468	120	337		160	1,480	510	.....	5.0	.....	3,010	4.09	1,420	1,660	1,530	31
Feb. 21–29	203	391	12	.....	466	118	333		154	1,470	505	.....	5.0	.....	2,980	4.05	1,630	1,650	1,520	31
Mar. 1–10	129	379	13	.....	448	119	317		160	1,420	485	.....	5.0	.....	2,890	3.93	1,010	1,610	1,480	30
Mar. 11–20	91.2	349	11	.....	394	111	299		176	1,250	455	.....	5.0	.....	2,610	3.55	643	1,440	1,300	31
Mar. 21–31	88.5	342	19	.....	370	116	305		118	1,270	455	.....	2.5	.....	2,600	3.54	621	1,400	1,300	32
Apr. 1–10	90.0	340	19	.....	370	116	296		130	1,250	450	.....	2.0	.....	2,570	3.50	625	1,400	1,290	31
Apr. 11–20	88.0	341	20	.....	368	115	294		135	1,240	445	.....	2.0	.....	2,550	3.47	606	1,390	1,280	31
Apr. 21–30	88.4	334	19	.....	364	115	284		130	1,220	440	.....	2.0	.....	2,510	3.41	599	1,380	1,280	31
May 1–5	90.2	335	.....	.....	.....	.....	.....		92	.....	460	.....	.....	.....	.....	.....	.....	.....	.....	.....
June 1–10	82.4	335	27	.....	371	111	386		183	1,190	435	.....	2.0	.....	2,510	3.41	558	1,380	1,230	31
June 11–15	82.0	333	27	.....	377	111	270		193	1,170	430	.....	2.0	.....	2,480	3.37	549	1,400	1,240	30
June 22–30	83.0	325	23	.....	365	104	267		194	1,120	420	.....	2.5	.....	2,400	3.26	538	1,340	1,180	30
July 1–10	80.0	317	20	.....	347	106	257		208	1,080	400	.....	2.5	.....	2,320	3.16	501	1,300	1,130	30
July 12–20	81.8	325	24	.....	357	108	261		211	1,110	405	.....	2.5	.....	2,370	3.22	523	1,340	1,160	30
July 21–31	82.8	325	18	.....	358	108	264		205	1,110	415	.....	2.5	.....	2,380	3.24	532	1,340	1,170	30

Aug. 1–10	80.0	342	16		370	116	283	206	1,170	445		2.2		2,500	3.40	540	1,400	1,230	31
Aug. 12–20	75.8	332	27		366	114	260	213	1,130	420		4.3		2,430	3.30	497	1,380	1,210	29
Aug. 21–25, 27–31	75.5	326	25		358	112	243	207	1,080	415		4.4		2,340	3.18	477	1,350	1,180	28
Sept. 1–3, 5–10	76.5	315	21		346	107	243	204	1,060	395		4.6		2,280	3.10	471	1,300	1,140	29
Sept. 11–13, 15–20	72.6	315	24		348	108	249	211	1,070	400		4.0		2,310	3.14	453	1,310	1,140	29
Sept. 21–22, 24–25, 27–30	72.6	316	20		350	110	245	216	1,070	400		5.0		2,310	3.14	453	1,330	1,150	29
Weighted average	111	364	16		418	117	303	173	1,320	470		4.2		2,730	3.71	818	1,520	1,380	30

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Oct. 1–10, 1943	89.0				17.27	9.29	13.63	2.62	24.15	12.35		0.07						35
Oct. 11–20	86.9				17.27	9.13	12.21	2.80	23.73	12.01		.07						32
Oct. 21–28, 31	86.6				17.57	8.96	11.13	3.23	22.69	11.68		.06						30
Nov. 1–10	86.7				22.36	9.95	14.24	2.98	29.15	14.38		.04						31
Nov. 11–20	112				21.86	9.62	12.10	2.93	27.07	13.54		.04						28
Nov. 21–30	134				21.76	9.70	13.63	3.05	27.90	14.10		.04						30
Dec. 1–10	138				22.26	9.70	13.67	2.97	28.52	14.10		.04						30
Dec. 11–20	159				22.81	9.70	14.31	2.84	29.56	14.38		.04						31
Dec. 23–31	166				22.66	10.36	14.51	2.85	30.19	14.38		.11						31
Jan. 1–10, 1944	222				23.66	10.20	14.25	2.82	30.81	14.38		.10						30
Jan. 11–20	190				23.56	10.20	14.09	2.82	30.81	14.10		.12						29
Jan. 21–31	190				23.76	9.95	15.09	2.74	31.44	14.52		.10						31
Feb. 1–10	204				24.16	10.53	14.18	2.07	32.48	14.24		.08						29
Feb. 11–20	175				23.36	9.87	14.66	2.62	30.81	14.38		.08						31
Feb. 21–29	203				23.26	9.70	14.48	2.52	30.60	14.24		.08						31
Mar. 1–10	129				22.36	9.79	13.79	2.62	29.56	13.68		.08						30
Mar. 11–20	91.2				19.67	9.13	13.01	2.88	26.02	12.83		.08						31
Mar. 21–31	88.5				18.47	9.54	13.24	1.93	26.44	12.83		.04						32
Apr. 1–10	90.0				18.47	9.54	12.86	2.13	26.02	12.69		.03						31
Apr. 11–20	88.0				18.37	9.46	12.78	2.21	25.82	12.55		.03						31
Apr. 21–30	88.4				8.17	9.46	12.34	2.13	25.40	12.41		.03						31
May 1–5	90.2							1.51		12.97								
June 1–10	82.4				18.52	9.13	12.43	3.00	24.78	12.27		.03						31
June 11–15	82.0				18.82	9.13	11.73	3.16	24.36	12.13		.03						30
June 22–30	83.0				18.22	8.55	11.62	3.18	23.32	11.85		.04						30
July 1–10	80.0				17.32	8.72	11.18	3.41	22.49	11.28		.04						30
July 12–20	81.8				17.82	8.88	11.33	3.46	23.11	11.42		.04						30
July 21–31	82.8				17.87	8.88	11.46	3.36	23.11	11.70		.04						30
Aug. 1–10	80.0				18.47	9.54	12.32	3.38	24.36	12.55		.04						31
Aug. 12–20	75.8				18.27	9.37	11.30	3.49	23.53	11.85		.07						29
Aug. 21–25, 27–31	75.5				17.87	9.21	10.57	3.39	22.49	11.70		.07						28
Sept. 1–3, 5–10	76.5				17.27	8.80	10.55	3.34	22.07	11.14		.07						29
Sept. 11–13, 15–20	72.6				17.37	8.88	10.83	3.46	22.28	11.28		.06						29
Sept. 21–22, 24–25, 27–30	72.6				17.47	9.05	10.66	3.54	22.28	11.28		.08						29
Weighted average	111				20.86	9.62	13.18	2.84	27.48	13.26		0.07						30

PECOS RIVER NEAR MALAGA, N. MEX.

LOCATION.—Two and one-half miles upstream from gaging station, which is located 3 miles southeast of Malaga and 3 miles downstream from Black River.
DRAINAGE AREA.—19,190 square miles (contributing area).
RECORDS AVAILABLE.—Chemical analyses: July 1937 to September 1944.
EXTREMES, 1943–44.—Dissolved solids: Maximum, 4,050 parts per million July 21–31; minimum, 3,410 parts per million Feb. 1–10. Total hardness: Maximum, 2,010 parts per million May 1–10; minimum, 1,730 parts per million Sept. 1–10.
EXTREMES, 1937–44.—Dissolved solids: Maximum, 4,830 parts per million Aug. 11–20, 1938; minimum, 384 parts per million Sept. 21–22, 1941. Total hardness: Maximum, 2,170 parts per million Apr. 21–30, 1939; minimum, 536 parts per million June 28–30, 1938.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1008.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1943	183	525	20	------	480	170	569		164	1,670	890	------	6.4	------	3,890	5.29	1,920	1,900	1,760	39
Oct. 11–20	174	538	22	------	494	172	585		172	1,700	920	------	5.8	------	3,980	5.41	1,870	1,940	1,800	40
Oct. 21–31	217	520	9.0	------	508	176	523		177	1,690	865	------	4.7	------	3,860	5.25	2,260	1,990	1,850	36
Nov. 1–10	201	511	14	------	478	164	545		154	1,650	855	------	4.8	------	3,790	5.15	2,060	1,870	1,740	39
Nov. 11–20	200	489	13	------	454	163	518		160	1,580	815	------	4.0	------	3,630	4.94	1,960	1,800	1,670	38
Nov. 21–30	226	468	15	------	458	152	479		178	1,540	750	------	4.5	------	3,490	4.75	2,130	1,770	1,620	37
Dec. 1–10	228	472	12	------	479	153	486		184	1,590	760	------	5.0	------	3,580	4.87	2,200	1,820	1,670	37
Dec. 11–20	245	461	12	------	476	147	462		186	1,560	720	------	5.0	------	3,470	4.72	2,300	1,790	1,640	36
Dec. 21–26, 28–31	241	477	13	------	488	153	469		174	1,620	730	------	10	------	3,570	4.86	2,320	1,850	1,700	36
Jan. 1–8, 10, 1944	280	466	11	------	496	148	449		176	1,610	705	------	10	------	3,520	4.79	2,660	1,850	1,700	35
Jan. 11–20	251	477	13	------	494	152	467		179	1,630	725	------	9.2	------	3,580	4.87	2,430	1,860	1,710	35
Jan. 21–31	257	468	10	------	492	149	458		167	1,630	705	------	10	------	3,540	4.81	2,460	1,840	1,700	35
Feb. 1–10	272	452	11	------	476	143	435		118	1,610	670	------	5.0	------	3,410	4.64	2,500	1,730	1,630	35
Feb. 11–20	237	462	6.0	------	500	145	439		131	1,660	680	------	5.0	------	3,500	4.76	2,240	1,840	1,740	34
Feb. 21–29	261	456	9.0	------	486	142	451		147	1,640	670	------	5.0	------	3,480	4.73	2,450	1,800	1,680	35
Mar. 1–10	210	462	6.0	------	514	143	432		153	1,660	675	------	5.0	------	3,510	4.77	1,990	1,870	1,750	33
Mar. 11–20	176	497	9.0	------	516	156	502		158	1,730	770	------	5.0	------	3,770	5.13	1,790	1,930	1,800	36
Mar. 21–31	140	496	18	------	480	169	506		86	1,700	815	------	5.0	------	3,740	5.09	1,410	1,890	1,820	37
Apr. 1–10	136	502	18	------	462	175	529		94	1,680	845	------	5.0	------	3,760	5.11	1,380	1,870	1,800	38
Apr. 11–20	128	519	16	------	478	183	548		90	1,740	885	------	5.0	------	3,900	5.30	1,350	1,950	1,870	38
Apr. 21–30	122	536	15	------	492	184	566		122	1,730	930	------	4.0	------	3,980	5.41	1,310	1,980	1,880	38

May 1-10	116	537	14		494	189	575	159	1,730	940		4.0		4,020	5.47	1,260	2,010	1,880	38
May 11-20	143	512	14		492	178	534	172	1,680	870		4.5		3,860	5.25	1,490	1,960	1,820	37
May 21-31	124	524	14		498	178	560	175	1,700	905		4.5		3,950	5.37	1,320	1,980	1,830	38
June 1-10	114	533	19		494	172	578	176	1,690	915		4.0		3,960	5.39	1,220	1,940	1,800	39
June 11-20	102	543	16		506	177	586	171	1,740	930		4.0		4,040	5.49	1,110	1,990	1,850	39
June 21-30	134	513	21		490	175	525	166	1,670	855		4.0		3,820	5.20	1,380	1,940	1,810	37
July 1-3, 5-10	94.8	535	30		482	172	573	174	1,670	900		6.8		3,920	5.33	1,000	1,910	1,770	39
July 11-20	105	541	30		488	178	575	178	1,690	915		6.4		3,970	5.40	1,130	1,950	1,800	39
July 21-31	115	551	29		498	183	586	182	1,720	940		6.2		4,050	5.51	1,260	2,000	1,850	39
Aug. 1-10	123	539	32		492	179	571	181	1,700	910		6.3		3,980	5.41	1,320	1,960	1,820	39
Aug. 11-20	125	541	23		482	176	590	168	1,700	920		5.5		3,980	5.41	1,340	1,930	1,790	40
Aug. 21-31	125	540	26		476	170	612	186	1,680	930		5.5		3,990	5.43	1,350	1,890	1,730	41
Sept. 1-10	139	496	24		440	153	564	174	1,530	860		6.0		3,660	4.98	1,370	1,730	1,580	42
Sept. 11-20	166	498	22		464	160	529	181	1,590	820		6.5		3,680	5.00	1,650	1,820	1,670	39
Sept. 21-30	154	501	22		440	161	545	135	1,580	840		5.5		3,660	4.98	1,520	1,760	1,650	40
Weighted average	174	496	15		485	161	511	160	1,650	804		5.9		3,710	5.05	1,740	1,870	1,740	37

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Oct. 1-10, 1943	183				23.96	13.98	24.72	2.69	34.77	25.10		0.10						39
Oct. 11-20	174				24.66	14.14	25.45	2.82	35.39	25.95		.09						40
Oct. 21-31	217				25.36	14.47	22.73	2.90	35.18	24.40		.08						36
Nov. 1-10	201				23.86	13.49	23.71	2.52	34.35	24.11		.08						39
Nov. 11-20	200				22.66	13.40	22.50	2.62	32.89	22.99		.06						38
Nov. 21-30	226				22.86	12.50	20.84	2.92	32.06	21.15		.07						37
Dec. 1-10	228				23.91	12.58	21.14	3.02	33.10	21.43		.08						37
Dec. 11-20	245				23.76	12.09	20.07	3.05	32.48	20.31		.08						36
Dec. 21-26, 28-31	241				24.36	12.58	20.39	2.85	33.73	20.59		.16						36
Jan. 1-8, 10, 1944	280				24.76	12.17	19.51	2.88	33.52	19.88		.16						35
Jan. 11-20	251				24.66	12.50	20.31	2.93	33.94	20.45		.15						35
Jan. 21-31	257				24.56	12.25	19.91	2.74	33.94	19.88		.16						35
Feb. 1-10	272				23.76	11.76	18.91	1.93	33.52	18.90		.08						35
Feb. 11-20	237				24.96	11.92	19.09	2.15	34.56	19.18		.08						34
Feb. 21-29	261				24.26	11.68	19.59	2.41	34.14	18.90		.08						35
Mar. 1-10	210				25.66	11.76	18.77	2.51	34.56	19.04		.08						33
Mar. 11-20	176				25.75	12.83	21.83	2.59	36.02	21.72		.08						36
Mar. 21-31	140				23.96	13.90	22.01	1.41	35.39	22.99		.08						37
Apr. 1-10	136				23.06	14.39	22.98	1.54	34.98	23.83		.08						38
Apr. 11-20	128				23.86	15.05	23.84	1.48	36.23	24.96		.08						38
Apr. 21-30	122				24.56	15.13	24.62	2.00	36.02	26.23		.06						38
May 1-10	116				24.66	15.54	25.00	2.61	36.02	26.51		.06						38
May 11-20	143				24.56	14.64	23.21	2.82	34.98	24.54		.07						37
May 21-31	124				24.86	14.64	24.35	2.87	35.39	25.52		.07						38

PECOS RIVER NEAR MALAGA, N. MEX.—Continued

Chemical analgses, in equivalents per million, water year October 1943 to September 1944—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
June 1–10	114				24.66	14.14	25.13		2.88	35.18	25.81		.06							39
June 11–20	102				25.26	14.56	25.50		2.80	36.23	26.23		.06							39
June 21–30	134				24.46	14.39	22.81		2.72	34.77	24.11		.06							37
July 1–3, 5–10	94.8				24.06	14.14	24.91		2.85	34.77	25.38		.11							39
July 11–20	105				24.36	14.64	25.01		2.92	35.18	25.81		.10							39
July 21–31	115				24.86	15.05	25.49		2.98	35.81	26.51		.10							39
Aug. 1–10	123				24.56	14.72	24.84		2.97	35.39	25.66		.10							39
Aug. 11–20	125				24.06	14.47	25.65		2.75	35.39	25.95		.09							40
Aug. 21–31	125				23.76	13.98	26.61		3.05	34.98	26.23		.09							41
Sept. 1–10	139				21.96	12.58	24.51		2.85	31.85	24.25		.10							42
Sept. 11–20	166				23.16	13.16	22.98		2.97	33.10	23.13		.10							39
Sept. 21–30	154				21.96	13.24	23.68		2.21	32.89	23.69		.09							40
Weighted average	174				24.21	13.24	22.22		2.62	34.35	22.68		0.10							37

PECOS RIVER AT RED BLUFF, N. MEX.

LOCATION.—At pipe line bridge, 2½ miles downstream from Red Bluff gaging station, which is located just downstream from Red Bluff Creek, and 5½ miles upstream from Delaware River.

DRAINAGE AREA.—19,540 square miles above gaging station (contributing area).

RECORDS AVAILABLE.—Chemical analyses: October 1937 to September 1944.

EXTREMES, 1943–44.—Dissolved solids: Maximum, 5,540 parts per million June 11–20; minimum, 1,760 parts per million Sept. 5. Total hardness: Maximum, 2,140 parts per million Apr. 21–30; minimum, 640 parts per million Sept. 5.

EXTREMES, 1937–44.—Dissolved solids: Maximum, 8,140 parts per million July 1–10, 1937; minimum, 541 parts per million May 23, 1941. Total hardness: Maximum, 2,310 parts per million July 1–10, 1937; minimum, 302 parts per million May 23, 1941.

REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1008.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1943	177	679	12	.....	470	176	908	24	117	1,700	1,440	0.9	2.5	1.0	4,790	6.51	2,290	1,900	1,800	51
Oct. 11–20	161	706	11	.....	492	183	939	27	139	1,750	1,500	.9	2.5	1.0	4,970	6.76	2,160	1,980	1,870	50
Oct. 21–31	195	646	6.0	.....	500	177	814	24	157	1,780	1,300	.8	2.5	.5	4,680	6.36	2,460	1,980	1,850	47
Nov. 1–10	189	651	25	0.05	476	183	811	24	129	1,730	1,290	.7	8.6	.5	4,610	6.27	2,350	1,940	1,840	47
Nov. 11–20	184	649	27	.05	456	181	824	26	142	1,680	1,300	.7	8.0	.5	4,570	6.22	2,270	1,880	1,770	48
Nov. 21–30	206	589	19	.05	444	169	738	24	150	1,590	1,140	.6	8.0	.5	4,210	5.73	2,340	1,800	1,680	47
Dec. 1–10	212	594	16	.05	476	166	735	22	163	1,640	1,130	.6	8.0	.5	4,270	5.81	2,440	1,870	1,740	46
Dec. 11–20	234	576	18	.05	466	162	673	21	163	1,590	1,080	.6	7.0	.5	4,100	5.58	2,590	1,830	1,700	44
Dec. 21–31	225	579	18	.02	482	159	699	13	160	1,670	1,060	.6	11	1.5	4,190	5.70	2,550	1,860	1,730	45
Jan. 1–10, 1944	268	560	16	.02	474	157	670	14	146	1,640	1,020	.7	9.4	1.5	4,070	5.54	2,950	1,830	1,710	44
Jan. 11–20	236	573	17	.02	482	162	686	13	144	1,680	1,060	.6	9.0	1.5	4,180	5.68	2,660	1,870	1,750	44
Jan. 21–31	240	564	15	.02	478	160	669	11	142	1,680	1,020	.6	8.4	1.5	4,110	5.59	2,660	1,850	1,730	44
Feb. 1–10	267	541	21	.05	468	155	637	22	112	1,650	945	.9	6.2	.6	3,960	5.39	2,850	1,810	1,710	43
Feb. 11–20	239	563	18	.05	496	155	685	24	123	1,710	1,000	.9	5.8	.5	4,160	5.66	2,680	1,880	1,770	44
Feb. 21–29	251	559	15	.04	494	153	663	22	140	1,670	995	.7	5.8	.5	4,090	5.56	2,770	1,860	1,750	43
Mar. 1–10	222	571	16	.05	502	153	688	22	131	1,710	1,030	.7	5.4	.5	4,190	5.70	2,510	1,880	1,770	44
Mar. 11–19	175	627	13	.05	532	161	788	26	141	1,800	1,180	.6	4.8	.5	4,570	6.22	2,160	1,990	1,870	46
Mar. 21–31	147	667	18	.02	510	187	852	15	130	1,800	1,380	.7	5.0	1.0	4,830	6.57	1,920	2,040	1,940	47

PECOS RIVER AT RED BLUFF, N. MEX.—Continued

Chemical analyses, in parts per million, water year October 1943 to September 1944—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Apr. 1–10	136	683	15	0.02	504	188	880	17	146	1,790	1,430	0.7	4.0	1.0	4,900	6.66	1,800	2,030	1,910	48
Apr. 11–20	120	717	13	.04	498	199	954	22	133	1,820	1,530	.8	4.0	1.0	5,110	6.95	1,660	2,060	1,950	50
Apr. 21–30	124	776	13	.04	518	205	1,060	25	132	1,880	1,710	.8	4.0	1.0	5,480	7.45	1,830	2,140	2,030	52
May 1–9	117	778	19	.02	506	201	1,070	18	143	1,860	1,710	.8	3.0	1.4	5,460	7.43	1,720	2,090	1,970	52
May 14–16, 18–19	138	723	15	.02	496	197	947	18	143	1,810	1,540	.9	3.0	1.4	5,100	6.94	1,900	2,050	1,930	50
May 21–31	123	744	15	.03	494	197	985	14	150	1,790	1,600	.7	3.0	1.2	5,170	7.03	1,720	2,040	1,920	51
June 1–10	113	742	30	.04	494	189	1,040	21	142	1,770	1,650	.9	1.0	1.0	5,270	7.17	1,610	2,010	1,890	53
June 11–20	98.2	791	27	.04	504	190	1,140	23	148	1,770	1,810	.9	2.0	1.0	5,540	7.53	1,470	2,040	1,920	55
June 21–30	125	735	27	.04	504	188	1,020	20	128	1,790	1,610	.9	1.5	1.0	5,220	7.10	1,760	2,030	1,930	52
July 1–10	103	745	29	.15	488	190	1,020	30	134	1,770	1,600	.7	6.7	.4	5,200	7.07	1,450	2,000	1,890	52
July 11–20	99.2	782	33	.18	486	191	1,090	32	134	1,790	1,720	.7	4.5	.4	5,410	7.36	1,450	2,000	1,890	54
July 21–31	99.3	805	33	.18	488	197	1,140		130	1,780	1,810	.7	3.0	.4	5,520	7.51	1,480	2,030	1,920	55
Aug. 2–10	120	747	22	.07	496	196	1,020		146	1,800	1,600	.9	7.4	.4	5,210	7.09	1,690	2,040	1,920	52
Aug. 11–20	116	755	26	.08	488	206	1,050	42	140	1,810	1,640	.9	3.0	.4	5,330	7.25	1,670	2,060	1,950	52
Aug. 21–31	125	725	25	.06	472	191	955	40	144	1,720	1,560	.9	3.5	.4	5,040	6.85	1,700	1,960	1,850	51
Sept. 1–4, 6–7, 9–10	162	696	19	.07	430	170	980	35	136	1,560	1,520	.9	3.0	.4	4,780	6.50	2,090	1,770	1,660	54
Sept. 5	335	309			166	55	370		60	560	575		1.5		1,760	2.39	1,590	640	592	56
Sept. 11–20	165	679	21	.06	452	183	905	30	137	1,660	1,430	.9	3.5	.4	4,750	6.46	2,120	1,880	1,770	51
Sept. 21–30	160	624	19	.06	446	169	801	30	142	1,600	1,250	.7	3.5	.4	4,390	5.97	1,900	1,810	1,690	49
Weighted average	168	645	19	0.05	481	174	828	22	140	1,710	1,290	0.7	5.5	0.8	4,600	6.26	2,090	1,920	1,800	48

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Oct. 1–10, 1943	177				23.46	14.47	39.48	0.61	1.92	35.39	40.61	0.05	0.04						51
Oct. 11–20	161				24.56	15.05	40.83	.69	2.28	36.43	42.30	.05	.04						50
Oct. 21–31	195				24.96	14.56	35.40	.61	2.57	37.06	36.66	.04	.04						47
Nov. 1–10	189				23.76	15.05	35.27	.61	2.11	36.02	36.38	.04	.14						47
Nov. 11–20	184				22.76	14.88	35.83	.67	2.33	34.98	36.66	.04	.13						48
Nov. 21–30	206				22.16	13.90	32.09	.61	2.46	33.10	32.15	.03	.13						47
Dec. 1–10	212				23.76	13.65	31.96	.56	2.67	34.14	31.87	.03	.13						46
Dec. 11–20	234				23.26	13.32	29.25	.54	2.67	33.10	30.46	.03	.11						44
Dec. 21–31	225				24.06	13.08	30.40	.33	2.62	34.77	29.90	.03	.18						45
Jan. 1–10, 1944	268				23.66	12.91	29.13	.36	2.39	34.14	28.77	.04	.15						44
Jan. 11–20	236				24.06	13.32	29.83	.33	2.36	34.98	29.90	.03	.15						44
Jan. 21–31	240				23.86	13.16	29.09	.28	2.33	34.98	28.77	.03	.14						44
Feb. 1–10	267				23.36	12.75	27.70	.56	1.84	34.35	26.65	.05	.10						43
Feb. 11–20	239				24.76	12.75	29.79	.61	2.02	35.60	28.20	.05	.09						44
Feb. 21–29	251				24.66	12.58	28.83	.56	2.29	34.77	28.06	.04	.09						43
Mar. 1–10	222				25.06	12.58	29.92	.56	2.15	35.60	29.05	.04	.09						44
Mar. 11–19	175				26.55	13.24	34.27	.67	2.31	37.48	33.28	.03	.08						46
Mar. 21–31	147				25.46	15.38	37.05	.38	2.13	37.48	38.92	.04	.08						47
Apr. 1–10	136				25.16	15.46	38.27	.43	2.39	37.27	40.33	.04	.06						48
Apr. 11–20	120				24.86	16.37	41.48	.56	2.18	37.89	43.15	.04	.06						50
Apr. 21–30	124				25.85	16.86	46.09	.64	2.16	39.14	48.23	.04	.06						52
May 1–9	117				25.26	16.53	46.53	.46	2.34	38.72	48.23	.04	.05						52
May 14–16, 18–19	138				24.76	16.20	41.18	.46	2.34	37.68	43.43	.05	.05						50
May 21–31	123				24.66	16.20	42.83	.36	2.46	37.27	45.13	.04	.05						51
																			51
June 1–10	113				24.66	15.54	45.22	.54	2.33	36.85	46.54	.05	.02						53
June 11–20	98.2				25.16	15.62	49.57	.59	2.43	36.85	51.05	.05	.03						55
June 21–30	125				25.16	15.46	44.35	.51	2.10	37.27	45.41	.05	.02						52
July 1–10	103				24.36	15.62	44.35	.77	2.20	36.85	45.13	.04	.11						52
July 11–20	99.2				24.26	15.71	47.40	.82	2.20	37.27	48.51	.04	.07						54
July 21–31	99.3				24.36	16.20	49.77		2.13	37.06	51.05	.04	.05						55
Aug. 2–10	120				24.76	16.12	44.29		2.39	37.48	45.13	.05	.12						52
Aug. 11–20	116				24.36	16.94	45.66	1.07	2.29	37.68	46.25	.05	.05						52
Aug. 21–31	125				23.56	15.71	41.53	1.02	2.36	35.81	44.00	.05	.06						51
Sept. 1–4, 6–7, 9–10	162				21.46	13.98	42.61	.90	2.23	32.48	42.87	.05	.05						54
Sept. 5	335				8.29	4.52	16.07		.98	11.66	16.22		.02						56
Sept. 11–20	165				22.56	15.05	39.35	.77	2.25	34.56	40.33	.05	.06						51
Sept. 21–30	160				22.26	13.90	34.83	.77	2.33	33.31	35.25	.04	.06						49
Weighted average	168				24.01	14.31	36.00	0.56	2.29	35.60	36.38	0.09	0.04						43

PECOS RIVER NEAR ORLA, TEX.

LOCATION.—At gaging station 600 feet upstream from Pasotex pipe-line crossing, 6 miles southeast of Orla, 16 miles downstream from Salt (Screwbean) Draw, and 19 miles downstream from Red Bluff Dam.

DRAINAGE AREA.—21,300 square miles (contributing area).

RECORDS AVAILABLE.—Chemical analyses: July 1937 to September 1944.

EXTREMES, 1943–44.—Dissolved solids: Maximum, 6,260 parts per million Feb. 11–20; minimum 2,880 parts per million Aug. 17–19.
Total hardness: Maximum, 2,630 parts per million Feb. 11–20; minimum, 2,080 parts per million Aug. 17–19.

EXTREMES, JULY 1937–SEPTEMBER 1944.—Dissolved solids: Maximum, 7,980 parts per millon Mar. 11–20, 1941; minimum, 1,880 parts per million Oct. 13–15, 1941.
Total hardness: Maximum, 2,970 parts per million Mar. 11–20, 1941; minimum, 930 parts per million Oct. 13–15, 1941.

REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1008.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1943	34.6	652	21	0.05	556	168	799	25	100	1,930	1,240	1.1	1.2	2.0	4,790	6.51	447	2,080	2,000	46
Oct. 11–20	44.5	668	22	.10	578	173	814	23	104	1,980	1,280	1.1	1.5	2.5	4,920	6.69	591	2,150	2,070	46
Oct. 21–29	[1] 35.8	657	20	.15	574	175	821	22	116	1,960	1,280	1.1	2.0	3.0	4,910	6.68	475	2,150	2,060	46
Nov. 1–10	30.4	650	21	.20	584	181	774	21	117	1,970	1,240	1.5	.8	2.5	4,850	6.60	398	2,200	2,100	44
Nov. 11–20	28.5	651	15	.20	578	179	781	23	114	1,970	1,240	1.9	.8	1.5	4,850	6.60	373	2,180	2,080	44
Nov. 21–30	11.3	827	15	.20	670	219	1,040	28	129	2,200	1,740	1.6	1.8	2.0	5,980	8.13	182	2,510	2,470	47
Dec. 1–10	13.9	818	23	.05	666	207	1,050	21	137	2,160	1,740	1.0	1.5	2.5	5,940	8.08	223	2,150	2,400	48
Dec. 11–20	16.4	774	16	.05	638	198	974	20	142	2,080	1,600	1.0	1.0	2.5	5,600	7.62	248	2,410	2,290	47
Dec. 21–31	15.4	768	16	.05	658	196	933	22	135	2,100	1,560	1.0	1.5	2.0	5,550	7.55	231	2,450	2,340	46
Jan. 1–10, 1944	12.4	778	18	.08	644	201	969	26	130	2,090	1,620	1.6	3.5	2.5	5,640	7.67	189	2,430	2,330	46
Jan. 11–20	12.4	817	22	.05	664	212	1,040	23	136	2,150	1,740	1.6	5.0	2.5	5,920	8.05	198	2,530	2,420	47
Jan. 21–30	[2] 16.3	828	20	.10	670	216	1,060	24	132	2,180	1,780	1.6	4.5	2.0	6,020	8.19	265	2,560	2,450	47
Feb. 1–10	9.8	823	24	.10	648	213	1,020	25	132	2,110	1,720	1.4	14	2.0	5,840	7.94	155	2,490	2,380	47
Feb. 11–20	35.3	889	20	.10	686	224	1,120	26	124	2,220	1,900	1.6	5.0	3.0	6,260	8.51	597	2,630	2,530	48
Feb. 21–29	169	646	20	.05	572	176	721	26	118	1,880	1,200	1.2	2.5	2.5	4,660	6.34	2,130	2,150	2,050	42

Mar. 1–10	10.6	730	18	.05	624	201	73	26	125	2,050	1,470	1.2	3.5	2.0	5,330	7.25	153	2,380	2,280	44
Mar. 11–20	92.4	804	19	.05	668	217	998	26	123	2,170	1,700	1.4	2.5	2.0	5,860	7.97	1,460	2,560	2,460	46
Mar. 21–31	523	615	20	.05	580	180	680	26	122	1,880	1,160	1.2	3.0	1.2	4,590	6.24	6,480	2,190	2,090	40
Apr. 1–10	607	623	23	.10	550	188	739	24	118	1,940	1,180	.7	2.0	2.0	4,700	6.39	7,700	2,150	2,050	42
Apr. 11–20	490	628	24	.07	550	188	716	25	116	1,920	1,160	.7	2.0	2.0	4,640	6.31	6,140	2,150	2,050	42
Apr. 21–30	494	634	24	.05	556	187	730	24	120	1,930	1,180	.7	2.0	2.5	4,690	6.38	6,260	2,160	2,060	42
May 1–10	494	629	20	.05	562	182	759	24	96	1,950	1,220	.9	1.0	2.5	4,770	6.49	6,360	2,150	2,070	43
May 11–20	305	631	21	.05	566	184	747	23	118	1,950	1,200	.7	1.0	1.5	4,750	6.46	3,910	2,170	2,070	42
May 21–24, 28–31	[3] 304	638	21	.05	570	185	756	22	135	1,940	1,220	.9	1.0	2.0	4,780	6.50	3,920	2,180	2,070	43
June 1–10	310	658	33	.10	592	181	748	23	103	1,960	1,240	.7	7.5	1.0	4,840	6.58	4,050	2,220	2,140	43
June 11–20	327	628	19	.05	564	176	743	19	117	1,870	1,220	.3	4.5	1.5	4,790	6.51	4,230	2,130	2,040	43
June 21–30	446	668	16	.10	598	189	763	29	116	1,980	1,260	.7	4.0	.5	4,900	6.66	5,900	2,270	2,170	43
July 1–10	547	657	31	.05	590	185	798	22	99	2,000	1,080	.6	2.8	1.0	4,960	6.75	7,330	2,230	2,150	44
July 11–20	584	666	27	.15	602	190	831	22	106	2,040	1,320	.6	3.8	.5	5,090	6.92	8,030	2,280	2,200	45
July 21–31	476	671	27	.05	600	193	823	18	108	2,040	1,320	.6	3.8	1.0	5,090	6.92	6,540	2,290	2,200	44
Aug. 1–10	575	693	21	.10	612	195	799	23	109	2,030	1,340	1.0	3.0	3.0	5,080	6.91	7,890	2,330	2,240	43
Aug. 11–16, 20	536	703	14	.10	612	222	809	19	111	2,050	1,360	1.0	3.5	3.5	5,150	7.00	7,450	2,440	2,350	42
Aug. 17–19	853	374	10	.20	587	149	88	12	100	1,560	415	.4	4.5	2.5	2,880	3.92	6,630	2,080	2,000	9.5
Aug. 21–31	216	731	13	.10	624	197	839	26	111	2,070	1,360	1.0	2.5	3.0	5,190	7.06	3,030	2,370	2,280	44
Sept. 1–10	75.8	865	13	.10	638	209	1,170	24	113	2,030	2,000	.6	3.5	.5	6,140	8.35	1,260	2,450	2,360	51
Sept. 11–20	54.2	738	35	.10	624	195	924	18	109	2,070	1,520	.6	2.5	1.0	5,440	7.40	796	2,360	2,270	46
Sept. 21–30	74.8	813	18	.10	628	202	1,060	20	109	2,040	1,820	.6	1.0	.5	5,840	7.94	1,180	2,400	2,310	49
Weighted average	226	652	21	0.09	586	188	760	22	112	1,960	1,240	0.8	3.0	1.9	4,840	6.58	2,950	2,240	2,140	43

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Oct. 1–10, 1943	34.6				27.75	13.82	34.74	0.64	1.64	40.18	34.97	0.06	0.02						46
Oct. 11–20	44.5				28.85	14.23	35.40	.59	1.70	41.22	36.10	.06	.02						46
Oct. 21–29	35.8				28.65	14.39	35.70	.56	1.90	40.81	36.10	.06	.03						46
Nov. 1–10	30.4				29.15	14.88	33.66	.54	1.93	41.01	34.97	.08	.01						44
Nov. 11–20	28.5				28.85	14.72	33.96	.59	1.88	41.01	34.97	.10	.01						44
Nov. 21–30	11.3				33.44	18.01	45.22	.72	2.13	45.80	49.07	.08	.03						47
Dec. 1–10	13.9				33.24	17.02	45.70	.54	1.88	44.97	49.07	.05	.02						48
Dec. 11–20	16.4				31.84	16.28	42.35	.51	2.33	43.30	45.13	.05	.02						47
Dec. 21–31	15.4				32.84	16.12	40.57	.56	2.22	43.72	44.00	.05	.02						46
Jan. 1–10, 1944	12.4				32.14	16.53	42.14	.67	2.14	43.51	45.69	.08	.06						46
Jan. 11–20	12.4				33.14	17.43	45.06	.59	2.23	44.76	49.07	.08	.08						47
Jan. 21–30	16.3				33.44	17.76	46.10	.61	2.17	45.39	50.20	.08	.07						47
Feb. 1–10	9.8				32.34	17.52	44.41	.64	2.17	43.93	48.51	.07	.23						47
Feb. 11–20	35.3				34.24	18.42	48.68	.67	2.04	46.22	53.59	.08	.08						48
Feb. 21–29	169				28.55	14.47	31.33	.67	1.94	39.14	33.84	.06	.04						42

[1] Includes discharge for Oct. 30–31.

[2] Includes discharge for Jan. 31.

[3] Includes discharge for May 25–27.

PECOS RIVER NEAR ORLA, TEXAS—Continued

Chemical analyses, in equivalents per million, water year October 1943 to September 1944—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Mar. 1–10	10.6				31.15	16.53	37.97	0.67	2.06	42.68	41.46	0.06	0.06							44
Mar. 11–20	92.4				33.34	17.85	43.41	.67	2.03	45.18	47.95	.07	.04							46
Mar. 21–31	523				28.95	14.80	29.55	.67	2.00	39.14	32.72	.06	.05							40
Apr. 1–10	607				27.45	15.46	32.15	.61	1.93	40.39	33.28	.04	.03							42
Apr. 11–20	490				27.45	15.46	31.11	.64	1.90	39.97	32.72	.04	.03							42
Apr. 21–30	494				27.75	15.38	31.76	.61	1.97	40.18	33.28	.04	.03							42
May 1–10	494				28.05	14.97	33.02	.61	1.57	40.60	34.41	.05	.02							43
May 11–20	305				28.25	15.13	32.46	.59	1.93	40.60	33.84	.04	.02							42
May 21–24, 28–31	304				28.45	15.21	32.86	.56	2.21	40.39	34.41	.05	.02							43
June 1–10	310				29.55	14.88	32.53	.59	1.69	40.81	34.97	.04	.12							43
June 11–20	327				28.15	14.47	32.31	.49	1.92	38.93	34.41	.02	.07							43
June 21–30	446				29.85	15.54	33.18	.74	1.90	41.22	35.54	.14	.06							43
July 1–10	547				29.45	15.21	34.70	.56	1.63	41.64	36.10	.03	.05							44
July 11–20	584				30.05	15.62	36.14	.56	1.74	42.47	37.23	.03	.06							45
July 21–31	476				29.95	15.87	35.79	.46	1.77	42.47	37.23	.03	.06							44
Aug. 1–10	575				30.55	16.04	34.76	.59	1.79	42.26	37.79	.05	.05							43
Aug. 11–16, 20	536				30.55	18.26	35.18	.49	1.82	42.68	38.36	.05	.06							42
Aug. 17–19	853				29.30	12.25	3.83	.31	1.64	32.48	11.70	.02	.07							9.5
Aug. 21–31	216				31.15	16.20	36.48	.67	1.83	43.10	38.36	.05	.04							44
Sept. 1–10	75.8				31.84	17.19	50.88	.61	1.86	42.26	56.41	.03	.06							51
Sept. 11–20	54.2				31.15	16.04	40.18	.46	1.79	43.10	42.87	.03	.04							46
Sept. 21–30	74.8				31.35	16.61	46.09	.51	1.79	42.47	51.33	.03	.02							49
Weighted average	226				29.25	15.46	33.05	0.56	1.84	40.81	34.97	0.04	0.05							43

CARLSBAD PROJECT MAIN CANAL NEAR CARLSBAD, N. MEX.

LOCATION.—At head of Carlsbad project main canal at Avalon Dam, 5 miles north of Carlsbad.
RECORDS AVAILABLE.—Chemical analyses: February 1939 to September 1944.
EXTREMES, 1943–44.—Dissolved solids: Maximum, 4,710 parts per million June 1–10; minimum, 3,340 parts per million July 1–10.
Total hardness: Maximum, 2,420 parts per million June 1–10; minimum, 1,800 parts per million July 1–10.
EXTREMES, 1939–44.—Dissolved solids: Maximum, that of June 1–10, 1944; minimum, 568 parts per million Oct. 16–18, 1940.
Total hardness: Maximum, that of June 1–10, 1944; minimum, 324 parts per million Oct. 16–18, 1940.

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Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1943		459	19		560	135	415		108	1,790	640		0.5		3,730	4.91		1,950	1860	32
Oct. 11–20		469	19		580	140	416		116	1,840	650		.5		3,890	5.03		2,020	1930	31
Oct. 21–31		471	17		590	137	422		126	1,850	655		.5		3,920	5.07		2,040	1930	31
Nov. 1–2		470																		
Nov. 11–20		466	9.0		581	134	406		130	1,820	625		2.0		3,940	4.95		2,000	1,890	31
Dec. 11–20		449	9.0		560	131	386		132	1,760	592		1.0		3,780	4.76		1,940	1,830	30
Jan. 11–20, 1944		442	15		564	132	372		134	1,770	570		2.5		3,720	4.75		1,950	1,840	29
Feb. 11–17, 19–20		447			576	128	387		130	1,810	575		5.0			4.81		1,960	1,860	30
Mar. 5–10		463			584	133	403		109	1,850	610		6.4			4.95		2,000	1,920	30
Mar. 11–20		467			588	135	405		112	1,840	635		1.5			4.98		2,020	1,930	30
Mar. 21–31		475	13		592	141	434		102	1,880	680		1.0		4,040	5.15		2,060	1,970	31
Apr. 1–10		464	11		572	140	431		121	1,840	655		1.0		3,960	5.05		2,000	1,900	32
Apr. 11–20		489	15		594	152	445		110	1,890	720		1.5		4,130	5.26		2,110	2,020	31
Apr. 21–30		502	15		606	156	464		112	1,920	760		1.0		4,240	5.41		2,150	2,060	32
May 1–10		514	13		612	166	480		123	1,930	810		1.0		4,320	5.54		2,210	2,110	32
May 11–20		528	11		628	168	478		122	1,940	835		1.5		4,410	5.60		2,260	2,160	32
May 21–31		518	13		612	162	487		121	1,910	825		1.5		4,350	5.54		2,190	2,090	33
June 1–10		605	16		676	179	619		129	2,150	1,010		1.0		5,010	6.41		2,420	2,320	36
June 11–15		430	15		564	119	365		116	1,720	570		.5		3,670	4.64		1,900	1,800	29
June 22–30		464	13		560	124	402		113	1,700	630		1.0		3,860	4.83		1,950	1,860	31
July 1–10		439	15		510	128	395		121	1,590	540		1.5		3,570	4.54		1,800	1,700	32
July 11–20		484	13		576	144	433		120	1,810	700		1.5		4,020	5.09		2,030	1,930	32
July 21–31		443	13		532	131	379		110	1,670	610		1.5		3,690	4.61		1,870	1,780	31
Aug. 1–10		452	13		558	135	382		120	1,740	615		1.5		3,740	4.76		1,950	1,850	30
Aug. 11–20		513	18		606	150	495		139	1,940	760		2.0		4,200	5.49		2,130	2,020	34
Aug. 21–28, 30–31, Sept. 1–4		495	17		562	133	493		104	1,790	760		2.0		4,000	5.18		1,950	1,860	35
Aug. 29		184									195									
Sept. 13–26		457	15		534	133	429		118	1,700	670		1.2		3,670	4.81		1,880	1,780	33

CARLSBAD PROJECT MAIN CANAL NEAR CARLSBAD, N. MEX.—Continued

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Noncarbonate	
Oct. 1–10, 1943					27.95	11.10	18.05		1.77	37.27	18.05		0.01							32
Oct. 11–20					28.95	11.51	18.09		1.90	38.31	18.33		.01							31
Oct. 21–31					29.45	11.27	18.35		2.07	38.52	18.47		.01							31
Nov. 1–2																				
Nov. 11–20					29.00	11.02	17.66		2.13	37.89	17.63		.03							31
Dec. 11–20					27.95	10.77	16.80		2.16	36.64	16.70		.02							30
Jan. 11–20, 1944					28.15	10.86	16.16		2.20	36.85	16.08		.04							29
Feb. 11–17, 19–20					28.75	10.53	16.83		2.13	37.68	16.22		.08							30
Mar. 5–10					29.15	10.94	17.52		1.79	38.52	17.20		.10							30
Mar. 11–20					29.35	11.10	17.63		1.84	38.31	17.91		.02							30
Mar. 21–31					29.55	11.60	18.87		1.67	39.14	19.18		.02							31
Apr. 1–10					28.55	11.51	18.73		1.98	38.31	18.47		.02							32
Apr. 11–20					29.65	12.50	19.34		1.82	39.35	20.31		.02							31
Apr. 21–30					30.25	12.83	20.18		1.84	39.97	21.43		.02							32
May 1–10					30.55	13.65	20.86		2.02	40.18	22.84		.02							32
May 11–20					31.35	13.82	20.79		2.00	40.39	23.55		.02							32
May 21–31					30.55	13.32	21.17		1.98	39.77	23.27		.02							33
June 1–10					33.74	14.72	26.92		2.11	44.76	28.49		.02							36
June 11–15					28.15	9.79	15.86		1.90	35.81	16.08		.01							29
June 22–30					27.95	11.02	17.47		1.85	35.39	19.18		.02							31
July 1–10					25.46	10.53	17.16		1.98	33.10	18.05		.02							32
July 11–20					28.75	11.84	18.82		1.97	37.68	19.74		.02							32
July 21–31					26.55	10.77	16.47		1.80	34.77	17.20		.02							31
Aug. 1–10					27.85	11.10	16.61		1.97	36.23	17.34		.02							30
Aug. 11–20					30.25	12.34	21.54		2.28	40.39	21.43		.03							34
Aug. 21–28, 30–31, Sept. 1–4					28.05	10.94	21.44		1.70	37.27	21.43		.03							35
Aug. 29																				
Sept. 13–26					26.65	10.94	18.65		1.93	35.39	18.90		.02							33

REFINERY INTAKE CANAL NEAR LOVING, N. MEX.

[Weekly samples taken from canal in sec. 13, T. 23 S., R. 28 E., representing water in the Harroun canal diverted from the Pecos River at the dam in sec. 11, T. 23 S., R. 28 E.]

Date	Specific conductance ($K \times 10^6$ at 25° C.)	Chloride (Cl, ppm)	Date	Specific conductance ($K \times 10^6$ at 25° C.)	Chloride (Cl, ppm)	Date	Specific conductance ($K \times 10^6$ at 25° C.)	Chloride (Cl, ppm)
1943			*1944*			*1944*		
Oct. 7	436	665	Feb. 3	423	585	June 15	436	665
Oct. 14	453	690	Feb. 10	435	600	June 22	446	680
Oct. 21	441	675	Feb. 17	431	595	June 29	427	645
Oct. 28	452	690	Feb. 24	432	590	July 6	409	605
Nov. 4	443	665	Mar. 2	427	585	July 13	421	660
Nov. 11	438	660	Mar. 9	440	625	July 20	432	665
Nov. 18	439	655	Mar. 16	444	660	July 27	438	680
Nov. 30	442	640	Mar. 23	433	645			
			Mar. 30	433	645	Aug. 3	435	665
Dec. 2	434	630				Aug. 10	441	685
Dec. 9	432	615	Apr. 6	430	650	Aug. 17	445	705
Dec. 16	425	595	Apr. 13	443	675	Aug. 24	427	705
Dec. 23	426	605	Apr. 20	443	675	Aug. 31	323	435
Dec. 30	435	615	Apr. 27	443	675	Sept. 7	416	645
			May 4	440	665	Sept. 14	416	640
1944			May 11	435	660	Sept. 21	421	645
Jan. 6	421	575	May 18	437	660	Sept. 28	404	615
Jan. 13	426	595	May 25	442	680			
Jan. 20	426	590	June 1	439	665			
Jan. 27	425	590	June 8	431	655			

SALT DRAW NEAR PECOS, TEX.

LOCATION.—At gaging station in SW ¼, sec. 39, 88 feet upstream from bridge on U. S. Highway 285, 1 mile above Toyah Lake (revised), and 7½ miles south of Pecos.
DRAINAGE AREA.—1,882 square miles (contributing area).
RECORDS AVAILABLE.—Chemical analyses: October 1939 to September 1940; October 1943 to September 1944.
EXTREMES, 1943–44.—Dissolved solids: Maximum, 29,600 parts per million May 11–12; minimum, 3,180 parts per million May 30.
Total hardness: Maximum, 6,400 parts per million May 11–12; minimum, 1,330 parts per million May 30.
EXTREMES, 1939–40, 1943–44.—Dissolved solids: Maximum, 29,600 parts per million May 11–12, 1944; minimum, 825 parts per million Aug. 7, 1940.
Total hardness: Maximum, 6,400 parts per million May 11–12, 1944; minimum, 587 Aug. 7, 1940.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1038.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 2–10, 1943	[1] 0.24	1,030	------	------	434	312	1,830		182	2,120	2,820	------	2.5	------	7,610	10.3	4.9	2,370	2,220	63
Oct. 11–20	.20	980	------	------	416	268	1,560		188	1,960	2,370	------	3.5	------	6,670	9.07	3.6	2,140	1,990	61
Oct. 21–31	.20	968	------	------	438	268	1,500		261	1,940	2,290	------	2.0	------	6,570	8.94	3.5	2,200	1,980	60
Nov. 1–10	.20	958	------	------	412	253	1,570		248	1,960	2,300	------	3.0	------	6,620	9.00	3.6	2,070	1,870	62
Nov. 11–20	.21	976	------	------	440	263	1,650		304	2,000	2,440	------	4.5	------	6,950	9.45	3.9	2,180	1,940	62
Nov. 21–30	.32	1,120	------	------	496	304	1,740		227	2,150	2,720	------	2.5	------	7,520	10.2	6.5	2,490	2,300	60
Dec. 1–10	.30	1,060	------	------	436	297	1,680		209	2,100	2,560	------	2.0	------	7,180	9.76	5.8	2,310	2,140	61
Dec. 11–20	.35	1,080	------	------	472	305	1,710		313	2,120	2,620	------	1.0	------	7,380	10.0	6.9	2,430	2,180	61
Dec. 21–31	.40	1,170	------	------	470	301	1,430		306	2,120	2,630	------	2.5	------	7,400	10.1	8.0	2,410	2,160	61
Jan. 1–3, 1944	.50	2,260	------	------	537	659	4,180		175	3,640	6,520	------	.8	------	15,600	21.2	21	4,050	3,910	69
Jan. 4–10	.40	1,230	------	------	445	349	2,050		213	2,310	3,140	------	.5	------	8,400	11.4	9.0	2,550	2,370	64
Jan. 11–12, 17–20	.47	1,270	------	------	481	354	2,060		309	2,300	3,180	------	.8	------	8,530	11.6	11	2,660	2,400	63
Jan. 13–16	.68	2,010	------	------	542	578	3,630		301	3,320	5,620	------	1.0	------	13,800	18.8	25	3,730	3,480	68
Jan. 21–31	.40	1,170	------	------	471	329	1,910		293	2,200	2,940	------	3.0	------	8,000	10.9	8.6	2,530	2,290	62
Feb. 1–10	.41	1,370	------	------	442	365	2,170		234	2,270	3,380	------	2.5	------	8,740	11.9	9.7	2,600	2,410	64
Feb. 11–20	.23	1,190	------	------	450	325	1,940		295	2,050	3,050	------	6.5	------	7,970	10.8	4.9	2,460	2,220	63
Feb. 21–25, 27–29	[2] .36	1,120	------	------	414	302	1,790		183	2,130	2,690	------	1.2	------	7,420	10.1	7.2	2,280	2,120	63
Mar. 1–10	.40	1,090	------	------	422	301	1,770		242	2,150	2,630	------	1.0	------	7,390	10.1	8.0	2,290	2,090	63
Mar. 11–20	.43	1,060	------	------	424	298	1,750		238	2,120	2,610	------	2.0	------	7,320	9.96	8.5	2,280	2,090	62
Mar. 21–31	.45	1,040	------	------	416	289	1,680		237	2,040	2,530	------	1.5	------	7,070	9.62	8.6	2,230	2,030	62

Apr. 1–10	.44	1,040			434	287	1,660	277	2,060	2,480		2.0		7,060	9.60	8.4	2,260	2,040	61
Apr. 11–20	.45	994			424	282	1,580	278	2,020	2,350		1.0		6,790	9.23	8.2	2,220	1,990	61
Apr. 21–30	.35	945			434	276	1,650	234	2,000	2,500		4.5		6,980	9.49	6.6	2,220	2,030	62
May 1–10	.31	900			400	266	1,550	219	1,960	2,300		2.5		6,590	8.96	5.5	2,090	1,910	62
May 11–12	.85	3,930			754	1,100	8,430	235	6,900	12,300		2.0		29,600	40.3	68	6,400	6,210	74
May 13, 15–20	[3].40	1,120			460	302	1,860	265	2,240	2,750		1.5		7,740	10.5	8.3	2,390	2,170	63
May 21–29, 31	.99	1,120			450	291	1,770	267	2,140	2,640		1.8		7,420	10.1	20	2,320	2,100	62
May 30	82	725			468	187	1,050	382	1,570	1,610		1.8		5,080	6.91	701	1,940	1,620	54
		435			392	86	549	94	1,420	685		4.1		3,180	4.32		1,330	1,260	47
		464			346	102	608	264	979	970		1.0		3,140	4.27		1,280	1,070	51
June 1–10	[4].55	1,180			498	321	1,870	239	2,260	2,890		1.2		7,960	10.8	10	2,560	2,370	61
June 12	[5]85	440			554	89	408	104	1,560	650		11		3,320	4.52	761	1,750	1,664	34
		382			433	71	404	120	1,240	610		1.5		2,820	3.84		1,370	1,270	39
June 14–20	1.0	1,150			517	329	1,780	203	2,330	2,780		1.5		7,840	10.7	21	2,640	2,480	59
June 21–30	.33	1,010			466	281	1,640	286	2,040	2,500		2.0		7,070	9.62	6.3	2,320	2,080	61
July 1–10	.20	931			424	269	1,540	230	1,920	2,350		2.0		6,620	9.00	3.6	2,160	1,980	61
July 11–20	.30	908			396	253	1,510	178	1,890	2,260		2.5		6,400	8.70	5.2	2,030	1,880	62
July 21–31	.63	929			432	247	1,540	173	2,020	2,270		2.5		6,600	8.98	11	2,090	1,950	62
Aug. 1–10	.19	905			404	255	1,400	197	1,850	2,140		2.5		6,150	8.36	3.1	2,060	1,900	60
Aug. 11–20	.20	927			412	264	1,430	218	1,860	2,200		2.5		6,280	8.54	3.3	2,110	1,940	60
Aug. 21–31	.30	1,060			444	288	1,740	205	2,030	2,690		1.0		7,290	9.91	5.9	2,290	2,120	62
Sept. 1–10	3.2	1,020			464	277	1,590	223	2,010	2,470		.2		6,920	9.41	60	2,300	2,110	60
Sept. 11–20	.83	1,100			510	308	1,770	275	2,230	2,720		.5		7,670	10.4	17	2,540	2,310	60
Sept. 21–30	.75	1,130			490	306	1,890	288	2,180	2,890		3.0		7,900	10.7	16	2,480	2,240	62
Weighted average	1.17	729			462	183	1,060	191	1,710	1,610		3.6		5,110	6.95	16.1	1,910	1,750	55

See footnotes at end of table.

SALT DRAW NEAR PECOS, TEX.—Continued

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids: Parts per million	Dissolved solids: Tons per acre-foot	Dissolved solids: Tons per day	Hardness as $CaCO_3$: Total	Hardness as $CaCO_3$: Non-carbonate	Percent sodium
Oct. 2–10, 1943	[1] 0.24				21.66	25.66	79.37		2.98	44.14	79.53		0.04							63
Oct. 11–20	.20				20.76	22.04	67.99		3.08	40.81	66.84		.06							61
Oct. 21–31	.20				21.86	22.04	65.39		4.28	40.39	64.59		.03							60
Nov. 1–10	.20				20.56	20.81	68.42		4.06	40.81	64.87		.05							62
Nov. 11–20	.21				21.96	21.63	71.92		4.98	41.64	68.82		.07							62
Nov. 21–30	.32				24.76	25.00	75.48		3.73	44.76	76.71		.04							60
Dec. 1–10	.30				21.76	24.42	73.20		3.43	43.72	72.20		.03							61
Dec. 11–20	.35				23.56	25.08	74.55		5.14	44.14	73.89		.02							61
Dec. 21–31	.40				23.46	24.75	75.17		5.03	44.14	74.17		.04							61
Jan. 1–3, 1944	.50				26.80	54.19	181.53		2.85	75.78	183.88		.01							69
Jan. 4–10	.40				22.21	28.70	89.27		3.52	48.09	88.56		.01							64
Jan. 11–12, 17–20	.47				24.01	29.11	89.53		5.07	47.88	89.69		.01							63
Jan. 13–16	.68				27.05	47.53	157.98		4.92	69.12	158.50		.02							68
Jan. 21–31	.40				23.51	27.06	83.02		4.82	45.80	82.92		.05							62
Feb. 1–10	.41				22.06	30.02	94.39		3.84	47.26	95.33		.04							64
Feb. 11–20	.23				22.46	26.73	84.46		4.85	42.68	86.02		.10							63
Feb. 21–25, 27–29	[2] .36				20.66	24.84	77.75		3.01	44.35	75.87		.02							63
Mar. 1–10	.40				21.06	24.75	77.12		3.98	44.76	74.17		.02							63
Mar. 11–20	.43				21.16	24.51	76.02		3.91	44.14	73.61		.03							62
Mar. 21–31	.45				20.76	23.77	73.20		3.89	42.47	71.35		.02							62
Apr. 1–10	.44				21.66	23.60	72.15		4.55	42.89	69.94		.03							61
Apr. 11–20	.45				21.16	23.19	68.57		4.56	42.06	66.28		.02							61
Apr. 21–30	.35				21.66	22.70	71.70		3.84	41.64	70.51		.07							62
May 1–10	.31				19.97	21.87	67.48		3.60	40.81	64.87		.04							62
May 11–12	.85				37.63	90.46	366.33		3.84	143.65	346.90		.03							74
May 13, 15–20	[3] .40				22.06	24.84	80.77		4.35	46.84	77.56		.02							63
May 21–29, 31	.99				22.46	23.93	77.03		4.38	44.55	74.46		.03							62
May 30	82				23.36	15.38	45.65		6.26	32.69	45.41		.03							54
					19.57	7.07	23.85		1.54	29.56	19.32		.07							47
					17.27	8.39	26.43		4.33	20.38	27.36		.02							51
June 1–10	[4] 55				24.86	26.40	81.24		3.92	47.05	81.51		.02							61

June 12	[1] 85				27.65	7.32	17.72	1.70	32.48	18.33		.18							34
					21.61	5.84	17.56	1.97	25.82	17.20		.02							39
June 14–20	1.0				25.80	27.06	77.40	3.33	48.51	78.40		.02							59
June 21–30	.33				23.26	23.11	71.33	4.69	42.47	70.51		.03							61
July 1–10	.20				21.16	22.12	66.77	3.77	39.97	66.28		.03							61
July 11–20	.30				19.77	20.81	65.47	2.92	39.35	63.74		.04							62
July 21–31	.63				21.56	20.31	67.10	2.85	42.06	64.02		.04							62
Aug. 1–10	.19				20.16	20.97	61.01	3.23	38.52	60.35		.04							60
Aug. 11–20	.20				20.56	21.71	62.11	3.57	38.72	62.05		.04							60
Aug. 21–31	.30				22.16	23.68	75.67	3.36	42.26	75.87		.02							62
Sept. 1–10	3.2				23.16	22.78	69.23	3.66	41.85	69.66		.00							60
Sept. 11–20	.83				25.46	25.33	76.87	4.51	46.43	76.71		.01							60
Sept. 21–30	.75				24.46	25.16	82.05	4.72	45.39	81.51		.05							63
Weighted average	1.17				23.06	15.05	46.09	3.13	35.60	45.41		0.06							55

[1] Includes discharge for Oct. 1.
[2] Includes discharge for Feb. 26.
[3] Includes discharge for May 14.
[4] Includes discharge for June 11.
[5] Includes discharge for June 13.

TOYAH CREEK NEAR PECOS, TEX.

LOCATION.—At gaging station in NW¼, sec. 8, blk. 51, Texas & Pacific Railroad Co. Survey, at bridge on U. S. Highway 285, 0.8 mile upstream from Toyah Lake and 10 miles southeast of Pecos.
DRAINAGE AREA.—1,024 square miles (contributing area).
RECORDS AVAILABLE.—Chemical analyses: October 1939 to September 1940; October 1943 to September 1944.
EXTREMES, 1943–44.—Dissolved solids: Maximum, 18,500 parts per million Oct. 1–10; minimum, 882 parts per million Sept. 7–8.
Total hardness: Maximum, 4,840 parts per million Oct. 1–10; minimum, 439 parts per million Sept. 7–8.
EXTREMES, 1939–40, 1943–44.—Dissolved solids: Maximum, 18,500 parts per million Oct. 1–10, 1943; minimum, 882 parts per million Sept. 7–8, 1944.
Total hardness: Maximum, 4,840 parts per million Oct. 1–10, 1943; minimum, 439 parts per million Sept. 7–8, 1944.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1008.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1943	[1] 0.29	2,460	------	------	755	718	4,780		111	5,560	6,630	------	2.0	------	18,500	25.2	14	4,840	4,740	68
Oct. 11–20	.30	2,350	------	------	712	695	4,550		120	5,320	6,300	------	2.5	------	17,600	23.9	14	4,630	4,540	68
Oct. 21–31	.30	2,320	------	------	697	676	4,470		137	5,200	6,180	------	3.0	------	17,300	23.5	14	4,520	4,410	68
Nov. 1–10	.31	2,270	------	------	611	654	4,550		130	5,170	6,110	------	1.0	------	17,200	23.4	14	4,210	4,110	70
Nov. 11–20	.40	2,090	------	------	632	622	4,100		191	4,760	5,620	------	1.0	------	15,800	21.5	17	4,130	3,980	68
Nov. 21–30	.47	1,940	------	------	619	561	3,610		218	4,300	4,990	------	1.5	------	14,200	19.3	18	3,850	3,670	67
Dec. 1–10	.51	1,980	------	------	623	585	3,750		210	4,430	5,200	------	.5	------	14,700	20.0	20	3,960	3,790	67
Dec. 11–20	.54	1,990	------	------	626	579	3,710		274	4,340	5,150	------	1.0	------	14,500	19.7	21	3,940	3,720	67
Dec. 21–31	.57	2,000	------	------	627	583	3,700		303	4,340	5,130	------	2.5	------	14,500	19.7	22	3,960	3,710	67
Jan. 1–10, 1944	.62	1,970	------	------	613	564	3,590		229	4,250	4,990	------	1.2	------	14,100	19.2	24	3,850	3,660	67
Jan. 11–20	.64	1,900	------	------	590	545	3,490		308	4,080	4,820	------	.8	------	13,700	18.6	24	3,710	3,460	67
Jan. 21–31	.75	1,660	------	------	600	470	2,940		302	3,660	4,080	------	2.5	------	11,900	16.2	24	3,430	3,180	65
Feb. 1–10	1.03	1,570	------	------	545	409	2,590		226	3,060	3,760	------	3.0	------	10,500	14.3	29	3,040	2,860	65
Feb. 11–20	.85	1,760	------	------	585	488	3,070		306	3,680	4,290	------	2.5	------	12,300	16.7	28	3,470	3,220	66
Feb. 21–29	1.08	1,570	------	------	563	439	2,750		207	3,530	3,790	------	1.0	------	11,200	15.2	33	3,210	3,040	65
Mar. 1–10	.90	1,770	------	------	615	500	3,180		282	3,910	4,390	------	1.5	------	12,700	17.3	31	3,590	3,360	66
Mar. 11–20	.88	1,830	------	------	607	524	3,320		217	4,100	4,560	------	1.5	------	13,200	18.0	31	3,670	3,490	66
Mar. 21–31	.70	2,000	------	------	626	581	3,720		225	4,420	5,150	------	1.5	------	14,600	19.9	28	3,950	3,770	67

Apr. 1–10	.79	1,910		628	566	3,600	255	4,360	4,950		2.5		14,200	19.3	30	3,900	3,690	67
Apr. 11–20	.65	2,190		635	638	4,050	230	4,490	5,780		1.0		15,700	21.4	28	4,210	4,020	68
Apr. 21–30	.61	2,140		660	662	4,260	206	4,830	5,980		1.5		16,500	22.4	27	4,370	4,200	68
May 1–10	.62	2,100		671	665	4,300	186	4,980	5,970		1.5		16,700	22.7	28	4,410	4,260	68
May 11–20	.74	2,120		654	628	4,070	189	4,750	5,650		1.5		15,800	21.5	32	4,210	4,060	68
May 21–31	.95	2,030		649	575	3,680	186	4,450	5,100		1.2		14,500	19.7	37	3,980	3,830	67
June 1–10	1.13	1,420		564	360	2,310	153	3,140	3,230		1.2		9,690	13.2	30	2,930	2,800	63
June 12	[2].70	1,560		579	421	2,720	136	3,450	3,820		1.5		11,100	15.1	21	3,180	3,060	65
June 13	13	717		372	175	1,100	286	1,570	1,540		1.2		4,900	6.66	172	1,650	1,410	59
June 14–20	2.71	951		528	245	1,530	156	2,370	2,170		2.0		6,920	9.41	51	2,320	2,200	59
June 21–30	.50	1,460		599	427	2,690	173	3,410	3,840		2.5		11,100	15.1	15	3,250	3,110	64
July 1–2, 4–10	[3].34	1,800		670	574	3,490	166	4,180	5,060		3.5		14,100	19.2	13	4,030	3,900	65
July 11–20	.23	2,010		684	625	3,930	154	4,620	5,590		2.5		15,500	21.1	10	4,280	4,150	67
July 21–31	.29	2,070		689	666	4,300	122	4,940	6,070		2.5		16,700	22.7	13	4,460	3,860	68
Aug. 1–10	.13	2,370		731	706	4,560	119	5,240	6,450		2.0		17,700	24.1	6	4,730	4,630	68
Aug. 11–20	.18	2,390		721	690	4,570	118	5,250	6,390		2.0		17,700	24.1	9	4,640	4,540	68
Aug. 21–31	.37	2,010		670	563	3,850	97	4,550	5,350		1.0		15,000	20.4	15	3,990	3,910	68
Sept. 1–4, 6	[4].87	2,020		647	568	3,820	96	4,590	5,240		1.0		14,900	20.3	35	3,950	3,870	68
Sept. 7–8	331	140		138	23	129	140	350	168		4.5		882	1.20	788	439	325	39
Sept. 9–10	80	525		346	126	719	204	1,190	1,090		1.8		3,570	4.86	771	1,380	1,210	53
Sept. 11–20	3.72	1,200		592	328	2,000	268	2,700	2,930		1.0		8,680	11.8	87	2,830	2,610	61
Sept. 21–30	3.63	1,240		603	352	2,110	288	2,850	3,080		2.5		9,040	12.3	89	2,950	2,720	61
Weighted average	3.07	593		292	156	966	173	1,350	1,360		3.4		4,210	5.73	35	1,370	1,230	61

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1943	0.29				37.68	59.05	207.88		1.83	115.76	186.99		0.03							68
Oct. 11–20	.30				35.54	57.15	197.77		1.98	110.76	177.68		.04							68
Oct. 21–31	.30				34.79	55.59	194.46		2.24	108.26	174.30		.04							68
Nov. 1–10	.31				30.50	53.78	197.81		2.11	107.64	172.32		.02							70
Nov. 11–20	.40				31.54	51.15	178.07		3.14	99.10	158.50		.02							68
Nov. 21–30	.47				30.90	46.13	156.85		3.61	89.52	140.73		.02							67
Dec. 1–10	.51				31.10	48.11	163.11		3.42	92.23	146.66		.01							67
Dec. 11–20	.54				31.25	47.62	161.26		4.50	90.36	145.25		.02							67
Dec. 21–31	.57				31.30	47.94	160.79		4.95	90.36	144.68		.04							67
Jan. 1–10, 1944	.62				30.60	46.38	156.01		3.76	88.48	140.73		.02							67
Jan. 11–20	.64				29.45	44.82	151.68		5.06	84.94	135.94		.01							67
Jan. 21–31	.75				29.95	38.65	127.64		4.93	76.20	115.07		.04							65
Feb. 1–10	1.03				27.20	33.63	112.66		3.69	63.71	106.04		.05							66
Feb. 11–20	.85				29.20	40.13	133.35		5.03	76.62	120.99		.04							65
Feb. 21–29	1.08				28.10	36.10	119.59		3.39	73.49	106.89		.02							66
Mar. 1–10	.90				30.70	41.12	138.06		4.65	81.40	123.81		.02							66
Mar. 11–20	.88				30.30	43.09	144.16		3.56	85.36	128.61		.02							67
Mar. 21–31	.70				31.25	47.78	161.94		3.68	92.02	145.25		.02							67
Apr. 1–10	.79				31.35	46.55	156.68		4.16	90.77	139.61		.04							68
Apr. 11–20	.65				31.69	52.47	176.14		3.79	93.48	163.01		.02							68
Apr. 21–30	.61				32.94	54.44	185.25		3.39	100.56	168.66		.02							68
May 1–10	.62				33.49	54.69	186.94		3.05	103.68	168.37		.02							68
May 11–20	.74				32.64	51.64	177.10		3.12	98.89	159.35		.02							67
May 21–31	.95				32.29	47.29	159.89		3.06	92.65	143.84		.02							63
June 1–10	1.13				28.15	20.42	100.42		2.51	85.37	91.10		.02							55
June 12	.70				28.90	34.62	118.30		2.23	71.83	107.74		.02							59
June 13	13				18.57	14.39	47.87		4.69	32.69	43.43		.02							59
June 14–20	2.71				26.35	20.15	66.63		2.56	49.34	61.20		.03							64

June 21–30	.50				29.90	35.12	117.15	2.84	70.99	108.30		.04							65
July 1–2, 4–10	.34				33.44	47.20	151.88	2.72	87.03	142.71		.06							67
July 11–20	.23				34.14	51.40	170.87	2.52	96.19	157.66		.04							68
July 21–31	.29				34.39	54.77	186.93	2.01	102.85	171.19		.04							68
Aug. 1–10	.13				36.49	58.06	198.43	1.95	109.09	181.91		.03							68
Aug. 11–20	.18				35.99	56.74	198.75	1.93	109.30	180.22		.03							68
Aug. 21–31	.37				33.44	46.30	167.49	1.59	94.73	150.89		.02							68
Sept. 1–4, 6	.87				32.29	46.71	165.93	1.57	95.56	147.78		.02							68
Sept. 7–8	331				6.89	1.89	5.61	2.29	7.29	4.74		.07							39
Sept. 9–10	80				17.27	10.36	31.28	3.36	24.78	30.74		.03							53
Sept. 11–20	3.72				29.55	26.97	86.74	4.39	56.21	82.64		.02							61
Sept. 21–30	3.63				30.10	28.95	91.92	4.72	59.34	86.87		.04							61
Weighted average	3.07				14.57	12.83	42.01	2.84	28.11	38.36		0.05							61

[1] Includes discharge for Oct. 1.
[2] Includes discharge for June 11.
[3] Includes discharge for July 3.
[4] Includes discharge for Sept. 5.

MISCELLANEOUS ANALYSES OF STREAMS IN RIO GRANDE BASIN IN NEW MEXICO

Chemical analyses, in parts per million

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Rio Grande above South Fork, Colo.																				
May 22, 1944		6.4			6.4	2.8			32	3	0.0		0.2		29	0.04		28	1.5	
Rio Grande near Monte Vista, Colo.																				
May 22, 1944		7.1			6.8	3.9	2.1		32	10	0.2		0.5		39	0.05		33	7.0	12
Rio Grande near Alamosa, Colo.																				
May 23, 1944		8.7			8.4	3.9	3.7		41	9	1.2		0.6		47	0.06		37	3.5	18
Rio Grande near Taos Junction Bridge, N. Mex.																				
May 23, 1944		14.0			15	4.6	8.0		58	22	2.2		0.6		81	0.11		56	9.0	24
Rio Grande near Embudo, N. Mex.																				
May 23, 1944		14.3			16	5.6	1.4		60	13	2.0		0.7		68	0.09		63	14	5
Rio Grande near Otowi, N. Mex.																				
May 23, 1944		19.1			23	5.6	3.9		83	16	2.8		0.6		93	0.13		84	16	10

Rio Grande at bridge below Arrey, N. Mex.

Jan. 21, 1944		126			121	22	133	333	263	95		0.2	0.8	798	1.09		392	120	42

Rio Grande at new Rincon bridge near Rincon, N. Mex.

Jan. 21, 1944		126			122	22	133	279	296	105		0.1	0.8	816	1.11		395	166	42

Rio Grande at Picacho bridge near Fair Acres, N. Mex.

Jan. 20, 1944		144			118	22	172	269	299	160		1.0	0.9	904	1.23		385	164	49

Rio Grande at County Club bridge (2.5 mi. above Courchesne) near Courchesne, N. Mex.

Jan. 20, 1944		182			125	28	240	282	377	230		1.0	0.9	1,140	1.55		427	196	55

Rio Grande at Courchesne bridge, Courchesne, N. Mex.

Jan. 20, 1944		181			128	28	239	293	377	228		1.0	0.9	1,150	1.56		434	194	55

South Fork of Rio Grande 11.5 miles above South Fork, Colo.

May 22, 1944		3.9			3.4	1.9		17	1	0.0		0.2		15	0.02		16	2.5	

Conejos River near Antonito, Colo.

May 23, 1944		5.7			6.2	2.5		33	1	0.0		0.3		27	0.04		26	0	7

Jemez Creek near Bernalillo, N. Mex.

Apr. 22, 24, 26, 28, 1944		69.4			42	7.6	90	146	102	75		1.0		390	0.53		108	0	59

Alamogordo Lake near Fort Sumner, N. Mex.

Feb. 1, 1944		236			440	63	79	114	1,230	109		0.5					1,360	1,260	11

MISCELLANEOUS ANALYSES OF STREAMS IN RIO GRANDE BASIN IN NEW MEXICO—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Lake McMillan near Lakewood, N. Mex.																				
Feb. 4, 1944		600			458	183	728	88	1,700	1,160		2.0						1,900	1,820	46
Feb. 5–10		602							1,710	1,150										
Feb. 11–20		608			468	184	740	91	1,760	1,160		2.0				5.92		1,920	1,850	46
Feb. 21–29		627							1,820	1,200										
Mar. 1–10		652							1,900	1,250										
Mar. 11–18		686			524	214	842	90	2,000	1,320		2.0				6.73		2,190	2,110	46
Mar. 19–20		588							1,970	995										
Mar. 21		360							1,640	345										
Apr. 11–20		462			576	146	395	120	1,860	610		3.2	1.7			4.96		2,040	1,940	30
May 1–10		570							2,180	850										
May 11–20		653			688	200	709	125	2,370	1,070		3.0				6.94		254	244	38
May 21–31		752							2,640	1,300										
June 11–20		334			498	83	189	105	1,380	335						3.45		1,580	1,500	21
July 1–10		348								400										
July 11–20		400			528	114	518	90	2,070	485						5.11		1,790	1,710	39
July 21–31		391								520										
Aug. 1–10		400								475										
Aug. 11–15		490			628	154	384	96	1,980	635						5.21		2,200	2,120	27
Aug. 24		213								255										
Aug. 25–27		386								550										
Aug. 28–31		586								1,040										
Sept. 1–2		459								770										
Sept. 11–20		450			489	113	453	50	1,500	690						4.57		1,680	1,640	37
Sept. 21–30		475								690										
Pecos River at Major Johnson Springs Crossing, near Lakewood, N. Mex.																				
Feb. 3, 1944		440			578	137	351	147	1,770	570		1.5						2,010	1,890	28
Mar. 21		473			592	146	385	147	1,790	660		2.0				4.96		2,080	1,960	29

Pecos River at dam site No. 3, near Carlsbad, N. Mex.

Feb. 3, 1944		438			568	130	349	132	1,740	560		2.2			4.64		1,950	1,840	28
Feb. 28		454			576	136	366	133	1,750	610		1.0			4.76		2,000	1,890	28
Mar. 21		474			588	138	411	128	1,810	665		1.2			5.00		2,040	1,930	30
May 30		511			594	149	478	128	1,840	790					5.32		2,100	1,990	33

Rio Rito near Santa Rosa, N. Mex.

Feb. 1, 1944		281			616	74	59	199	1,630	78		0.4			3.48		1,840	1,680	7

Comanche Draw near Roswell, N. Mex.

Feb. 2, 1944		831			492	875	635	272	4,650	810		1.5					4,830	4,600	22

South Spring River near Roswell, N. Mex.

Feb. 2, 1944		316			366	139	189	273	1,100	368		9.0			3.14		1,480	1,260	22

Seven Rivers at mouth, near Lakewood, N. Mex.

Feb. 4, 1944		425			562	190	292	151	2,010	425		2.0					2,180	2,060	23
Mar. 21		421			578	205	256	192	2,090	360		1.2			4.87		2,290	2,130	20

Willow Draw near Carlsbad, N. Mex.

Feb. 3, 1944		511			586	171	478	217	1,930	720		2.5					2,170	1,990	32

Black River at Forehand Crossing near Malaga, N. Mex.

Dec. 21, 1943		205			421	78	20	187	1,180	21		2.2			2.46		1,370	1,220	3
May 30, 1944		218								23									
Aug. 12, 1944		216							1,190	21									

Sitting Bull Falls near Carlsbad, N. Mex.

Aug. 13, 1944		58.2			50	43	8.0	309	53	8.2		0.1			0.43		302	49	5

Rocky Arroyo about 6 miles off Highway 285 near Carlsbad, N. Mex.

Aug. 13, 1944		121			173	69	8.3	246	493	13					1.19		715	514	2

MISCELLANEOUS ANALYSES OF STREAMS IN RIO GRANDE BASIN IN NEW MEXICO—Continued

Chemical analyses, in equivalents per million

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Rio Grande above South Fork, Colo.																				
May 22, 1944					0.32	0.23	0.03		0.52	0.06	0.00		0.00							
Rio Grande near Monte Vista, Colo.																				
May 22, 1944					0.34	0.32	0.09		0.52	0.21	0.01		0.01							12
Rio Grande near Alamosa, Colo.																				
May 23, 1944					0.42	0.32	0.16		0.67	0.19	0.03		0.01							18
Rio Grande near Taos Junction Bridge, N. Mex.																				
May 23, 1944					0.75	0.38	0.35		0.95	0.46	0.06		0.01							24
Rio Grande near Embudo, N. Mex.																				
May 23, 1944					0.80	0.46	0.06		0.98	0.27	0.06		0.01							5
Rio Grande near Otowi, N. Mex.																				
May 23, 1944					1.15	0.46	0.17		1.36	0.33	0.08		0.01							10

Rio Grande at Bridge below Arrey, N. Mex.

Jan. 21, 1944					6.04	1.81	5.77	5.46	5.48	2.68		0.00						42

Rio Grande at new Rincon bridge near Rincon, N. Mex.

Jan. 21, 1944					6.09	1.81	5.79	4.57	6.16	2.96		0.00						42

Rio Grande at Picacho bridge Fair Acres, N. Mex.

Jan. 20, 1944					5.89	1.81	7.47	4.41	6.23	4.51		0.02						49

Rio Grande at County Club bridge (2.5 miles above Courchesne), Courchesne, N. Mex.

Jan. 20, 1944					6.24	2.30	10.44	4.62	7.85	6.49		0.02						55

Rio Grande at Courchesne bridge, Courchesne, N. Mex.

Jan. 20, 1944					6.39	2.30	10.41	4.80	7.85	6.43		0.02						55

South Fork of Rio Grande, 11.5 miles above South Fork, Colo.

May 22, 1944					0.17	0.16		0.28	0.02	0.00		0.00						

Conejos River near Antonito, Colo.

May 23, 1944					0.31	0.21	0.04	0.54	0.02	0.00		0.00						7

Jemez Creek near Bernalillo, N. Mex.

Apr. 22, 24, 26, 28, 1944					2.10	0.62	3.93	2.39	2.12	2.12		0.02						59

Alamogordo Lake near Fort Sumner, N. Mex.

Feb. 1, 1944					21.96	5.18	3.42	1.87	25.61	3.07		0.01						11

MISCELLANEOUS ANALYSES OF STREAMS IN RIO GRANDE BASIN IN NEW MEXICO—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Noncarbonate	
Lake McMillan near Lakewood, N. Mex.																				
Feb. 4, 1944					22.86	15.05	31.67	1.44	35.39	32.72		0.03								46
Feb. 5–10										35.60	32.43									
Feb. 11–20					23.36	15.13	32.18	1.49	36.43	32.72		.03								46
Feb. 21–29										37.89	33.84									
Mar. 1–10										39.56	35.25									
Mar. 11–18					26.15	17.60	36.63	1.48	41.64	37.23		.03								46
Mar. 19–20										41.01	28.06									
Mar. 21										34.14	9.73									
Apr. 11–20					28.75	12.01	17.18	1.97	38.72	17.20		.05								30
May 1–10										45.39	23.97									
May 11–20					34.34	16.45	30.83	2.05	49.34	30.18		.05								38
May 21–31										54.96	36.66									
June 11–20					24.86	6.83	8.21	1.72	28.73	9.45										21
July 1–10											11.28									
July 11–20					26.35	9.37	22.54	1.48	43.10	13.68										39
July 21–31											14.67									
Aug. 1–10											13.40									
Aug. 11–15					31.35	12.66	16.69	1.57	41.22	17.91										27
Aug. 24											7.19									
Aug. 25–27											15.51									
Aug. 28–31											29.33									
Sept. 1–2											21.72									
Sept. 11–20					24.41	9.29	19.68	.82	33.10	19.46										37
Sept. 21–30											19.46									

Pecos River at Major Johnson Springs crossing near Lakewood, N. Mex.

Feb. 3, 1944					28.85	11.27	15.24	2.41	36.85	16.08		0.02						28
Mar. 21					29.55	12.01	16.76	2.41	37.27	18.61		.03						29

Pecos River at dam site No. 3, near Carlsbad, N. Mex.

Feb. 3, 1944					28.35	10.69	15.18	2.16	36.23	15.79		0.04						28
Feb. 28					28.75	11.18	15.90	2.18	36.43	17.20		.02						28
Mar. 21					29.35	11.35	17.86	2.10	37.68	18.76		.02						30
May 30					29.65	12.25	20.79	2.10	38.31	22.28								33

Rio Rito near Santa Rosa, N. Mex.

Feb. 1, 1944					30.75	6.09	2.57	3.26	33.94	2.20		0.01						7

Comanche Draw near Roswell, N. Mex.

Feb. 2, 1944					24.56	71.96	27.61	4.46	96.81	22.84		0.02						22

South Spring River near Roswell, N. Mex.

Feb. 2, 1944					18.27	11.43	8.20	4.47	22.90	10.38		0.15						22

Seven Rivers at mouth, near Lakewood, N. Mex.

Feb. 4, 1944					28.05	15.62	12.68	2.48	41.85	11.99		0.03						23
Mar. 21					28.85	16.86	11.12	3.15	43.51	10.15		.02						20

Willow Draw near Carlsbad, N. Mex.

Feb. 3, 1944					29.25	14.06	20.78	3.56	40.18	20.31		0.04						32

MISCELLANEOUS ANALYSES OF STREAMS IN RIO GRANDE BASIN IN NEW MEXICO—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Black River at Forehand Crossing, near Malaga, N. Mex.																				
Dec. 21, 1943					21.01	6.41	0.85		3.07	24.57	0.59		0.04							3
May 30, 1944											.65									
Aug. 12										24.78	.59									
Sitting Bull Falls near Carlsbad, N. Mex.																				
Aug. 13, 1944					2.50	3.54	0.35		5.06	1.10	0.23		0.00							5
Rocky Arroyo about 6 miles off Highway 285, near Carlsbad, N. Mex.																				
Aug. 13, 1944					8.63	5.67	0.36		4.03	10.26	0.37									2

MISCELLANEOUS ANALYSES OF STREAMS IN RIO GRANDE BASIN IN TEXAS

Chemical analyses, in parts per million

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Toyah Creek below Toyah Lake, near Pecos, Tex.																				
[Samples collected during periods of flow at gaging station at bridge on county road between Pecos and Grandfalls, at lower end of Toyah Lake, 6 miles upstream from mouth and 7.4 miles southeast of Pecos. Drainage area, 3,709 square miles]																				
May 30, 1944	50	427			494	73	419	110	1,440	605		1.2			3,090	4.20		1,530	1,440	37
June 2–8	18.9	1,010			840	197	1,210	59	2,150	2,300		1.2			6,730	9.15		2,910	2,860	47
July 1–3	0	785			712	146	1,100	55	2,300	1,650		3.0			5,940	8.08		2,380	2,330	50
Sept. 6	35	1,710			604	476	3,120	233	3,850	4,290		2.0			12,500	17.0		3,460	3,270	66
Sept. 7	37	1,560			600	486	3,130	212	3,880	4,320		3.0			12,500	17.0		3,500	3,320	66
Salt (Screwbean) Draw near Orla, Tex.																				
[Samples collected during periods of flow at gaging station at bridge on U. S. Highway 285, 157 feet upstream from Panhandle and Santa Fe Railway Co. bridge, 2.7 miles southwest of Red Bluff Dam, and 4.1 miles northwest of Orla. Drainage area, 455 square miles]																				
Dec. 21, 24, 1943 and Jan. 3–6, 10, 1944	0.71	3,800			1,070	805	7,160	147	4,460	11,900		2.5			25,500	34.7		5,980	5,860	72
Jan. 11–14, 17–20	.70	3,440			1,020	749	6,870	151	4,330	11,300		1.5			24,300	33.0		5,630	5,500	73
Jan. 21, 24–28	.36	3,450			1,110	811	5,970	149	4,120	10,400		.5			22,500	30.6		6,100	5,980	68
Feb. 1–4, 7–10	.43	3,410			964	732	6,620	144	4,150	10,900		1.5			23,400	31.8		5,420	5,300	73
Feb. 11–12, 14–19	.31	3,480			975	751	6,810	147	4,370	11,100		1.0			24,100	32.8		5,520	5,400	73
Feb. 21, 23–25, 28–29	.28	3,480			979	745	6,710	142	4,420	10,900		1.5			23,800	32.4		5,510	5,390	73
Mar. 1, 3, 6–8	.22	3,030			1,040	779	6,950	111	4,540	11,400		3.5			24,800	33.7		5,800	5,710	72
Mar. 2, 9, 10, 13, 14	.20	3,300			1,020	778	7,040	121	4,550	11,500		3.0			25,000	34.0		5,740	5,650	73
April 9	.8	3,610			1,080	861	8,010	85	5,030	13,000		2.5			28,000	38.1		6,240	6,160	74
June 11	45	2,150			709	445	4,100	184	2,760	6,730		3.5			14,800	20.1		3,600	3,450	71
Aug. 7	47	1,040			676	168	1,430	216	1,890	2,370		3.5			6,640	9.03		2,380	2,200	57
Aug. 17	283	266			263	31	282	168	586	460		1.8			1,710	2.33		784	646	44
Sept. 21	.1	1,330			558	247	2,270	123	1,820	3,790		2.5			8,750	11.9		2,410	2,310	67

COLORADO RIVER BASIN

COLORADO RIVER NEAR GLENWOOD SPRINGS, COLO.

LOCATION.—At Shoshone power plant, 6 miles upstream from gaging station, which is at Glenwood Springs half a mile upstream from Roaring Fork.

DRAINAGE AREA.—Approximately 4,560 square miles.

RECORDS AVAILABLE.—Chemical analyses: October 1941 to September 1944.

EXTREMES, 1943–44.—Dissolved solids: Maximum, 623 parts per million Jan. 11–20; minimum, 117 parts per million June 11–20. Total hardness: Maximum, 268 parts per million Sept. 21–30; minimum, 74 parts per million June 11–30.

EXTREMES, 1941–44.—Dissolved solids: Maximum, 661 parts per million Jan. 11–20, 1943; minimum, 105 parts per million June 1–10, 1942. Total hardness: Maximum, 292 parts per million Dec. 1–10, 1942; minimum, 72 parts per million June 1–20, 1942.

REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1009.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1943	912	88.2	22	0.02	76	18	75	2.7	150	144	110	0.3	1.0	0.0	523	0.71	1,290	264	140	38
Oct. 11–20	915	86.3	23	.02	74	17	69	2.4	150	138	112	.3	1.0	.1	511	.69	1,260	254	132	37
Oct. 21–31	1,110	76.1	9.6	.04	68	16	63	2.9	142	126	90	.3	1.0	.0	447	.61	1,340	236	119	36
Nov. 1–2, 4–10	1,071	71.6	8.8	.02	63	16	63	3.4	140	116	84	.2	1.0	.1	424	.58	1,230	223	108	38
Nov. 11–20	1,188	64.7	8.4	.02	56	14	58	3.8	130	99	78	.2	1.0	.1	382	.52	1,230	198	91	38
Nov. 21–30	1,131	64.5	7.6	.04	54	13	62	3.7	128	93	84	.2	.8	.1	381	.52	1,160	188	84	41
Dec. 1–6, 8–10	1,227	56.6	11	.03	50	12	47	3.0	120	82	64	.2	1.3	.2	330	.45	1,090	174	76	36
Dec. 7	826	85.9																		
Dec. 11–20	[1] 967	74.2	12	.04	59	14	72	2.6	134	101	102	.2	1.4	.2	430	.58	1,120	204	94	43
Dec. 21, 26–31	843	91.5	11	.04	67	16	97	3.0	147	118	141	.1	1.5	.2	527	.72	1,200	233	112	47
Dec. 22–25	1,218	56.3	10	.02	49	12	46		118	80	65	.2	1.0	.2	321	.44	1,060	172	76	37
Jan. 1–5, 9–10, 1944	659	91.8	11	.02	66	16	96	2.9	151	118	139	.0	1.8	.3	525	.71	934	230	106	47
Jan. 11–20	488	108	14	.02	76	18	118	3.0	167	138	172	.0	2.1	.3	623	.85	821	264	126	49
Jan. 21–24, 28–31	671	95.0	12	.02	68	17	101	3.0	153	123	146	.0	2.2	.3	548	.75	993	240	114	47
Feb. 1–10	848	81.5	12	.04	60	15	79	4.0	134	105	120	.2	2.0	.1	463	.63	1,060	211	101	44
Feb. 11–20	719	81.5	11	.04	59	15	80	3.2	140	101	122	.2	1.4	.0	462	.63	897	208	94	45
Feb. 21–29	737	89.6	10	.06	63	16	91	3.5	142	112	140	.2	1.8	.0	508	.69	1,010	223	106	47

Mar. 1-10	768	93.0	13	.02	64	15	103	2.6	146	117	146	.1	1.3	.2	534	.73	1,110	221	102	50
Mar. 11-20	937	87.9	12	.04	62	15	96	2.2	140	112	134	.2	1.0	.2	503	.68	1,270	216	102	49
Mar. 21-31	757	92.6	13	.04	63	15	104	2.2	144	116	147	.1	.4	.2	532	.72	1,090	218	100	51
Apr. 1-4, 6-10	1,368	66.6	12	.06	54	13	61	3.2	133	92	85	.2	1.0	.1	387	.53	1,430	188	80	41
Apr. 11-12, 14-20	1,671	58.7	10	.06	49	11	54	3.8	128	81	70	.4	1.0	.1	343	.47	1,550	168	62	41
Apr. 21-30	1,230	69.3	12	.03	55	14	68	3.2	138	95	89	.2	.8	.2	405	.55	1,350	195	82	43
May 1-10	1,736	60.1	12	.03	51	13	53	2.7	133	85	68	.2	1.0	.2	351	.48	1,650	181	72	38
May 11-20	5,840	32.3	13	.12	39	6.9	17	1.9	115	43	19	.3	1.1	.3	198	.27	3,120	126	32	22
May 21-31	6,936	24.4	11	.13	29	5.8	13	1.4	93	27	14	.3	.6	.3	148	.20	2,770	96	20	22
June 1-10	8,236	21.4	10	.10	25	5.3	11	1.2	81	26	11	.3	.4	.5	130	.18	2,890	84	18	22
June 11-20	8,993	19.4	8.2	.12	22	4.6	10	1.3	71	24	11	.3	.4	.2	117	.16	2,840	74	16	22
June 21-30	7,859	20.0	7.0	.08	22	4.6	12	1.2	64	26	14	.3	.2	.1	119	.16	2,530	74	22	26
July 1-10	4,781	28.8	7.2	.00	28	6.6	19	2.5	74	42	25	.3	.4	.1	168	.23	2,170	97	36	29
July 11-20	2,413	41.8	8.2	.01	38	8.6	31	2.6	92	62	43	.3	.4	.1	240	.33	1,560	132	56	33
July 21-31	1,922	50.6	9.0	.01	47	11	38	2.6	108	80	54	.3	.4	.1	296	.40	1,540	162	74	33
Aug. 1-8, 10	1,373	60.1	9.4	.01	52	12	51	2.9	112	88	77	.2	.5	.1	348	.47	1,290	180	88	38
Aug. 11-20	1,071	63.6	8.8	.01	54	13	54	2.7	117	95	83	.2	.5	.1	369	.50	1,070	188	92	38
Aug. 21-31	1,093	63.3	9.0	.01	54	13	53	2.8	118	96	79	.2	.5	.1	366	.50	1,080	188	92	37
Sept. 1-10	882	77.3	9.0	.02	62	14	75	1.9	128	115	105	.2	.6	.1	446	.61	1,060	212	107	43
Sept. 11-20	728	94.2	10	.10	73	16	97	2.4	137	143	141	.2	.8	.1	551	.75	1,090	248	136	46
Sept. 21-30	676	103	10	.02	78	18	108	2.1	148	153	159	.3	.8	.1	602	.82	1,100	268	147	46
Weighted average	2,080	43.9	10	0.07	40	9.0	36	2.1	103	61	49	0.3	0.7	0.2	259	0.35	1,450	137	52	36

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Oct. 1-10, 1943	912				3.79	1.48	3.26	0.07	2.46	3.00	3.10	0.02	0.02						38
Oct. 11-20	915				3.69	1.40	3.00	.06	2.46	2.87	3.16	.02	.02						37
Oct. 21-31	1,110				3.39	1.32	2.74	.07	2.33	2.62	2.54	.02	.02						36
Nov. 1-2, 4-10	1,071				3.14	1.32	2.74	.09	2.29	2.42	2.37	.01	.02						38
Nov. 11-20	1,188				2.80	1.15	2.52	.10	2.13	2.06	2.20	.01	.02						38
Nov. 21-30	1,131				2.70	1.07	2.70	.09	2.10	1.94	2.37	.01	.01						41
Dec. 1-6, 8-10	1,227				2.50	.99	2.04	.08	1.97	1.71	1.81	.01	.02						36
Dec. 7	826																		
Dec. 11-20	967				2.94	1.15	3.13	.07	2.20	2.10	2.88	.01	.02						43
Dec. 21, 26-31	843				3.34	1.32	4.22	.08	2.41	2.46	3.98	.01	.02						47
Dec. 22-25	1,218				2.45	.99	2.02		1.93	1.67	1.83	.01	.02						37
Jan. 1-5, 9-10, 1944	659				3.29	1.32	4.17	.07	2.48	2.46	3.92	.00	.03						47
Jan. 11-20	488				3.79	1.48	5.13	.08	2.74	2.87	4.85	.00	.03						49
Jan. 21-24, 26-31	371				3.39	1.40	4.39	.08	2.51	2.56	4.12	.00	.04						47
Feb. 1-10	848				2.99	1.23	3.44	.10	2.20	2.19	3.38	.01	.03						44
Feb. 11-20	719				2.94	1.28	3.48	.08	2.29	2.10	3.44	.01	.02						45
Feb. 21-29	737				3.14	1.32	3.96	.09	2.33	2.33	3.95	.01	.03						47
Mar. 1-10	768				3.19	1.23	4.48	.07	2.39	2.44	4.12	.01	.02						50
Mar. 11-20	937				3.09	1.23	4.17	.06	2.29	2.33	3.78	.01	.02						49
Mar. 21-31	757				3.14	1.23	4.52	.06	2.36	2.42	4.15	.01	.01						51

COLORADO RIVER NEAR GLENWOOD SPRINGS, COLO.—Continued

Chemical analyses, in equivalents per million, water year October 1943 to September 1944—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° (C)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Apr. 1–4, 6–10	1,368				2.70	1.07	2.65	0.08	2.18	1.92	2.40	0.01	0.02							41
Apr. 11–12, 14–20	1,671				2.45	.90	2.35	.10	2.10	1.69	1.97	.02	.02							41
Apr. 21–30	1,230				2.75	1.15	2.96	.08	2.26	1.98	2.51	.01	.01							43
May 1–10	1,736				2.55	1.07	2.30	.07	2.18	1.77	1.92	.01	.02							38
May 11–20	5,840				1.95	.57	.74	.05	1.88	.90	.54	.02	.02							22
May 21–31	6,936				1.45	.48	.57	.04	1.52	.56	.39	.02	.01							22
June 1–10	8,236				1.25	.44	.48	.03	1.33	.54	.31	.02	.01							22
June 11–20	8,993				1.10	.38	.43	.03	1.16	.50	.31	.02	.01							22
June 21–30	7,859				1.10	.38	.52	.03	1.05	.54	.39	.02	.00							26
July 1–10	4,781				1.40	.54	.83	.06	1.21	.87	.71	.02	.01							29
July 11–20	2,413				1.90	.73	1.35	.07	1.51	1.29	1.21	.02	.01							33
July 21–31	1,922				2.35	.90	1.65	.07	1.77	1.67	1.52	.02	.01							33
Aug. 1–8, 10	1,373				2.60	.99	2.22	.07	1.84	1.83	2.17	.01	.01							38
Aug. 11–20	1,071				2.70	1.07	2.35	.07	1.92	1.98	2.34	.01	.01							38
Aug. 21–31	1,093				2.70	1.07	2.30	.07	1.93	2.00	2.23	.01	.01							37
Sept. 1–10	882				3.09	1.15	3.26	.05	2.10	2.39	2.96	.01	.01							43
Sept. 11–20	728				3.64	1.32	4.22	.06	2.25	2.98	3.98	.01	.01							46
Sept. 21–30	676				3.89	1.48	4.70	.05	2.43	3.19	4.48	.02	.01							46
Weighted average	2,080				2.00	0.74	1.57	0.05	1.69	1.27	1.38	0.02	0.01							36

[1] Includes discharge for Dec. 7.

COLORADO RIVER NEAR CAMEO, COLO.

LOCATION.—At diversion dam, 1½ miles upstream from Cameo and 5 miles downstream from gaging station.
DRAINAGE AREA.—8,055 square miles above gaging station.
RECORDS AVAILABLE.—Chemical analyses: October 1933 to September 1944.
EXTREMES, 1943–44.—Dissolved solids: Maximum, 1,010 parts per million Jan. 11–20; minimum, 167 parts per million June 11–20.
Total hardness: Maximum, 368 parts per million Jan. 11–20; minimum, 110 parts per million June 11–20.
EXTREMES, 1933–44.—Dissolved solids: Maximum, 1,050 parts per million Dec. 21–31, 1939; minimum, 143 parts per million June 11–20, 1935.
Total hardness: 1933–35, 1943–44. Maximum, 399 parts per million July 21–31, 1934; minimum, 98 parts per million June 21–30, 1935.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1009.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C)	Temperature (°F)	pH	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
																	Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1-10, 1943	1,739	128																				
Oct. 11-12, 14-20	1,804	126			14		87	22	146		197	192	185		3.0		746	1.01	3,630	308	146	51
Oct. 21-31	1,882	119																				
Nov. 1-10	1,918	116																				
Nov. 11-20	1,989	112			16		76	22	127		180	164	168		2.0		664	.90	3,570	280	132	50
Nov. 21-23, 25-30	1,900	105																				
Dec. 1-10	1,912	114																				
Dec. 11-20	1,891	116			10		74	22	133		178	160	177		2.0		666	.91	3,040	275	129	51
Dec. 21-31	1,610	127																				
Jan. 1-10, 1944	1,229	151																				
Jan. 11-20	1,152	170			14		100	29	221		234	229	292		6.9		1,010	1.37	3,140	368	176	57
Jan. 21-31	1,244	146																				
Feb. 1-10	1,444	135																				
Feb. 11-20	1,301	142			10		86	25	177		200	196	235		2.4		830	1.13	2,920	318	154	55
Feb. 21-29	1,332	139																				
Mar. 1-10	1,292	147																				
Mar. 11-20	1,407	138			9.0		84	26	172		209	202	218		2.6		817	1.11	3,100	316	145	54
Mar. 22-31	1,281	142					84	27	169		198	192	228		5.4		803	1.09	2,780	320	158	53
Apr. 1-5, 7-10	1,752	125					76	22	149		194	159	196		4.1		702	.95	3,320	280	121	54
Apr. 11-18, 20	2,237	98.3					66	19	105		180	125	136		2.5		542	.74	3,270	242	95	49

COLORADO RIVER NEAR CAMEO, COLO.—Continued

Chemical analyses in parts per million, water year October 1943 to September 1944—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C)	Temperature (°F)	pH	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
																	Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Apr. 21–30	1,936	114					72	21	132		192	155	163		4.0		642	.87	3,360	266	108	52
May 1–10	2,779	95.2					67	21	96		185	130	123		2.5		531	.72	3,980	254	102	45
May 11–20	11,020	45.5					46	11	32		149	58	31		2.9		254	.35	7,560	160	38	30
May 21–31	13,320	39.5																				
June 1–10	14,330	35.1																				
June 11–20	15,820	30.8					38	3.5	19		98	34	24		.4		167	.23	7,130	110	29	27
June 21–30	14,710	29.5																				
July 1–10	9,701	38.4																				
July 11–20	5,097	56.4			4		44	11	53		119	76	66		.5		313	.43	4,310	155	58	43
July 22–31	3,855	71.3																				
Aug. 1–10	2,498	93.3																				
Aug. 11–20	1,809	108			6		72	18	125		166	143	170		2.0	0.7	618	.84	3,020	254	118	52
Aug. 21–28, 30–31	1,722	111																				
Sept. 1–6, 7–10	1,482	125																				
Sept. 11–15, 17, 19–20	1,268	141			11		86	23	178		190	195	238		1.5		826	1.12	2,830	309	154	56
Sept. 21–30	1,164	154																				

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Oct. 1–10, 1943	1,739																					
Oct. 11–12, 14–20	1,804						4.34	1.81	6.35		3.23	4.00	5.22		0.05							51
Oct. 21–31	1,882																					
Nov. 1–10	1,918																					
Nov. 11–20	1,999						3.79	1.31	5.73		2.35	3.41	4.74		.03							50
Nov. 21–23, 25–30	1,900																					
Dec. 1–10	1,912																					
Dec. 11–20	1,691						3.69	1.81	5.77		2.92	3.33	4.99		.03							51
Dec. 21–31	1,610																					
Jan. 1–10, 1944	1,229																					
Jan. 11–20	1,152						4.99	2.38	9.59		3.84	4.77	8.24		.11							57
Jan. 21–31	1,244																					

Feb. 1-10	1,444																			
Feb. 11-20	1,301						4.29	2.06	7.68	3.28	4.08	6.63		.04						55
Feb. 21-29	1,232																			
Mar. 1-10	1,292																			
Mar. 11-20	1,407						4.19	2.14	7.50	3.43	4.21	6.15		.04						54
Mar. 22-31	1,281						4.19	2.22	7.36	3.25	4.00	6.43		.09						53
Apr. 1-5, 7-10	1,752						3.79	1.81	6.49	3.18	3.31	5.53		.07						54
Apr. 11-18, 20	2,237						3.29	1.56	4.58	2.95	2.60	3.84		.04						49
Apr. 21-30	1,936						3.59	1.73	5.72	3.15	3.23	4.60		.06						52
May 1-10	2,779						3.34	1.73	4.18	3.03	2.71	3.47		.04						45
May 11-20	11,020						2.30	.90	1.37	2.44	1.21	.87		.05						30
May 21-31	13,320																			
June 1-10	14,330																			
June 11-20	15,820						1.90	.29	.82	1.61	.71	.68		.01						27
June 21-30	14,710																			
July 1-10	9,701																			
July 11-20	5,097						2.20	.90	2.30	1.95	1.58	1.86		.01						43
July 22-31	3,855																			
Aug. 1-10	2,498																			
Aug. 11-20	1,809						3.59	1.48	5.45	2.72	2.98	4.79		.03						52
Aug. 21-28, 30-31	1,722																			
Sept. 1-6, 7-10	1,492																			
Sept. 11-15, 17, 19-20	1,268						4.29	1.89	7.72	3.11	4.06	6.71		.02						56
Sept. 21-30	1,164																			

COLORADO RIVER NEAR CISCO, UTAH

LOCATION.—At highway bridge below gaging station, 1 mile downstream from Dolores River and 11 miles south of Cisco.
DRAINAGE AREA.—24,100 square miles.
RECORDS AVAILABLE.—Chemical analyses: October 1928 to September 1944.
Sediment records: May 1929 to September 1944.
EXTREMES, 1943–44.—Dissolved solids: Maximum 1,910 parts per million Sept. 11–13, 15–17, 19–20, minimum, 233 parts per million June 11–20.
Total hardness: Maximum, 858 parts per million Sept. 11–13, 15–17, 19–20; minimum, 153 parts per million June 11–20.
Sediment loads: Maximum, 733,000 tons per day May 16; minimum, less than 500 tons per day on several days.
EXTREMES, 1928–44.—Dissolved solids: Maximum, 2,670 parts per million Aug. 11–20, 1940; minimum, 202 parts per million June 11–20, 1933.
Total hardness: 1928–35, 1943–44. Maximum, 1,090 parts per million Sept. 1–10, 1934; minimum, 132 parts per million June 11–20, 1933.
Sediment loads: Maximum, 2,790,000 tons per day Oct. 14, 1941; minimum, less than 500 tons per day on several days.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1009.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C)	Temperature (°F)	pH	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
																	Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 2–3, 5–8, 10. 1943	2,563	187																				
Oct. 12–19	3,052	188			17		152	65	195		230	676	120		12		1,350	1.84	11,100	647	458	40
Oct. 21–22, 30	3,247	188																				
Nov. 1–10	3,625	163																				
Nov. 11–14, 17–20	3,644	159			16		114	51	173		238	477	121		9.8		1,080	1.47	10,600	494	299	43
Nov. 22–26	3,786	165																				
Dec. 3, 21, 30	2,880	173																				
Jan. 1–10, 1944	2,034	196																				
Jan. 11–20	2,080	214			15		142	64	258		266	584	238		22		1,450	1.97	8,140	618	400	48
Jan. 21–31	2,626	180																				

Feb. 1–10	2,802	169																		
Feb. 11–20	2,521	177			15		118	52	201	236	483	172		9.4		1,170	1.59	7,960	508	315	46
Feb. 21–27, 29	2,607	176																		
Mar. 1–10	2,580	176																		
Mar. 11–20	2,882	171			10		112	51	192	215	467	168		9.0		1,110	1.51	8,640	489	313	46
Mar. 21–31	2,665	170					112	50	189	220	459	167		3.1		1,090	1.48	7,840	485	304	46
Apr. 1–10	3,922	153					110	43	163	231	388	147		4.7		970	1.32	10,300	452	262	44
Apr. 11–20	5,800	108					90	29	101	212	268	75		4.9		672	.91	10,500	344	170	39
Apr. 21–30	5,585	124					101	39	123	210	368	86		3.3		824	1.12	12,400	412	240	39
May 1–10	13,470	84.6																		
May 11–14, 16–20	38,890	44.7					53	13	22	154	84	14		1.5		263	.36	27,600	186	60	21
May 21–31	34,180	43.4																		
June 1–10	33,500	46.7																		
June 11–20	31,720	40.9					49	7.4	24	130	72	16		.5		233	.32	20,000	153	46	25
June 21–30	27,690	40.1																		
July 1–2, 4–10	18,850	51.9																		
July 11–20	8,611	83.2			6.0		72	24	68	146	219	54		3.6		518	.70	12,000	278	158	35
July 21–31	6,072	116																		
Aug. 1–10	3,137	160																		
Aug. 11–20	2,133	203			12		145	64	210	200	614	192		10		1,350	1.84	7,770	625	461	42
Aug. 21–31	2,026	220																		
Sept. 1–10	1,748	231																		
Sept. 11–13, 15–17, 19–20	1,606	256			17		192	92	298	220	984	205		14		1,910	2.60	8,280	858	677	43
Sept. 21–22, 24–30	1,639	270																		

COLORADO RIVER NEAR CISCO, UTAH—Continued

Chemical analyses, in equivalents per million, water-year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C)	Temperature (°F)	pH	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
																	Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 2-3, 5-8, 10, 1943	2,563																					
Oct. 12-19	3,052						7.59	5.35	8.47		3.77	14.07	3.38		0.19							40
Oct. 21-22, 30	3,247																					
Nov. 1-10	3,625																					
Nov. 11-14, 17-20	3,644						5.69	4.19	7.52		3.90	9.93	3.41		.16							43
Nov. 22-26	3,786																					
Dec. 3, 21, 30	2,880																					
Jan. 1-10, 1944	2,034																					
Jan. 11-20	2,080						7.09	5.26	11.23		4.36	12.16	6.71		.35							48
Jan. 21-31	2,626																					
Feb. 1-10	2,802																					
Feb. 11-20	2,521						5.89	4.28	8.76		3.87	10.06	4.85		.15							46
Feb. 21-27, 29	2,607																					
Mar. 1-10	2,580																					
Mar. 11-20	2,882						5.59	4.19	8.35		3.52	9.72	4.74		.15							46
Mar. 21-31	2,665						5.59	4.11	8.23		3.61	9.56	4.71		.05							46
Apr. 1-10	3,922						5.49	3.54	7.07		3.79	8.08	4.15		.08							44
Apr. 11-20	5,800						4.49	2.38	4.38		3.47	5.58	2.12		.08							39
Apr. 21-30	5,585						5.04	3.21	5.33		3.44	7.66	2.43		.05							39
May 1-10	13,470																					
May 11-14, 16-20	38,890						2.65	1.07	.96		2.52	1.75	.39		.02							21
May 21-31	34,180																					
June 1-10	33,500																					
June 11-20	31,720						2.45	.61	1.03		2.13	1.50	.45		.01							25
June 21-30	27,600																					
July 1-2, 4-10	18,860																					
July 11-20	8,611						3.59	1.97	2.97		2.39	4.56	1.52		.06							35
July 21-31	6,072																					
Aug. 1-10	3,137																					
Aug. 11-20	2,133						7.24	5.26	9.14		3.28	12.78	5.42		.16							42
Aug. 21-31	2,026																					
Sept. 1-10	1,748																					
Sept. 11-13, 15-17, 19-20	1,606						9.58	7.57	12.96		3.61	20.49	5.78		.23							43
Sept. 21-22, 24-30	1,639																					

COLORADO RIVER NEAR CISCO, UTAH—Continued

Suspended sediment, water year October 1943 to September 1944

Day	October			November			December		
	Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment	
		Mean concentration (percent)	Tons per day		Mean concentration (percent)	Tons per day		Mean concentration (percent)	Tons per day
1							2,870	0 02	1,550
2	2,890	0.08	6,240	3,950	0.03	3,200			
3							3,170	.02	1,710
4									
5				3,430	.04	3,700			
6							3,250	.02	1,760
7	2,420	.00	0	3,740	.03	3,030			
8									
9				3,760	.03	3,050	3,340	.02	1,800
10									
11									
12									
13				3,830	.02	2,070			
14	2,990	.00	0						
15				3,790	.02	2,050			
16									
17				3,680	.02	1,990			
18									
19				3,380	.01	913			
20									
21							3,170	.01	856
22									
23				4,130	.99	110,000			
24									
25									
26				3,600	.05	4,860			
27									
28									
29									
30	3,360	.02	1,810				2,300	.01	621
31	3,620	.04	3,910						

	January			February			March		
1	2,560	0.01	691				2,470	0.01	667
2				2,800	0.05	3,780			
3	2,390	.01	645				2,420	.05	3,270
4				2,830	.04	3,060			
5	1,900	.01	513				2,990	.08	6,460
6				2,810	.04	3,030			
7	1,800	.01	486				2,590	.03	2,100
8	1,700	.02	918	3,030	.10	8,180			
9	1,600	.02	864				2,370	.03	1,920
10				2,800	.08	6,050			
11	1,800	.02	972				2,440	.01	659
12				2,560	.07	4,840			
13	1,900	.02	1,030				2,830	.04	3,060
14				2,350	.04	2,540			
15	2,100	.02	1,130				3,230	.10	8,720
16	2,100	.04	2,270	2,640	.04	2,850			
17				2,620	.04	2,830	3,050	.06	4,940
18							2,850	.04	3,080
19	2,300	.03	1,860	2,540	.02	1,370			
20							2,760	.03	2,240
21	2,560	.01	691	2,520	.03	2,040			
22	2,640	.03	2,140	2,540	.02	1,370	2,960	.02	1,600
23				2,710	.02	1,460			
24	2,610	.04	2,820				2,690	.02	1,450
25				2,500	.04	2,700			
26	2,800	.06	4,540				2,660	.03	2,150
27				2,710	.02	1,460			
28	2,540	.04	2,740				2,690	.02	1,450
29	2,590	.03	2,100	2,420	.01	653			
30							2,420	.01	653
31	2,640	.02	1,430						

COLORADO RIVER NEAR CISCO, UTAH—Continued

Suspended sediment, water year October 1943 to September 1944—Continued

Day	April			May			June		
	Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment	
		Mean concentration (percent)	Tons per day		Mean concentration (percent)	Tons per day		Mean concentration (percent)	Tons per day
1	2,390	0.01	645				39,100	0.13	137,000
2				10,400	0.66	185,000	39,200	.15	159,000
3	2,900	.03	2,350	10,500	.64	181,000			
4							39,400	.14	149,000
5	2,810	.04	3,030	9,510	.26	66,800			
6							28,500	.16	123,000
7	4,490	.46	55,800	12,900	.41	143,000			
8	5,540	.88	132,000				27,800	.18	135,000
9				20,800	.64	359,000	29,600	.10	79,900
10	6,220	.44	73,900				31,100	.16	134,000
11				25,600	.67	463,000			
12	5,630	.34	51,700						
13				31,800	.67	575,000	36,500	.05	49,300
14	7,400	.60	120,000						
15							32,300	.16	140,000
16	5,830	.24	37,800	48,500	.56	733,000	30,700	.06	49,700
17				51,900	.46	645,000	30,800	.22	183,000
18	5,340	.17	24,500	51,000	.38	523,000			
19							25,900	.04	28,000
20	4,390	.12	14,200	32,400	.37	324,000			
21							28,500	.09	69,300
22	4,430	.14	16,700	29,400	.28	222,000			
23				31,700	.22	188,000	30,100	.06	48,800
24	4,390	.11	13,000	55,700	.37	556,000	28,000	.13	98,300
25									
26	4,640	.24	30,100	38,900	.23	242,000	28,600	.12	92,700
27									
28	5,360	.52	75,300	32,800	.12	106,000	27,600	.06	44,700
29							24,200	.06	39,200
30	10,500	.85	241,000	33,500	.12	109,000	22,800	.05	30,800
31									

Day	July			August			September		
1							1,870	0.01	505
2	22,000	0.09	53,500	3,850	0.03	3,120			
3							1,930	.02	1,040
4	21,000	.09	51,000	3,170	.03	2,570			
5							1,840	.02	994
6	19,500	.04	21,100	2,980	.02	1,610			
7							1,610	.02	869
8	16,100	.06	26,100	2,760	.02	1,490			
9							1,610	.02	869
10	13,200	.06	21,400	2,500	.02	1,350			
11							1,610	.02	869
12	11,500	.05	15,500	2,540	.02	1,370			
13	10,500	.03	8,500				1,600	.02	864
14	9,300	.05	12,600	2,300	.02	1,240			
15							1,540	.01	416
16	7,660	.04	8,270	1,810	.00	0	1,580	.02	853
17									
18	6,810	.04	7,350	1,840	.00	0	1,630	.02	880
19									
20	6,200	.02	3,350	2,090	.00	0	1,710	.02	923
21	6,380	.02	3,450						
22	6,930	.16	29,900	2,270	.01	613	1,600	.01	432
23									
24	6,360	.04	6,870	1,840	.01	497	1,630	.01	440
25	6,520	.49	86,300						
26				1,900	.01	513	1,590	.01	429
27	6,670	.06	10,800						
28				2,010	.01	543	1,670	.02	902
29	5,450	.02	2,940						
30				2,070	.02	1,120	1,720	.02	929
31	4,430	.01	1,200						

Total load for year ..... tons 16,070,000

COLORADO RIVER AT LEES FERRY, ARIZ.

LOCATION.—At head of Marble Gorge, at Lees Ferry, just upstream from Paria River, 28 miles downstream from Utah-Arizona State line, 79 miles downstream from San Juan River, and 355 miles upstream from Boulder Dam.

DRAINAGE AREA.—107,900 square miles.

RECORDS AVAILABLE.—Chemical analyses: July 1926, October 1926 to September 1927, October 1928 to September 1930, October 1942 to September 1944.

Sediment records: October 1929 to December 1933, November 1942 to September 1944.

EXTREMES, 1943–44.—Dissolved solids: Maximum, 1,250 parts per million Oct. 5, 7–10; minimum, 223 parts per million June 11–20.

Total hardness: Maximum, 600 parts per million Oct. 5, 7–10; minimum, 132 parts per million June 11–20.

Sediment loads: Maximum, 2,290,000 tons per day May 18; minimum, that of Sept. 27, 1944.

EXTREMES, 1928–30, 1942–44.—Dissolved solids: Maximum, 1,410 parts per million Oct. 11–20, 1929; minimum, 209 parts per million June 11–20, 1929.

Total hardness: Maximum, 720 parts per million Oct. 11–20, 1928; minimum, that of June 11–20, 1944.

Sediment loads: Maximum, 9,450,000 tons per day Aug. 7, 1929; minimum, 3,500 tons per day, that of Sept. 27, 1944.

REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1009.

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Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 5, 7–10, 1943	5,522	179	12	0.02	145	58	174	7.2	187	635	118	0.4	7.6	0.4	1,250	1.70	18,600	600	447	38
Oct. 11–19	5,360	158	14	.02	128	53	155	8.4	198	546	104	.4	7.0	.4	1,110	1.51	16,100	538	375	38
Oct. 21, 23, 25–31	7,033	166	11	.02	134	53	164	10	202	574	108	.4	8.0	.4	1,160	1.58	22,000	552	387	39
Nov. 1, 5, 7–10	7,405	149	11	.02	117	50	147	7.6	212	488	99	.5	6.5	.4	1,030	1.40	20,600	498	324	39
Nov. 11, 14–16, 18–20	7,247	144	14	.02	108	48	143	6.7	207	451	97	.3	11	.7	981	1.33	19,200	467	298	40
Nov. 21, 23–24, 26–29	8,104	140	16	.02	110	44	138	9.0	203	438	96	.3	10	.7	961	1.31	21,000	456	289	39
Dec. 1–2, 4–10	6,624	145	14	.02	112	46	145	7.2	209	455	98	.4	10	.7	991	1.35	17,700	468	297	40
Dec. 11–20	6,580	149	15	.02	111	48	147	13	219	451	109	.4	9.0	.7	1,010	1.37	17,900	474	295	39
Dec. 21–24, 26–28, 30	5,980	148	17	.02	110	48	147	6.4	203	451	112	.3	5.0	.7	997	1.36	16,100	472	306	40
Jan. 1–2, 7–10, 1944	4,720	151	14	.02	111	50	152	6.8	205	467	114	.3	6.0	.7	1,020	1.39	13,000	482	314	40
Jan. 11–13, 15–20	3,456	170	16	.02	120	55	178	7.2	225	504	146	.3	6.2	.7	1,140	1.55	10,300	523	341	42
Jan. 22–31	5,465	167	14	.02	122	54	174	6.8	229	499	142	.3	6.2	.7	1,130	1.54	16,700	526	339	41
Feb. 1, 7–8, 10	6,062	143	24	.11	89	47	158	5.4	164	434	123	.4	7.2	.8	969	1.32	15,900	416	281	45
Feb. 12, 14–15, 20	6,338	143	18	.10	96	46	155	5.6	186	430	117	.4	7.4	.8	967	1.32	16,500	428	276	44
Feb. 22–29	5,831	143	20	.11	94	47	154	5.4	183	433	115	.3	6.8	.8	966	1.31	15,200	428	278	43
Mar. 2, 4, 7, 10	6,305	146	18	.10	86	48	166	5.6	144	463	123	.3	6.0	.8	987	1.34	16,800	412	294	46

COLORADO RIVER AT LEES FERRY, ARIZ.—Continued

Chemical analyses, in parts per million, water year October 1943 to September 1944—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° (C)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Mar. 12, 14, 16, 18, 20	8,418	153	16	0.10	100	48	171	5.8	171	501	113	0.4	6.0	1.0	1,050	1.43	23,900	447	307	45
Mar. 22, 24, 26, 28, 30	10,310	132	16	.11	89	41	145	5.6	195	410	85	.4	6.0	1.0	894	1.22	24,900	390	230	44
Apr. 1, 7, 9	19,440	122	16	.10	86	38	128	5.1	195	363	79	.4	5.4	.4	817	1.11	42,900	370	210	42
Apr. 11–20	21,980	89.8	18	.08	65	24	92	4.2	165	244	51	.4	6.4	.8	586	.80	34,800	260	126	43
Apr. 21–30	14,200	88.3	20	.09	66	27	85	4.3	167	248	47	.4	4.0	.8	584	.79	22,400	276	138	40
May 1–2, 4–10	21,480	92.7	10	.08	72	28	89	2.0	175	264	48	.3	4.4	.5	604	.82	35,000	294	151	39
May 11–20	64,910	57.6	14	.06	52	17	46	1.8	151	133	25	.3	4.5	.5	368	.50	64,500	200	76	33
May 21–26, 28	69,940	41.0	17	.07	40	13	24	2.9	127	79	14	.4	3.2	.1	256	.35	48,300	154	50	25
May 29–31	69,670	36.8							121	72	11									
June 1–2, 4–10	73,270	38.3	14	.06	37	12	24	1.8	117	79	12	.3	1.5	.1	239	.33	47,300	142	46	27
June 11–20	71,680	36.0	10	.05	35	11	23	1.8	109	74	12	.3	2.0	.1	223	.30	43,200	132	43	27
June 21–27, 29–30	62,990	37.1	12	.06	37	11	24	1.6	109	78	13	.3	2.0	.1	233	.32	39,600	138	48	27
June 28	63,200	60.7							117	181										
July 1–9	49,830	44.1	15	.04	41	13	30	1.9	114	102	16	.2	2.5	.3	278	.38	37,400	156	62	29
July 14–20	21,330	53.5	12	.04	46	16	42	1.9	120	130	27	.3	2.0	.8	336	.46	19,400	181	82	33
July 21–28, 30–31	15,180	76.6	11	.05	66	22	64	2.6	140	210	44	.2	2.5	.8	491	.67	20,100	255	140	35
Aug. 1, 3, 5–10	9,013	99.7	16	.01	83	30	89	5.4	172	287	62	.3	3.5	.5	661	.90	16,100	330	190	37
Aug. 11–20	6,138	120	16	.05	96	35	114	6.8	175	358	85	.3	4.0	.6	801	1.09	13,300	384	240	39
Aug. 21–25, 27–31	5,036	146	15	.03	116	43	145	6.4	182	463	109	.4	5.0	.6	993	1.35	13,500	466	318	40
Sept. 1–3, 10	4,458	161	16	.03	118	49	167	7.2	187	500	135	.4	4.5	.8	1,090	1.48	13,100	496	342	42
Sept. 11, 13–20	3,543	156	14	.03	111	52	154	6.4	170	500	120	.4	4.2	.5	1,050	1.43	10,000	491	352	40
Sept. 21–22, 24–25, 27–30	3,630	171	10	.03	122	59	169	6.4	176	566	130	.3	6.2	.5	1,160	1.58	11,400	547	403	40
Weighted average	18,190	68.0	14	0.06	58	21	60	3.2	140	181	37	0.3	3.7	0.4	447	0.61	21,900	231	116	36

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Oct. 5, 7–10, 1943	5,522				7.24	4.77	7.57	0.18	3.07	13.22	3.33	0.02	0.12							38
Oct. 11–19	5,360				6.39	4.36	6.72	.21	3.25	11.37	2.93	.02	.11							38
Oct. 21, 23, 25–31	7,033				6.69	4.36	7.15	.26	3.31	11.95	3.05	.02	.13							39
Nov. 1, 5, 7–10	7,405				5.84	4.11	6.41	.19	3.47	10.16	2.79	.03	.10							39
Nov. 11, 14–16, 18–20	7,247				5.39	3.95	6.21	.17	3.39	9.39	2.74	.02	.18							40
Nov. 21, 23–24, 26–29	8,104				5.49	3.62	6.00	.23	3.33	9.12	2.71	.02	.16							39
Dec. 1–2, 4–10	6,624				5.59	3.78	6.29	.18	3.43	9.47	2.76	.02	.16							40
Dec. 11–20	6,580				5.54	3.95	6.40	.33	3.59	9.39	3.07	.02	.15							39
Dec. 21–24, 26–28, 30	5,980				5.49	3.95	6.38	.16	3.33	9.39	3.16	.02	.08							40
Jan. 1–2, 7–10, 1944	4,720				5.54	4.11	6.60	.17	3.36	9.72	3.22	.02	.10							40
Jan. 11–13, 15–20	3,456				5.99	4.52	7.73	.18	3.69	10.49	4.12	.02	.10							42
Jan. 22–31	5,465				6.09	4.44	7.56	.17	3.75	10.39	4.00	.02	.10							41
Feb. 1, 7–8, 10	6,062				4.44	3.87	6.89	.14	2.69	9.04	3.47	.02	.12							45
Feb. 12, 14–15, 20	6,338				4.79	3.78	6.73	.14	3.05	8.95	3.30	.02	.12							44
Feb. 22–29	5,831				4.69	3.87	6.68	.14	3.00	9.01	3.24	.02	.11							43
Mar. 2, 4, 7, 10	6,305				4.29	3.95	7.21	.14	2.36	9.64	3.47	.02	.10							46
Mar. 12, 14, 16, 18, 20	8,418				4.99	3.95	7.45	.15	2.80	10.43	3.19	.02	.10							45
Mar. 22, 24, 26, 28, 30	10,310				4.44	3.37	6.31	.14	3.20	8.54	2.40	.02	.10							44
Apr. 1, 7, 9	19,440				4.29	3.12	5.56	.13	3.20	7.56	2.23	.02	.09							42
Apr. 11–20	21,980				3.24	1.97	4.02	.11	2.70	5.08	1.44	.02	.10							43
Apr. 21–30	14,200				3.29	2.22	3.69	.11	2.74	5.16	1.33	.02	.06							40
May 1–2, 4–10	21,480				3.59	2.30	3.87	.05	2.87	5.50	1.35	.02	.07							39
May 11–20	64,910				2.60	1.40	2.00	.05	2.48	2.77	.71	.02	.07							33
May 21–26, 28	69,940				2.00	1.07	1.04	.07	2.08	1.64	.39	.02	.05							25
May 29–31	69,670								1.98	1.50	.31									
June 1–2, 4–10	73,270				1.85	.99	1.05	.05	1.92	1.64	.34	.02	.02							27
June 11–20	71,680				1.75	.90	1.02	.05	1.79	1.54	.34	.02	.03							27
June 21–27, 29–30	62,990				1.85	.90	1.04	.04	1.79	1.62	.37	.02	.03							27
June 28	63,200								1.92	3.77										
July 1–9	49,830				2.05	1.07	1.32	.05	1.87	2.12	.45	.01	.04							29
July 14–20	21,330				2.30	1.32	1.82	.05	1.97	2.71	.76	.02	.03							33
July 21–28, 30–31	15,180				3.29	1.81	2.78	.07	2.29	4.37	1.24	.01	.04							35
Aug. 1, 3, 5–10	9,013				4.14	2.47	3.88	.14	2.82	5.98	1.75	.02	.06							37
Aug. 11–20	6,138				4.79	2.88	4.96	.17	2.87	7.45	2.40	.02	.06							39
Aug. 21–25, 27–31	5,036				5.79	3.54	6.30	.16	2.98	9.64	3.07	.02	.08							40
Sept. 1–3, 10	4,458				5.89	4.03	7.28	.18	3.07	10.41	3.81	.02	.07							42
Sept. 11, 13–20	3,543				5.54	4.28	6.69	.16	2.79	10.41	3.38	.02	.07							40
Sept. 21–22, 24–25, 27–30	3,630				6.09	4.85	7.35	.16	2.88	11.78	3.67	.02	.10							40
Weighted average	18,180				2.89	1.73	2.61	0.08	2.29	3.77	1.04	0.02	0.06							36

COLORADO RIVER AT LEES FERRY, ARIZ.—Continued

Suspended sediment, water year October 1943 to September 1944

Day	October			November			December		
	Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment	
		Mean concentration (percent)	Tons per day		Mean concentration (percent)	Tons per day		Mean concentration (percent)	Tons per day
1				7,040	0.28	53,200	7,280	0.37	72,700
2									
3									
4							6,570	.21	37,300
5				7,740	.25	52,200			
6							6,240	.17	28,600
7	5,580	0.40	60,300				6,410	.17	29,400
8				7,280	.22	43,200			
9	5,460	.32	47,200				6,570	.18	31,900
10				7,350	.24	47,600			
11	4,990	.22	29,600	7,380	.23	45,800	6,500	.16	28,100
12	5,070	.17	23,300				6,810	.16	29,400
13									
14	5,050	.16	21,800	7,280	.14	27,500	6,980	.20	37,700
15				6,870	.18	33,400			
16	5,400	.18	26,200	7,180	.18	34,900	6,870	.15	27,800
17	5,400	.24	35,000						
18				7,350	.18	35,700	6,280	.17	28,800
19									
20	7,350	.49	97,200	7,320	.16	31,600	5,840	.13	20,500
21				7,180	.14	27,100			
22									
23				7,110	.15	28,800	5,840	.12	18,900
24									
25	7,380	.53	106,000						
26	6,940	.43	80,600	9,640	.47	122,000	5,990	.13	21,000
27				8,850	.64	153,000			
28	7,110	.48	92,100	7,810	.35	73,800	6,080	.13	21,300
29	6,740	.58	106,000						
30	6,810	.32	58,800				6,600	.13	23,200
31	6,940	.31	58,100						

Day	January			February			March		
1	6,150	0.12	19,900	5,460	0.13	19,200			
2	5,660	.12	18,300				6,210	0.14	23,500
3									
4							5,900	.20	31,900
5									
6									
7				6,340	.14	24,000	6,240	.16	27,000
8	4,200	.10	11,300	6,210	.15	25,200			
9									
10				6,240	.19	32,000	6,870	.48	89,000
11									
12				6,570	.21	37,300	6,120	.39	64,400
13									
14				6,810	.17	31,300	6,540	.20	35,300
15									
16							8,540	.35	80,700
17									
18							8,390	.38	86,100
19									
20	3,880	.16	16,800	5,600	.14	21,200	12,500	.64	216,000
21									
22				5,660	.14	21,400	13,000	.62	218,000
23	4,320	.13	15,200						
24				5,550	.13	19,500	10,700	.59	170,000
25	5,430	.19	27,900						
26				5,840	.15	23,700	9,680	.48	125,000
27	6,080	.20	32,800	6,080	.14	23,000			
28							8,660	.34	79,500
29	6,150	.16	26,600	6,020	.17	27,600			
30							9,520	.30	77,100
31	5,840	.16	25,200						

COLORADO RIVER AT LEES FERRY, ARIZ.—Continued

Suspended sediment, water year October 1943 to September 1944—Continued

Day	April			May			June		
	Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment	
		Mean concentration (percent)	Tons per day		Mean concentration (percent)	Tons per day		Mean concentration (percent)	Tons per day
1	8,540	0.27	62,300	13,900	0.27	101,000	72,700	0.43	844,000
2							76,000	.37	759,000
3									
4				19,800	.47	251,000			
5									
				22,100	.56	334,000	78,300	.35	740,000
7	22,200	1.04	623,000				71,200	.35	673,000
8				19,400	.69	361,000			
9	27,600	1.45	1,080,000				64,500	.34	592,000
10				33,600	.61	553,000			
11	28,500	1.53	1,180,000				68,600	.37	685,000
12				43,300	.78	912,000			
13	24,200	1.16	758,000						
14				51,000	.82	1,130,000	76,800	.31	643,000
15	20,800	1.04	584,000				74,800	.27	545,000
16				67,700	.78	1,430,000	72,500	.28	548,000
17	21,500	.84	488,000						
18				86,500	.98	2,290,000	72,200	.28	546,000
19	18,200	.65	319,000				69,300	.28	524,000
20				88,300	.79	1,880,000			
21	17,700	.49	234,000				58,300	.24	378,000
22				67,100	.76	1,380,000	58,900	.23	366,000
23	15,200	.37	152,000						
24				65,200	.54	951,000	65,400	.23	406,000
25	13,800	.31	116,000						
26							64,100	.23	398,000
27	12,900	.29	101,000						
28				76,300	.55	1,130,000	63,200	.93	1,590,000
29	12,500	.29	97,900						
30				68,200	.39	718,000	62,500	.33	557,000
31									

Day	July			August			September		
1				12,500	0.19	64,100			
2	53,600	0.26	376,000				4,440	0.12	14,400
3				10,800	.15	43,700			
4	52,300	.62	876,000						
5									
6	49,400	.30	400,000	8,890	.14	33,600			
7									
8				7,740	.10	20,900			
9				7,350	.08	15,900			
10							4,150	.05	5,600
11				6,770	.07	12,800	3,970	.05	5,300
12									
13				6,340	.06	10,300	3,700	.05	5,000
14							3,620	.05	4,890
15	25,100	.12	81,300	6,150	.06	9,960			
16	22,700	.11	67,400				3,510	.06	5,690
17	20,800	.12	67,400	5,900	.08	12,700			
18	19,100	.10	51,600				3,450	.04	3,730
19				5,580	.17	25,600			
20	16,500	.08	35,600						
21				6,470	.17	29,700			
22									
23	15,100	.21	85,600						
24	15,800	.23	98,100	4,890	.36	47,500	3,430	.05	4,630
25	15,500	.18	75,300						
26	15,000	.17	68,800						
27	14,400	.13	50,500	4,740	.19	24,300	3,300	.04	3,500
28									
29				4,390	.12	14,200	3,850	.04	4,160
30	13,900	.09	33,800						
31	13,700	.14	51,800	4,690	.10	12,700			

Total load for year ..... tons.. 77,270,000

COLORADO RIVER NEAR GRAND CANYON, ARIZ.

LOCATION.—At gaging station at Kaibab Bridge, a quarter of a mile upstream from Bright Angel Creek, 11 miles by trail northeast of Grand Canyon Village, and 267 miles upstream from Boulder Dam.

DRAINAGE AREA.—137,800 square miles.

RECORDS AVAILABLE.—Chemical analyses: August 1925 to Nov. 15, 1942, Sept. 18, 1943, to Sept. 30, 1944.
Water temperatures: October 1941 to September 1942, Oct. 1, 1943, to Sept. 30, 1944.
Sediment records: Oct. 1, 1925 to Oct. 31, 1942, Sept. 18, 1943, to Sept. 30, 1944.

EXTREMES, 1943–44.—Dissolved solids: Maximum, 1,290 parts per million Oct. 21–31; minimum, 298 parts per million June 11–20.
Total hardness: Maximum, 604 parts per million Oct. 21–31; minimum, 192 parts per million June 21–30.
Sediment loads: Maximum, 3,590,000 tons per day May 19; minimum, 1,000 tons per day Sept. 24.

EXTREMES, 1925–44.—Dissolved solids: Maximum, 1,890 parts per million Sept. 21–30, 1934; minimum, 225 parts per million June 11–20, 1942.
Total hardness: Maximum, 792 parts per million Sept. 1–10, 1940; minimum, 127 parts per million June 11–17, 1926.
Sediment loads: Maximum, 27,600,000 tons per day Sept. 13, 1927; minimum, 863 tons per day Dec. 27, 1928.

REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1009.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Temperature (°F.)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids: Parts per million	Dissolved solids: Tons per acre-foot	Dissolved solids: Tons per day	Hardness as $CaCO_3$: Total	Hardness as $CaCO_3$: Noncarbonate	Percent sodium
Oct. 1–5, 7–10, 1943	6,391	69	174	11	0.12	138	48	184	8.4	224	528	152	0.4	4.3	0.7	1,180	1.60	20,400	542	358	42
Oct. 11–20	5,890	63	182	10	.05	140	53	193	8.0	225	556	160	.4	10	.7	1,240	1.69	19,700	568	383	42
Oct. 21–31	7,555	55	184	12	.05	156	52	190	9.3	231	601	145	.4	11	.7	1,290	1.75	26,300	604	414	40
Nov. 1–3, 5–10	7,819	48	172	12	.20	132	52	173	12	263	500	135	.5	10	.7	1,160	1.58	24,500	544	328	40
Nov. 11, 13–20	7,671	47	158	11	.02	118	48	165	9.4	246	447	130	.5	14	.7	1,060	1.44	22,000	492	290	42
Nov. 21–30	8,537	45	153	12	.02	116	46	155	9.0	233	428	128	.4	12	.7	1,020	1.39	23,500	478	288	41
Dec. 1–5, 7–10	7,210	43	161	12	.05	122	47	167	9.2	236	457	138	.4	12	.7	1,080	1.47	21,000	498	304	42
Dec. 11–20	6,961	43	164	12	.05	113	48	172	7.8	236	434	148	.4	12	.7	1,060	1.44	19,900	480	286	43
Dec. 21–31	6,354	43	163	12	.05	114	49	175	7.4	237	440	152	.4	12	.7	1,080	1.47	18,500	486	292	44
Jan. 1, 3–10, 1944	5,296	39	165	13	.02	116	50	172	8.8	246	430	159	.3	7.5	.5	1,080	1.47	15,400	495	294	42
Jan. 11–20	3,736	37	186	14	.02	126	54	206	8.6	265	465	203	.3	8.4	.5	1,220	1.66	12,300	536	320	45
Jan. 21–31	5,431	40	189	14	.02	133	57	205	8.8	277	492	196	.3	9.0	.5	1,250	1.70	18,300	566	340	44
Feb. 1–10	6,198	43	166	12	.02	116	48	125		258	428	68	.3	5.2	.4	930	1.26	15,600	487	276	36
Feb. 11–15, 17–20	6,563	41	162	12	.02	113	45	123		247	419	64	.3	6.0	.4	904	1.23	16,000	467	264	36
Feb. 21–26, 28–29	6,142	44	160	12	.02	108	45	124		240	416	64	.3	4.5	.4	892	1.21	14,800	454	258	37
Mar. 1–2, 5–10	6,570	48	164	16	.05	114	47	180	6.8	251	423	161	.4	3.6	.8	1,080	1.47	19,200	478	272	45

Mar. 11–20	8,136	50	166	15	.02	120	47	180	7.6	246	461	148	.3	4.1	.8	1,100	1.50	24,200	493	292	44
Mar. 21–31	11,880	51	148	12	.05	106	41	164	6.2	252	410	114	.3	3.8	.8	981	1.33	31,500	433	226	45
Apr. 2–10	15,750	58	131	20	.20	96	35	141	6.0	246	335	102	.3	4.0	1.0	861	1.17	36,600	384	182	44
Apr. 11–20	24,090	57	101	17	.12	82	26	98	5.8	235	235	66	.4	2.5	.6	649	.88	42,200	312	119	40
Apr. 21–29	15,570	55	97.5	17	.12	80	25	94	5.4	228	223	65	.4	2.5	.4	625	.85	26,300	302	116	40
May 1–2, 4–12	24,640	62	100	14	.15	84	29	95	3.8	228	252	62	.4	3.2	.6	656	.89	43,600	328	142	38
May 13–20	67,980	66	64.1	12	.08	66	18	46	3.0	208	124	28	.4	1.8	.5	404	.55	74,200	238	68	29
May 21–31	70,620	67	49.8	12	.05	57	13	32	1.6	186	83	18	.4	2.7	.4	311	.42	59,300	196	44	26
June 1, 4–10	73,620	68	50.0	12	.52	58	13	29	4.8	194	79	17	.3	.2	.2	309	.42	61,400	198	39	23
June 11–20	72,010	69	48.5	12	.29	57	13	26	4.0	187	75	18	.3	.2	.1	298	.41	57,900	196	42	22
June 21–30	63,300	71	48.5	10	.06	57	12	28	3.2	167	87	19	.2	1.5	.1	300	.41	51,300	192	55	23
July 1–3, 5, 7–10	50,310	76	53.9	12	.16	60	14	34	3.0	172	103	23	.3	3.0	.2	337	.46	45,800	207	66	26
July 11–20	26,070	79	62.7	12	.12	63	16	45	4.4	179	121	36	.3	1.0	.5	387	.53	27,200	223	76	30
July 21–31	15,530	78	87.5	16	.29	80	22	74	5.8	197	201	61	.3	2.0	.5	559	.76	23,400	290	128	35
Aug. 1–9	10,320	76	111	14	.09	96	31	99	6.2	215	281	84	.4	4.0	.5	722	.98	20,100	367	191	37
Aug. 17–20	[1] 6,698	77	137							207	355	130									
Aug. 21–31	5,412	77	153	12	.08	117	42	160	6.4	217	412	147	.4	5.6	.6	1,010	1.37	14,800	464	286	42
Sept. 1–10	4,726	74	179	11	.05	134	51	187	8.2	242	485	180	.4	4.5	.4	1,180	1.60	15,100	544	346	42
Sept. 11–20	3,982	74	178	10	.04	122	52	193	6.4	218	481	186	.4	4.5	.5	1,160	1.58	12,500	518	340	44
Sept. 21–28, 30	3,947	70	186	9.5	.04	122	57	204	8.2	214	509	201	.4	4.5	.5	1,220	1.66	13,000	539	364	45
Weighted average	18,360		86.1	13	0.16	77	24	73	4.6	204	200	56	0.3	3.1	0.4	552	0.75	27,800	290	124	35

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Oct. 1–5, 7–10, 1943	6,391					6.89	3.95	7.99	0.21	3.67	10.99	4.29	0.02	0.07						42
Oct. 11–20	5,890					6.99	4.36	8.41	.20	3.69	11.58	4.51	.02	.16						42
Oct. 21–31	7,555					7.79	4.28	8.28	.24	3.79	12.51	4.09	.02	.18						40
Nov. 1–3, 5–10	7,819					6.59	4.28	7.54	.31	4.31	10.41	3.81	.03	.16						40
Nov. 11, 13–20	7,671					5.89	3.95	7.19	.24	4.03	9.31	3.67	.03	.23						42
Nov. 21–30	8,537					5.79	3.78	6.75	.23	3.82	8.91	3.61	.02	.19						41
Dec. 1–5, 7–10	7,210					6.09	3.87	7.28	.24	3.87	9.51	3.89	.02	.19						42
Dec. 11–20	6,961					5.64	3.95	7.50	.20	3.87	9.04	4.17	.02	.16						43
Dec. 21–31	6,354					5.69	4.03	7.63	.19	3.88	9.16	4.29	.02	.19						44
Jan. 1, 3–10, 1944	5,296					5.79	4.11	7.47	.23	4.03	8.95	4.48	.02	.12						42
Jan. 11–20	3,736					6.29	4.44	8.96	.22	4.34	9.68	5.73	.02	.14						45
Jan. 21–31	5,431					6.64	4.69	8.92	.23	4.54	10.24	5.53	.02	.15						44
Feb. 1–10	6,198					5.79	3.95	5.42		4.23	8.91	1.92	.02	.08						36
Feb. 11–15, 17–20	6,563					5.64	3.70	5.36		4.05	8.72	1.81	.02	.10						36
Feb. 21–26, 28–29	6,142					5.39	3.70	5.40		3.93	8.66	1.81	.02	.07						37
Mar. 1–2, 5–10	6,570					5.69	3.87	7.81	.17	4.11	8.81	4.54	.02	.06						45
Mar. 11–20	8,136					5.99	3.87	7.84	.19	4.03	9.60	4.17	.02	.07						44
Mar. 21–31	11,880					5.29	3.37	7.15	.16	4.13	8.54	3.22	.02	.06						45

[1] Includes discharge for Aug. 11–16.

COLORADO RIVER NEAR GRAND CANYON, ARIZ.—Continued

Chemical analysis, in parts per million, water year October 1943 to September 1944—Continued

Date of collection	Mean discharge (second-feet)	Temperature (°F.)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
																Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Apr. 2–10	15,750					4.79	2.88	6.14	0.15	4.03	6.97	2.88	0.02	0.06							44
Apr. 11–20	24,090					4.09	2.14	4.28	.15	3.85	4.89	1.86	.02	.04							40
Apr. 21–29	15,570					3.99	2.06	4.08	.14	3.74	4.64	1.83	.02	.04							40
May 1–2, 4–12	24,640					4.19	2.38	4.14	.10	3.74	5.25	1.75	.02	.05							38
May 13–20	67,980					3.29	1.48	1.98	.08	3.41	2.58	.79	.02	.03							29
May 21–31	70,620					2.85	1.07	1.39	.04	3.05	1.73	.51	.02	.04							26
June 1, 4–10	73,620					2.89	1.07	1.24	.12	3.18	1.64	.48	.02	.00							23
June 11–20	72,010					2.85	1.07	1.14	.10	3.07	1.56	.51	.02	.00							22
June 21–30	63,300					2.85	.99	1.20	.08	2.74	1.81	.54	.01	.02							23
July 1–3, 5, 7–10	50,310					2.99	1.15	1.46	.08	2.82	2.14	.65	.02	.05							26
July 11–20	26,070					3.14	1.32	1.94	.11	2.93	2.52	1.02	.02	.02							30
July 21–31	15,530					3.99	1.81	3.23	.15	3.23	4.18	1.72	.02	.03							35
Aug. 1–9	10,320					4.79	2.55	4.32	.16	3.52	5.85	2.37	.02	.06							37
Aug. 17–20	[1] 6,698										7.39	2.70									
Aug. 21–31	5,412					5.84	3.45	6.95	.16	3.56	8.58	4.15	.02	.09							42
Sept. 1–10	4,726					6.69	4.19	8.15	.21	3.97	10.10	5.08	.02	.07							42
Sept. 11–20	3,982					6.09	4.28	8.39	.16	3.57	10.01	5.25	.02	.07							44
Sept. 21–28, 30	3,947					6.09	4.69	8.88	.21	3.51	10.60	5.67	.02	.07							45
Weighted average	18,360					3.84	1.97	3.17	0.12	3.34	4.16	1.58	0.02	0.05							35

COLORADO RIVER NEAR GRAND CANYON, ARIZ.—Continued

Temperature (°F.) of water of Colorado River, water year October 1943 to September 1944

Day	October	November	December	January	February	March	April	May	June	July	August	September
1	70	53	45	39	------	46	------	57	68	75	77	76
2	70	51	43	------	47	48	56	59	------	75	77	74
3	70	49	44	42	41	------	49	60	------	76	75	74
4	70	------	42	39	42	------	65	59	69	------	75	74
5	69	------	43	38	42	48	65	60	69	77	75	74
6	------	44	------	39	45	49	59	60	67	75	75	73
7	69	49	43	39	43	48	60	61	69	75	78	74
8	68	47	43	38	44	48	59	64	69	76	78	74
9	67	42	43	39	43	48	54	63	69	76	78	75
10	67	47	43	36	43	49	58	65	68	76	------	75
11	68	45	44	39	43	48	65	64	69	76	------	75
12	66	------	43	36	42	49	60	68	70	75	------	75
13	60	47	43	36	40	54	57	68	69	77	------	75
14	65	47	43	36	42	48	60	69	70	78	------	75
15	63	47	43	37	40	49	54	68	70	79	------	74
16	63	47	42	37	------	50	55	65	69	79	------	74
17	63	48	------	37	41	50	53	62	67	88	79	73
18	60	48	------	39	41	53	54	64	67	82	76	73
19	63	47	43	37	42	51	56	65	69	80	75	72
20	59	47	43	37	42	50	54	65	70	------	77	72
21	59	48	44	37	42	53	56	63	70	80	77	72
22	59	48	44	38	43	47	52	64	70	80	77	71
23	52	47	44	44	45	56	54	66	70	79	77	70
24	52	48	44	40	45	52	58	65	70	80	78	70
25	52	41	44	40	44	51	52	66	72	77	77	70
26	52	42	44	39	44	51	55	68	72	76	78	69
27	54	45	43	40	------	52	57	68	72	76	77	69
28	58	46	42	40	45	45	56	69	65	78	77	71
29	58	44	47	40	45	50	56	68	73	78	77	71
30	55	45	40	41	------	50	------	69	73	78	76	70
31	54	------	42	40	------	51	------	69	------	77	75	------
Average	62	45	43	39	43	50	57	65	69	78	77	73

COLORADO RIVER NEAR GRAND CANYON, ARIZ.—Continued

Suspended sediment, water year October 1943 to September 1944

Day	October			November			December		
	Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment	
		Mean concentration (percent)	Tons per day		Mean concentration (percent)	Tons per day		Mean concentration (percent)	Tons per day
1	6,820	1.36	250,000	7,240	0.33	64,500	7,940	0.28	60,000
2	6,170	.94	157,000	7,380	.20	39,900	7,780	.44	92,400
3	6,820	.74	136,000	7,640	.18	37,100	7,650	.28	57,800
4	7,180	.51	98,900	8,060	[1].18	39,200	7,350	[1].20	39,700
5	6,660	.46	82,700	8,120	.19	41,700	7,030	.13	24,700
6	6,400	[1].25	43,200	8,120	.26	57,000	6,800	.10	18,400
7	6,150	.10	16,600	8,250	.20	44,600	6,750	.08	14,600
8	6,040	.27	44,000	8,060	.17	37,000	6,830	.07	12,900
9	5,840	.25	39,400	7,700	.14	29,100	6,940	.07	13,100
10	5,830	.27	42,500	7,620	.12	24,700	7,030	.07	13,300
11	5,640	.43	65,500	7,640	.11	22,700	6,900	.06	11,200
12	5,450	.24	35,300	7,740	.12	25,100	6,800	.05	9,180
13	5,520	.19	28,300	8,080	.14	30,500	7,180	.05	9,690
14	5,580	.14	21,100	7,940	.12	25,700	7,180	.06	11,600
15	5,490	.12	17,800	7,520	.10	20,300	7,310	.07	13,800
16	5,530	.09	13,400	7,320	.09	17,800	7,350	.09	17,900
17	5,660	.09	13,800	7,590	.08	16,400	7,210	.06	11,700
18	5,840	.11	17,300	7,560	.09	18,400	6,790	.06	11,000
19	6,010	.11	17,800	7,660	.09	18,600	6,550	.06	10,600
20	8,180	.27	59,600	7,660	.08	16,500	6,340	.06	10,300
21	8,480	3.26	746,000	7,620	.08	16,500	6,160	.06	9,980
22	7,940	.69	148,000	7,520	.08	16,200	6,160	.06	9,980
23	7,220	.92	179,000	7,340	.08	15,900	6,230	.05	8,410
24	7,320	.65	128,000	7,420	.06	12,000	6,290	.04	6,790
25	7,720	.30	62,500	9,610	.32	83,000	6,120	.04	6,610
26	7,780	.71	149,000	10,700	.30	86,700	6,190	.04	6,690
27	7,340	.39	77,300	9,830	.29	77,000	6,290	.04	6,790
28	7,560	.29	59,200	9,030	.38	92,600	6,240	.05	8,420
29	7,470	.32	64,500	8,260	.52	116,000	6,400	.06	10,400
30	7,130	.47	90,500	8,040	.26	56,400	6,800	.06	11,000
31	7,150	.50	96,500				7,010	.06	11,400
Total load (tons)			3,001,000			1,199,000			560,300

Day	January			February			March		
1	6,820	0.06	11,000	6,050	0.06	9,800	6,410	0.07	12,100
2	6,360	[1].05	8,590	5,660	.05	7,640	6,440	.08	13,900
3	5,920	.05	7,990	5,640	.05	7,610	6,580	[1].08	14,200
4	5,530	.05	7,470	5,840	.04	6,310	6,480	[1].08	14,000
5	5,100	.04	5,510	6,080	[1].04	6,570	6,360	.08	13,700
6	4,870	.03	3,940	6,310	.04	6,810	6,160	.08	13,300
7	4,840	.03	3,920	6,510	.05	8,790	6,370	.09	15,500
8	4,700	.03	3,810	6,700	.05	9,040	6,710	.11	19,900
9	4,530	.04	4,890	6,570	.06	10,600	6,880	.12	22,300
10	4,290	.03	3,470	6,620	.07	12,500	7,310	.13	25,700
11	4,290	.03	3,470	6,640	.08	14,300	7,260	.15	29,400
12	4,000	.03	3,240	6,680	.11	19,800	6,940	.15	28,100
13	3,880	.03	3,140	6,920	.11	20,600	6,590	.16	28,500
14	3,670	.02	1,980	7,310	.12	23,700	6,880	.25	46,400
15	3,380	.02	1,830	7,190	.11	21,400	7,250	.24	47,000
16	3,400	.02	1,840	6,680	.09	16,200	7,720	.25	52,100
17	3,280	.02	1,770	6,270	.09	15,200	9,600	.28	72,600
18	3,330	.02	1,800	6,060	.08	13,100	9,540	.62	160,000
19	3,830	.02	2,070	5,940	.07	11,200	9,380	.49	124,000
20	4,300	.02	2,320	5,940	.07	11,200	10,200	.52	143,000
21	4,330	.02	2,340	5,920	.06	9,590	15,800	1.19	508,000
22	4,290	.02	2,320	6,060	.06	9,820	15,200	.94	386,000
23	4,300	.03	3,480	5,980	.05	8,070	13,400	.74	268,000
24	4,550	.03	3,690	5,890	.05	7,950	12,000	.66	214,000
25	5,030	.06	8,150	5,950	.06	9,640	11,300	.63	192,000
26	5,850	.05	7,900	6,090	.04	6,580	10,500	.61	173,000
27	6,260	.08	13,500	6,270	.04	6,770	10,100	.45	123,000
28	6,330	.06	10,300	6,500	.05	8,780	9,940	.36	96,600
29	6,260	.05	8,450	6,620	.06	10,700	10,600	.54	155,000
30	6,310	.04	6,810				11,000	.54	160,000
31	6,230	.03	5,050				10,800	.44	128,000
Total load (tons)			156,000			330,300			3,299,000

[1] Estimated.

COLORADO RIVER NEAR GRAND CANYON, ARIZ.—Continued

Suspended sediment, water year October 1943 to September 1944—Continued

Day	April			May			June		
	Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment	
		Mean concentration (percent)	Tons per day		Mean concentration (percent)	Tons per day		Mean concentration (percent)	Tons per day
1	10,100	0.37	101,000	15,100	0.37	151,000	69,000	0.66	1,230,000
2	9,430	.34	86,600	17,100	.42	194,000	73,200	[1].70	1,380,000
3	9,230	[1].37	92,200	22,400	.58	351,000	77,000	[1].75	1,560,000
4	9,510	[1].40	103,000	21,500	.50	290,000	81,000	.79	1,730,000
5	10,400	.44	124,000	21,800	.52	306,000	85,100	.74	1,700,000
6	10,400	.48	135,000	24,000	.74	480,000	80,300	.64	1,390,000
7	15,800	1.04	444,000	23,000	.66	410,000	74,400	.56	1,120,000
8	25,300	1.37	936,000	21,000	.56	318,000	66,900	.46	831,000
9	27,900	1.31	987,000	21,900	.48	284,000	63,800	.50	861,000
10	29,400	1.75	1,390,000	29,400	.82	651,000	65,500	.48	849,000
11	30,200	1.86	1,520,000	37,200	.98	984,000	68,400	.54	997,000
12	29,100	1.68	1,320,000	41,300	1.25	1,390,000	69,200	.47	878,000
13	26,900	1.42	1,030,000	44,500	1.14	1,370,000	74,200	.48	962,000
14	24,000	1.35	875,000	46,900	1.00	1,270,000	77,100	.50	1,040,000
15	22,600	1.22	744,000	53,100	1.08	1,550,000	76,200	.53	1,090,000
16	22,400	1.13	683,000	62,100	1.04	1,740,000	73,500	.47	933,000
17	23,000	1.08	671,000	73,400	1.13	2,240,000	72,500	.40	783,000
18	22,200	.93	557,000	82,900	1.25	2,800,000	71,600	.44	851,000
19	20,800	.69	388,000	90,400	1.47	3,590,000	71,000	.37	709,000
20	19,700	.80	426,000	90,500	1.19	2,910,000	66,400	.34	610,000
21	19,600	.66	349,000	78,200	1.15	2,430,000	61,400	.31	514,000
22	18,100	.60	293,000	68,600	1.05	1,940,000	59,600	.32	515,000
23	16,600	.52	233,000	66,200	.89	1,590,000	61,700	.33	550,000
24	16,000	.44	190,000	65,100	.80	1,410,000	65,000	.37	649,000
25	14,900	.38	153,000	66,600	.76	1,370,000	65,100	.34	598,000
26	14,200	.35	134,000	70,400	.75	1,430,000	63,400	.33	565,000
27	13,900	.28	105,000	75,600	.78	1,590,000	64,600	.35	610,000
28	14,200	.32	123,000	76,200	.82	1,690,000	65,100	.51	896,000
29	14,200	.32	123,000	74,200	.68	1,360,000	63,100	.81	1,380,000
30	14,000	.32	121,000	69,300	.62	1,160,000	64,000	.63	1,090,000
31				66,400	.51	914,000			
Total load (tons)			14,440,000			40,160,000			28,870,000

	July			August			September		
1	59,700	0.34	548,000	13,500	0.06	21,900	4,980	0.08	10,800
2	54,900	.28	415,000	12,400	.14	46,900	4,900	.05	6,620
3	54,200	.30	439,000	11,600	.13	40,700	4,730	.05	6,390
4	54,100	[1].29	424,000	11,100	.06	18,000	4,850	.05	6,550
5	52,500	.28	397,000	10,500	.06	17,000	4,830	.06	7,820
6	50,200	.21	285,000	9,940	.06	16,100	4,830	.07	9,130
7	49,000	.26	344,000	9,340	.06	15,100	4,570	.11	13,600
8	45,800	.24	297,000	8,810	.14	33,300	4,560	.07	8,620
9	43,200	.23	268,000	8,200	.07	15,500	4,540	.07	8,580
10	39,500	.20	213,000				4,470	.05	6,030
11	36,200	.19	186,000				4,470	.04	4,830
12	33,300	.17	153,000				4,260	.04	4,600
13	31,100	.14	118,000				4,140	.03	3,350
14	29,100	.15	118,000				4,030	.02	2,180
15	26,800	.10	72,400				3,950	.02	2,130
16	24,700	.11	73,400				3,880	.02	2,100
17	22,500	.08	48,600	6,720	.02	3,630	3,850	.02	2,080
18	20,600	.07	38,900	6,330	.04	6,840	3,780	.02	2,040
19	18,900	.06	30,600	6,540	.29	51,200	3,780	.02	2,040
20	17,500	.06	28,400	6,130	.04	6,620	3,680	.02	1,990
21	16,600	.05	22,400	6,050	.04	6,530	3,570	.02	1,930
22	17,800	.05	24,000	6,720	.10	18,100	3,620	.02	1,950
23	16,500	.09	40,100	6,330	.06	10,300	3,700	.02	2,000
24	15,500	.13	54,400	5,530	.12	17,900	3,720	.01	1,000
25	15,900	.19	81,600	5,200	.26	36,500	3,740	.01	1,010
26	15,700	.24	102,000	5,070	.43	58,900	3,760	.01	1,020
27	15,000	.12	48,600	5,130	.32	44,300	3,730	.01	1,010
28	14,600	.11	43,400	5,120	.30	41,500	3,760	.01	1,020
29	14,900	.10	40,200	4,900	.18	23,800	3,780	.01	1,020
30	14,200	.09	34,500	4,660	.11	13,800	6,090	.06	9,870
31	14,100	.08	30,500	4,820	.13	16,900			
Total load (tons)			5,019,000			[2]621,000			133,300
Total load for year								tons	[2]97,790,000

[1] Estimated.

[2] Includes loads estimated for missing days.

COLORADO RIVER NEAR GRAND CANYON, ARIZ.—Continued

Size analyses of suspended sediment, water year October 1943 to September 30, 1944

Date of collection	Mean discharge (second-feet)	Suspended sediment													
		Mean daily concentration (percent)[1]	Tons per day	Weight of material in tube (grams)	Percent finer than given size										
					0.0039 mm.	0.0055 mm.	0.0078 mm.	0.0110 mm.	0.0156 mm.	0.0221 mm.	0.0312 mm.	0.0442 mm.	0.0625 mm.	0.125 mm.	0.250 mm.	0.500 mm.
1943																
Oct. 2	6,170	0.94	157,000						80	89	95	98	99			
Oct. 5	6,660	.46	82,700						72	83	90	96	99			
Oct. 9	5,840	.25	39,400						70	81	88	94	98			
Oct. 12	5,450	.24	35,300						83	89	93	96	98			
Oct. 16	5,530	.09	13,400						80	80	94	98	99			
Oct. 19	6,010	.11	17,800						73	82	89	95	98			
Oct. 21	8,480	3.26	746,000						82	89	94	99	99			
Oct. 23	7,220	.92	179,000						80	87	93	97	99			
Oct. 27	7,340	.39	77,300						75	84	92	97	99			
Oct. 30	7,130	.47	90,500						79	87	93	97	99			
Nov. 2	7,380	.20	39,900						70	79	84	89	92			
Nov. 6	8,120	.26	57,000	0.9177			77	80	89	93	96	97	98	99	100	
Nov. 13	8,080	.14	30,500	.7197			77	79	86	91	95	97	98	99	100	
Nov. 16, 20, 23	7,440	.08	16,100	1.1726			71	75	83	88	93	96	97	99	99	100
Nov. 28	9,030	.38	92,600	1.7359			67	72	83	84	91	92	95	98	99	100
Dec. 5	7,030	.13	24,700	.4241			72	83	88	90	95	96	97	100		
Dec. 8, 11, 14, 18	6,920	.06	11,200	1.1013			73	76	83	87	94	97	98	99	99	100
Dec. 21, 25, 28	6,170	.05	8,330	.8873			79	87	90	92	97	98	99	99	100	
1944																
Jan. 1, 4, 8, 11, 15	4,940	.04	5,340	.9078			71	76	89	92	95	97	98	99	100	
Jan. 18, 22, 25, 29	4,730	.04	5,110	.8690			79	82	86	92	93	95	97	98	99	100
Feb. 1, 6, 8	6,350	.05	8,750	.8154			56	62	74	85	95	97	98	99	100	
Feb. 12, 15	6,940	.11	20,600	.9935			65	81	90	93	95	97	98	99	100	
Feb. 19, 22	6,000	.06	9,720	.5223			77	87	90	91	98	99	99			
Feb. 26, 29	6,360	.05	8,590	.4917			75	77	83	90	94	95	96	100		
Mar. 7, 11, 14	6,840	.16	29,500	1.9411		13	16	22	70	92	94	96	98	100		
Mar. 18	9,540	.62	160,000	2.3301		23	31	77	83	85	88	90	94	100		
Mar. 21	15,800	1.19	508,000	5.0340		6	9	18	53	57	60	67	80	98	100	
Mar. 25	11,300	.63	192,000	2.3237		20	27	71	89	91	94	96	97	100		
Mar. 28	9,940	.36	96,600	1.2513		20	24	56	80	84	85	88	91	100		

Apr. 1, 5	10,200	.40	100,000	3.4422	-------	-------	6	10	53	78	80	81	90	98	100	-------
Apr. 8	25,300	1.37	936,000	5.9328	3	4	5	9	38	48	51	56	64	90	95	99
Apr. 11	30,200	1.86	1,520,000	3.0455	-------	-------	44	80	81	82	89	91	95	99	100	-------
Apr. 15	22,600	1.22	744,000	5.2996	-------	-------	6	11	78	79	79	80	82	93	99	100
Apr. 18	22,200	.93	557,000	3.7157	3	4	5	13	40	65	76	78	80	91	96	99
Apr. 22	18,100	.60	293,000	2.4150	-------	-------	-------	-------	-------	-------	72	75	80	94	99	100
May 2	17,100	.42	194,000	1.9314	-------	14	18	26	55	56	57	61	68	84	96	99
May 6	24,000	.74	480,000	3.2103	18	19	26	47	50	53	57	60	63	92	99	100
May 9	21,900	.48	284,000	2.1506	15	17	23	49	54	56	58	61	68	81	94	98
May 13	44,500	1.14	1,370,000	4.7713	9	9	13	28	34	40	43	50	60	93	97	99
May 16	62,100	1.04	1,740,000	5.0582	5	5	9	20	29	36	40	46	55	77	98	99
May 19	90,400	1.47	3,590,000	4.6539	11	15	18	19	23	27	29	33	40	58	90	99
May 23	66,200	.89	1,590,000	4.0629	8	11	14	16	21	27	30	33	47	69	97	100
May 27	75,600	.78	1,590,000	2.7841	10	13	16	17	22	25	29	33	43	57	80	94
May 30	69,300	.62	1,160,000	2.7624	5	8	16	20	24	27	31	35	45	60	79	9
June 6	80,300	.64	1,390,000	3.2513	2	4	7	10	12	15	17	22	24	45	65	80
June 10, 13	69,800	.48	905,000	3.8505	2	3	5	16	21	23	25	32	39	61	72	82
June 17, 20	69,400	.37	693,000	3.3266	2	3	7	10	13	15	18	23	33	43	65	80
June 24	65,000	.37	649,000	1.6725	2	4	5	7	8	12	14	20	26	54	71	92
June 27	64,600	.35	610,000	1.4051	10	14	19	22	23	27	31	40	43	75	97	100
July 1	59,700	.34	548,000	1.2801	5	12	17	22	24	28	33	42	48	73	88	100
July 8	45,800	.24	297,000	.9267	9	13	15	21	24	27	28	37	45	70	86	99
July 11, 15	31,500	.14	119,000	.8890	6	12	16	22	24	29	35	44	55	76	93	98
July 18, 23	18,600	.08	40,200	.4521	16	25	26	28	37	57	69	78	83	96	100	-------
July 26	15,700	.24	102,000	.9889	8	13	92	97	98	100	-------	-------	-------	-------	-------	-------
July 29	14,900	.10	40,200	.2631	40	56	80	85	89	91	95	98	99	-------	-------	-------
Aug. 1, 5	12,000	.06	19,400	.2775	45	55	61	70	74	82	84	91	96	99	99	100
Aug. 8	8,810	.14	33,300	.2696	35	50	54	61	64	67	74	81	86	98	99	100
Aug. 22	6,720	.10	18,100	.4335	38	67	89	95	96	97	99	99	100	-------	-------	-------
Aug. 26	5,070	.43	58,900	1.5070	5	8	83	98	99	100	-------	-------	-------	-------	-------	-------
Sept. 2, 5, 9, 12, 16, 19	4,360	.04	4,710	1.1706	20	26	54	92	97	98	99	-------	-------	-------	-------	-------
Sept. 30	6,090	.06	9,870	.3015	70	80	84	92	94	95	96	99	100	-------	-------	-------

[1] Samples through Nov. 2 analyzed by the decantation method; other analyses by the bottom withdrawal method.

COLORADO RIVER BELOW BOULDER DAM, ARIZ.-NEV.

LOCATION.—At gaging station, 1 mile downstream from Boulder Dam.
DRAINAGE AREA.—167,800 square miles.
RECORDS AVAILABLE.—Chemical analyses: October 1939 to September 1944.
Water temperatures: October 1941 to September 1944.
EXTREMES, 1939–44.—Dissolved solids: Maximum, 718 parts per million May 11–14, 16–20, 22–27, 29–30; minimum, 623 parts per million Nov. 23–27, 29 and Dec. 21–24, 26–31.
Total hardness: Maximum, 364 parts per million June 12–17, 19–20; minimum, 319 parts per million Dec. 11, 13, 15–16, 19–20.
Water temperatures: Maximum, 64° F. Sept. 13; minimum, 53° F. Mar. 2–3, 16, 18, 20, 22.
EXTREMES, 1939–44.—Dissolved solids: Maximum, 824 parts per million Mar. 1–10, 1941; minimum, 621 parts per million Dec. 21–31, 1942.
Total hardness: Maximum, 426 parts per million Jan. 21–31, 1941; minimum, that of Dec. 11–13, 15–16, 19–20, 1943.
Water temperatures: Maximum, 65° F. Oct. 1–10, 1941; minimum, that of Mar. 2–3, 16, 18, 20, 22, 1944.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1009.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Temperature (°F.)	Specific conductance ($K \times 10^8$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
																Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–2, 4–9, 1943	18,560	60	102	12	0.05	92	25	92		156	299	62	0.8	3.6	------	663	0.90	33,200	332	204	38
Oct. 11–16, 18–20	19,780	60	101	12	.02	92	25	92		158	295	65	.5	3.7	0.6	663	.90	35,400	332	203	38
Oct. 21–23, 25, 27–31	19,170	61	101	10	.02	92	25	92		156	295	66	------	4.6	.4	661	.90	34,200	332	204	37
Nov. 1–3, 5–10	19,900	63	98.6	8.0	.02	90	26	83		150	286	62	.3	3.7	.7	633	.86	34,000	332	208	35
Nov. 11, 14–20	20,280	63	97.3	7.5	.02	88	26	84		146	284	63	.4	5.0	.7	630	.86	34,500	326	207	36
Nov. 23–27, 29	19,240	62	96.5	8.5	.02	86	26	83		144	283	61	.4	4.5	.7	623	.85	32,400	322	204	36
Dec. 1–4, 7, 9–10	21,380	62	96.5	14	.05	86	26	77	8.6	145	280	60	.6	4.5	.7	628	.85	36,300	322	202	34
Dec. 11, 13, 15–16, 19–20	20,960	60	94.9	12	.02	85	26	86	7.6	142	297	60	.6	4.5	.7	649	.88	36,700	319	202	36
Dec. 21–24, 26–31	20,050	59	94.7	14	.05	86	26	77	6.2	143	279	59	.6	4.8	.7	623	.85	33,700	322	204	34
Jan. 1, 3–6, 8–9, 1944	19,360	58	98.1	16	.05	86	26	80	9.4	149	283	62	.6	4.0	.7	640	.87	33,500	322	200	34
Jan. 11, 13–15, 17–20	21,210	57	97.8	16	.05	88	26	82	8.0	152	285	63	.6	4.5	.7	648	.88	37,100	326	202	35
Jan. 21–22, 25–29, 31	22,820	56	99.7	9.5	.02	94	27	76	6.8	150	291	64	.4	2.5	.5	645	.88	39,700	346	222	32
Feb. 1–5, 7–10	21,540	55	108	12	.02	96	29	95	4.8	165	314	74	.4	5.4	.8	712	.97	41,400	358	224	36
Feb. 11–12, 14–19	21,990	55	107	12	.02	96	28	96	4.4	167	312	72	.4	4.2	.8	707	.96	42,000	354	218	37
Feb. 21–26, 28–29	22,730	54	110	12	.02	96	29	100		167	318	74	.3	3.1	.4	715	.97	43,900	358	222	38
Mar. 1–4, 6–7, 9–10	20,710	54	108	12	.02	96	29	100		170	316	74	.4	2.8	.5	714	.97	39,900	358	219	38
Mar. 11, 13–16, 18, 20	21,230	54	108	15	.05	94	29	95	5.6	166	310	75	.3	2.7	.5	708	.96	40,600	354	218	36
Mar. 21–25, 27–29	21,780	54	108	14	.02	94	30	91	6.2	166	306	75	.4	2.2	.6	701	.95	41,200	358	222	35

Apr. 1, 3–8, 10	20,160	54	108	14	.02	92	29	95	6.4	163	309	75	.3	2.5	.6	704	.96	38,300	348	215	37
Apr. 11, 13–15, 17–20	19,930	54	109	16	.10	94	29	98	5.2	167	310	78	.4	2.9	.6	716	.97	38,500	354	216	37
Apr. 21–22, 24–29	18,910	54	109	16	.10	94	29	97	5.8	168	308	78	.6	2.9	.6	714	.97	36,500	354	216	37
May 1–2, 4–7, 9	18,840	54	109	16	.10	93	29	98	5.2	166	309	78	.6	2.8	.6	714	.97	36,300	351	215	37
May 11–14, 16–20	19,230	54	109	12	.05	96	30	97	4.2	168	312	79	.4	4.1	.8	718	.98	37,300	363	226	36
May 22–27, 29–30	21,110	54	109	14	.05	96	30	97	3.0	170	313	77	.4	4.2	.8	718	.98	40,900	363	224	37
June 2–3, 5–8	18,510	54	108	12	.05	95	29	100	3.6	169	312	78	.4	3.8	.8	717	.98	35,800	356	218	38
June 12–17, 19–20	18,490	57	106	14	.20	98	29	83	10.0	159	305	74	.3	2.0	.4	694	.94	34,600	364	233	32
June 21–24, 26, 28, 30	18,310	60	106	8.0	.06	94	29	93	4.2	167	308	72	.3	2.5	1.0	693	.94	34,300	354	216	36
July 1, 4, 5, 7–10	16,540	60	106	9.0	.06	94	29	92	5.4	163	307	74	.3	2.5	1.0	694	.94	31,000	354	220	36
July 11–15, 17–20	18,960	60	105	8.0	.06	92	29	90	4.4	163	301	71	.3	2.5	1.0	679	.92	34,800	348	215	36
July 21–22, 24, 27–29, 31	18,660	61	104	12	.04	93	29	89	4.4	166	299	71	.3	2.5	.5	682	.93	34,400	351	215	35
Aug. 1, 3–5, 7–10	19,640	61	103	11	.04	90	28	94	4.8	162	301	71	.3	3.0	.5	683	.93	36,200	340	206	37
Aug. 11–12, 14, 16–19	19,520	61	104	12	.03	92	29	85	6.6	161	295	71	.3	2.5	.5	673	.92	35,500	348	216	34
Aug. 21–28, 30–31	19,900	62	103	12	.02	89	28	87	8.0	158	293	70	.5	2.2	.4	668	.91	35,900	337	208	35
Sept. 1–2, 4–5, 7, 9	18,050	62	101	14	.02	88	27	89	5.4	161	288	68	.2	2.5	.4	661	.90	32,200	330	198	36
Sept. 11–13, 15–16, 18–20	19,820	63	100	10	.02	88	27	88	5.0	162	285	68	.2	2.2	.5	653	.89	34,900	330	198	36
Sept. 21–23, 25–30	19,200	62	99.2	18	.02	86	27	85	4.5	157	280	66	.2	2.2	.5	646	.88	33,500	326	197	36
Weighted average	19,910	------	103	12	0.04	92	28	90	5.9	159	299	70	0.4	3.4	0.6	679	0.92	36,500	344	214	36

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Oct. 1–2, 4–9, 1943	18,560	------	------	------	------	4.59	2.06	3.99		2.56	6.23	1.75	0.04	0.06	------	------	------	------	------	------	38
Oct. 11–16, 18–20	19,780	------	------	------	------	4.59	2.06	4.00		2.59	6.14	1.83	.03	.06	------	------	------	------	------	------	38
Oct. 21–23, 25, 27–31	19,170	------	------	------	------	4.59	2.06	3.98		2.56	6.14	1.86	------	.07	------	------	------	------	------	------	37
Nov. 1–3, 5–10	19,900	------	------	------	------	4.49	2.14	3.61		2.46	5.95	1.75	.02	.06	------	------	------	------	------	------	35
Nov. 11, 14–20	20,280	------	------	------	------	4.39	2.14	3.65		2.39	5.91	1.78	.02	.08	------	------	------	------	------	------	36
Nov. 23–27, 29	19,240	------	------	------	------	4.29	2.14	3.63		2.36	5.89	1.72	.02	.07	------	------	------	------	------	------	36
Dec. 1–4, 7, 9–10	21,380	------	------	------	------	4.29	2.14	3.35	0.22	2.38	5.83	1.69	.03	.07	------	------	------	------	------	------	34
Dec. 11, 13, 15–16, 19–20	20,960	------	------	------	------	4.24	2.14	3.73	.19	2.33	6.18	1.69	.03	.07	------	------	------	------	------	------	36
Dec. 21–24, 26–31	20,050	------	------	------	------	4.29	2.14	3.33	.16	2.34	5.81	1.66	.03	.08	------	------	------	------	------	------	34
Jan. 1, 3–6, 8–9, 1944	19,360	------	------	------	------	4.29	2.14	3.50	.24	2.44	5.89	1.75	.03	.06	------	------	------	------	------	------	34
Jan. 11, 13–15, 17–20	21,210	------	------	------	------	4.39	2.14	3.57	.20	2.49	5.93	1.78	.03	.07	------	------	------	------	------	------	35
Jan. 21–22, 25–29, 31	22,820	------	------	------	------	4.69	2.22	3.31	.17	2.46	6.06	1.81	.02	.04	------	------	------	------	------	------	32
Feb. 1–5, 7–10	21,540	------	------	------	------	4.79	2.38	4.15	.12	2.70	6.54	2.09	.02	.09	------	------	------	------	------	------	36
Feb. 11–12, 14–19	21,990	------	------	------	------	4.79	2.30	4.16	.11	2.74	6.50	2.03	.02	.07	------	------	------	------	------	------	37
Feb. 21–26, 28–29	22,730	------	------	------	------	4.79	2.38	4.35		2.74	6.62	2.09	.02	.05	------	------	------	------	------	------	38
Mar. 1–4, 6–7, 9–10	20,710	------	------	------	------	4.79	2.38	4.36		2.79	6.58	2.09	.02	.05	------	------	------	------	------	------	38
Mar. 11, 13–16, 18, 20	21,230	------	------	------	------	4.69	2.38	4.14	.14	2.72	6.45	2.12	.02	.04	------	------	------	------	------	------	36
Mar. 21–25, 27–29	21,780	------	------	------	------	4.69	2.47	3.95	.16	2.72	6.37	2.12	.02	.04	------	------	------	------	------	------	35
Apr. 1, 3–8, 10	20,160	------	------	------	------	4.59	2.38	4.15	.16	2.67	6.43	2.12	.02	.04	------	------	------	------	------	------	37
Apr. 11, 13–15, 17–20	19,930	------	------	------	------	4.69	2.38	4.26	.13	2.74	6.45	2.20	.02	.05	------	------	------	------	------	------	37
Apr. 21–22, 24–29	18,910	------	------	------	------	4.69	2.38	4.22	.15	2.75	6.41	2.20	.03	.05	------	------	------	------	------	------	37

COLORADO RIVER BELOW BOULDER DAM, ARIZ.-NEV.—Continued

Chemical analysis, in equivalents per million, water year October 1943 to September 1944—Continued

Date of collection	Mean discharge (second-feet)	Temperature (°F.)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
																Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
May 1–2, 4–7, 9	18,840					4.64	2.38	4.28	0.13	2.72	6.43	2.20	0.03	0.05							37
May 11–14, 16–20	19,230					4.79	2.47	4.20	.11	2.75	6.50	2.23	.02	.07							36
May 22–27, 29–30	21,110					4.79	2.47	4.23	.08	2.79	6.52	2.17	.02	.07							37
June 2–3, 5–8	18,510					4.74	2.38	4.34	.09	2.77	6.50	2.20	.02	.06							38
June 12–17, 19–20	18,490					4.89	2.38	3.61	.26	2.61	6.35	2.09	.02	.03							32
June 21–24, 26, 28, 30	18,310					4.69	2.38	4.06	.11	2.74	6.41	2.03	.02	.04							36
July 1, 4, 5, 7–10	16,540					4.69	2.38	4.00	.14	2.67	6.39	2.09	.02	.04							36
July 11–15, 17–20	18,960					4.59	2.38	3.92	.11	2.67	6.27	2.00	.02	.04							36
July 21–22, 24, 25–29, 31	18,660					4.64	2.38	3.88	11	2.72	6.23	2.00	.02	.04							35
Aug. 1, 3–5, 7–10	19,640					4.49	2.30	4.09	.12	2.66	6.27	2.00	.02	.05							37
Aug. 11–12, 14, 16–19	19,520					4.59	2.38	3.70	.17	2.64	6.14	2.00	.02	.04							34
Aug. 21–28, 30–31	19,900					4.44	2.30	3.79	.20	2.59	6.10	1.97	.03	.04							35
Sept. 1–2, 4–5, 7, 9	18,050					4.39	2.22	3.86	.14	2.64	6.00	1.92	.01	.04							36
Sept. 11–13, 15–16	19,820					4.39	2.22	3.82	.13	2.66	5.93	1.92	.01	.04							36
Sept. 21–23, 25–30	19,200					4.29	2.22	3.68	.12	2.57	5.83	1.86	.01	.04							36
Weighted average	19,910					4.59	2.30	3.91	0.15	2.61	6.23	1.97	0.02	0.05							36

LOCATION.—Oct. 1, 1942, to Jan. 31, 1943, at gaging station, 1,800 feet downstream from highway bridge at Yuma, 5 miles downstream from Gila River, 19 miles downstream from Imperial Dam, and 7 and 29 miles upstream from international boundaries of California and Arizona, respectively, with Mexico.

Feb. 1 to Sept. 30, 1944, at gaging station on Yuma main canal below Colorado River siphon, at Yuma, on Arizona side of river, 3 miles downstream from siphon drop power plant.

DRAINAGE AREA.—242,900 square miles, including all closed basins entirely within the drainage boundary.

RECORDS AVAILABLE.—Chemical analyses: September 1926, October 1926 to September 1928, October 1942 to September 1944.

EXTREMES, 1943–44.—Dissolved solids: Maximum, 748 parts per million June 1–3, 5–10, 12–17, 19–20; minimum, 646 parts per million Jan. 1, 3–8, 10.

Total hardness: Maximum, 372 parts per million June 1–3, 5–10; minimum, 322 parts per million Dec. 21–24, 26–31.

EXTREMES, 1926–28, 1942–44.—Dissolved solids: Maximum, 1,300 parts per million Jan. 11–20, 1927; minimum, 285 parts per million June 11–20, 1928.

Total hardness: Maximum, 567 parts per million Oct. 21–31, 1926; minimum, 163 parts per million, June 11–20, 1928.

REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1009.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance (K×10⁵ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–2, 4–9, 1943	10,410	107	14	0.02	94	27	92	4.6	158	306	72	0.3	1.6	0.5	689	0.94	19,400	346	216	36
Oct. 11–16, 18–20	10,710	104	12	.03	94	27	92	5.1	163	302	72	.3	1.6	.5	686	.93	19,800	346	212	36
Oct. 21–23, 25–30	12,320	106	9.6	.02	94	27	92	9.2	164	305	72	.3	3.0	.6	693	.94	23,100	346	211	36
Nov. 1–6, 8–10	12,280	105	9.6	.02	94	27	92	7.2	162	306	71	.3	2.9	.6	690	.94	22,900	346	212	36
Nov. 11–13, 15–20	12,770	105	11	.02	95	26	91	4.0	162	298	71	.2	4.8	.4	681	.93	23,500	344	211	36
Nov. 22–27, 29–30	14,360	102	9.5	.02	92	26	92	4.0	157	299	69	.3	4.4	.6	674	.92	26,100	336	208	37
Dec. 1–4, 6–10	13,820	102	10	.02	90	26	91	4.0	158	293	68	.3	4.5	.6	665	.90	24,800	332	202	37
Dec. 11, 13–18, 20	17,280	100	10	.02	88	26	88	3.6	154	287	66	.2	4.5	.6	649	.88	30,300	326	200	37
Dec. 21–24, 26–31	17,250	100	8.0	.02	88	25	93	4.0	155	287	70	.2	4.8	.6	656	.89	30,600	322	196	38
Jan. 1, 3–8, 10, 1944	14,660	99.7	12	.02	89	25	87	3.0	155	286	65	.3	2.5	.6	646	.88	25,600	325	198	37
Jan. 11–15, 17–20	14,350	101	11	.02	89	26	90	3.4	159	287	68	.3	2.6	.6	656	.89	25,400	329	198	37
Jan. 21–22, 24–29, 31	15,350	101	16	.02	88	26	93	3.4	158	292	68	.3	2.4	.6	667	.91	27,600	326	197	38
Feb. 1–5, 7–10	16,510	102	12	.02	90	26	93	3.4	161	292	70	.3	2.4	.4	668	.91	29,800	332	200	37
Feb. 11–12, 14–19	13,880	105	11	.08	92	27	98	4.5	164	303	75	.3	2.8	.6	694	.94	26,000	340	206	38
Feb. 21–26, 28–29	18,320	110	11	.04	95	28	106		172	315	78	.3	2.0	.5	720	.98	35,600	352	211	39

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COLORADO RIVER AT YUMA, ARIZ.—Continued

Chemical analyses, in parts per million, water year October 1943 to September 1944—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° (C)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Mar. 1–4, 6–10	18,170	106	13	0.02	92	28	100	3.6	171	302	77	0.3	2.6	0.6	703	0.96	34,500	344	204	38
Mar. 11, 13–20	13,230	108	12	.02	92	28	104	3.6	174	305	79	.2	2.8	.6	712	.97	25,400	344	202	39
Mar. 21–25, 27–31	13,570	110	10	.04	94	29	104	3.8	173	312	81	.2	2.5	.6	722	.98	26,500	354	212	39
Apr. 1, 3–8, 10	13,040	111	8.0	.04	96	30	102	4.0	169	321	82	.2	2.4	.6	729	.99	25,700	363	224	38
Apr. 11–15, 17–20	11,940	112	14	.10	94	29	106	4.6	169	319	84	.3	1.5	.6	736	1.00	23,700	354	215	39
Apr. 21–22, 24–29	11,910	113	16	.12	96	30	105	4.2	173	320	85	.3	1.5	.4	743	1.01	23,900	363	221	38
May 1–6, 8–10	11,620	113	12	.10	96	30	104	4.2	175	317	84	.3	1.5	.4	735	1.00	23,100	363	220	38
May 11–13, 15–20	11,320	114	10	.06	95	31	108	3.4	180	321	85	.2	2.2	.8	745	1.01	22,800	364	217	39
May 22–27, 29–31	10,070	114	12	.06	96	31	107	3.4	179	321	86	.2	2.3	.8	747	1.02	20,300	367	220	39
June 1–3, 5–10	8,945	114	11	.05	98	31	106	2.6	178	324	85	.2	2.6	.6	748	1.02	18,100	372	226	38
June 12–17, 19–20	7,544	114	12	.05	96	32	106	3.0	176	324	86	.3	1.5	.8	748	1.02	15,200	371	227	38
June 21–24, 26–30	8,917	114	14	.05	95	31	107	3.4	175	323	85	.3	1.5	.8	746	1.01	18,000	364	221	39
July 1, 3–8, 10	7,790	112	11	.05	94	32	102	3.4	167	322	84	.3	1.5	.8	733	1.00	15,400	366	229	37
July 11–15, 17–20	8,026	112	13	.05	91	30	105	5.0	163	322	82	.3	1.0	.7	730	.99	15,800	350	217	39
July 21–22, 25–29, 31	5,320	111	12	.04	92	30	105	4.8	165	323	81	.3	1.0	.7	730	.99	10,500	353	218	39
Aug. 1–5, 7, 9–10	6,588	107	12	.05	90	29	105	5.0	159	319	81	.2	1.0	.7	721	.98	12,800	344	213	39
Aug. 11–12, 14–19	7,513	110	12	.05	90	30	102	4.8	160	316	80	.3	1.0	.7	715	.97	14,500	348	217	38
Aug. 21–26, 28–31	8,586	108	6.0	.02	91	29	100	3.6	156	314	79	.2	1.0	.8	701	.95	16,300	346	218	38
Sept. 1–2, 4, 6–9	9,024	107	7.0	.02	90	28	101	3.6	158	310	78	.2	1.0	.8	697	.95	17,000	340	210	39
Sept. 11–16, 18–20	11,580	106	7.0	.02	89	27	102	3.0	159	304	78	.2	1.0	.7	690	.94	21,600	333	202	40
Sept. 21–23, 25–30	10,860	106	8.0	.02	89	29	96	3.2	160	302	76	.2	1.0	.8	683	.93	20,000	341	210	38
Weighted average	11,920	107	11	0.04	92	28	98	4.1	165	306	76	0.3	2.5	0.6	699	0.95	22,500	344	210	38

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Oct. 1–2, 4–9, 1943	10,410				4.69	2.22	4.01	0.12	2.59	6.37	2.03	0.02	0.03						36
Oct. 11–16, 18–20	10,710				4.69	2.22	4.00	.13	2.67	6.29	2.03	.02	.03						36
Oct. 21–23, 25–30	12,320				4.69	2.22	3.99	.24	2.69	6.35	2.03	.02	.05						36
Nov. 1–6, 8–10	12,280				4.69	2.22	4.01	.18	2.66	6.37	2.00	.02	.05						36
Nov. 11–13, 15–20	12,770				4.74	2.14	3.97	.10	2.66	6.20	2.00	.01	.08						36
Nov. 22–27, 29–30	14,360				4.59	2.14	4.01	.10	2.57	6.23	1.95	.02	.07						37
Dec. 1–4, 6–10	13,820				4.49	2.14	3.97	.10	2.59	6.10	1.92	.02	.07						37
Dec. 11, 13–18, 20	17,280				4.39	2.14	3.82	.09	2.52	5.98	1.86	.01	.07						37
Dec. 21–24, 26–31	17,250				4.39	2.06	4.03	.10	2.54	5.98	1.97	.01	.08						38
Jan. 1, 3–8, 10, 1944	14,690				4.44	2.06	3.80	.08	2.54	5.95	1.83	.02	.04						37
Jan. 11–15, 17–20	14,350				4.44	2.14	3.90	.09	2.61	5.98	1.92	.02	.04						37
Jan. 21–22, 24–29, 31	15,350				4.39	2.14	4.03	.09	2.59	6.08	1.92	.02	.04						38
Feb. 1–5, 7–10	16,510				4.49	2.14	4.03	.09	2.64	6.08	1.97	.02	.04						37
Feb. 11–12, 14–19	13,880				4.59	2.22	4.26	.12	2.69	6.31	2.12	.02	.05						38
Feb. 21–26, 28–29	18,320				4.74	2.30	4.59		2.82	6.56	2.20	.02	.03						39
Mar. 1–4, 6–10	18,170				4.59	2.30	4.34	.09	2.80	6.29	2.17	.02	.04						38
Mar. 11, 13–20	13,230				4.59	2.30	4.51	.09	2.85	6.35	2.23	.01	.05						39
Mar. 21–25, 27–31	13,570				4.69	2.38	4.50	.10	2.84	6.50	2.28	.01	.04						39
Apr. 1, 3–8, 10	13,040				4.79	2.47	4.45	.10	2.77	6.68	2.31	.01	.04						38
Apr. 11–15, 17–20	11,940				4.69	2.38	4.63	.12	2.77	6.64	2.37	.02	.02						39
Apr. 21–22, 24–29	11,910				4.79	2.47	4.57	.11	2.84	6.66	2.40	.02	.02						38
May 1–6, 8–10	11,620				4.79	2.47	4.51	.11	2.87	6.60	2.37	.02	.02						38
May 11–13, 15–20	11,320				4.74	2.55	4.70	.09	2.95	6.68	2.40	.01	.04						39
May 22–27, 29–31	10,070				4.79	2.55	4.66	.09	2.93	6.68	2.43	.01	.04						39
June 1–3, 5–10	8,945				4.89	2.55	4.61	.07	2.92	6.75	2.40	.01	.04						38
June 12–17, 19–20	7,544				4.79	2.63	4.60	.08	2.88	6.75	2.43	.02	.02						38
June 21–24, 26–30	8,917				4.74	2.55	4.65	.09	2.87	6.72	2.40	.02	.02						39
July 1, 3–8, 10	7,790				4.69	2.63	4.44	.09	2.74	6.70	2.37	.02	.02						37
July 11–15, 17–20	8,026				4.54	2.47	4.58	.13	2.67	6.70	2.31	.02	.02						39
July 21–22, 25–29, 31	5,320				4.59	2.47	4.56	.12	2.70	6.72	2.28	.02	.02						39
Aug. 1–5, 7, 9–10	6,588				4.49	2.38	4.56	.13	2.61	6.64	2.28	.01	.02						39
Aug. 11–12, 14–19	7,513				4.49	2.47	4.42	.12	2.62	6.58	2.26	.02	.02						38
Aug. 21–26, 28–31	8,586				4.54	2.38	4.35	.09	2.56	6.54	2.23	.01	.02						38
Sept. 1–2, 4, 6–9	9,024				4.49	2.30	4.39	.09	2.59	6.45	2.20	.01	.02						39
Sept. 11–16, 18–20	11,580				4.44	2.22	4.43	.08	2.61	6.33	2.20	.01	.02						40
Sept. 21–23, 25–30	10,860				4.44	2.38	4.18	.08	2.62	6.29	2.14	.01	.02						38
Weighted average	11,920				4.59	2.30	4.26	0.10	2.70	6.37	2.14	0.02	0.04						38

GUNNISON RIVER NEAR GRAND JUNCTION, COLO.

LOCATION.—Half a mile upstream from point of diversion of Redlands power canal and 3 miles upstream from mouth and Grand Junction.
DRAINAGE AREA.—Approximately 8,020 square miles.
RECORDS AVAILABLE.—Chemical analyses: October 1931 to September 1944.
EXTREMES, 1943–44.—Dissolved solids: Maximum, 1,810 parts per million Sept. 11–13, 15–20; minimum, 203 parts per million May 11–20.
Total hardness: Maximum, 961 parts per million Sept. 11–13, 15–20; minimum, 146 parts per million May 11–20.
EXTREMES, 1931–44.—Dissolved solids: Maximum, 2,980 parts per million July 21–31, 1937; minimum, that of May 11–20, 1944.
Total hardness: (1931–35, 1943–44) Maximum, 1,370 parts per million Sept. 1–20, 1934; minimum, 143 parts per million June 1–10, 1933.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1009.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet) [1]	Specific conductance ($K \times 10^5$ at 25° C.)	Temperature (°F).	pH	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
																	Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1943	965	188																				
Oct. 12–20	1,124	185			22		182	75	163		235	842	22		21		1,440	1.96	4,370	762	570	32
Oct. 21–31	1,249	172																				
Nov. 1–10	1,296	160																				
Nov. 11–20	1,302	151			20		141	61	126		219	635	18		14		1,120	1.52	3,940	603	424	31
Nov. 21–30	1,101	148																				
Dec. 1–10	1,079	161																				
Dec. 11–20	946	160			13		140	67	136		220	676	20		12		1,170	1.59	2,990	625	444	32
Dec. 21–31	957	155																				
Jan. 1–10, 1944	792	164																				
Jan. 11, 13–20	906	166			21		148	70	150		249	705	21		19		1,260	1.71	3,080	658	454	33
Jan. 21–31	812	149																				
Feb. 1–10	860	146																				
Feb. 11–15, 17–20	796	142			16		122	59	127		214	585	22		9.2		1,050	1.43	2,260	547	372	34
Feb. 21–23, 25, 27–29	847	141																				
Mar. 1–10	820	140																				
Mar. 11–20	943	144			14		120	59	133		208	600	21		9.5		1,060	1.44	2,700	542	372	35
Mar. 21–31	844	142																				
Apr. 1–2, 4–10	1,379	106																				
Apr. 11–12, 14–20	1,797	103					96	36	80		199	366	12		2.0		690	.94	3,350	388	224	31
Apr. 21–30	1,965	110																				
May 1–10	4,917	68.2																				

May 11–20	17,270	34.0					42	10	15	121	73	2		1.7		203	.28	9,470	146	47	19
May 22–31	14,550	35.4																			
June 1–10	13,250	43.3																			
June 11–20	11,840	38.4					45	8.5	21	108	94	3.8		.5		226	.31	7,220	148	59	23
June 21–30	9,880	41.8																			
July 2, 4–10	6,414	50.8																			
July 11–20	2,806	83.2			8		86	28	56	154	299	8.0		4.0		565	.77	4,280	330	204	27
July 21–31	2,177	125																			
Aug. 1–10	971	160																			
Aug. 11–20	773	191			15		201	76	161	221	905	23		10		1,500	2.04	3,130	814	633	30
Aug. 21–31	770	195																			
Sept. 1–7, 9–10	702	206																			
Sept. 11–13, 15–20	735	222			20		240	88	199	239	1,110	24		11		1,810	2.46	3,590	961	765	31
Sept. 21–23, 25–29	822	233																			

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Oct. 1–10, 1943	965																				
Oct. 12–20	1,124						9.08	6.17	7.09	3.85	17.53	0.62		0.34							3
Oct. 21–31	1,249																				
Nov. 1–10	1,296																				
Nov. 11–20	1,302						7.04	5.02	5.49	3.59	13.22	.51		.23							31
Nov. 21–30	1,101																				
Dec. 1–10	1,079																				
Dec. 11–20	946						6.99	5.51	5.93	3.61	14.07	.56		.19							3
Dec. 21–31	957																				
Jan. 1–10, 1944	792																				
Jan. 11, 13–20	906						7.39	5.76	6.51	4.08	14.68	.59		.31							33
Jan. 21–31	812																				
Feb. 1–10	860																				
Feb. 11–15, 17–20	796						6.09	4.85	5.52	3.51	12.18	.62		.15							34
Feb. 21–23, 25–27 29	847																				
Mar. 1–10	820																				
Mar. 11–20	943						5.99	4.85	5.80	3.41	12.49	.59		.15							35
Mar. 21–31	844																				
Apr. 1–2, 4–10	1,379																				
Apr. 11–12, 14–20	1,797						4.79	2.96	3.50	3.26	7.62	.34		.03							31
Apr. 21–30	1,965																				
May 1–10	4,917																				
May 11–20	17,270						2.10	.82	.67	1.98	1.52	.06		.03							19
May 22–31	14,550																				

GUNNISON RIVER NEAR GRAND JUNCTION, COLO.—Continued

Chemical analyses, in equivalents per million, water year October 1943 to September 1944—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C)	Temperature (°F)	pH	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
																	Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
June 1–10	13,250																					
June 11–20	11,840						2.25	0.70	0.90		1.77	1.96	0.11		0.01							23
June 21–30	9,880																					
July 2, 4–10	6,414																					
July 11–20	2,806						4.29	2.30	2.45		2.52	6.23	.23		.06							27
July 21–31	2,177																					
Aug. 1–10	971																					
Aug. 11–20	773						10.03	6.25	6.99		3.62	18.84	.65		.16							30
Aug. 21–31	770																					
Sept. 1–7, 9–10	702																					
Sept. 11–13, 15–20	735						11.98	7.24	8.67		3.92	23.11	.68		.18							31
Sept. 21–23, 25–29	822																					

[1] Includes flow of Redlands power canal.

GREEN RIVER AT GREEN RIVER, UTAH

LOCATION.—At gaging station, 1 mile southeast of town of Green River and 22 miles upstream from San Rafael River.
DRAINAGE AREA.—40,600 square miles.
RECORDS AVAILABLE.—Chemical analyses: October 1928 to September 1944.
Sediment records: May 1939 to September 1944.
EXTREMES.—1943–44.—Dissolved solids: Maximum, 935 parts per million Jan. 11–12, 14–20; minimum, 238 parts per million June 11–20.
Total hardness: Maximum, 469 parts per million Jan. 11–12, 14–20; minimum, 161 parts per million June 11–20.
Sediment loads: Maximum, 916,000 tons per day Apr. 6; minimum, less than 200 tons per day Sept. 3.
EXTREMES, 1928–44.—Dissolved solids—Maximum, 2,010 parts per million Sept. 29, 1943; minimum, 194 parts per million June 21–30, 1933.
Total hardness: 1928–35, 1943–44. Maximum, 488 parts per million Dec. 21–31, 1932; minimum, 128 parts per million June 21–30, 1933.
Sediment loads: Maximum, 2,230,000 tons per day July 11, 1936; minimum, less than 100 tons per day on several days.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1009.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean charge charge (second-feet)	Specific conductance ($K \times 10^5$ at 25°C)	Temperature (°F)	pH	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
																	Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1943	1,677	113																				
Oct. 11–19	1,743	119			13		79	38	126		226	347	56		2.8		773	1.05	3,640	353	168	44
Oct. 21–27, 29–31	2,491	126																				
Nov. 1–10	2,518	112																				
Nov. 11–13, 15–20	2,304	113			14		82	43	109		253	328	48		2.8		751	1.02	4,670	382	174	38
Nov. 21–30	2,533	121																				
Dec. 1–6, 10	1,985	118																				
Dec. 12–14, 16–20	1,725	124			7.6		88	46	124		262	366	56		3.0		820	1.12	3,820	408	194	40
Dec. 21–31	1,765	128																				
Jan. 1–3, 5–10, 1944	1,178	139																				
Jan. 11–12, 14–20	1,257	138			12		104	51	138		301	415	61		5.5		935	1.27	3,170	469	222	39
Jan. 21–22, 24–31	1,664	120																				
Feb. 1–10	1,884	111																				
Feb. 12–20	2,023	112			10		87	43	113		253	344	50		3.6		775	1.05	4,230	394	186	38
Feb. 21–29	1,896	118																				
Mar. 1–10	2,309	124																				
Mar. 11–20	5,192	123			8.0		82	41	136		240	384	50		3.6		823	1.12	11,500	373	176	44
Mar. 21–31	4,748	112																				

GREEN RIVER AT GREEN RIVER, UTAH—Continued

Chemical analyses, in parts per million, water year October 1943 to September 1944—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C)	Temperature (°F)	pH	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
																	Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Apr. 1–10	12,360	99.7																				
Apr. 11–20	9,283	85.2					69	24	83		225	214	30		1.3		532	0.72	13,300	270	86	40
Apr. 21–30	5,015	93.0																				
May 1–10	6,962	91.8																				
May 11–20	15,830	60.1					52	22	45		194	130	15		2.2		362	.49	15,500	220	62	31
May 21–31	21,650	47.8																				
June 1–3, 5, 7–10	25,830	6.1																				
June 11–20	24,020	41.9					50	8.7	25		166	63	8.8		.3		238	.32	15,400	161	25	25
June 21–23, 25–30	20,290	40.7																				
July 1–10	16,500	42.6																				
July 11–20	7,985	51.5			4		50	16	37		169	105	16		.8		312	.42	6,730	191	52	30
July 21–31	4,844	69.4																				
Aug. 1–10	3,190	72.8																				
Aug. 11–20	2,097	84.4			10		64	27	84		204	225	36		1.2		548	.75	3,100	270	104	49
Aug. 21–22, 24–27, 29–31	1,739	100																				
Sept. 1–10	1,346	99.4																				
Sept. 11–20	2,300	110			8.5		68	36	125		208	330	56		1.2		725	.99	2,300	318	151	46
Sept. 21–30	1,150	119																				

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Oct. 1–10, 1943	1,677																				
Oct. 11–19	1,743						3.94	3.12	5.49	3.70	7.22	1.58		0.05							44
Oct. 21–27, 29–31	2,491																				
Nov. 1–10	2,518																				
Nov. 11–13, 15–20	2,304						4.09	3.54	4.75	4.15	6.83	1.35		.05							38
Nov. 21–30	2,533																				
Dec. 1–6, 10	1,985																				
Dec. 12–14, 16–20	1,725						4.39	3.78	5.37	4.29	7.62	1.58		.05							40
Dec. 21–31	1,765																				
Jan. 1–3, 5–10, 1944	1,178																				
Jan. 11–12, 14–20	1,257						5.19	4.19	6.00	4.93	8.64	1.72		.09							39
Jan. 21–22, 24–31	1,664																				
Feb. 1–10	1,884																				
Feb. 12–20	2,023						4.34	3.54	4.90	4.15	7.16	1.41		.06							38
Feb. 21–29	1,896																				
Mar. 1–10	2,309																				
Mar. 11–20	5,192						4.09	3.37	5.93	3.93	7.99	1.41		.06							44
Mar. 21–31	4,748																				
Apr. 1–10	12,360																				
Apr. 11–20	9,283						3.44	1.97	3.61	3.69	4.46	.85		.02							40
Apr. 21–30	5,015																				
May 1–10	6,962																				
May 11–20	15,830						2.60	1.81	1.94	3.18	2.71	.42		.04							31
May 21–31	31,650																				
June 1–3, 5, 7–10	25,830																				
June 11–20	24,020						2.50	.72	1.07	2.72	1.31	.25		.01							25
June 21–23, 25–30	20,290																				
July 1–10	16,500																				
July 11–20	7,985						2.50	1.32	1.60	2.77	2.19	.45		.01							30
July 21–31	4,844																				
Aug. 1–10	3,190																				
Aug. 11–20	2,097						3.19	2.22	3.65	3.34	4.68	1.02		.02							49
Aug. 21–22, 24–27, 29–31	1,739																				
Sept. 1–10	1,346																				
Sept. 11–20	2,300						3.39	2.96	5.45	3.33	6.87	1.58		.02							46
Sept. 21–30	1,150																				

GREEN RIVER AT GREEN RIVER, UTAH—Continued

Suspended sediment, water year October 1943 to September 1944

Day	October			November			December		
	Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment	
		Mean concentration (percent)	Tons per day		Mean concentration (percent)	Tons per day		Mean concentration (percent)	Tons per day
1	1,790	0.25	12,100	2,440	0.16	10,500	2,220	0.03	1,800
2	1,680	.08	3,630	2,470	.11	7,340	2,120	.02	1,140
3	1,730	.10	4,670	2,530	.11	7,510	2,080	.02	1,120
4	1,700	.18	8,260	2,640	.11	7,840	2,060	.03	1,670
5	1,640	.23	10,200	2,700	.09	6,560	1,960	.02	1,060
6	1,660	.12	5,380	2,620	.09	6,370	1,730	.03	1,400
7	1,710	.09	4,160	2,510	.08	5,420	1,710	.03	1,390
8	1,660	.07	3,140	2,490	.07	4,710	1,830	.02	988
9	1,610	.05	2,170	2,440	.09	5,930	2,080	.03	1,680
10	1,590	.04	1,720	2,340	.15	9,480	2,060	.04	2,220
11	1,570	.03	1,270	2,280	.09	5,540	1,960	[1].03	1,590
12	1,550	.03	1,260	2,280	.07	4,310	1,830	.02	988
13	1,540	.03	1,250	2,280	.06	3,690	1,860	.02	1,000
14	1,590	.04	1,720	2,300	[1].05	3,100	1,750	.02	945
15	1,810	.03	1,470	2,300	.04	2,480	1,640	.02	886
16	1,790	[1].05	2,420	2,240	.04	2,420	1,660	.03	1,340
17	1,790	.13	6,280	2,260	.04	2,440	1,770	.02	956
18	1,770	.15	7,170	2,320	.03	1,880	1,680	.02	907
19	2,280	.16	9,850	2,380	.03	1,930	1,550	.01	418
20	2,620	1.76	125,000	2,400	.04	2,590	1,550	.01	418
21	2,260	.35	21,400	2,400	.04	2,590	1,400	.01	378
22	2,680	.58	42,000	2,700	.25	18,200	1,380	.01	373
23	2,420	.52	34,000	2,700	.36	26,200	1,680	.02	907
24	2,320	.64	40,100	2,570	.18	12,500	2,060	.03	1,670
25	2,360	[1].50	31,900	2,570	.08	5,550	2,200	.03	1,780
26	2,510	.17	11,500	2,570	.06	4,160	2,260	.04	2,440
27	2,620	.10	7,070	2,530	.06	4,100	2,220	.03	1,800
28	2,640	.13	9,270	2,510	.04	2,710	2,080	.02	1,120
29	2,590	.10	6,990	2,440	.04	2,640	1,790	.02	967
30	2,530	.10	6,830	2,340	.04	2,530	1,290	.02	690
31	2,470	.22	14,700				1,060	.02	527
Total load (tons)			438,900			183,200			36,672

	January			February			March		
1	890	0.02	481	1,800	0.03	1,460	2,020	0.03	1,640
2	950	.02	513	1,800	.04	1,940	2,120	.06	3,430
3	1,010	.01	273	1,840	.04	1,990	2,240	.12	7,260
4	1,030	[1].01	278	1,810	.02	977	2,340	.14	8,850
5	1,480	.01	400	1,830	.03	1,480	2,320	.13	8,140
6	1,520	.05	2,050	1,860	.04	2,010	2,220	.07	4,200
7	1,540	.04	1,660	1,960	.06	3,180	2,280	.03	1,850
8	1,240	.03	1,000	1,960	.06	3,180	2,470	[1].04	2,670
9	1,120	[1].03	907	1,980	.04	2,140	2,530	.04	2,730
10	1,000	.02	540	2,000	.04	2,160	2,550	.04	2,750
11	900	.02	486	2,180	.03	1,770	2,730	.12	8,850
12	1,000	.03	810	2,200	.05	2,970	2,920	.31	24,400
13	1,000	.02	540	2,200	.03	1,780	3,040	.29	23,800
14	1,100	.03	891	2,100	.02	1,130	3,200	.17	14,700
15	1,180	.02	637	2,060	.03	1,670	3,740	.21	21,200
16	1,340	.02	724	1,960	.02	1,060	4,720	.31	39,500
17	1,420	.02	767	1,940	.01	524	6,640	.70	125,000
18	1,430	.03	1,160	1,900	.02	1,030	10,300	1.59	442,000
19	1,470	.03	1,190	1,880	.02	1,020	7,950	.55	118,000
20	1,470	.04	1,590	1,810	.02	977	6,680	.46	83,000
21	1,450	.04	1,570	1,830	.02	988	6,170	.36	60,000
22	1,500	.02	810	1,830	.02	988	5,510	.30	44,600
23	1,590	[1].03	1,290	1,790	.02	967	4,970	.21	28,200
24	1,730	.04	1,870	1,830	.02	988	4,680	.19	24,000
25	1,700	.03	1,380	1,940	.02	1,050	4,720	.15	19,100
26	1,660	.03	1,340	1,920	.02	1,040	5,300	.21	30,100
27	1,700	.02	918	1,980	.02	1,070	4,620	.21	26,200
28	1,770	.02	956	1,960	.03	1,590	4,230	.17	19,400
29	1,700	.02	918	1,980	.02	1,070	4,120	.13	14,500
30	1,700	.05	2,300				4,120	.13	14,500
31	1,800	.04	1,940				3,790	.12	12,300
Total load (tons)			32,190			44,200			1,237,000

[1] Estimated.

GREEN RIVER AT GREEN RIVER, UTAH—Continued

Suspended sediment, water year October 1943 to September 1944—Continued

Day	April			May			June		
	Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment	
		Mean concentration (percent)	Tons per day		Mean concentration (percent)	Tons per day		Mean concentration (percent)	Tons per day
1	3,710	0.12	12,000	5,340	0.16	23,100	22,900	0.42	260,000
2	3,900	.11	11,600	6,130	.20	33,100	24,600	.34	226,000
3	4,150	.13	14,600	7,720	.40	83,400	26,400	.40	285,000
4	13,100	1.34	474,000	7,680	.34	70,500	27,900	.33	249,000
5	16,000	1.67	721,000	7,140	.38	73,300	27,500	.39	290,000
6	17,400	1.95	916,000	6,810	.42	77,200	27,200	.34	250,000
7	17,800	1.61	774,000	7,140	.41	79,000	26,900	.32	232,000
8	17,000	1.64	753,000	7,280	.36	70,800	26,500	.33	236,000
9	15,900	1.64	704,000	7,100	.35	67,100	25,100	.32	217,000
10	14,600	1.39	548,000	7,280	.39	76,700	23,300	.31	195,000
11	12,900	1.32	460,000	7,770	.40	83,900	23,300	.35	220,000
12	11,000	1.20	356,000	9,830	.60	159,000	23,800	.26	167,000
13	9,980	.86	232,000	11,200	.64	194,000	24,700	.28	187,000
14	9,200	.72	179,000	13,200	.77	274,000	25,700	.28	194,000
15	8,610	.60	139,000	14,000	.76	287,000	26,400	.25	178,000
16	8,420	[1].55	125,000	16,000	.92	397,000	25,600	.23	159,000
17	8,900	.51	123,000	19,200	.89	461,000	24,700	.24	160,000
18	9,100	.49	120,000	21,500	.91	528,000	23,500	.20	127,000
19	7,910	.42	89,700	22,700	.83	509,000	21,800	.24	141,000
20	6,810	.37	68,000	22,900	.72	445,000	20,700	.21	117,000
21	6,090	.30	49,300	23,400	.75	474,000	20,400	.20	110,000
22	5,510	.28	41,700	21,500	.64	372,000	20,700	.24	134,000
23	5,200	.23	32,300	20,300	.75	411,000	20,800	.22	124,000
24	4,840	.18	23,500	20,300	.71	389,000	19,700	.18	95,700
25	4,650	.15	18,800	21,200	.63	361,000	19,200	.20	104,000
26	4,590	.12	14,900	22,800	.56	345,000	19,400	.32	168,000
27	4,620	.11	13,700	23,800	.48	308,000	20,300	.22	121,000
28	4,780	.11	14,200	22,600	.46	281,000	22,700	.30	184,000
29	4,870	.10	13,100	21,000	.42	238,000	20,400	.23	127,000
30	5,000	.14	18,900	20,400	.42	231,000	19,300	.22	115,000
31				20,800	.36	202,000			
Total load (tons)			7,060,000			7,604,000			5,373,000

	July			August			September		
1	19,500	0.19	100,000	4,060	0.05	5,480	1,480	0.01	400
2	20,100	.19	103,000	3,820	.04	4,130	1,420	.01	383
3	20,000	.19	103,000	3,580	.04	3,870	1,380	.00	0
4	19,100	.22	113,000	3,340	.03	2,710	1,370	.01	370
5	17,400	.23	108,000	3,170	.03	2,570	1,340	.01	362
6	15,800	.19	81,100	3,060	.03	2,480	1,340	.01	362
7	14,200	.17	65,200	2,950	.03	2,390	1,320	.01	356
8	13,600	.17	62,400	2,770	.03	2,240	1,300	.01	351
9	13,000	.15	52,600	2,640	.02	1,430	1,270	.01	343
10	12,300	.13	43,200	2,510	.03	2,030	1,240	.02	670
11	11,300	.10	30,500	2,420	.08	5,230	1,220	.02	659
12	10,300	.09	25,000	2,340	.03	1,900	1,220	.02	659
13	9,540	.07	18,000	2,320	.02	1,250	1,210	.02	653
14	8,850	.08	19,100	2,200	.02	1,190	1,210	.02	653
15	8,090	.08	17,500	2,100	.02	1,130	1,200	.02	648
16	7,410	.06	12,000	2,020	.05	2,730	1,180	.01	319
17	6,850	.04	7,400	1,980	.03	1,600	1,150	.02	621
18	6,240	.05	8,420	1,940	.02	1,050	1,140	.02	616
19	5,830	.05	7,870	1,840	.02	994	1,120	.02	605
20	5,440	.04	5,880	1,810	.02	977	1,120	.02	605
21	5,130	.03	4,160	1,770	.01	478	1,120	.02	605
22	4,940	.03	4,000	1,750	.01	472	1,140	.02	616
23	4,940	.06	8,000	1,750	.01	472	1,140	.02	616
24	5,200	.08	11,200	1,810	.01	489	1,140	.02	616
25	4,870	.18	23,700	2,120	.03	1,720	1,120	.02	605
26	4,720	.05	6,370	1,880	.26	13,200	1,120	.01	302
27	5,100	.11	15,100	1,730	.14	6,540	1,140	.01	308
28	4,840	.14	18,300	1,660	.05	2,240	1,160	.01	313
29	4,720	.27	34,400	1,570	.02	848	1,200	.01	324
30	4,530	.11	13,500	1,550	.02	837	1,220	.01	329
31	4,290	.10	11,600	1,540	.01	416			
Total load (tons)			1,134,000			75,090			14,270
Total load for year								tons	23,230,000

[1] Estimated.

SAN JUAN RIVER AT SHIP ROCK, N. MEX.

LOCATION.—At highway bridge approximately 3 miles above gaging station and about 3 miles downstream from Chaco River.
DRAINAGE AREA.—Approximately 12,800 square miles.
RECORDS AVAILABLE.—Chemical analyses: February 1941 to September 1944.
EXTREMES. 1943–44.—Dissolved solids: Maximum, 691 parts per million Feb. 1–3, 6–10; minimum, 115 parts per million June 21–28, 30.
Total hardness: Maximum, 338 parts per million Feb. 11–20; minimum, 70 parts per million June 21–28, 30.
EXTREMES, 1941–44.—Dissolved solids: Maximum, 1,480 parts per million Aug. 31, 1943; minimum, that of June 21–28, 30, 1944.
Total hardness: Maximum, 535 parts per million Aug. 31, 1943; minimum, that of June 21–28, 30, 1944.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1009.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1, 3–10 1943	820	75.4	11	0.03	77	16	62	3.5	160	226	20	0.5	1.9	0.2	497	0.68	1,100	262	127	34
Oct. 11–15, 17–20	811	75.8	9.6	.02	79	16	62	3.8	162	230	20	.3	2.5	.6	503	.68	1,100	263	130	34
Oct. 21–23, 25–29, 31	992	71.4	8.4	.02	74	15	59	4.4	157	212	18	.5	4.0	.2	473	.64	1,270	246	118	34
Nov. 1, 3–10	909	74.9	9.2	.04	80	16	60	4.2	163	227	20	.4	4.0	.2	501	.68	1,230	266	132	33
Nov. 12–18, 20	806	80.7	8.8	.02	86	18	65	2.8	166	252	23	.4	2.6	.2	540	.73	1,180	288	152	33
Nov. 21–28, 30	798	84.2	14	.06	84	18	72	5.9	155	272	24	.4	3.1	.4	570	.78	1,230	284	156	35
Dec. 1–9	707	87.8	14	.06	92	20	73	3.8	169	286	25	.3	3.4	.4	601	.82	1,150	312	173	33
Dec. 11–14, 16–20	653	94.5	11	.06	95	22	83	5.8	175	317	27	.3	3.6	.4	651	.89	1,150	328	184	35
Dec. 21–24, 26–31	683	93.4	14	.06	94	21	85	2.7	175	311	27	.3	3.3	.4	645	.88	1,190	321	178	36
Jan. 1–6, 8–10, 1944	549	91.3	17	.02	83	23	81	3.6	125	323	28	.3	3.6	.3	624	.85	925	302	199	37
Jan. 11–17, 19–20	522	94.9	15	.02	98	22	82	2.8	168	322	28	.3	4.2	.3	657	.89	926	335	198	34
Jan. 22–28, 30–31	639	91.3	16	.02	97	21	76	3.0	176	303	24	.3	3.6	.3	631	.86	1,090	328	184	33
Feb. 1–3, 6–10	749	99.2	16	.02	98	20	96	3.0	177	341	25	.3	4.0	.3	691	.94	1,400	326	182	39
Feb. 11–20	614	95.4	14	.02	99	22	83	3.0	176	325	26	.3	3.2	.2	662	.90	1,100	338	194	35
Feb. 21–29	646	95.4	15	.02	97	22	87	2.8	170	330	27	.3	3.1	.2	668	.91	1,170	332	193	36
Mar. 1–10	742	94.1	16	.03	93	21	83	3.4	175	310	25	.3	2.4	.3	640	.87	1,280	318	175	36
Mar. 11–20	1,206	79.4	14	.05	77	18	67	3.2	160	245	18	.3	2.8	.3	524	.71	1,710	266	135	35
Mar. 21, 23–31	1,053	75.7	13	.02	78	20	58	3.4	159	239	17	.3	2.2	.3	510	.69	1,450	276	146	31
Apr. 1–7	2,970	54.5	14	.08	59	16	34	2.7	134	158	8.0	.3	3.4	.2	361	.49	2,890	213	103	25
Apr. 10–13, 15–20	3,170	43.0	15	.10	48	12	22	1.8	120	110	4.0	.2	2.0	.2	274	.37	2,350	170	71	22
Apr. 22, 24–30	3,088	42.9	14	.06	47	12	26	1.8	123	109	6.0	.2	2.0	.2	279	.38	2,330	167	66	25
May 1, 3, 5–10	5,039	32.8	13	.12	38	8.8	18	1.4	111	68	5.0	.3	1.6	.1	209	.28	2,840	131	40	22

May 11-14, 17-20	11,940	24.3	12	.20	31	5.8	11	1.1	92	43	2.5	.4	1.4	.1	154	.21	4,960	102	26	18
May 21-28, 31	12,610	20.5	13	.18	27	4.4	9.9	1.4	87	32	2.0	.2	.7	.0	134	.18	4,560	88	14	20
June 1, 3-10	11,200	21.2	14	.19	26	4.4	9.9	1.3	77	37	2.4	.2	.7	.1	134	.18	4,050	84	20	20
June 11-13, 15-20	11,710	18.3	10	.08	23	3.7	9.7	1.0	73	30	2.2	.2	.4	.1	116	.16	3,670	72	12	22
June 21-28, 30	10,700	18.1	11	.11	22	3.6	10	.9	69	31	2.2	.2	.4	.1	115	.16	3,320	70	14	24
July 1-2, 4-7, 9-10	6,960	21.6	12	.08	25	4.3	13	1.0	72	44	3.2	.2	.6	.1	139	.19	2,610	80	21	26
July 11-19	3,317	33.0	14	.05	35	6.6	25	1.2	92	80	6.8	.3	.8	.2	215	.29	1,930	114	39	32
July 21, 24-31	2,376	43.7	13	.04	47	9.3	31	2.1	116	111	9.0	.2	1.5	.1	281	.38	1,800	156	60	30
Aug. 1-3, 6-10	911	62.1	11	.04	62	13	49	2.1	125	179	17	.3	2.5	.2	398	.54	979	208	106	33
Aug. 11-12, 14-16, 18	775	65.3	14	.32	67	14	59	3.4	148	200	18	.4	2.0	.6	451	.61	944	224	103	36
Aug. 21-29	772	80.0	14	.06	80	15	75	4.2	175	248	18	.5	2.5	.4	543	.74	1,130	261	118	38
Sept. 1-10, Aug. 30	904	52.2	12	.12	50	13	41	2.4	122	144	13	.3	2.2	.4	338	.46	825	178	78	33
Sept. 11, 13-20	714	62.3	8.0	.02	57	14	54	2.7	130	183	15	.4	2.1	.1	400	.54	771	200	94	37
Sept. 21-24, 27-28, 30	1,135	77.3	9.6	.05	74	16	73	3.8	163	238	20	.5	3.2	.2	518	.70	1,590	250	117	38
Sept. 26, 29	2,765	149							256	536	26									
Weighted average	2,907	35.8	12	0.12	39	8.0	24	1.7	101	90	6.6	0.3	1.3	0.1	233	0.32	1,830	130	48	28

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Oct. 1, 3-10, 1943	820				3.84	1.32	2.70	0.09	2.62	4.71	0.56	0.03	0.03						34
Oct. 11-15, 17-20	811				3.94	1.32	2.71	.10	2.66	4.79	.56	.02	.04						34
Oct. 21-23, 25-29, 31	992				3.69	1.23	2.55	.11	2.57	4.41	.51	.03	.06						34
Nov. 1, 3-10	909				3.99	1.32	2.62	.11	2.67	4.73	.56	.02	.06						33
Nov. 12-18, 20	806				4.29	1.48	2.84	.07	2.72	5.25	.65	.02	.04						33
Nov. 21-28, 30	798				4.19	1.48	3.13	.15	2.54	5.66	.68	.02	.05						35
Dec. 1-9	707				4.59	1.64	3.17	.10	2.77	5.95	.71	.02	.05						33
Dec. 11-14, 16-20	653				4.74	1.81	3.61	.15	2.87	6.60	.76	.02	.06						35
Dec. 21-24, 26-31	683				4.69	1.73	3.68	.07	2.87	6.47	.76	.02	.05						36
Jan. 1-6, 8-10, 1944	549				4.14	1.89	3.52	.09	2.05	6.72	.79	.02	.06						37
Jan. 11-17, 19-20	522				4.89	1.81	3.56	.07	2.75	6.70	.79	.02	.07						34
Jan. 22-28, 30-31	639				4.84	1.73	3.30	.08	2.88	6.31	.68	.02	.06						33
Feb. 1-3, 6-10	749				4.89	1.64	4.18	.08	2.90	7.10	.71	.02	.06						39
Feb. 11-20	614				4.94	1.81	3.62	.08	2.88	6.77	.73	.02	.05						35
Feb. 21-29	646				4.84	1.81	3.77	.07	2.79	6.87	.76	.02	.05						36
Mar. 1-10	742				4.64	1.73	3.63	.09	2.87	6.45	.71	.02	.04						36
Mar. 11-20	1,206				3.84	1.48	2.90	.08	2.62	5.10	.51	.02	.05						35
Mar. 21, 23-31	1,053				3.89	1.64	2.52	.09	2.61	4.98	.48	.02	.05						31
Apr. 1-7	2,970				2.94	1.32	1.46	.07	2.20	3.29	.23	.02	.05						25
Apr. 10-13, 15-20	3,170				2.40	.99	.97	.05	1.97	2.29	.11	.01	.03						22
Apr. 22, 24-30	3,088				2.35	.99	1.11	.05	2.02	2.27	.17	.01	.03						25
May 1, 3, 5-10	5,039				1.90	.72	.77	.04	1.82	1.42	.14	.02	.03						22
May 11-14, 17-20	11,940				1.55	.48	.46	.03	1.51	.90	.07	.02	.02						18
May 21-28, 31	12,610				1.35	.36	.43	.04	1.43	.67	.06	.01	.01						20

SAN JUAN RIVER AT SHIP ROCK, N. MEX.—Continued

Chemical analyses, in equivalents per million, water year October 1943 to September 1944—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° (C)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluorate (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Noncarbonate	
June 1, 3–10	11,200				1.30	0.36	0.43	0.03	1.26	0.77	0.07	0.01	0.01							20
June 11–13, 15–20	11,710				1.15	.30	.42	.03	1.20	.62	.06	.01	.01							22
June 21–28, 30	10,700				1.10	.30	.44	.02	1.13	.65	.06	.01	.01							24
July 1–2, 4–7, 9–10	6,960				1.25	.35	.58	.03	1.18	.92	.09	.01	.01							26
July 11–19	3,317				1.75	.54	1.08	.03	1.51	1.67	.19	.02	.01							32
July 21, 24–31	2,376				2.35	.76	1.33	.05	1.90	2.31	.25	.01	.02							30
Aug. 1–3, 6–10	911				3.09	1.07	2.11	.05	2.05	3.73	.48	.02	.04							33
Aug. 11–12, 14–16, 18	775				3.34	1.15	2.57	.09	2.43	4.16	.51	.02	.03							36
Aug. 21–29	772				3.99	1.23	3.28	.11	2.87	5.16	.51	.03	.04							38
Aug. 30, Sept. 1–10	904				2.50	1.07	1.80	.06	2.00	3.00	.37	.02	.04							33
Sept. 11, 13–20	714				2.85	1.15	2.34	.07	2.13	3.81	.42	.02	.03							37
Sept. 21–24, 27–28, 30	1,135				3.69	1.32	3.16	.10	2.67	4.96	.56	.03	.05							38
Sept. 26, 29	2,765								4.20	11.16	.54									
Weighted average	1,830				1.95	0.66	1.04	0.04	1.66	1.87	0.19	0.02	0.02							28

SAN JUAN RIVER NEAR BLUFF, UTAH

LOCATION.—At highway bridge, 2,000 feet downstream from gaging station and 20 miles southwest of Bluff.
DRAINAGE AREA. 23,900 square miles.
RECORDS AVAILABLE.—Chemical analyses: February to June 1927, October 1929 to September 1944. Sediment records: August to September 1928, July 1929 to September 1944.
EXTREMES, 1943–44.—Dissolved solids: Maximum, 970 parts per million Jan. 11–20; minimum, 167 parts per million June 11–20. Total hardness: Maximum, 528 parts per million Jan. 11–20; minimum, 118 parts per million June 11–20. Sediment loads: Maximum, 749,000 tons per day, Sept. 30; minimum, 402 tons per day, Jan. 9.
EXTREMES, 1929–44.—Dissolved solids: Maximum, 1860 parts per million July 21–31, 1934; minimum, that of June 11–20, 1944. Total hardness: Maximum, 874 parts per million July 21–31, 1934; minimum, 109 parts per million July 1–10, 1935. Sediment loads: Maximum, 11,450,000 tons per day, Sept. 23, 1929; minimum, less than 50 tons per day on several days.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1009.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Temperature (° F.)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
																Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1943	892	------	103	12	0.02	104	27	91		180	364	25	0.5	4.9	0.4	717	0.98	1,730	370	223	35
Oct. 11–23	935	------	106	9.6	.04	108	31	83	6.4	193	367	27	.3	9.6	.3	737	1.00	1,860	397	239	31
Nov. 2–10	1,124	------	98.6	8.8	.02	97	28	80		175	335	23	------	7.4	.3	665	.90	2,020	357	214	33
Nov. 11–20	859	------	105	8.0	.02	106	33	76	9.2	188	365	27	.4	6.0	.2	723	.98	1,680	400	246	29
Nov. 21–30	922	------	111	16	.08	116	33	83	6.4	205	388	26	.4	6.0	.6	776	1.06	1,930	425	257	30
Dec. 1–10	834	------	112	14	.04	116	33	86	6.8	205	392	27	.4	7.0	.6	783	1.06	1,760	425	257	30
Dec. 11–20	864	------	120	12	.04	118	36	98	6.4	203	432	29	.4	8.0	.6	840	1.14	1,960	442	275	32
Dec. 21–29, 31	799	------	119	13	.08	120	35	99	6.6	206	431	30	.5	7.2	.6	844	1.15	1,820	444	274	32
Jan. 1–10, 1944	525	------	118	13	.04	119	35	93	5.6	200	419	31	.5	7.0	.6	822	1.12	1,170	441	277	31
Jan. 11–20	400	------	137	12	.02	144	41	107	7.2	232	500	38	.4	5.6	.4	970	1.32	1,050	528	338	30
Jan. 21–31	871	------	114	9.2	.02	118	34	86	5.9	199	402	30	.4	4.7	.4	788	1.07	1,850	434	272	30
Feb. 1–10	1,022	------	120	10	.08	118	33	107	4.2	212	427	32	.4	6.0	.6	842	1.15	2,320	430	256	35
Feb. 11–20	748	------	123	10	.08	119	35	109	5.1	208	447	30	.4	6.0	.4	864	1.18	1,740	441	270	35
Feb. 21–29	774	------	117	11	.08	115	36	101	7.2	192	438	31	.4	5.4	.4	840	1.14	1,760	435	278	33
Mar. 1–5, 7–10	851	------	127	12	.05	120	37	121		211	474	30	.3	5.5	.3	904	1.23	2,080	452	278	37
Mar. 11–20	1,440	------	117	12	.05	110	35	109		205	423	29	.3	5.8	.3	825	1.12	3,210	418	250	36
Mar. 21–31	[1] 1,507	------	101	14	.02	100	30	86	4.2	210	341	23	.3	6.5	.4	708	.96	2,880	373	201	33

SAN JUAN RIVER NEAR BLUFF, UTAH—Continued

Chemical analyses, in parts per million, water year October 1943 to September 1944—Continued

Date of collection	Mean discharge (second-feet)	Temperature (°F.)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
																Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Apr. 1–3	1,933		99.4								331										
Apr. 4–10	3,990		70.8	12	0.02	80	20	48	5.2	198	198	12	0.5	6.0	0.6	479	0.65	5,160	282	119	27
Apr. 11–20	3,592		61.7	14	.20	76	17	31	3.2	194	149	10	.4	2.9	.1	399	.54	3,870	260	100	21
Apr. 21–30	3,310		68.8	14	.12	80	20	39	3.8	196	182	13	.4	2.5	.1	451	.61	4,030	282	121	23
May 1–10	5,350		59.1	13	.04	74	16	28	4.3	210	123	9.5	.3	3.2	.1	375	.51	5,420	250	78	19
May 11–20	12,840		44.3	14	.05	59	11	17	3.0	173	78	5.0	.3	2.3	.1	275	.37	9,530	192	50	16
May 21, 23–27, 29–31	12,810	60	34.2	12	.04	50	7.3	8.7	2.4	141	52	3.8	.2	2.0	.0	208	.28	7,190	155	40	11
June 1–10	11,790	59	32.2	12	.18	45	6.6	10	3.7	127	52	4.0	.3	2.0	.1	198	.27	6,300	140	35	13
June 11–20	12,460	63	27.4	12	.16	37	5.2	9.7	3.0	109	42	3.2	.2	1.0	.0	167	.23	5,620	118	24	15
June 21–30	11,270	67	28.1	14	.12	41	6.2	8.2	5.0	114	43	3.5	.4	.8	.1	178	.24	5,420	128	34	12
July 1–10	7,686	71	29.9	14	.08	39	6.5	7.6	4.0	97	61	5.5	.4	1.0	.2	187	.25	3,880	124	44	11
July 11–20	3,688	73	41.9	10	.05	48	9.6	24	3.0	114	104	8.2	.5	1.5	.2	265	.36	2,640	160	66	24
July 21–31	2,634	73	64.5	13	.12	72	16	41	3.5	146	193	12	.5	1.5	.4	425	.58	3,020	246	126	26
Aug. 1–8, 10	1,078	72	68.8	10	.02	74	17	46	6.4	154	204	16	.4	1.2	.4	451	.61	1,310	254	128	28
Aug. 11–20	1,025	72	89.8	12	.11	92	23	72	6.8	182	295	21	.3	1.8	.5	614	.84	1,700	324	175	32
Aug. 21–31	883	71	117	13	.12	128	26	96	8.4	210	417	25	.4	4.6	.4	822	1.12	1,960	426	254	32
Sept. 1–10	950	71	70.7	10	.02	76	15	54	5.8	170	202	16	.4	2.5	.5	465	.63	1,190	251	112	31
Sept. 11–20	729	67	76.3	8.0	.02	74	17	65	5.4	153	238	18	.4	2.5	.4	504	.69	992	254	129	35
Sept. 21–29	1,382		99.7	9.5	.08	92	23	96	6.2	161	357	24	.4	2.5	.6	690	.94	2,570	324	192	39
Sept. 30	4,180		191								821	28									
Weighted average	[2] 3,205		52.4	13	0.09	62	13	30	4.0	151	134	9.6	0.3	2.6	0.2	343	0.47	2,970	208	84	23

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Oct. 1–10, 1943	892					5.19	2.22	3.94		2.95	7.58	0.71	0.03	0.08					35
Oct. 11–23	935					5.39	2.55	3.63	0.16	3.16	7.64	.76	.02	.15					31
Nov. 2–10	1,124					4.84	2.30	3.47		2.87	6.97	.65		.12					33
Nov. 11–20	859					5.29	2.71	3.32	.24	3.08	7.60	.76	.02	.10					29
Nov. 21–30	922					5.79	2.71	3.63	.16	3.36	8.08	.73	.02	.10					30
Dec. 1–10	834					5.79	2.71	3.74	.17	3.36	8.16	.76	.02	.11					30
Dec. 11–20	864					5.89	2.96	4.28	.16	3.33	8.99	.82	.02	.13					32
Dec. 21–29, 31	799					5.99	2.88	4.31	.17	3.38	8.97	.85	.03	.12					32
Jan. 1–10, 1944	525					5.94	2.88	4.05	.14	3.28	8.72	.87	.03	.11					31
Jan. 11–20	400					7.19	3.37	4.65	.18	3.80	10.41	1.07	.02	.09					30
Jan. 21–31	871					5.89	2.80	3.74	.15	3.26	8.37	.85	.02	.08					30
Feb. 1–10	1,022					5.89	2.71	4.67	.11	3.47	8.89	.90	.02	.10					35
Feb. 11–20	748					5.94	2.88	4.74	.13	3.41	9.31	.85	.02	.10					35
Feb. 21–29	774					5.74	2.96	4.37	.18	3.15	9.12	.87	.02	.09					33
Mar. 1–5, 7–10	851					5.99	3.04	5.26		3.46	9.87	.85	.02	.09					37
Mar. 11–20	1,440					5.49	2.88	4.73		3.36	8.81	.82	.02	.09					36
Mar. 21–31	[1] 1,507					4.99	2.47	3.74	.11	3.44	7.10	.65	.02	.10					33
April 1–3	1,933										6.89								--
April 4–10	3,990					3.99	1.64	2.08	.13	3.25	4.12	.34	.03	.10					27
April 11–20	3,592					3.79	1.40	1.36	.08	3.18	3.10	.28	.02	.05					21
April 21–30	3,310					3.99	1.64	1.70	.10	3.21	3.79	.37	.02	.04					23
May 1–10	5,350					3.69	1.32	1.22	.11	3.44	2.56	.27	.02	.05					19
May 11–20	12,840					2.94	.90	.74	.08	2.84	1.62	.14	.02	.04					16
May 21, 23–27, 29–31	12,810					2.50	.60	.38	.06	2.31	1.08	.11	.01	.03					11
June 1–10	11,790					2.25	.54	.44	.09	2.08	1.08	.11	.02	.03					13
June 11–20	12,460					1.85	.43	.42	.08	1.79	.87	.09	.01	.02					15
June 21–30	11,270					2.05	.51	.36	.13	1.87	.90	.10	.02	.01					12
July 1–10	7,686					1.95	.53	.33	.10	1.59	1.27	.16	.02	.02					11
July 11–20	3,688					2.40	.79	1.05	.08	1.87	2.17	.23	.03	.02					24
July 21–31	2,634					3.59	1.32	1.80	.09	2.39	4.02	.34	.03	.02					26
Aug. 1–8, 10	1,078					3.69	1.40	2.01	.16	2.52	4.25	.45	.02	.02					28
Aug. 11–20	1,025					4.59	1.89	3.11	.17	2.98	6.14	.59	.02	.03					32
Aug. 21–31	883					6.39	2.14	4.18	.21	3.44	8.68	.71	.02	.07					32
Sept. 1–10	950					3.79	1.23	2.34	.15	2.79	4.21	.45	.02	.04					31
Sept. 11–20	729					3.69	1.40	2.81	.14	2.51	4.96	.51	.02	.04					35
Sept. 21–29	1,382					4.59	1.89	4.17	.16	2.64	7.43	.68	.02	.04					39
Sept. 30	4,180										17.09	.79							--
Weighted average	[2] 3,205					3.09	1.07	1.30	0.10	2.48	2.79	0.27	0.02	0.04					23

[1] Includes discharge for Apr. 1–3.
[2] Does not include discharge for 9 days, Oct. 24–Nov. 1, 1943, for which no samples were collected.

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SAN JUAN RIVER NEAR BLUFF, UTAH—Continued

Suspended sediment, water year October 1943 to September 1944

Day	October			November			December		
	Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment	
		Mean concentration (percent)	Tons per day		Mean concentration (percent)	Tons per day		Mean concentration (percent)	Tons per day
1	1,050	0.92	26,100	1,570	0.84	35,600	810	0.14	3,060
2	999	.66	17,800	1,400	.59	22,300	771	.13	2,710
3	922	.58	14,400	1,370	.38	14,100	817	.14	3,090
4	873	.37	8,720	1,200	.31	10,000	831	.16	3,590
5	852	.32	7,360	1,160	.23	7,200	810	.16	3,500
6	859	.30	6,960	1,080	.20	5,830	752	.10	2,030
7	817	.23	5,070	1,010	.17	4,640	790	.13	2,770
8	804	.26	5,640	1,010	.19	5,180	732	.10	1,980
9	845	.23	5,250	999	.15	4,050	852	.18	4,140
10	894	.22	5,310	887	.13	3,110	1,170	.59	18,600
11	831	.18	4,040	845	.12	2,740	1,060	.26	7,440
12	880	.29	6,890	831	.12	2,690	950	.17	4,360
13	950	.24	6,160	887	.14	3,350	894	.13	3,140
14	880	.21	4,990	901	.15	3,650	873	.16	3,770
15	908	.18	4,410	887	.10	2,390	758	.13	2,660
16	957	.16	4,130	873	.11	2,590	838	.15	3,390
17	922	.16	3,980	866	.13	3,040	859	.17	3,940
18	908	.17	4,170	817	.11	2,430	852	.14	3,340
19	922	.17	4,230	852	.12	2,760	817	.11	2,430
20	936	.20	5,050	831	.10	2,240	738	.14	2,790
21	971	.34	8,910	852	.12	2,760	656	.10	1,770
22	1,030	.39	10,800	971	.13	3,410	752	.50	10,200
23	1,060	.29	8,300	1,080	.65	19,000	887	.14	3,350
24	1,040	.25	7,020	852	.19	4,370	936	.17	4,300
25	992	.23	6,160	866	----------	[1] 5,000	943	.14	3,560
26	1,030	.19	5,280	957	.22	5,680	894	.16	3,860
27	936	.23	5,810	1,060	.25	7,160	887	.13	3,110
28	880	.12	2,850	964	.20	5,210	771	.12	2,500
29	950	.15	3,850	838	.15	3,390	700	.08	1,510
30	1,180	.41	13,100	778	.16	3,360	693	.11	2,060
31	1,330	.96	34,500	----------	----------	----------	674	.13	2,370
Total load (tons)	----------	----------	257,200	----------	----------	199,200	----------	----------	121,300

	January			February			March		
1	719	0.11	2,140	957	0.16	4,130	712	0.16	3,080
2	598	.09	1,450	1,060	.21	6,010	712	.18	3,460
3	570	.08	1,230	1,070	.23	6,640	700	.16	3,020
4	564	.07	1,070	1,080	.39	11,400	784	.23	4,870
5	632	.11	1,880	1,130	.48	14,600	922	.30	7,470
6	680	.16	2,940	1,030	.66	18,400	1,160	.35	11,000
7	564	.10	1,520	992	.61	16,300	1,100	.38	11,300
8	409	.10	1,100	1,010	.66	18,000	943	.29	7,380
9	248	.06	402	957	.49	12,700	778	.23	4,830
10	264	.09	642	936	.39	9,860	700	.19	3,590
11	463	.14	1,750	901	.37	9,000	632	.17	2,900
12	373	.14	1,410	922	.32	7,970	674	.17	3,090
13	284	.09	690	797	.21	4,520	1,170	.52	16,400
14	309	.22	1,840	686	.16	2,960	1,880	1.24	62,900
15	438	.14	1,660	726	.18	3,530	1,860	1.03	51,700
16	386	.31	3,230	662	.11	1,970	1,640	1.58	70,000
17	414	.05	559	609	.11	1,810	1,900	1.06	54,400
18	347	.06	562	817	.13	2,870	1,530	.72	29,700
19	396	.05	535	693	.10	1,870	1,410	.57	21,700
20	592	.09	1,440	668	.11	1,980	1,700	.53	24,300
21	732	.10	1,980	656	.08	1,420	1,900	.54	27,700
22	719	.11	2,140	662	.07	1,250	1,580	.50	21,300
23	817	.13	2,870	632	.08	1,370	1,320	.86	30,700
24	1,030	.20	5,560	674	.11	2,000	1,180	.75	23,900
25	1,080	.19	5,540	838	.17	3,850	1,120	.42	12,700
26	943	.18	4,580	817	.21	4,630	1,260	.47	16,000
27	1,010	.27	7,360	880	.14	3,330	1,720	.42	19,500
28	824	.19	4,230	943	.19	4,840	1,510	1.08	44,000
29	680	.12	2,200	866	.14	3,270	1,330	.56	20,100
30	810	.11	2,410	----------	----------	----------	1,220	.52	17,100
31	936	.20	5,050	----------	----------	----------	1,160	.45	14,100
Total load (tons)	----------	----------	71,970	----------	----------	182,500	----------	----------	644,200

[1] Estimated.

SAN JUAN RIVER NEAR BLUFF, UTAH—Continued

Suspended sediment, water year October 1943 to September 1944—Continued

Day	April			May			June		
	Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment	
		Mean concentration (percent)	Tons per day		Mean concentration (percent)	Tons per day		Mean concentration (percent)	Tons per day
1	1,250	0.41	13,800	5,190	0.67	93,900	14,600	0.56	221,000
2	1,900	.45	23,100	4,480	.60	72,600	14,600	.55	217,000
3	2,650	1.56	112,000	4,290	.72	83,400	14,100	.53	202,000
4	2,650	1.47	105,000	4,350	.56	65,800	13,600	.59	217,000
5	2,730	1.48	109,000	4,000	.49	52,900	11,800	.47	150,000
6	3,650	1.04	102,000	3,750	.50	50,600	9,500	.38	97,500
7	4,460	1.51	182,000	4,480	.68	82,300	8,350	.31	69,900
8	4,670	1.54	194,000	6,350	.97	166,000	9,150	.44	109,000
9	5,020	1.06	144,000	7,860	----------	[1] 200,000	10,800	.45	131,000
10	4,750	.87	99,800	8,750	.93	220,000	11,400	.56	172,000
11	4,290	.75	86,900	9,550	1.09	281,000	13,200	.58	207,000
12	3,620	.60	58,600	9,740	1.02	268,000	14,300	.62	239,000
13	3,660	.60	59,300	9,820	.91	241,000	14,300	.40	154,000
14	4,290	.80	92,700	10,200	.87	240,000	12,800	.48	166,000
15	5,120	.70	96,800	12,500	.90	306,000	12,100	.46	150,000
16	4,080	.73	80,400	15,200	.96	394,000	12,000	.39	126,000
17	3,120	.57	48,000	17,200	1.05	488,000	12,200	.47	155,000
18	2,960	.65	51,900	18,100	.91	445,000	12,100	.49	160,000
19	2,560	.40	27,600	15,000	.83	336,000	10,900	.44	129,000
20	2,220	.28	16,800	11,400	.65	200,000	10,700	.48	139,000
21	2,400	.26	16,800	10,400	.60	168,000	11,300	.46	140,000
22	2,930	.49	38,800	10,900	.49	144,000	12,100	.48	157,000
23	2,930	.39	30,900	11,800	.50	159,000	12,200	.72	237,000
24	2,940	.44	34,900	12,400	.55	184,000	11,500	.44	137,000
25	2,730	.48	35,400	14,100	.54	206,000	11,200	.43	133,000
26	3,330	.61	54,800	14,500	.58	227,000	11,600	.34	106,000
27	3,650	.52	51,200	14,000	.58	219,000	11,400	.43	132,000
28	3,200	.75	64,800	12,900	----------	[1] 175,000	11,400	.44	135,000
29	4,000	.60	54,000	12,300	.45	149,000	10,400	.40	112,000
30	4,990	.82	110,000	12,900	.44	153,000	9,590	.44	114,000
31				14,700	.54	214,000			
Total load (tons)			2,195,000			6,284,000			4,614,000

Day	July			August			September		
1	9,010	0.34	82,700	1,540	0.15	6,240	985	0.36	9,570
2	8,970	.33	79,900	1,490	.11	4,430	1,030	.22	6,120
3	8,350	.33	74,400	1,340	.08	2,890	971	.18	4,720
4	7,740	.40	83,600	1,210	.10	3,270	957	.33	8,530
5	7,840	.34	72,000	1,100	.12	3,560	950	.14	3,590
6	7,650	.33	68,200	957	.08	2,070	943	.14	3,560
7	7,880	.35	74,500	804	.10	2,170	985	.16	4,260
8	7,190	.40	77,700	771	.09	1,870	943	.11	2,800
9	6,460	.22	38,400	817	.09	1,990	873	.12	2,920
10	5,770	.24	37,400	752	.11	2,230	866	.12	2,810
11	5,540	.20	29,900	804	.13	2,820	784	.21	4,450
12	5,040	.28	38,100	908	.17	4,170	745	.12	2,410
13	4,430	.26	31,100	1,060	.11	3,150	764	.14	2,890
14	3,710	.25	25,000	908	.14	3,430	719	.10	1,940
15	3,410	.19	17,500	804	.16	3,470	700	.09	1,700
16	3,100	.16	13,400	758	.14	2,870	674	.09	1,640
17	2,800	.15	11,300	700	.09	1,700	732	.07	1,380
18	2,590	.12	8,390	842	.10	2,270	732	.10	1,980
19	2,520	.13	8,850	2,040	2.11	116,000	732	.09	1,780
20	3,740	.11	11,100	1,430	1.75	67,600	712	.07	1,350
21	3,480	.98	92,100	1,010	1.04	28,400	706	.08	1,520
22	3,640	1.36	134,000	936	.69	17,400	686	.07	1,300
23	3,580	.74	71,500	784	1.06	22,400	686	.07	1,300
24	3,150	.66	56,100	831	.47	10,500	674	.08	1,460
25	2,640	.42	29,900	726	.28	5,490	662	.06	1,070
26	2,470	.27	18,000	719	.27	5,240	674	.09	1,640
27	2,460	.22	14,600	859	.28	6,490	1,750	.69	32,600
28	2,220	.15	8,990	999	.44	11,900	3,160	3.71	317,000
29	1,950	.12	6,320	908	.85	20,800	3,440	3.49	324,000
30	1,780	.13	6,250	764	.83	17,100	4,180	6.64	749,000
31	1,600	.08	3,460	1,180	.57	18,200			
Total load (tons)			1,325,000			402,100			1,501,000

Total load for year ---------- tons 17,800,000

[1] Estimated.

SAN JUAN RIVER NEAR BLUFF, UTAH—Continued

Size analyses of suspended sediment, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Suspended sediment													
		Mean daily concentration (percent)[1]	Tons per day	Weight of material in tube (grams)	Percent finer than given size										
					0.0039 mm.	0.0055 mm.	0.0078 mm.	0.0110 mm.	0.0156 mm.	0.0221 mm.	0.0312 mm.	0.0442 mm.	0.0625 mm.	0.125 mm.	0.250 mm.	0.500 mm.
1943															
Oct. 4	873	0.37	8,720						42	52	54	57	59	68	89	
Oct. 5	852	.32	7,360						40	51	55	58	61	75	95	
Oct. 7	817	.23	5,070						33	42	43	46	49	63	93	
Oct. 10	894	.22	5,310						35	44	46	48	51	68	95	
Oct. 14	880	.21	4,990						33	41	43	44	47	61	94	
Oct. 20	936	.20	5,050						27	36	39	42	45	60	94	
Oct. 24	1,040	.25	7,200						31	38	40	41	44	56	95	
Oct. 27	936	.24	5,810						30	36	38	40	44	58	93	
Oct. 31	1,330	.96	34,500						62	76	79	80	81	85	96	
Nov. 3	1,370	.38	14,100						44	53	55	59	61	69	93	
Nov. 7	1,010	.17	4,640						24	31	35	37	41	53	91	
Nov. 10	887	.13	3,110						22	28	30	33	36	43	75	
Nov. 14	901	.15	3,650						18	24	27	31	36	52	87	
Nov. 17	866	.13	3,040						20	26	29	33	36	49	80	
Nov. 21	852	.12	2,760						17	24	28	33	38	56	87	
Nov. 24	852	.19	4,370						21	30	34	38	46	66	90	
Nov. 28	964	.20	5,210						24	31	33	36	40	58	85	
Dec. 1	810	.14	3,060						26	33	35	37	44	60	85	
Dec. 4	831	.16	3,590						17	22	27	32	35	53	86	
Dec. 8, 12, 15, 19	814	.13	2,860	2.5296			10	15	18	20	21	22	24	35	62	80
Dec. 22	752	.50	10,200	2.5088		3	7	27	65	72	74	75	75	76	92	99
Dec. 26	894	.16	3,860	1.0915		26	29	30	31	32	33	35	36	49	80	93
Dec. 29	700	.08	1,510	.4890		15	17	18	21	23	24	26	27	42	87	98
1944																
Jan. 2, 5, 9, 12	463	.10	1,250	1.2401					11	12	14	15	17	26	41	84
Jan. 19, 23, 26	719	.12	2,330				12	14	16	18	19	22	26	35	73	92
Jan. 30, Feb. 2	719	.12	2,330	1.7238			21	24	28	32	36	38	41	51	81	93
Feb. 9	957	.49	12,700	2.3463	6	7	8	10	35	69	71	73	75	78	96	99
Feb. 13	797	.21	4,520	.9987		31	38	52	56	58	59	60	62	65	84	93
Feb. 16	662	.11	1,970	.4800		43	44	46	47	50	52	54	55	62	85	94
Feb. 20, 21	662	.10	1,790	.9928		25	26	27	31	33	35	38	42	56	86	95
Feb. 27	880	.14	3,330	.8113		29	33	35	37	38	40	43	45	55	85	93
Mar. 1	712	.16	3,080	.7315	30	33	36	40	42	44	45	47	49	62	90	97
Mar. 5	922	.30	7,420	1.6891	21	23	28	36	37	38	39	41	43	53	77	85

Mar. 8	943	.29	7,380	1.2660		39	46	55	59	61	62	63	64	72	92	97
Mar. 12	674	.17	3,090	.5810		35	38	39	41	44	45	48	50	65	91	97
Mar. 15	1,860	1.03	51,700	4.1282		1	3	4	45	70	73	76	77	78	97	99
Mar. 19	1,410	.57	21,700	2.9450		6	7	31	44	46	47	51	59	74	90	
Mar. 22	1,580	.50	21,300	2.2613			29	41	53	56	57	58	59	62	82	92
Mar. 26	1,260	.47	16,000	1.9836	12	13	20	29	52	62	64	65	66	72	90	97
Mar. 29	1,330	.56	20,100	2.4585		18	20	40	60	71	72	73	74	78	92	98
Apr. 9	5,020	1.06	144,000	4.3966	1	2	3	8	36	44	50	52	52	53	59	62
Apr. 12	3,620	.60	58,600	2.7466	11	12	17	23	25	27	29	33	36	45	74	88
Apr. 16	4,080	.73	80,400	3.4128	9	13	16	19	23	26	28	32	36	42	75	88
Apr. 23	2,930	.39	30,900	1.4782		8	10	11	14	19	21	26	34	46	81	95
May 1	5,190	.67	93,900	2.3108			26	33	45	48	52	56	58	70	82	89
May 7	4,480	.68	82,300	2.3530		12	20	22	31	35	39	42	47	58	81	93
May 10	8,750	.93	220,000	2.8773			6	12	44	55	61	64	70	73	85	94
May 14	10,200	.87	240,000	2.7021			2	3	4	6	9	15	24	39	52	85
May 17	17,200	1.05	488,000	4.5744			3	8	26	39	45	48	53	61	72	89
May 21	10,400	.60	168,000	2.1830				12	14	17	21	27	34	52	84	95
May 24	12,400	.55	184,000	2.0673		7	10	14	16	19	23	26	36	49	75	94
May 31	14,700	.54	214,000	1.8069			9	10	11	16	19	24	33	51	78	93
June 4	13,600	.59	217,000	1.9394				10	11	13	16	18	23	41	61	85
June 14	12,800	.48	166,000	2.3054				8	9	11	13	16	21	42	71	90
June 18	12,100	.49	160,000	1.8186					8	8	9	14	18	32	58	82
June 21	11,300	.46	140,000	2.5660				5	6	7	9	12	16	33	65	91
June 25	11,200	.43	133,000	1.6286				7	8	9	10	13	17	31	62	85
June 28	11,400	.44	135,000	1.8765				5	6	7	9	11	16	34	75	92
July 2	8,970	.33	79,900	1.5258				6	8	9	10	11	14	23	41	92
July 5	7,840	.34	72,000	1.5317				6	7	10	11	12	13	24		
July 12	5,040	.28	38,100	1.5203					4	4	6	8	9	21	58	79
July 16, 19	2,810	.14	10,600	1.5035				4	5	5	6	7	9	16		
July 21	3,480	.98	92,100	4.3753		18	31	52	65	66	67	68	70	76	91	97
July 23	3,580	.74	71,500	3.6209	6	7	33	43	45	46	47	49	61	69	98	100
July 26, 30	2,125	.20	11,500	1.9642			23	26	27	29	31	33	35	50	96	99
Aug. 2, 6	1,224	.10	3,300	1.0692			7	8	9	10	12	14	15	34	74	94
Aug. 9, 10, 13	876	.10	2,200	2.2587			9	10	11	11	12	14	15	33	91	98
Aug. 19	2,040	2.11	116,000	10.2075	2	20	31	41	47	58	59	63	67	92	97	100
Aug. 20	1,430	1.75	67,600	5.9180	3	4	7	19	30	71	75	80	83	90	99	100
Aug. 23	784	1.06	22,400	4.0934	8	9	29	76	84	88	89	90	91	95	98	100
Aug. 27	859	.28	6,490	1.4232	23	30	43	47	49	50	51	53	55	75	97	99
Aug. 30	764	.83	17,100	3.2432	1	4	17	26	46	77	85	86	87	91	97	100
Sept. 6	943	.14	3,560	.6037	7	13	17	18	20	24	28	31	32	58	88	99
Sept. 10, 13	815	.13	2,860	1.1635	3	4	15	18	19	21	23	26	27	43	94	100

[1] Samples through Dec. 4 analyzed by the decantation method; other analyses by the bottom withdrawal method.

ANIMAS RIVER AT FARMINGTON, N. MEX.

LOCATION.—At gaging station at bridge on State Highway 17, 0.6 mile southeast of Farmington and 1.1 miles upsteam from mouth.
DRAINAGE AREA.—1,360 square miles.
RECORDS AVAILABLE.—Chemical analyses: June 1940 to September 1944.
EXTREMES, 1943–44.—Dissolved solids: Maximum, 1,500 parts per million Aug. 19; minimum, 111 parts per million June 11–17, 19–30.
Total hardness: Maximum, 613 parts per million Aug. 19; minimum, 82 parts per million June 21–30.
EXTREMES, 1940–44.—Dissolved solids: Maximum, that of Aug. 19, 1944; minimum, that of June 11–17, 19–30, 1944.
Total hardness: Maximum, that of Aug. 19, 1944; minimum, that of June 21–30, 1944.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1009.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1943	292	70.1	8.0	0.02	84	16	39	4.5	144	202	23	0.5	3.7	0.7	452	0.61	356	276	158	23
Oct. 11–20	304	72.1	8.0	.02	90	15	42	4.5	158	211	23	.4	2.0	.4	474	.64	389	286	156	24
Oct. 21–31	349	70.0	6.8	.02	89	15	40	5.3	156	203	22	.4	3.6	.2	462	.63	435	284	156	23
Nov. 1–10	369	66.2	6.8	.02	88	14	36	5.0	164	189	20	.4	1.0	.2	441	.60	439	277	142	21
Nov. 11–20	349	66.1	5.6	.02	84	14	35	4.4	150	191	18	.4	1.0	.2	427	.58	402	267	144	22
Nov. 21–30	316	70.6	6.0	.02	92	15	39	4.8	162	208	22	.4	1.0	.2	468	.64	399	291	158	22
Dec. 1–10	298	73.7	7.6	.06	94	16	41	3.8	157	223	22	.5	1.7	.4	487	.66	392	300	172	23
Dec. 11–20	282	74.6	8.4	.06	93	16	45	3.2	155	226	24	.5	1.6	.4	494	.67	376	298	171	24
Dec. 21–31	273	76.4	9.6	.06	96	17	43	4.5	156	233	25	.5	1.5	.6	507	.69	374	310	182	23
Jan. 1–10, 1944	242	77.4	10	.02	94	19	46		149	240	26	.3	2.5	.8	511	.69	334	312	190	24
Jan. 11–20	235	75.4	14	.02	96	17	42	3.4	155	230	25	.4	1.9	.4	506	.69	321	310	182	22
Jan. 21–31	256	73.4	11	.02	94	16	41	3.0	151	226	23	.4	1.8	.3	491	.67	339	300	176	23
Feb. 1–10	274	78.6	9.2	.02	102	17	48		173	242	23	.4	1.6	.3	528	.72	391	324	182	24
Feb. 11–20	243	78.3	10	.02	100	18	44	3.2	159	246	24	.4	1.9	.4	526	.72	345	324	193	23
Feb. 21–29	254	80.3	10	.02	100	18	50	2.9	164	254	24	.4	1.4	.8	542	.74	372	324	189	25
Mar. 1–10	264	77.7	11	.04	95	16	52	2.2	165	238	23	.4	2.5	.3	521	.71	371	303	168	27
Mar. 11–20	367	73.5	9.6	.04	92	16	46	2.2	177	211	22	.4	2.9	.3	489	.67	485	296	150	25
Mar. 21–31	370	69.2	9.6	.02	89	17	37	3.0	171	199	19	.3	2.4	.3	461	.63	461	292	152	21
Apr. 1–5	588	56.7			74	14	29		163	146	13		2.5		359	.49	570	242	108	21
Apr. 6–10	1,005	41.4	7.2	.03	56	9.7	17	1.9	133	95	6	.3	2.4	.1	261	.35	708	180	71	17
Apr. 11–20	725	47.3	8.0	.06	64	12	18	3.6	146	112	10	.2	1.6	.3	301	.41	589	209	90	15
Apr. 21–30	719	48.1	9.2	.08	64	12	21	3.4	153	113	10	.2	1.5	.3	310	.42	602	209	84	17

May 1-10	1,484	37.7	8.0	.08	54	9.3	9.7	2.6	138	73	4.0	.3	2.4	.2	231	.31	926	173	60	11
May 11-20	4,353	25.8	7.4	.11	38	6.0	6.0	1.6	105	42	1.5	.3	2.2	.2	157	.21	1,850	120	34	10
May 21-31	4,895	21.7	6.4	.16	32	4.6	5.3	1.3	90	33	1.9	.2	.9	.1	130	.18	1,720	100	25	10
June 1-10	4,294	22.3	7.2	.14	32	4.6	6.2	1.3	87	37	2.2	.2	.7	.1	134	.18	1,550	100	28	12
June 11-17, 19-20	5,040	19.6	4.0	.04	28	4.5	3.7	.6	75	31	1.8	.2	.6	.3	111	.15	1,510	88	27	8
June 21-30	5,002	18.4	5.8	.08	26	4.1	4.6	1.1	67	33	2.0	.2	.8	.1	111	.15	1,500	82	27	11
July 1-10	3,095	22.2	6.0	.07	30	4.9	8.3	1.0	74	46	3.5	.2	.6	.1	137	.19	1,140	95	34	16
July 11-20	1,433	31.4	6.6	.04	41	6.2	14	1.4	85	75	7.2	.3	1.0	.1	195	.27	754	128	58	18
July 21-31	1,059	39.0	7.6	.04	51	8.1	16	1.5	102	98	8.2	.2	1.0	.1	242	.33	692	161	78	18
Aug. 1-10	462	51.9	7.6	.02	64	10	29	3.5	126	139	14	.4	.5	.3	330	.45	412	200	97	24
Aug. 11-18, 20	316	58.5	12	.02	70	12	33	3.7	124	171	13	.4	.5	.4	377	.51	322	224	122	24
Aug. 19	276	198			216	18		239	185	909	25				1,500	2.04	1,120	613	462	46
Aug. 21-31	259	69.1	12	.04	83	16	42	4.0	117	233	21	.5	.5	.5	470	.64	329	273	177	25
Sept. 1-10	122	86.1	12	.02	110	18	54	4.2	181	274	25	.4	.5	.6	587	.80	193	348	200	25
Sept. 11-20	97.2	91.5	12	.02	116	20	56	4.4	187	296	26	.4	.5	.6	623	.85	164	372	218	25
Sept. 21-26, 30	205	88.9	12	.05	111	20	56	4.6	192	280	26	.4	1.0	.7	606	.82	335	359	202	25
Weighted average	1,104	33.1	6.9	0.08	45	7.3	13	1.7	102	76	6.3	0.3	1.2	0.2	208	0.28	620	142	59	16

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Oct. 1-10, 1943	292				4.19	1.32	1.68	0.12	2.36	4.21	0.65	0.03	0.06						23
Oct. 11-20	304				4.49	1.23	1.84	.12	2.59	4.39	.65	.02	.03						24
Oct. 21-31	349				4.44	1.23	1.74	.14	2.56	4.23	.62	.02	.06						23
Nov. 1-10	369				4.39	1.15	1.55	.13	2.69	3.93	.56	.02	.02						21
Nov. 11-20	349				4.19	1.15	1.54	.11	2.46	3.98	.51	.02	.02						22
Nov. 21-30	316				4.59	1.23	1.71	.12	2.66	4.33	.62	.02	.02						22
Dec. 1-10	298				4.69	1.32	1.78	.10	2.57	4.64	.62	.03	.03						23
Dec. 11-20	282				4.64	1.32	1.95	.08	2.54	4.71	.68	.03	.03						24
Dec. 21-31	273				4.79	1.40	1.86	.12	2.56	4.85	.71	.03	.02						23
Jan. 1-10, 1944	242				4.69	1.56	1.98		2.44	5.00	.73	.02	.04						24
Jan. 11-20	235				4.79	1.40	1.81	.09	2.54	4.79	.71	.02	.03						22
Jan. 21-31	256				4.69	1.32	1.80	.08	2.48	4.71	.65	.02	.03						23
Feb. 1-10	274				5.09	1.40	2.09		2.84	5.04	.65	.02	.03						24
Feb. 11-20	243				4.99	1.48	1.91	.08	2.61	5.12	.68	.02	.03						23
Feb. 21-29	254				4.99	1.48	2.16	.07	2.69	5.29	.68	.02	.02						25
Mar. 1-10	264				4.74	1.32	2.25	.06	2.70	4.96	.65	.02	.04						27
Mar. 11-20	367				4.59	1.32	2.01	.06	2.90	4.39	.62	.02	.05						25
Mar. 21-31	370				4.44	1.40	1.62	.08	2.80	4.14	.54	.02	.04						21
Apr. 1-5	588				3.69	1.15	1.28		2.67	3.04	.37		.04						21
Apr. 6-10	1,005				2.80	.80	.74	.05	2.18	1.98	.17	.02	.04						17
Apr. 11-20	725				3.19	.99	.77	.09	2.39	2.33	.28	.01	.03						15
Apr. 21-30	719				3.19	.99	.90	.09	2.51	2.35	.28	.01	.02						17

ANIMAS RIVER AT FARMINGTON, N. MEX.—Continued

Chemical analyses, in equivalents per million, water year October 1943 to September 1944—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° (C)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
May 1–10	1,484				2.70	0.76	0.42	0.07	2.26	1.52	0.11	0.02	0.04							11
May 11–20	4,353				1.90	.49	.26	.04	1.72	.87	.04	.02	.04							10
May 21–31	4,895				1.60	.38	.23	.03	1.48	.69	.05	.01	.01							10
June 1–10	4,294				1.60	.38	.27	.03	1.43	.77	.06	.01	.01							12
June 11–17, 19–20	5,040				1.40	.37	.16	.02	1.23	.65	.05	.01	.01							8
June 21–30	5,002				1.30	.34	.20	.03	1.10	.69	.06	.01	.01							11
July 1–10	3,095				1.50	.40	.36	.03	1.21	.96	.10	.01	.01							16
July 11–20	1,433				2.05	.51	.59	.04	1.39	1.56	.20	.02	.02							18
July 21–31	1,059				2.55	.67	.71	.04	1.67	2.04	.23	.01	.02							18
Aug. 1–10	462				3.19	.82	1.28	.09	2.07	2.89	.39	.02	.01							24
Aug. 11–18, 20	316				3.49	.99	1.42	.09	2.03	3.56	.37	.02	.01							24
Aug. 19	276				10.78	1.48	10.40		3.03	18.92	.71									46
Aug. 21–31	259				4.14	1.32	1.84	.10	1.92	4.85	.59	.03	.01							25
Sept. 1–10	122				5.49	1.48	2.33	.11	2.97	5.70	.71	.02	.01							25
Sept. 11–20	97.2				5.79	1.64	2.45	.11	3.07	6.16	.73	.02	.01							25
Sept. 21–26, 30	205				5.54	1.64	2.45	.12	3.15	5.83	.73	.02	.02							25
Weighted average	1,104				2.25	0.60	0.57	0.04	1.67	1.58	0.18	0.02	0.02							16

GILA RIVER NEAR SOLOMONSVILLE, ARIZ.

LOCATION.—Within half a mile of gage, approximately 8 miles northeast of Solomonsville and 13 miles downstream from San Francisco River.
DRAINAGE AREA.—Approximately 7,950 square miles.
RECORDS AVAILABLE.—Chemical analyses: June 1943 to September 1944.
EXTREMES, 1943–44.—Dissolved solids: Maximum, 731 parts per million June 11–20; minimum, 217 parts per million Sept. 25, 27–30.
Total hardness: Maximum, 240 parts per million June 11–20; minimum, 118 parts per million Sept. 25, 27–30.
EXTREMES, June 1943–44.—Dissolved solids: Maximum, that of June 11–20, 1944; minimum, that of Sept. 25, 27–30, 1944.
Total hardness: Maximum, 260 parts per million June 23, 1943; minimum, that of Sept. 25, 27–30, 1944.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1009.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–8, 10, 1943	162	79.3	42	0.11	55	11	94	6.8	208	38	130	1.4	1.0	0.6	482	0.66	211	182	12	52
Oct. 11–19	93.0	99.7	44	.15	63	14	125	7.6	224	48	184	1.4	1.0	.6	598	.81	150	214	30	55
Oct. 20	[1] 238	46.0									58									
Oct. 21–31	[1] 154	82.4	40	.14	56	12	100	7.4	217	40	136	1.0	2.0	.4	501	.68	208	190	12	52
Nov. 1–10	129	90.6	40	.07	60	13	113	7.6	222	45	162	1.2	1.0	.4	552	.75	192	203	20	54
Nov. 11–20	132	93.3	38	.10	60	14	117	7.4	234	49	164	1.2	1.0	.4	567	.77	202	207	14	54
Nov. 21–24, 26–30	140	87.1	40	.10	58	13	111	8.0	230	52	150	1.4	.5	1.0	547	.74	207	198	10	54
Dec. 1–10	149	87.6	39	.08	59	13	110	6.6	226	49	148	1.4	.2	.8	538	.73	216	200	16	53
Dec. 11–20	160	82.5	40	.14	54	15	100	5.6	226	48	126	1.6	.5	1.2	502	.68	217	196	12	52
Dec. 21–31	164	85.4	38	.16	56	15	102	5.8	229	50	134	1.6	1.5	.8	517	.70	229	202	14	52
Jan. 1–10, 1944	170	87.8	38	.10	57	14	105	6.0	226	51	140	1.6	4.5	1.2	528	.72	242	200	15	52
Jan. 11–20	161	88.0	39	.10	58	13	107	5.6	232	48	142	1.6	.5	1.0	529	.72	230	198	8	53
Jan. 21–31	164	89.1	40	.14	57	13	108	5.8	231	49	142	1.6	.2	1.0	531	.72	235	196	6	54
Feb. 1–10	177	83.3	38	.15	55	15	104	7.6	230	48	134	1.6	.5	.2	517	.70	247	199	10	52
Feb. 11–20	148	87.6	37	.18	57	15	111	6.4	235	49	150	1.6	.2	.2	543	.74	217	204	12	53
Feb. 21–29	156	87.4	34	.05	56	14	109	4.8	221	48	145	1.4	1.0	.2	522	.71	220	198	16	54
Mar. 1–10	146	91.0	32	.05	58	15	116	4.4	225	51	157	1.4	.5	.4	546	.74	215	206	21	54
Mar. 11, 13–20	124	98.9	36	.12	53	16	126	7.2	208	49	186	1.4	1.5	.4	579	.79	194	198	28	57
Mar. 21–26, 28–31	130	97.2	42	.12	60	15	123	5.4	226	48	172	1.4	2.5	.4	581	.79	204	211	25	55
Apr. 1–10	116	100	40	.09	60	15	126	6.8	218	49	188	1.4	1.5	.4	595	.81	186	211	32	56
Apr. 11–20	145	96.3	43	.08	59	15	120	7.4	224	56	162	1.6	2.0	.4	576	.78	226	208	24	54

GILA RIVER NEAR SOLOMONSVILLE, ARIZ.—Continued

Chemical analyses, in parts per million, water year October 1943 to September 1944—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^3$ at 25° (C)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved soilds			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Apr. 21-30	44	93.4	43	0.07	58	14	118	6.4	229	50	156	1.6	2.0	0.2	562	0.76	219	202	14	55
May 1-10	108	106	41	.06	60	15	139	7.0	216	51	202	1.4	1.5	.4	624	.85	182	211	33	58
May 11-20	90.0	114	41	.06	63	15	148	7.8	208	49	230	1.4	1.0	.4	659	.90	160	218	48	58
May 21-31	76.8	117	40	.09	62	14	154	8.2	207	52	238	1.6	.5	.6	672	.91	139	212	42	60
June 1-10	64.4	114	46	.10	54	15	153	5.4	186	56	235	1.6	1.5	.6	659	.90	115	196	44	62
June 11-20	49.5	125	39	.14	65	19	165	12	209	60	262	1.6	4.3	.4	731	.99	98	240	68	58
June 21-30	40.8	124	44	.08	61	16	167	11	189	57	272	1.6	1.5	.4	724	.98	80	218	63	61
July 1-5	68.6	117	42	.08	62	15	154	10	187	51	250	1.2	2.2	.4	680	.92	126	216	62	59
July 6-10	171	68.7	36	.14	45	11	79	7.0	167	30	115	1.0	3.0	.4	409	.56	189	158	20	51
July 11-17, 20	[3] 89.5	95.8	41	.10	61	15	120	9.4	213	54	172	1.6	2.5	.4	582	.79	141	214	39	54
July 18-19	[2] 190	49.2																		
July 21-31	[2] 204	72.3	40	.10	52	12	81	6.1	222	37	102	1.4	.5	.2	442	.60	243	180	0	48
Aug. 1-9	85.1	101	48	.08	60	15	127	7.8	225	50	182	1.6	2.0	.6	604	.82	139	211	26	56
Aug. 10	[3] 916	41.3									32									
Aug. 12-20	788	55.2	36	.05	42	9.4	59	5.3	182	29	68	1.2	1.0	.6	341	.46	726	144	0	46
Aug. 21-31	387	54.7	42	.03	43	10	56	5.4	191	30	64	1.2	1.0	.2	347	.47	363	148	0	44
Sept. 1, 2, 5-10	204	74.6	36	.11	54	12	83	5.8	216	33	113	1.2	1.5	.4	446	.61	246	184	8	48
Sept. 11-20	223	69.6	34	.14	49	12	74	8.7	196	33	104	1.2	1.0	.2	414	.56	249	172	12	47
Sept. 21-24	132	95.9	41	.09	60	13	122	7.2	220	49	172	1.4	3.8	.6	578	.79	206	203	22	56
Sept. 25, 27-30	[4] 1,680	31.2	37	.60	33	8.7	21	3.3	158	18	17	.6	.1	.0	217	.30	984	118	0	27
Weighted average	188	74.3	39	0.17	51	12	87	6.0	204	39	117	1.3	1.1	0.4	454	0.62	230	177	10	51

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Oct. 1-8, 10, 1943	162				2.75	0.90	4.09	0.17	3.42	0.79	3.67	0.07	0.02							52
Oct. 11-19	93.0				3.14	1.15	5.44	.19	3.68	1.00	5.19	.07	.02							55
Oct. 20	[1] 238										1.49									
Oct. 21-31	[1] 154				2.80	.99	4.35	.19	3.56	.83	3.84	.05	.03							52
Nov. 1-10	129				2.99	1.07	4.91	.19	3.65	.94	4.57	.06	.02							54
Nov. 11-20	132				2.99	1.15	5.09	.19	3.85	1.02	4.63	.06	.02							54
Nov. 21-24, 26-30	140				2.89	1.07	4.83	.20	3.77	1.08	4.23	.07	.01							54

Dec. 1–10	149				2.94	1.07	4.78	.17	3.70	1.02	4.17	.07	.00						53
Dec. 11–20	160				2.70	1.23	4.35	.14	3.70	1.00	3.55	.08	.01						52
Dec. 21–31	164				2.80	1.23	4.44	.15	3.75	1.04	3.78	.08	.02						52
Jan. 1–10, 1944	170				2.85	1.15	4.57	.15	3.70	1.06	3.95	.08	.07						52
Jan. 11–20	161				2.89	1.07	4.65	.14	3.80	1.00	4.00	.08	.01						53
Jan. 21–31	164				2.85	1.07	4.70	.15	3.80	1.02	4.00	.08	.00						54
Feb. 1–10	177				2.75	1.23	4.52	.19	3.77	1.00	3.78	.08	.01						52
Feb. 11–20	148				2.85	1.23	4.83	.16	3.85	1.02	4.23	.08	.00						53
Feb. 21–29	156				2.80	1.15	4.74	.12	3.62	1.00	4.09	.07	.02						54
Mar. 1–10	146				2.89	1.23	5.04	.11	3.70	1.06	4.43	.07	.01						54
Mar. 11, 13–20	124				2.65	1.32	5.48	.18	3.42	1.02	5.25	.07	.02						57
Mar. 21–26, 28–31	130				2.99	1.23	5.35	.14	3.72	1.00	4.85	.07	.04						55
Apr. 1–10	116				2.99	1.23	5.48	.17	3.59	1.02	5.30	.07	.02						56
Apr. 11–20	145				2.94	1.23	5.22	.19	3.69	1.17	4.57	.08	.03						54
Apr. 21–30	144				2.89	1.15	5.13	.16	3.77	1.04	4.40	.08	.03						55
May 1–10	108				2.99	1.23	6.04	.18	3.56	1.06	5.70	.07	.02						58
May 11–20	90.0				3.14	1.23	6.44	.20	3.42	1.02	6.49	.07	.02						58
May 21–31	76.8				3.09	1.15	6.70	.21	3.39	1.08	6.71	.08	.01						60
June 1–10	64.4				2.70	1.23	6.65	.14	3.05	1.17	6.63	.08	.02						62
June 11–20	49.5				3.24	1.56	7.17	.31	3.43	1.25	7.39	.08	.07						58
June 21–30	40.8				3.04	1.32	7.26	.28	3.10	1.19	7.67	.08	.02						61
July 1–5	68.6				3.09	1.23	6.70	.26	3.07	1.06	7.05	.06	.04						59
July 6–10	171				2.25	.90	3.44	.18	2.74	.62	3.24	.05	.05						51
July 11–17, 20	[2] 89.5				3.04	1.23	5.22	.24	3.49	1.12	4.85	.08	.04						54
July 18–19	[2] 190																		
July 21–31	[2] 204				2.60	.99	3.52	.16	3.64	.77	2.88	.07	.01						48
Aug. 1–9	85.1				2.99	1.23	5.52	.20	3.69	1.04	5.13	.08	.03						56
Aug. 10	[3] 916										.90								
Aug. 12–20	788				2.10	.77	2.57	.14	2.98	.60	1.92	.06	.02						46
Aug. 21–31	387				2.15	.82	2.44	.14	3.13	.62	1.81	.06	.02						44
Sept. 1-2, 5–10	204				2.70	.99	3.61	.15	3.54	.69	3.19	.06	.02						48
Sept. 11–20	223				2.45	.99	3.22	.22	3.21	.69	2.93	.06	.02						47
Sept. 21–24	132				2.99	1.07	5.31	.18	3.61	1.02	4.85	.07	.06						56
Sept. 25, 27–30	[4] 1,680				1.65	.72	.91	.08	2.59	.37	.48	.03	.00						27
Weighted average	188				2.55	0.99	3.78	0.15	3.34	0.81	3.30	0.07	0.02						51

[1] Discharge for Oct. 20 included in discharge reported for Oct. 21–31.
[2] Discharge for July 18–19 included in discharge reported for July 21–31.
[3] Discharge for Aug. 10 included in discharge reported for Aug. 12–20.
[4] Includes discharge for Sept. 26.

GILA RIVER AT SAFFORD, ARIZ.

LOCATION.—At gaging station at highway bridge 1 mile north of Safford and 4½ miles downstream from San Simon Creek.
DRAINAGE AREA.—10,460 square miles.
RECORDS AVAILABLE.—Chemical analyses: August 1940 to September 1944.
EXTREMES, 1943–44.—Dissolved solids: Maximum, 1,110 parts per million Sept. 2–3, 10; minimum, 261 parts per million Sept. 26–30.
Total hardness: Maximum, 338 parts per million Feb. 21–23; minimum, 65 parts per million Aug. 16–19.
EXTREMES, 1940–44.—Dissolved solids: Maximum, 1,290 parts per million June 11–20, 1942; minimum, 156 parts per million Mar. 15–20, May 1–10, 1941. Total hardness: Maximum, 404 parts per million Aug. 31, 1942; minimum, that of Aug. 16–19, 1944.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given Water-Supply Paper 1009.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1943	28.6	81.5	39	0.12	57	12	99		208	45	130	1.6	2.5	0.8	489	0.67	38	192	22	53
Oct. 11–16, 18–20	19.5	107	42	.12	68	16	139		243	62	190	1.6	2.5	.6	641	.87	34	236	36	56
Oct. 21–31	34.7	87.0	40	.14	58	14	110		223	48	144	1.4	1.5	.8	527	.72	49	202	19	54
Nov. 1–6, 8–10	33.3	93.5	41	.28	62	14	123		234	50	164	1.2	1.5	.4	572	.78	51	212	20	56
Nov. 11–20	26.7	97.8	40	.12	62	14	131		232	53	176	1.2	1.0	.6	593	.81	43	212	22	57
Nov. 21–30	39.7	90.4	36	.09	62	14	127		237	58	162	1.6	1.5	1.0	579	.79	62	212	18	57
Dec. 1–4, 6–10	39.8	90.4	32	.13	61	13	125		236	56	156	1.6	.5	1.0	562	.76	60	206	12	57
Dec. 11–20	51.4	88.3	36	.08	59	14	115		235	55	142	1.4	.5	.6	539	.73	75	204	12	55
Dec. 21–31	45.2	89.1	36	.14	59	15	118		240	57	145	1.4	.5	.6	550	.75	67	208	12	55
Jan. 1–8, 10, 1944	94.4	92.4	37	.14	62	15	121		245	56	152	1.4	.5	.6	566	.77	144	216	15	55
Jan. 11–20	56.8	95.2	40	.18	64	15	126		248	60	158	1.6	1.0	.9	588	.80	90	221	18	55
Jan. 21–22, 24–31	69.5	94.1	40	.34	62	15	126		244	59	159	1.4	.5	.5	583	.79	109	216	16	56
Feb. 1–10	49.0	93.4	39	.04	62	15	125		247	61	154	1.6	1.0	.4	580	.79	77	216	13	56
Feb. 11–19	24.8	103	39	.15	66	17	139		252	71	178	1.8	1.5	1.2	638	.87	43	234	28	56
Feb. 21–23	[1]12.5	167	42	.18	96	24	242		323	148	310	1.7	3.4	1.0	1,030	1.40	35	338	72	61
Feb. 24–29	37.0	102	38	.18	64	16	143		257	70	176	1.6	1.0	.4	336	.85	64	2 5	14	59
Mar. 1–10	16.6	126	36	.05	74	19	174		275	93	222	1.6	1.5	.4	757	1.03	34	262	36	59
Mar. 11–20	19.8	130	36	.05	75	19	185		276	91	242	1.6	2.0	.4	788	1.07	42	265	38	60
Mar. 21–31	23.2	112	45	.06	50	18	167		195	77	216	1.6	2.5	.4	673	.92	42	199	39	62

Apr. 1–10	14.9	125	44	.08	48	20	184	9.0	190	97	244	1.6	3.8	1.0	745	1.01	30	202	46	65
Apr. 11–20	27.5	105	40	.08	45	18	149	8.6	183	75	200	1.6	1.5	.8	629	.86	47	186	36	62
Apr. 21–30	25.8	102	44	.07	48	17	143	8.6	200	71	184	1.6	2.0	.6	618	.84	43	190	26	61
May 1–10	8.3	123	39	.06	49	19	180	9.0	187	90	244	1.6	2.2	.8	726	.99	16	200	47	65
May 11–20	10.4	132	40	.08	67	19	185	9.2	223	87	262	1.6	4.3	.8	785	1.07	22	245	62	61
May 21–27	[2] 6.9	129	42	.04	60	19	184	9.2	213	85	258	1.6	2.5	.6	766	1.04	14	228	53	63
July 7	[3] 50.5	71.8			51	11	92		245	70	69		.5		414	.56	56	172	0	54
July 8	[4] 64	224									450									
July 9–10	[4] 40.0	111			45	8.0	184		184	116	188	1.3	5.0	1.8	672	.91	73	146	0	73
July 11–18	[5] 7.1	119	46	.11	62	15	163	7.6	227	82	218	1.8	4.0	.6	711	.97	14	216	30	61
July 19–20	[5] 138	84.8	40	.14	42	10	129		241	62	114	1.2	1.0	1.8	518	.70	193	146	0	66
July 21–27	[5] 128	75.3	42	.18	44	9.7	101	4.2	188	63	105	1.2	2.5	.4	465	.63	161	150	0	59
July 28–31	7.2	132	46	.14	56	11	206	7.6	241	107	232	2.0	5.0	.4	791	1.08	15	185	0	70
Aug. 1–3	4.3	113	49	.16	68	15	152		242	72	198	1.8	5.0	.2	680	.92	7.9	231	32	59
Aug. 8–9	[6] 45.0	147	39	.24	56	10	249		256	174	230	1.3	3.0	2.0	889	1.21	108	181	0	75
Aug. 10	[7] 540	54.5									45									
Aug. 11–15	[7] 178	53.9	34	.13	41	8.7	64	5.1	177	37	65	1.2	2.3	1.2	346	.47	166	188	0	49
Aug. 16–19	1,706	81.3	28	.16	20	3.6	148	4.6	133	127	100	1.7	4.9	1.4	503	.68	2,320	65	0	82
Aug. 20	[8] 2,260	40.1									22									
Aug. 21–28	[8] 449	47.8	35	.23	40	9.3	47		164	31	49	1.2	2.6	.2	296	.40	359	138	4	43
Aug. 29–31	21.0	87.6	43	.08	60	14	109		225	61	134	1.6	2.5	.4	536	.73	30	207	22	53
Sept. 1, 4–9	234	87.3	38	.09	53	12	115		211	66	132	1.4	2.5	.2	524	.71	331	182	9	58
Sept. 2–3, 10	5.3	187	35	.14	70	22	300		265	189	345	1.7	1.5	1.5	1,110	1.51	16	265	48	71
Sept. 11–12	68.0	112									190									
Sept. 13–20	95.2	66.2	34	.23	46	12	75		188	43	89	1.0	1.5	.2	394	.54	101	164	10	50
Sept. 21–25	[9] 48.0	95.4	38	.10	51	11	139		223	77	146	1.5	2.0	.6	576	.78	75	172	0	64
Sept. 26–30	[9] 2,166	39.4	37	.31	36	9.7	38		183	23	26	.7	.2	.1	261	.35	1,530	130	0	39
Weighted average	103	66.2	36	0.21	41	9.9	90		186	57	86	1.2	1.8	0.5	415	0.56	115	143	0	58

See footnotes at end of table.

GILA RIVER AT SAFFORD, ARIZ.—Continued

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids: Parts per million	Dissolved solids: Tons per acre-foot	Dissolved solids: Tons per day	Hardness as $CaCO_3$: Total	Hardness as $CaCO_3$: Non-carbonate	Percent sodium
Oct. 1–10, 1943	28.6				2.85	0.99	4.30		3.41	0.94	3.67	0.08	0.04							53
Oct. 11–16, 18–20	19.5				3.39	1.32	6.05		3.99	1.29	5.36	.08	.04							56
Oct. 21–31	34.7				2.89	1.15	4.77		3.66	1.00	4.06	.07	.02							54
Nov. 1–6, 8–10	33.3				3.09	1.15	5.35		3.84	1.04	4.63	.06	.02							56
Nov. 11–20	26.7				3.09	1.15	5.71		3.81	1.10	4.96	.06	.02							57
Nov. 21–30	39.7				3.09	1.15	5.52		3.88	1.21	4.57	.08	.02							57
Dec. 1–4, 6–10	39.8				3.04	1.07	5.42		3.87	1.17	4.40	.08	.01							57
Dec. 11–20	51.4				2.94	1.15	4.99		3.85	1.15	4.00	.07	.01							55
Dec. 21–31	45.2				2.94	1.23	5.12		3.93	1.19	4.09	.07	.01							55
Jan. 1–8, 10, 1944	94.4				3.09	1.23	5.24		4.02	1.17	4.29	.07	.01							55
Jan. 11–20	56.8				3.19	1.23	5.46		4.07	1.25	4.46	.08	.02							55
Jan. 21–22, 24–31	69.5				3.09	1.23	5.47		4.00	1.23	4.48	.07	.01							56
Feb. 1–10	49.0				3.09	1.23	5.45		4.06	1.27	4.34	.08	.02							56
Feb. 11–19	24.8				3.29	1.40	6.06		4.15	1.48	5.02	.09	.02							56
Feb. 21–23	[1] 12.5				4.79	1.97	10.51		5.31	3.08	8.74	.09	.05							61
Feb. 24–29	37.0				3.19	1.32	6.32		4.22	1.46	4.96	.08	.02							59
Mar. 1–10	16.6				3.69	1.56	7.57		4.52	1.94	6.26	.08	.02							59
Mar. 11–20	19.8				3.74	1.56	8.06		4.53	1.89	6.83	.08	.03							60
Mar. 21–31	23.2				2.50	1.48	6.87	0.23	3.20	1.60	6.09	.08	.04							62
Apr. 1–10	14.9				2.40	1.64	8.00	.23	3.11	2.02	6.88	.08	.06							65
Apr. 11–20	27.5				2.25	1.48	6.48	.22	3.00	1.56	5.64	.08	.02							62
Apr. 21–30	25.8				2.40	1.40	6.22	.22	3.28	1.48	5.19	.08	.03							61
May 1–10	8.3				2.45	1.56	7.83	.23	3.07	1.87	6.88	.08	.04							65
May 11–20	10.4				3.34	1.56	8.04	.24	3.66	1.81	7.39	.08	.07							61
May 21–27	[2] 6.9				2.99	1.56	8.00	.24	3.49	1.77	7.28	.08	.04							63
July 7	[3] 50.5				2.55	.90	3.99		4.02	1.46	1.95		.01							54
July 8	[4] 64										12.69									
July 9–10	[4] 40.0				2.25	.66	7.98		3.02	2.42	5.30	.07	.08							73
July 11–18	[5] 7.1				3.09	1.23	7.09	.19	3.72	1.71	6.15	.09	.06							61
July 19–20	[5] 138				2.10	.82	5.62		3.95	1.29	3.22	.06	.02							66

July 21–27	128				2.20	.80	4.39	.11	3.08	1.31	2.96	.06	.04						59
July 28–31	7.2				2.80	.90	8.96	.19	3.95	2.23	6.54	.11	.08						70
Aug. 1–3	4.3				3.39	1.23	6.60		3.97	1.50	5.58	.09	.08						59
Aug. 8–9	[6] 45.0				2.80	.82	10.81		4.20	3.62	6.49	.07	.05						75
Aug. 10	[7] 540										1.27								
Aug. 11–15	[7] 178				2.05	.72	2.78	.13	2.90	.77	1.83	.06	.04						49
Aug. 16–19	1,706				1.00	.30	6.44	.12	2.18	2.64	2.82	.09	.08						82
Aug. 20	[8] 2,260										.62								
Aug. 21–28	[8] 449				2.00	.76	2.06		2.69	.65	1.38	.06	.04						43
Aug. 29–31	21.0				2.99	1.15	4.72		3.69	1.27	3.78	.08	.04						53
Sept. 1, 4–9	234				2.65	.99	5.02		3.46	1.37	3.72	.07	.04						58
Sept. 2–3, 10	5.3				3.49	1.81	13.03		4.34	3.93	9.73	.09	.24						71
Sept. 11–12	68.0										5.36								
Sept. 13–20	95.2				2.30	.99	3.27		3.08	.90	2.51	.05	.02						50
Sept. 21–25	[9] 48.0				2.55	.90	6.04		3.66	1.60	4.12	.08	.03						64
Sept. 26–30	[9] 2,166				1.80	.80	1.65		3.00	.48	.73	.04	.00						39
Weighted average	103				2.05	0.81	3.91		3.05	1.19	2.43	0.06	0.03						58

[1] Mean discharge for Feb. 20 included in discharge reported for Feb. 21–23.
[2] River dry on May 28, 29 and 31, mean discharge of 2 second-feet on May 30, included in discharge reported for May 21–27.
[3] River dry June 1 to July 5, mean discharge of 55 second-feet on July 6 included in discharge reported for July 7.
[4] Discharge for July 8 included in discharge reported for July 9–10.
[5] Discharge for July 18 included in discharge reported for July 19–20.
[6] River dry August 4–7.
[7] Discharge for Aug. 10 included in discharge reported for Aug. 11–15.
[8] Discharge for Aug. 20 included in discharge reported for Aug. 21–28.
[9] Discharge for Sept. 25 included in discharge reported for Sept. 26–30.

GILA RIVER AT BYLAS, ARIZ.

LOCATION.—On San Carlos Indian Reservation, 400 feet north of school at Bylas, and 4½ miles southeast of Calva, Ariz.
DRAINAGE AREA.—11,490 square miles above gaging station at Calva.
RECORDS AVAILABLE.—Chemical analyses: June 1943 to September 1944.
EXTREMES, 1943–44.—Dissolved solids: Maximum, 3,200 parts per million May 11–20; minimum, 319 parts per million Sept. 26–30.
Total hardness: Maximum, 772 parts per million April 1–9; minimum, 110 parts per million August 16–20 and Sept. 23–25.
EXTREMES, June 1943–44.—Dissolved solids: Maximum, that of May 11–20, 1944; minimum, 282 parts per million Sept. 27–30, 1943.
Total hardness: Maximum, 777 parts per million Sept. 18, 1943; minimum, that of Aug. 16–20 and Sept. 23–25, 1944.
REMARKS.—Records of discharge for Calva gaging station for water year October 1943 to September 1944 are given in Water-Supply Paper 1009.

Chemical analyses, in parts per million, water year October 1943 to September 1944.

Date of collection	Mean discharge (second-feet) [1]	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–2, 1943	[2] 141	93.2	-----	-----	56	12	120		177	73	158	1.0	3.5	-----	511	0.69	195	190	44	58
Oct. 4–9	36.3	326	45	0.12	156	43	494	19	282	326	765	1.3	2.5	4.0	1,990	2.71	184	566	335	65
Oct. 11–20	18.0	456	37	.06	194	64	718	21	230	486	1,160	1.2	2.0	5.0	2,800	3.81	121	747	558	67
Oct. 21–26, 28, 30	27.9	371	37	.11	152	52	581	16	250	377	910	1.2	2.0	5.0	2,250	3.06	149	594	388	67
Nov. 1–10	39.6	366	41	.06	142	49	585	18	254	369	900	1.4	2.0	5.0	2,230	3.03	208	556	348	69
Nov. 11–13, 15–20	42.6	392	37	.02	163	52	634	18	288	418	965	1.6	5.0	5.0	2,440	3.32	254	621	385	68
Nov. 21–30	49.9	370	42	.06	156	50	589	11	314	373	890	1.6	3.0	7.0	2,270	3.09	276	595	338	68
Dec. 1–10	61.0	350	44	.06	144	45	548	11	313	350	815	1.6	3.0	6.0	2,120	2.88	334	544	288	68
Dec. 11, 13–15, 17–20	76.8	311	41	.06	136	41	478	8.8	336	299	705	1.7	2.5	5.0	1,880	2.56	387	508	232	67
Dec. 21–25, 27–31	69.9	358	41	.06	162	47	554	10	363	352	830	1.6	4.0	5.0	2,180	2.96	406	598	300	66
Jan. 1, 2, 4, 5, 7–10, 1944	-----	281	34	.07	117	38	442	10	302	271	635	1.7	4.2	4.5	1,700	2.31	435	448	200	68
Jan. 11–16, 18–20	-----	294	40	.06	124	37	467	12	320	291	665	1.9	3.9	4.5	1,800	2.45	485	462	199	68
Jan. 21, 22, 24–31	-----	317	43	.16	121	46	511	14	291	320	745	1.9	5.0	1.6	1,950	2.65	468	491	252	69
Feb. 1–6, 8–10	81.6	328	40	.18	131	47	530	14	311	333	775	1.9	5.0	2.0	2,030	2.76	459	520	266	68
Feb. 11, 12, 14–17, 19, 20	61.2	395	39	.04	148	55	640	14	285	413	950	1.8	5.0	2.5	2,410	3.28	418	596	362	69
Feb. 22, 23, 25, 26, 28, 29	54.2	415	36	.04	148	58	673	13	268	442	1,020	1.8	5.0	3.5	2,530	3.44	419	603	333	70
Mar. 1–10	59.5	442	43	.02	120	63	728	11	149	478	1,110	1.6	4.0	1.6	2,630	3.58	384	558	436	73
Mar. 11–20	-----	484	35	.02	157	70	785	12	169	532	1,240	1.6	3.0	2.0	2,920	3.97	324	680	542	71
Mar. 21–27, 29–31	-----	508	37	.02	170	74	818	11	164	563	1,290	1.3	3.0	1.8	3,050	4.15	284	729	594	71
Apr. 1–9	32.4	514	40	.02	189	73	820	8.8	219	566	1,300	1.7	2.0	2.0	3,110	4.23	272	772	592	69
Apr. 11–20	26.2	521	38	.04	180	73	849	14	170	574	1,330	1.5	3.0	4.0	3,150	4.28	223	749	610	71
Apr. 21–30	22.0	521	33	.05	181	73	845	15	158	569	1,340	1.3	2.0	4.0	3,140	4.27	187	752	622	70
May 1, 2, 4–10	19.0	527	30	.02	175	73	856	11	143	578	1,360	1.5	2.0	4.0	3,160	4.30	162	736	620	71
May 11–20	13.4	522	32	.04	176	71	884	14	133	576	1,380	1.6	3.0	3.5	3,200	4.35	116	731	622	72
May 21–23, 25–31	8.9	510	38	.04	170	69	849	13	117	559	1,340	1.6	4.0	4.5	3,100	4.22	74	708	612	72

June 1–10	3.6	492	37	.03	188	64	824	14	173	531	1,280	1.6	4.0	4.5	3,030	4.12	30	732	590	70
June 11–16	[3].6	461	41	.03	175	58	745	12	177	484	1,180	1.6	2.0	5.0	2,790	3.79	4.5	675	530	70
June 21–30	0	427	52	.11	169	54	682	23	180	433	1,100	1.8	5.6	1.8	2,610	3.55	-------	644	496	69
July 1–5, 9–10	[4]0	367	39	.11	148	44	569	22	172	374	915	1.4	5.0	2.5	2,200	2.99	-------	550	410	68
July 6–8	[4]2.1	121	18	.11	71	11	156	19	189	98	230	1.2	1.2	.2	699	.95	4.0	222	67	58
July 11–17	[5]1.4	388	32	.09	145	45	622	21	177	407	975	1.6	4.0	5.0	2,340	3.18	8.8	547	402	70
July 18–20	[6]126	106	35	.07	48	12	160	10	251	114	142	1.1	4.6	1.5	650	.88	221	170	0	66
July 21–23, 27–31	8.5	331	32	.11	129	37	515	25	189	344	795	1.5	5.0	2.0	1,980	2.69	45	474	319	69
July 24	6	509	-------	-------	-------	-------	-------	-------	-------	-------	1,310	-------	-------	-------	-------	-------	-------	-------	-------	-------
July 25–26	146	102	-------	-------	49	12	158		213	133	138	1.7	3.8	2.0	600	.82	237	172	0	67
Aug. 1–8	.6	415	40	.09	156	49	663	21	191	420	1,040	1.6	1.5	1.5	2,490	3.39	4.0	591	434	70
Aug. 9–10	86.5	173	-------	-------	78	20	261		268	163	320	1.1	.5	2.0	976	1.33	228	276	57	67
Aug. 11–13	108	60.5	42	.11	43	9.9	78		235	37	58	1.4	.8	-------	386	.52	113	148	0	53
Aug. 14, 15	[7]37.3	183	41	.11	102	24	275		352	199	320	1.3	.8	4.0	1,140	1.55	115	353	64	63
Aug. 16–20	[7]1,602	83.0	36	.05	32	7.2	135	3.6	208	107	88	1.5	1.0	.8	514	.70	2,220	110	0	72
Aug. 21–25	422	55.9	35	.11	40	9.1	61	5.6	168	45	62	1.2	2.0	.2	344	.47	392	138	0	48
Aug. 26–28	51.0	185	44	.16	98	24	262		249	171	370	1.3	5.9	2.0	1,100	1.50	151	343	139	62
Aug. 29–31	16.7	319	-------	-------	-------	-------	-------	-------	-------	-------	760	-------	-------	-------	-------	-------	-------	-------	-------	-------
Sept. 1–5, 7–10	37.2	332	43	.12	146	43	507		220	342	800	1.5	4.8	2.0	2,000	2.72	201	541	360	67
Sept. 6	476	74.1	-------	-------	-------	-------	-------	-------	-------	-------	86	-------	-------	-------	-------	-------	-------	-------	-------	-------
Sept. 11–16, 20	14.1	263	38	.18	118	33	390	10	242	256	590	1.3	5.0	2.0	1,560	2.12	59	430	232	66
Sept. 17–19	64.7	122	32	.11	65	15	172		209	105	220	1.2	5.3	1.0	719	.98	126	224	52	63
Sept. 21–22	[8]9.0	343	-------	-------	-------	-------	-------	-------	-------	-------	800	-------	-------	-------	-------	-------	-------	-------	-------	-------
Sept. 23–25	[8]1,312	73.8	32	.38	33	6.6	113	4.0	185	85	85	1.1	4.8	2.5	456	.62	1,620	110	0	68
Sept. 26–30	3,013	50.6	34	.40	36	8.6	58	2.6	176	42	49	.8	1.0	.2	319	.43	2,600	126	0	49
Weighted average	111	157	36	0.22	69	21	246		212	161	316	1.2	2.2	1.6	957	1.30	287	258	85	67

See footnotes at end of table.

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GILA RIVER AT BYLAS, ARIZ.—Continued

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)[1]	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids: Parts per million	Dissolved solids: Tons per acre-foot	Dissolved solids: Tons per day	Hardness as $CaCO_3$: Total	Hardness as $CaCO_3$: Non-carbonate	Percent sodium
Oct. 1–2, 1943	[2] 141				2.80	0.99	5.20		2.90	1.52	4.46	0.05	0.06							58
Oct. 4–9	34.3				7.79	3.54	21.48	.49	4.63	6.79	21.58	.07	.04							65
Oct. 11–20	16.0				9.68	5.26	31.22	.54	3.78	10.12	32.72	.06	.03							67
Oct. 21–26, 28, 30	24.5				7.59	4.28	25.26	.41	4.10	7.85	25.66	.06	.03							67
Nov. 1–10	34.5				7.09	4.03	25.44	.46	4.17	7.68	25.38	.07	.03							69
Nov. 11–13, 15–20	38.6				8.14	4.28	27.57	.46	4.72	8.70	27.22	.08	.08							68
Nov. 21–30	45.1				7.79	4.11	25.61	.28	5.15	7.77	25.10	.08	.05							68
Dec. 1–10	58.4				7.19	3.70	23.83	.28	5.13	7.29	22.99	.08	.05							68
Dec. 11, 13–15, 17–20	76.3				6.79	3.37	20.79	.23	5.51	6.22	19.88	.09	.04							67
Dec. 21–25, 27–31	68.9				8.09	3.87	24.09	.26	5.95	7.33	23.41	.08	.06							66
Jan. 1–2, 4–5, 7–10, 1944	94.7				5.84	3.12	19.22	.26	4.96	5.64	17.91	.09	.07							68
Jan. 11–16, 18–20	99.7				6.19	3.04	20.31	.31	5.25	6.06	18.76	.10	.06							68
Jan. 21–22, 24–31	88.9				6.04	3.78	22.22	.36	4.77	6.66	21.01	.10	.08							69
Feb. 1–6, 8–10	83.8				6.54	3.87	23.05	.36	5.10	6.93	21.86	.10	.08							68
Feb. 11–12, 14–17, 19–20	64.2				7.39	4.52	27.83	.36	4.67	8.60	26.79	.09	.08							69
Feb. 22–23, 25–26, 28–29	61.4				7.39	4.77	29.26	.33	4.39	9.20	28.77	.09	.08							70
Mar. 1–10	54.1				5.99	5.18	31.66	.28	2.44	9.95	31.31	.08	.06							73
Mar. 11–20	41.1				7.84	5.76	34.14	.31	2.77	11.08	34.97	.08	.05							71
Mar. 21–27, 29–31	34.5				8.49	6.09	35.57	.28	2.69	11.72	36.38	.07	.05							71
Apr. 1–9	32.4				9.43	6.00	35.66	.23	3.59	11.78	36.66	.09	.03							69
Apr. 11–20	26.2				8.98	6.00	36.92	.36	2.79	11.95	37.51	.08	.05							71
Apr. 21–30	22.0				9.03	6.00	36.74	.38	2.59	11.85	37.79	.07	.03							70
May 1–2, 4–10	19.0				8.73	6.00	37.22	.28	2.34	12.03	38.36	.08	.03							71
May 11–20	13.4				8.78	5.84	38.44	.36	2.18	11.99	38.92	.08	.05							72
May 21–23, 25–31	8.9				8.49	5.67	36.92	.33	1.92	11.64	37.79	.08	.06							72
June 1–10	3.6				9.38	5.26	35.83	.36	2.84	11.06	36.10	.08	.06							70
June 11–16	[3] 3.6				8.73	4.77	32.40	.31	2.90	10.08	33.28	.08	.03							70
June 21–30	0				8.44	4.44	29.66	.59	2.95	9.01	31.02	.09	.09							69
July 1–5, 9–10	[4] 0				7.39	3.62	24.74	.56	2.82	7.79	25.81	.07	.08							68
July 6–8	[4] 2.1				3.54	.90	6.78	.49	3.10	2.04	6.49	.06	.02							58
July 11–17	[5] 1.4				7.24	3.70	27.05	.54	2.90	8.47	27.50	.08	.06							70
July 18–20	[6] 126				2.40	.99	6.96	.26	4.11	2.37	4.00	.06	.07							66
July 21–23, 27–31	8.5				6.44	3.04	22.39	.64	3.10	7.16	22.42	.08	.08							69
July 24	6										36.95									
July 25–26	146				2.45	.99	6.86		3.49	2.77	3.89	.09	.01							67

Aug. 1–8	.6				7.79	4.03	28.83 | .54	3.13	8.74	29.33	.08	.02						70
Aug. 9–10	86.5				3.89	1.64	11.35	4.39	3.39	9.03	.06	.01						67
Aug. 11–13	108				2.15	.81	3.38	3.85	.77	1.64	.07	.01						53
Aug. 14–15	[7] 37.3				5.09	1.97	11.96	5.77	4.14	9.03	.07	.01						63
Aug. 16–20	[7] 1,602				1.60	.59	5.87 | .09	3.41	2.23	2.48	.08	.02						72
Aug. 21–25	422				2.00	.75	2.65 | .14	2.75	.94	1.75	.06	.03						48
Aug. 26–28	51.0				4.89	1.97	11.39	4.08	3.56	10.44	.07	.10						62
Aug. 29–31	16.7									21.43								
Sept. 1–5, 7–10	37.2				7.29	3.54	22.05	3.61	7.12	22.56	.08	.08						67
Sept. 6	476									2.43								
Sept. 11–16, 20	14.1				5.89	2.71	16.96 | .26	3.97	5.33	16.64	.07	.08						66
Sept. 17–19	64.7				3.24	1.23	11.50	3.43	2.19	6.20	.06	.09						63
Sept. 21–22	[8] 9.0									22.56								
Sept. 23–25	[8] 1,312				1.65	.54	4.91 | .10	3.03	1.77	2.40	.06	.08						68
Sept. 26–30	3,013				1.80	.71	2.52 | .07	2.88	.87	1.38	.04	.02						49
Weighted average	111				3.44	1.73	10.70	3.47	3.35	8.91	0.06	0.04						67

[1] Discharge reported is average of the mean daily discharge values at the Calva gaging station for the days of the composite period.
[2] Mean discharge for Oct. 3 included in discharge reported for Oct. 1–2.
[3] River dry June 17–20.
[4] River dry July 1–5; mean discharge for July 8, 9 and 10 included in discharge reported for July 1–5, 9–10.
[5] River dry July 12–17.
[6] River dry July 18.
[7] Mean discharge for Aug. 16 included in discharge reported for Aug. 14–15.
[8] Mean discharge for Sept. 23 included in discharge reported for Sept. 21–22.

SAN FRANCISCO RIVER AT CLIFTON, ARIZ.

LOCATION.—At old smelter, 1½ miles below gaging station, 7 miles above mouth.
DRAINAGE AREA.—Approximately 2,790 square miles.
RECORDS AVAILABLE.—Chemical analyses: June 1943 to September 1944.
EXTREMES, 1943–44.—Dissolved solids: Maximum, 890 parts per million June 21–30; minimum, 204 parts per million Sept. 25–29.
Total hardness: Maximum, 262 parts per million June 21–30; minimum, 121 parts per million Sept. 25–29.
EXTREMES, 1943–44.—Dissolved solids: Maximum, 1,180 parts per million June 21–28, 1943; minimum, that of Sept. 25–29, 1944.
Total hardness: Maximum, 352 parts per million June 21–28, 1943; minimum, that of Sept. 25–29, 1944.
REMARKS.—Records of discharge for water year October 1943 to September 1944 are given in Water-Supply Paper 1009.

Chemical analyses, in parts per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1943	52.7	99.0	45	0.14	65	13	118	8.2	207	19	206	0.6	1.5	0.4	578	0.79	82	216	46	53
Oct. 11–19	[1] 46.2	107	45	.25	67	13	135	9.6	201	19	240	.6	1.0	.4	629	.86	78	220	56	56
Oct. 20	[1] 228	44.3									44									
Oct. 21–31	[1] 90.1	86.6	40	.08	59	13	109		206	17	176	.4	1.5	.2	517	.70	126	200	32	54
Nov. 1–10	64.0	98.3	40	.08	65	13	120	8.0	206	21	208	.7	2.5	.6	580	.79	100	216	46	54
Nov. 11–20	57.8	104	42	.08	67	14	129	9.8	209	21	230	.7	2.0	.6	619	.84	97	224	53	54
Nov. 21–30	54.0	102	44	.08	66	13	128	9.0	208	21	226	.7	1.5	.8	612	.83	89	218	48	55
Dec. 1–10	59.1	107	42	.19	67	13	130	10	206	21	234	.7	.5	.4	620	.84	99	220	52	55
Dec. 11–20	62.3	97.0	39	.08	62	13	114	8.6	203	20	202	.7	.5	.4	560	.76	94	208	42	53
Dec. 21–31	63.6	104	40	.10	66	13	125	8.6	201	20	225	.7	.5	.4	598	.81	103	218	54	54
Jan. 1–10, 1944	62.7	113	38	.09	70	14	138	9.0	204	20	253	.7	.5	.3	644	.88	109	232	65	55
Jan. 11–20	63.0	112	40	.11	70	15	142	8.8	206	20	258	.8	1.5	.2	658	.89	112	236	67	55
Jan. 21–31	66.2	106	42	.12	66	14	132	8.6	199	18	242	.7	1.5	.2	623	.85	111	222	59	55
Feb. 1–10	58.4	111	38	.03	68	14	136	6.6	198	19	246	.7	2.0	.0	628	.85	99	227	64	56
Feb. 11–20	58.9	112	38	.04	68	15	138	6.6	203	20	248	.7	.5	.1	635	.86	101	231	64	56
Feb. 21–29	69.0	101	33	.04	64	14	122	5.3	200	19	213	.7	.5	.0	574	.78	107	217	53	54
Mar. 1–10	63.4	110	46	.06	68	14	133	7.6	209	19	240	.7	1.5	.2	633	.86	108	227	55	55
Mar. 11–20	74.9	108	46	.09	67	14	128	7.8	203	22	232	.7	1.5	.3	619	.84	125	224	58	54
Mar. 21–31	76.1	102	45	.06	65	14	124	6.2	213	17	212	.6	2.0	.2	591	.80	121	220	44	54
Apr. 1–10	67.5	110	45	.06	68	15	134	7.2	208	17	240	.7	1.5	.2	631	.86	115	231	60	55
Apr. 11–20	64.0	118	48	.10	70	14	140	8.0	206	19	250	.7	1.5	.4	653	.89	113	232	63	56
Apr. 21–30	53.3	126	42	.04	74	15	153	7.8	205	19	285	.7	2.0	.6	700	.95	101	246	78	56
May 1–10	50.8	135	44	.07	78	15	171	8.0	200	20	320	.8	1.5	.6	757	1.03	104	256	92	58
May 11–20	50.7	131	46	.12	74	14	173	7.6	200	23	310	.7	3.0	.4	750	1.02	103	242	78	60
May 21–31	35.3	149	46	.11	81	14	192	7.8	199	23	360	.9	2.0	.4	825	1.12	79	260	96	61

June 1-10	29.3	145	48	.10	76	14	197	7.2	196	23	355	.9	2.0	.4	820	1.12	65	247	86	63
June 11-20	25.0	145	48	.06	76	14	206	7.6	192	23	360	.9	1.5	.4	832	1.13	56	247	90	64
June 21-30	19.3	160	48	.06	82	14	217	8.6	190	24	400	1.0	2.0	.2	890	1.21	46	262	106	63
July 1-2	[2] 29	135																		
July 3-8, 10	[2] 60.8	90.9	42	.08	58	13	106	8.5	185	20	188	.8	1.8	.3	529	.72	87	198	46	52
July 9	96	47.6																		
July 11-17	34.0	120	48	.11	72	15	150	11	207	22	272	.9	2.0	.4	695	.95	64	241	72	56
July 18-20	75.0	70.7			50	13	83		193	13	132	.8	.2	.4	387	.53	78	178	20	50
July 21-31	61.6	86.7	44	.08	58	14	103	9.0	206	17	174	.8	1.0	.3	522	.71	87	202	33	51
Aug. 1-8	31.6	127	50	.22	70	13	163	9.4	205	24	285	.9	2.0	.4	719	.98	61	228	60	60
Aug. 9-10	272	40.8									33									
Aug. 11-13	[3] 116	53.8	35	.16	41	8.8	52	5.3	152	12	88	.5	.2	.4	318	.43	100	138	14	44
Aug. 14-15	[3] 48.3	93.9			64	11	118		203	22	190	.7	2.0	.8	508	.69	66	204	38	56
Aug. 16-20	144	48.2	40	.42	39	9.3	44	5.4	174	9.1	62	.5	.2	.4	296	.40	115	136	0	40
Aug. 21-31	111	69.4	39	.10	52	12	72	6.1	198	13	115	.7	.5	.2	408	.55	122	180	17	45
Sept. 1-10	45.1	117	44	.08	69	12	145	9.4	200	20	260	.9	5.2	.4	664	.90	81	222	58	57
Sept. 11-15, 19-20	[4] 43.9	128	43	.09	73	14	163	11	198	20	302	.9	4.2	.6	729	.99	86	227	64	58
Sept. 16-18	[4] 124	59.2	48	.28	44	12	61		182	7.9	94	.6	.5	.4	358	.49	120	160	10	45
Sept. 21-23	45.0	124	48	.08	72	12	161	9.8	208	20	286	.9	2.5	.6	715	.97	87	229	58	59
Sept. 24, 30	166	65.8									117									
Sept. 25-29	705	31.3	35	.46	34	8.7	18	3.1	143	13	21	.5	.2	.0	204	.28	388	121	4	24
Weighted average	70.1	91.8	41	0.16	60	13	112	7.2	193	18	195	0.7	1.3	0.3	543	0.74	103	203	45	53

See footnotes at end of table.

SAN FRANCISCO RIVER AT CLIFTON, ARIZ.—Continued

Chemical analyses, in equivalents per million, water year October 1943 to September 1944

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^3$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg) (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Noncarbonate	
Oct. 1–10, 1943	52.7				3.24	1.07	5.13	0.21	3.40	0.40	5.81	0.03	0.02							53
Oct. 11–19	[1] 46.2				3.34	1.07	5.87	.25	3.30	.40	6.77	.03	.02							56
Oct. 20	[1] 228										1.24									
Oct. 21–31	[1] 90.1				2.94	1.07	4.72		3.38	.35	4.96	.02	.02							54
Nov. 1–10	64.0				3.24	1.07	5.22	.20	3.38	.44	5.87	.04	.04							54
Nov. 11–20	57.8				3.34	1.15	5.61	.25	3.43	.44	6.49	.04	.03							54
Nov. 21–30	54.0				3.29	1.07	5.57	.23	3.41	.44	6.37	.04	.02							55
Dec. 1–10	59.1				3.34	1.07	5.65	.26	3.38	.44	6.60	.04	.01							55
Dec. 11–20	62.3				3.09	1.07	4.96	.22	3.33	.42	5.70	.04	.01							53
Dec. 21–31	63.6				3.29	1.07	5.44	.22	3.29	.42	6.35	.04	.01							54
Jan. 1–10, 1944	62.7				3.49	1.15	6.00	.23	3.34	.42	7.14	.04	.01							55
Jan. 11–20	63.0				3.49	1.23	6.17	.23	3.38	.42	7.28	.04	.02							55
Jan. 21–31	66.2				3.29	1.15	5.74	.22	3.26	.37	6.83	.04	.02							55
Feb. 1–10	58.4				3.39	1.15	5.91	.17	3.26	.40	6.94	.04	.03							56
Feb. 11–20	58.9				3.39	1.23	6.00	.17	3.34	.42	6.99	.04	.01							56
Feb. 21–29	69.0				3.19	1.15	5.31	.15	3.28	.40	6.09	.04	.01							54
Mar. 1–10	63.4				3.39	1.15	5.78	.19	3.44	.40	6.77	.04	.02							55
Mar. 11–20	74.9				3.34	1.15	5.57	.20	3.33	.46	6.54	.04	.02							54
Mar. 21–31	76.1				3.24	1.15	5.39	.16	3.50	.35	5.98	.03	.03							54
Apr. 1–10	67.5				3.39	1.23	5.83	.18	3.42	.35	6.77	.04	.02							55
Apr. 11–20	64.0				3.49	1.15	6.09	.20	3.38	.40	7.05	.04	.02							56
Apr. 21–30	53.3				3.69	1.23	6.65	.20	3.36	.40	8.04	.04	.03							56
May 1–10	50.8				3.89	1.23	7.44	.20	3.28	.42	9.03	.04	.02							58
May 11–20	50.7				3.69	1.15	7.52	.19	3.28	.48	8.74	.04	.05							60
May 21–31	35.3				4.04	1.15	8.35	.20	3.26	.48	10.15	.05	.03							61
June 1–10	29.3				3.79	1.15	8.57	.18	3.21	.48	10.01	.05	.03							63
June 11–20	25.0				3.79	1.15	8.96	.19	3.15	.48	10.15	.05	.02							64
June 21–30	19.3				4.06	1.15	9.44	.22	3.11	.50	11.28	.05	.03							63
July 1–2	[2] 29																			
July 3–8, 10	[2] 60.8				2.89	1.07	4.61	.22	3.03	.42	5.30	.04	.03							52
July 9	96																			
July 11–17	34.0				3.59	1.23	6.52	.28	3.39	.46	7.67	.05	.03							56
July 18–20	75.0				2.50	1.07	3.62		3.16	.27	3.72	.04	.00							50
July 21–31	61.6				2.89	1.15	4.48	.23	3.38	.35	4.91	.04	.02							51

Aug. 1–8	31.6				3.49	1.07	7.09	.24	3.36	.50	8.04	.05	.03						60
Aug. 9–10	272										.93								
Aug. 11–13	[3] 116				2.05	.72	2.26	.14	2.49	.25	2.48	.03	.00						44
Aug. 14–15	[2] 48.3				3.19	.90	5.13		3.33	.46	5.36	.04	.03						56
Aug. 16–20	144				1.95	.76	1.91	.14	2.85	.19	1.75	.03	.00						40
Aug. 21–31	111				2.60	.99	3.13	.16	3.25	.27	3.24	.04	.01						45
Sept. 1–10	45.1				3.44	.99	6.31	.24	3.28	.42	7.33	.05	.08						57
Sept. 11–15, 19–20	[4] 43.9				3.64	1.15	7.09	.28	3.25	.42	8.52	.05	.07						58
Sept. 16–18	[4] 124				2.20	.99	2.64		2.98	.16	2.65	.03	.01						45
Sept. 21–23	45.0				3.59	.99	7.00	.25	3.41	.42	8.07	.05	.04						59
Sept. 24, 30	166										3.30								
Sept. 25–29	705				1.70	.72	.78	.08	2.34	.27	.59	.03	.00						24
Weighted average	70.1				2.99	1.07	4.87	0.18	3.16	0.37	5.50	0.04	0.02						53

[1] Discharge for Oct. 19 included in the discharge reported for Oct. 21–31.
[2] Discharge for July 2 included in the discharge reported for July 3–8, 10.
[3] Discharge for Aug. 13 included in the discharge reported for Aug. 14–15.
[4] Discharge for Sept. 18 included in the discharge reported for Sept. 11–15, 19–20.

LAKE MEAD, ARIZ.-NEV.

Chemical analyses, in parts per million

[The miles given below represent distances measured along the Colorado River downstream from the gaging station at Lees Ferry, Ariz.]

Date of collection	Depth (feet)	Elevation (feet)	Temperature (°F.)	Specific conductance ($K \times 10^5$ at 25° C.)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Dissolved solids	Total hardness as $CaCO_3$
Mile 272.4												
1944												
May 3	Surface	1,158	62	98.9	72	28	102	192	250	69	617	294
Mile 273												
1944												
May 25	Surface	1,168	67	50.0	45	16	36	137	105	24	296	178
	Surface	1,168	65	44.8	44	12	32	142	82	18	260	160
Emery Falls, Mile 275.8												
1944												
May 25	5	1,163	67.3	61.8	52	18	52	143	147	33	374	204
	50	1,118	64.0	46.5	42	14	41	131	111	20	294	162
	100	1,068	64.5	46.0	------	------	------	134	------	------	------	------
	150	1,018	64.4	46.0	------	------	------	143	------	------	------	------
	153	1,015	64.8	46.4	------	------	------	140	------	------	------	------
Pierce Ferry Bay, Mile 279												
1943												
Oct. 1	5	1,190	82	83.6	65	24	79	130	223	59	522	260
Nov. 1	5	1,185	70	106	88	30	101	165	303	78	684	343
Nov. 30	5	1,179	66	107	88	31	104	165	308	81	709	347
1944												
Jan. 2	6	1,172	------	104	87	30	98	166	295	74	672	340
Feb. 2	5	1,166	------	106	86	31	99	168	297	77	675	342
Mar. 2	Surface	1,159	56	106	90	31	98	171	301	78	684	352
Apr. 3	Surface	1,153	64	109	93	32	107	174	317	88	723	364
May 1	5	1,153	62	97.8	71	27	102	172	257	71	615	288
June 1	5	1,168	68	41.3	38	10	33	116	83	18	240	136
July 2	Surface	1,190	------	38.6	43	8.7	64	103	79	83	328	144
Aug. 1	Surface	1,195	------	61.0	50	17	52	129	139	41	364	195
Sept. 2	Surface	1,189	------	88.7	65	27	84	146	222	74	545	273
Iceberg Canyon, Mile 287.5												
1944												
May 25	5	1,163	67.8	68.6	56	20	58	150	163	39	412	222
	50	1,118	63.4	51.8	46	16	39	135	114	25	308	181
	100	1,068	62.6	56.6	------	------	------	135	------	------	------	------
	150	1,018	57.1	105	------	------	------	175	------	------	------	------
	200	968	56.0	111	------	------	------	178	------	------	------	------
	230	938	55.8	111	87	30	112	181	305	82	708	340
	234	934	61.6	94.0	------	------	------	183	------	------	------	------
Virgin Canyon, Mile 305.5												
1944												
May 24	5	1,163	64.6	81.7	55	26	81	150	214	53	504	244
	50	1,118	63.0	88.6	------	------	------	163	------	------	------	------
	90	1,078	57.8	105	------	------	------	177	------	------	------	------
	100	1,068	57.4	109	------	------	------	176	------	------	------	------
	150	1,018	55.4	112	------	------	------	175	------	------	------	------
	200	968	54.7	114	------	------	------	180	------	------	------	------
	250	918	54.4	114	------	------	------	178	------	------	------	------
	300	868	54.3	113	------	------	------	177	------	------	------	------
	330	838	55.0	113	92	32	106	176	315	83	717	361
	333	835	56.0	111	------	------	------	174	------	------	------	------

LAKE MEAD, ARIZ.-NEV.—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Depth (feet)	Elevation (feet)	Temperature (°F.)	Specific conductance ($K \times 10^6$ at 25° C.)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Dissolved solids	Total hardness as $CaCO_3$
Virgin River, arm of lake, 30 miles above mouth of Virgin River												
1944 May 27	Surface	1,173	84	147	136	44	120	193	387	155	939	520
Virgin River, arm of lake, 22 miles above mouth of Virgin River												
1944 May 27	Surface	1,169	75	112	102	29	100	162	328	81	722	374
Virgin River, arm of lake, Virgin River Narrows, 9.3 miles above mouth of Virgin River												
1944 May 26	5	1,164	69.3	107	96	29	95	163	315	73	690	358
	50	1,119	63.0	106				161				
	100	1,069	58.3	105				163				
	150	1,019	55.5	106				162				
	200	969	55.4	107				165				
	250	919	53.6	109				167				
	263	906	53.4	109	94	30	100	171	310	78	699	358
	265	904	53.3	111				167				
Boulder Canyon, Mile 334.9												
1944 May 23	5	1,162	68.2	106	96	28	95	165	310	72	684	354
	50	1,117	65.8	106				159				
	100	1,067	58.2	105				149				
	150	1,017	56.6	106				162				
	200	967	54.0	105				163				
	250	917	53.5	109				167				
	300	867	53.3	111				172				
	350	817	53.3	112				173				
	400	767	53.5	111				175				
	403	764	53.6	111	96	31	103	176	318	81	718	367
	405	762	53.6	110				172				
Intake Towers, Miles 354.7 and 353.5												
1943 Oct. 2	5	1,190	79.3	91.8	79	25	83	133	278	57	589	300
	50	1,145	78.4	91.6				133		58		
	100	1,095	69.2	95.9				151		59		
	150	1,045	58.7	100				159		61		
	200	995	55.1	104				162		67		
	250	945	54.4	109				169		73		
	300	895	54.3	113	98	30	108	177	331	78	736	368
	350	845	54.2	113				174		80		
	400	795	54.2	114				178		80		
	450	745	54.1	116				181		82		
	459	736	54.1	114	100	31	108	181	333	80	746	377
	462	733	54.9	146	142	49	130	438	346	83	969	556
Oct. 30	5	1,185	70.8	91.5	80	25	83	142	273	58	590	302
	50	1,140	70.8	91.1				141		58		
	100	1,090	69.2	93.5				157		58		
	150	1,040	59.6	99.0				163		63		
	200	990	55.1	103	96	31	87	166	310	67	676	367
	250	940	54.6	108				170		74		
	300	890	54.4	111				175		79		
	350	840	54.4	111				176		78		
	400	790	54.3	113				178		81		
	450	740	54.3	115	100	32	113	189	337	83	762	381
	454	736	54.3	116				192		82		
	456	734	55.1	140	136	48	124	405	340	83	935	537

LAKE MEAD, ARIZ.-NEV.—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Depth (feet)	Elevation (feet)	Temperature (°F.)	Specific conductance ($K \times 10^3$ at 25° C.)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Dissolved solids	Total hardness as $CaCO_3$
Intake Towers, Miles 354.7 and 353.5—Continued												
1943												
Nov. 30	5	1,179	63.8	91.5	83	25	79	142	273	56	603	310
	50	1,134	63.7	90.4				144				
	100	1,084	63.4	90.0				142				
	150	1,034	59.0	98.4				160				
	200	984	54.4	103	97	28	91	165	307	69	676	357
	250	934	54.4	106				167				
	300	884	54.3	111				173				
	350	834	54.2	111				176				
	400	784	54.0	113				181				
	450	734	54.4	116	104	34	108	202	335	84	782	400
	453	731	56.4	132	122	44	116	337	330	82	880	486
Dec. 31	5	1,173	58.6	92.9	86	25	78	145	272	58	595	318
	50	1,128	58.6	92.8				147				
	100	1,078	58.5	92.7				146				
	150	1,028	58.5	95.7				151				
	200	978	55.2	106				165				
	250	928	54.1	108				167				
	300	878	54.0	111				171				
	350	828	53.9	113				174				
	400	778	53.9	114				177				
	443	735	54.6	123	114	36	112	254	333	82	808	432
	445	733	54.9	133	124	45	117	347	326	82	876	494
1944												
Jan. 31	5	1,166	54.8	97.2	88	28	80	151	284	62	619	334
	50	1,121	54.8	97.5				149				
	100	1,071	54.8	97.4				152				
	150	1,021	54.8	97.1				152				
	200	971	54.8	106				164				
	250	921	54.4	111	98	30	102	172	324	77	720	368
	300	871	54.3	112				175				
	350	821	54.2	113				174				
	400	771	54.2	116				185				
	433	738	54.2	114	98	32	107	182	329	81	741	376
	436	735	54.6	130	113	43	116	298	337	80	841	459
Feb. 29	5	1,159	53.5	103	94	29	91	162	307	68	671	354
	50	1,114	53.6	102				162				
	100	1,064	53.6	102				164				
	150	1,014	53.8	103				164				
	200	964	54.3	106	96	30	96	168	316	73	696	363
	250	914	54.4	112	101	31	102	177	329	79	732	380
	300	864	54.4	112				176				
	350	814	54.4	113				178				
	400	764	54.4	113				181				
	425	739	54.4	113				179				
	428	736	54.4	116	102	36	100	212	316	81	743	402
Mar. 31	5	1,153	57.8	103	96	30	83	158	303	70	660	363
	50	1,108	54.8	103				150				
	100	1,058	54.8	103				160				
	150	1,008	54.1	103				164				
	200	958	53.7	106				164				
	250	908	53.6	109				169				
	300	858	53.5	111				174				
	350	808	53.3	111				173				
	400	758	53.2	111				174				
	420	738	53.1	111	93	33	102	178	312	84	712	368
	423	735	53.4	136	128	48	114	384	327	78	884	517
Apr. 29	5	1,153	56.5	104	94	29	91	162	304	71	671	354
	50	1,108	55.4	104				160				
	100	1,058	54.6	105				162				
	150	1,008	53.8	105				162				
	200	958	53.5	105				162				
	250	908	53.3	106				161				

LAKE MEAD, ARIZ.-NEV.—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Depth (feet)	Elevation (feet)	Temperature (°F.)	Specific conductance ($K \times 10^3$ at 25° C.)	Calcium (Ca)	Magnesium (Mg)	Sodium and potassium (Na+K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Dissolved solids	Total hardness as $CaCO_3$
Intake Towers, Miles 354.7 and 353.5—Continued												
1944												
Apr. 29	300	858	53.1	106	------	------	------	165	------	------	------	------
	350	808	52.9	110	------	------	------	169	------	------	------	------
	400	758	52.5	110	------	------	------	172	------	------	------	------
	420	738	52.5	111	94	31	102	171	314	81	709	362
	422	736	52.8	121	104	38	110	260	311	82	777	416
May 31	5	1,168	69.0	104	94	29	92	158	312	69	675	354
	50	1,123	63.6	105	------	------	------	158	------	------	------	------
	100	1,073	57.5	105	------	------	------	159	------	------	------	------
	150	1,023	56.0	105	------	------	------	159	------	------	------	------
	200	973	54.3	105	94	29	93	165	307	71	677	354
	250	923	53.7	107	------	------	------	164	------	------	------	------
	300	873	53.4	109	------	------	------	172	------	------	------	------
	350	823	53.0	110	------	------	------	170	------	------	------	------
	400	773	53.0	110	96	30	104	176	316	80	715	363
	435	738	53.0	111	------	------	------	170	------	------	------	------
	438	735	53.5	111	96	30	102	175	314	80	711	363
June 30	5	1,190	76.3	103	104	26	88	150	299	88	679	364
	50	1,145	71.0	103	------	------	------	149	------	------	------	------
	100	1,095	65.1	104	------	------	------	156	------	------	------	------
	150	1,045	58.8	105	------	------	------	157	------	------	------	------
	200	995	54.4	106	------	------	------	160	------	------	------	------
	250	945	54.1	107	------	------	------	162	------	------	------	------
	300	895	54.0	109	------	------	------	169	------	------	------	------
	350	845	53.4	109	------	------	------	170	------	------	------	------
	400	795	53.4	110	------	------	------	170	------	------	------	------
	450	745	53.4	111	------	------	------	177	------	------	------	------
	458	737	53.5	111	96	29	100	162	312	83	700	358
	460	735	53.5	127	118	36	118	306	313	87	823	442
July 29	5	1,195	78.0	94.2	80	26	85	149	269	63	598	306
	50	1,150	75.3	94.0	------	------	------	148	------	------	------	------
	100	1,100	68.5	96.2	------	------	------	157	------	------	------	------
	150	1,050	62.1	105	93	28	95	164	304	71	674	347
	200	1,000	55.3	105	------	------	------	176	------	------	------	------
	250	950	54.4	107	------	------	------	169	------	------	------	------
	300	900	54.1	108	------	------	------	171	------	------	------	------
	350	850	54.2	109	------	------	------	172	------	------	------	------
	400	800	53.7	109	------	------	------	173	------	------	------	------
	450	750	53.6	110	------	------	------	176	------	------	------	------
	464	736	53.9	110	------	------	------	179	------	------	------	------
	465	735	54.0	125	110	39	112	298	305	80	799	435
Aug. 31	5	1,189	81.7	88.2	76	26	76	143	251	58	559	296
	50	1,144	78.7	89.3	------	------	------	148	------	------	------	------
	100	1,094	69.2	90.0	------	------	------	157	------	------	------	------
	150	1,044	60.6	104	------	------	------	168	------	------	------	------
	200	994	55.5	106	94	29	97	168	307	74	686	354
	250	944	54.2	107	------	------	------	169	------	------	------	------
	300	894	54.4	108	------	------	------	175	------	------	------	------
	350	844	54.0	108	------	------	------	177	------	------	------	------
	400	794	53.8	109	------	------	------	176	------	------	------	------
	450	744	53.8	109	------	------	------	178	------	------	------	------
	458	736	54.2	109	------	------	------	176	------	------	------	------
	460	734	54.3	134	122	45	121	375	317	80	873	490
Sept. 30	5	1,182	75.4	88.1	76	25	77	142	251	57	557	292
	50	1,137	75.1	87.7	------	------	------	145	------	------	------	------
	100	1,087	70.2	88.3	------	------	------	151	------	------	------	------
	150	1,037	60.2	104	92	28	95	167	302	70	671	344
	200	987	55.5	106	------	------	------	168	------	------	------	------
	250	937	54.5	105	------	------	------	169	------	------	------	------
	300	887	54.1	107	------	------	------	171	------	------	------	------
	350	837	54.0	108	------	------	------	174	------	------	------	------
	400	787	54.0	108	------	------	------	174	------	------	------	------
	451	736	54.0	109	------	------	------	181	------	------	------	------
	453	734	54.3	126	------	------	------	312	------	------	------	------

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN

Chemical analyses, in parts per million

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Colorado River above Eagle River, Dotsero, Colo.																				
Oct. 2, 1943		37.7			40	11	21		112	60	25		0.1		212	0.29		145	53	24
Jan. 22, 1944		44.4	11		42	11	33		127	56	42		.4		258	.35		150	46	32
Mar. 23		40.4			38	11	29		120	60	30		.3		227	.31		140	42	31
May 8		34.3			42	13	7.1		123	53	12		1.0		189	.26		158	58	9
Eagle River, 3.5 miles above Pando near Tennessee Pass, Colo.																				
May 8, 1944		6.1			6.7	2.1	1.2		26	6.0	0		0.2		29	0.04		25	3.5	9
Eagle River at Red Cliff, Colo.																				
May 8, 1944		16.8			18	9.1	0.7		84	12	0		3.0		84	0.11		82	14	2
Eagle River at Wolcott, Colo.																				
May 8, 1944		31.4			31	9.7	14		80	49	22		1.7		167	0.23		118	52	21
Eagle River at Gypsum, Colo.																				
Oct. 2, 1943		96.4			120	25	54		180	262	69		1.8		620	0.84		402	255	22
Jan. 22, 1944 [1]		126							197	284	139									
Jan. 22 [2]		93.4							204	237	63									
Jan. 22 [3]		68.7							212	200	5.0									
Mar. 23 [1]		115							180	259	124									
Mar. 23 [2]		96.2							202	253	86									
Mar. 23 [3]		67.5							202	200	5.0									

Eagle River near Gypsum, Colo.

May 8, 1944		51.2			64	16	18	125	120	25		2.0		307	0.42		226	123	15

Homestead Creek near Red Cliff, Colo.

May 8, 1944		4.5			5.0	2.8		20		0							24	7.5	

Brush Creek near Eagle, Colo.

May 8, 1944		88.5			120	27	31	177	262	42		2.5		572	0.78		410	266	14

Gypsum Creek at Gypsum, Colo.

May 8, 1944		68.7			117	22	0.2	193	216	0				450	0.61		382	224	0
May 8		96.2			162	33	12	205	378	2		2.5		690	.94		540	372	.5

Rivulet, consisting of seepage, flowing into Eagle River at Gypsum, Colo.

May 8, 1944		197			287	88	81	306	949	10		1.0		1,570	2.14		1,080	827	14

San Juan River above Pagosa Springs, Colo.

May 22, 1944		6.7			7.6	3.6		33	5	0		0.2		33	0.04		34	7	

San Juan River near Blanco, N. Mex.

Oct. 13, 1943		35.0						122											
Nov. 25		52.6						148											

La Plata River near Farmington, N. Mex.

Feb. 29, 1944		223			212	102	195	214	1,060	63		6.2		1,740	2.37		948	773	31
Apr. 15		110			117	52	60	204	421	22		1.5		774	1.05		506	339	21
May 22		101			106	41	63	174	384	19		1.0		700	.95		433	290	24

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Mancos River about 20 miles south of Cortez, Colo.																				
Mar. 1, 1944		253			225	162	200	232	1,380	23		3.7			2,110	2.87		1,230	1,040	26
McElmo Creek near Cortez, Colo.																				
Mar. 1, 1944		381			342	265	300	293	2,140	67		42			3,300	4.49		1,094	1,700	25
Butler Wash near Bluff, Utah																				
Mar. 1, 1944		127			114	52	104	201	519	14		0.5			902	1.23		498	334	31
Comb Wash near Bluff, Utah																				
Mar. 1, 1944		371			410	116	362	147	1,560	384		0.2			2,900	3.94		1,500	1,380	34
Lime Creek near Bluff, Utah																				
Mar. 1, 1944		228			286	114	128	137	1,200	70		1.5			1,870	2.54		1,180	1,070	19
Bright Angel Creek near Grand Canyon, Ariz.																				
Nov. 18, 1943		36.0	7.2		40	21	5.3	222	7.9	4.5	0.4	0.8			196	0.27		186	4	6
Dec. 15		36.4	7.2		41	21	6.4	224	9.2	6.0	.4	.8			202	.27		189	6	7
Jan. 29, 1944		36.1						224												
Feb. 15		36.1			40	22		227												
Mar. 16		37.2						219												
Apr. 17		33.2						200												
May 15		20.5						122												
June 15		31.4						120												
July 15		33.1						212												
Aug. 16		31.7						204												
Sept. 16		35.3						228												

Williams River near Planet, Ariz.

Oct. 11, 1943		67.6						253		58								
Nov. 1, 15		67.5			40	13	86	247	52	57		3.2		373	0.51		154	0	55
Dec. 13		66.5	26		40	13	82	240	48	58		4.8		390	.53		154	0	54
Jan. 17, 1944		65.8						246	50	56									
Feb. 14		69.4						256		59									
Mar. 14		35.0			25	10	35	145	29	22		.5		193	.26		104	0	43
Apr. 11		63.0						230		49									
May 17		63.1						228		52									
July 11		62.0						226	51	52									
Aug. 1		62.4						225	50	58									
Aug. 15		62.1						223		52									

Gila River at New Mexico-Arizona State line near Virden, N. Mex.

Aug. 1, 1944		51.2			50	12	50	262	35	17	2.5	1.5	1.0	297	0.40		174	0	38
Nov. 1		44.6			45	9.6	45	229	30	17	2.4	1.0	.5	263	.36		152	0	39

Gila River near Clifton, Ariz.

Aug. 1, 1944		53.8			39	5.9	77	230	56	26	2.3	0.5		320	0.44		122	0	58
Nov. 1		50.6			44	9.0	60	229	47	24	2.4	1.0	1.0	300	.41		147	0	47

Gila River above Tidwell canal heading, near Solomonsville, Ariz.

May 1, 1944		98.6								176								
May 10		115			66	16	151	205	58	234		0.0		626	0.85		230	62	59
June 19		121			66	18	161	192	55	264		.0		659	.90		238	81	59

Gila River above San Jose Wash, near Solomonsville, Ariz.

May 1, 1944		100								178								
May 10		115			65	16	151	213	60	226		0.0		623	0.85		228	53	59

Gila River above Union canal heading, near Solomonsville, Ariz.

May 1, 1944		98.6			54	15	131	203	61	178		0.5		540	0.73		196	30	59
May 10		114			64	15	155	214	63	224		.5		627	.85		221	43	60

Gila River below San Simon Creek, near Solomonsville, Ariz.

May 1, 1944		146			79	24	201	266	118	274		5.0		832	1.13		296	77	60
June 19		142			56	27	206	190	134	284		5.0		806	1.10		251	96	64

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Gila River above Graham canal heading, at Safford, Ariz.																				
May 1, 1944	----	106	----	----	56	16	146		211	74	194	----	0.5	----	590	0.80	----	206	33	61
Gila River above Smithville canal heading, at Thatcher, Ariz.																				
May 2, 1944	----	140	----	----	74	21	198		287	100	256	----	2.5	----	793	1.08	----	271	36	61
Gila River near Thatcher, Ariz.																				
Oct. 2, 21, 1943	----	71.4	----	----	----	----	----		----	----	114	----	----	----	----	----	----	----	----	----
Oct. 4, 7, 11, 14, 18, 25, 28	----	171	----	----	72	31	263		275	151	348	----	5.4	----	1,010	1.37	----	307	81	65
Nov. 1, 8, 11, 15, 18, 22, 29	4.05	195	----	----	98	34	288		372	160	380	----	5.0	----	1,150	1.56	----	384	80	62
Nov. 4	----	140	----	----	86	26	181		312	105	248	----	1.5	----	801	1.09	----	322	66	55
Nov. 25	----	205	----	----	114	32	298		443	162	375	----	4.0	----	1,200	1.63	----	416	52	61
Dec. 2, 6, 9, 16, 20, 23, 27, 30	6.53	182	----	----	93	33	271		363	146	355	1.7	3.5	----	1,080	1.47	----	368	70	62
Dec. 13	----	140	----	----	84	22	200		325	105	252	----	3.5	----	827	1.12	----	300	34	59
Jan. 3, 6, 10, 17, 20, 24, 27, 31, 1944	29.8	119	----	----	72	21	159		282	82	208	----	2.5	----	683	.93	----	266	34	47
Jan. 13	----	110	----	----	71	19	145		271	75	190	----	2.0	----	636	.86	----	255	33	45
Feb. 14	----	125	----	----	74	18	174		290	93	214	----	1.5	----	717	.98	----	258	21	49
Feb. 3, 7, 9, 10, 12, 17	15.4	168	----	----	81	28	243		319	134	310	1.7	3.5	0.2	958	1.30	----	317	56	63
Mar. 15	----	230	----	----	122	37	351		466	197	445	----	6.3	----	1,390	1.89	----	456	74	63
Apr. 12	----	234	----	----	130	39	340		476	193	445	----	6.3	----	1,390	1.89	----	485	94	60
May 2	----	221	----	----	60	37	359		278	193	460	----	5.0	----	1,250	1.70	----	302	74	72
May 3	----	232	----	----	91	38	357		380	191	455	----	7.8	----	1,330	1.81	----	383	72	67
May 24	----	257	----	----	132	40	377		396	240	520	----	5.3	----	1,510	2.05	----	494	170	62
June 20	----	255	----	----	106	43	391		363	220	535	----	12	----	1,490	2.03	----	442	144	66
June 21	----	270	----	----	140	44	399		478	225	545	----	5.1	----	1,590	2.16	----	530	138	62
Oct. 28	----	186	----	----	----	----	----		----	----	350	----	----	----	----	----	----	----	----	----
Oct. 30	----	96.2	----	----	60	16	128		228	76	160	----	4.0	----	556	.76	----	216	28	56

Gila River above Dodge-Nevada canal heading, near Pima, Ariz.

Nov. 4, 1943		104			66	20	129	253	68	176		1.5		585	0.80		246	39	53
Dec. 13		112			68	16	164	273	81	200		3.0		666	.91		236	12	60
Jan. 13, 1944		106			68	16	144	266	72	180		3.0		614	.84		236	18	57
Feb. 14		126			72	17	179	291	93	214		1.5		720	.98		250	11	61
Mar. 15		236			106	36	389	458	206	470		7.1		1,440	1.96		412	38	67
May 3		232			52	34	396	277	205	485		8.0		1,320	1.80		270	42	76

Gila River below Dodge-Nevada canal heading, near Pima, Ariz.

Nov. 25, 1943		235			114	33	377	490	201	445		1.0		1,410	1.92		420	18	66
Apr. 12, 1944		311			150	46	493	596	269	615		.5		1,870	2.54		564	75	66
May 3		302			87	42	518	424	267	630		1.5		1,750	2.38		390	42	74
June 21		307			148	41	491	565	256	620		1.0		1,840	2.50		538	75	66
Oct. 28		206								365									
Oct. 30		94.2								156									

Gila River at Pima, Ariz.

Oct. 2, 21, 1943		83.9								134								
Oct. 4, 7, 11, 14, 18, 21, 25, 28		214			58	30	382	343	190	435		7.1		1,270	1.73		268	0	76
Nov. 1, 8, 11, 15, 18, 22, 29	14.0	236			87	31	412	434	208	470		6.3		1,430	1.94		344	0	72
Nov. 4		203			78	30	330	407	160	375		7.9		1,180	1.60		318	0	66
Nov. 25		248			96	32	420	472	214	475		5.0		1,470	2.00		371	0	71
Dec. 2, 6, 9, 16, 20, 23, 27, 30	26.9	188			88	28	305	408	147	355	1.7	6.2	4.0	1,130	1.54		334	0	66
Dec. 13		172			84	22	269	369	135	310		5.0		1,010	1.37		300	0	66
Jan. 3, 6, 10, 17, 20, 24, 27, 31, 1944	64.6	145			75	21	222	326	109	264		3.5		855	1.16		274	6	64
Jan. 13		133			75	20	196	310	99	238		4.0		785	1.07		269	15	61
Feb. 3, 7, 10, 17	47.6	193			78	27	308	362	160	355	2.1	7.3	1.5	1,120	1.52		306	8	69
Feb. 14, 11:15 a. m		150			80	21	218	321	114	265		6.9		863	1.17		286	23	62
Feb. 14, 4:00 p. m		156			80	22	233	339	123	275		4.0		904	1.23		290	12	64
Mar. 15		290			110	36	507	548	254	570		10		1,760	2.39		422	0	72
Apr. 12, 9:35 a. m		244			106	33	393	478	200	460		8.4		1,440	1.96		400	8	68
Apr. 12, 2:30 p. m		234			88	32	386	422	196	450		7.0		1,370	1.86		351	5	71
May 3, 8:45 a. m		296			46	36	558	388	270	615		12		1,730	2.35		263	0	82
May 3, 2:30 p. m		304								625									
May 24, 11:15 a. m		305			74	36	560	476	274	615		8.8		1,800	2.45		332	0	79
May 24, 1:00 p. m		296								610									
June 21, 10:25 a. m		299			74	36	546	501	260	590		8.6		1,760	2.39		332	0	78
June 21, 11:30 a. m		301								595									
Oct. 28		154			80	21	234	327	118	285		3.0		902	1.23		286	18	64
Oct. 30		129			68	20	187	280	98	230		3.0		744	1.01		252	22	62

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Gila River above Curtis canal heading, near Pima, Ariz.																				
Nov. 4, 1943		169			76	24	265		357	130	305		7.4		983	1.34		288	0	67
Dec. 13		156			78	23	242		349	119	285		4.0		923	1.26		289	3	65
Jan. 13, 1944		131			75	19	193		306	99	232		3.0		772	1.05		265	14	61
Feb. 14		158			79	23	233		343	121	275		4.0		904	1.23		292	10	63
Gila River below Curtis canal heading, near Pima, Ariz.																				
Nov. 25, 1943		127			64	18	193		313	89	214		1.5		734	1.00		234	0	64
Jan. 13, 1944		140									252									
Mar. 15		208			93	28	345		464	163	385		3.5		1,250	1.70		347	0	68
Apr. 12		227			98	32	367		482	181	415		5.0		1,340	1.82		376	0	68
May 3		240			39	32	431		328	205	480		7.9		1,360	1.85		229	0	80
May 24		235			80	30	395		442	188	440		5.0		1,360	1.85		323	0	73
June 21		214			63	29	366		377	174	410		4.0		1,230	1.67		276	0	74
Oct. 28		128									228									
Gila River above Fort Thomas Consolidated Canal heading, near Glenbar, Ariz.																				
Dec. 13, 1943		182			84	24	290		348	152	350		4.0		1,080	1.47		308	23	67
Jan. 13, 1944		172			77	22	281		340	141	330		4.0		1,020	1.39		282	4	68
Feb. 14		183			84	21	295		352	153	345		2.5		1,070	1.46		296	8	68
May 4		342			84	44	618		394	361	730		6.9		2,040	2.77		390	68	77
May 24, 11:25 a. m		366			102	47	656		480	391	760		3.5		2,200	2.99		448	54	76
May 24, 3:20 p. m		365			84	44	673		422	397	775		2.5		2,180	2.96		390	45	79
June 20		379			89	45	701		438	417	805		4.0		2,280	3.10		407	48	79
June 21		334			101	48	608		450	428	815		4.0		2,320	3.16		450	0	77
Oct. 28		179			88	24	276		336	155	340		3.0		1,050	1.43		318	42	65
Gila River below Fort Thomas Consolidated Canal heading, near Glenbar, Ariz.																				
Nov. 25, 1943		194			86	26	307		379	163	360		2.5		1,130	1.54		322	11	68
Apr. 12, 1944		262			107	35	445		498	235	510		7.9		1,590	2.16		411	2	70
May 3		325			54	41	595		289	338	710		10		1,890	2.57		304	67	81
May 24		363									765									
June 21		387									815									

Oct. 1–2, 1943		85.0								140									
Oct. 3, 8, 12, 15, 19, 22, 25, 29		266			68	36	488	367	258	570		6.4		1,610	2.19		318	16	77
Nov. 1, 8, 12, 15, 19, 22, 28, 29		277			87	36	499	442	254	580		6.5		1,680	2.28		365	2	75
Nov 4		275			84	35	481	433	249	555		4.0		1,620	2.20		354	0	75
Nov. 5		266			69	36	478	395	239	555		5.0		1,580	2.15		320	0	77
Nov. 25		262			100	33	445	467	231	515		3.0		1,560	2.12		385	2	72
Nov. 26		330			124	40	581	580	293	675		5.0		2,000	2.72		474	0	73
Dec. 2, 7, 10, 20, 24, 28, 31	1.87	285			87	38	509	443	257	595	1.7	5.8		1,710	2.33		373	10	75
Dec. 13		269			96	36	464	445	240	550		6.8		1,610	2.19		388	23	70
Dec. 16		303			72	41	558	418	286	650		5.0		1,820	2.48		348	6	78
Jan. 4, 7, 11, 18, 21, 25, 27, 1944	5.13	243			80	32	428	400	217	500		4.5		1,460	1.99		331	4	74
Jan. 13		231			95	27	384	423	196	445		5.0		1,360	1.85		348	1	71
Jan. 14		219			96	27	374	410	188	445		5.0		1,340	1.82		350	14	70
Feb. 1, 4, 8, 11, 18, 22, 25, 29	3.62	283			80	35	500	424	254	575	1.7	4.5	3.0	1,660	2.26		344	0	76
Feb. 14		241			86	27	423	414	213	485		2.0		1,440	1.96		326	0	74
Feb. 15		305			111	34	549	540	278	620		3.5		1,860	2.53		417	0	74
Mar. 3, 7, 10, 14, 21, 24, 28, 31	3.04	314			55	37	597	361	304	685	1.5	5.0	3.2	1,860	2.53		290	0	82
Mar. 15		322			98	37	597	492	310	685		3.5		1,970	2.68		396	0	77
Mar. 16		323			112	39	591	542	306	680		3.5		2,000	2.72		440	0	74
Apr. 3, 7, 20, 27	3.04	313			47	38	597	338	307	685	1.9	4.0	3.0	1,850	2.52		274	0	83
Apr. 12		326			82	41	601	434	323	700		1.5		1,960	2.67		373	15	78
Apr. 13		315			93	39	574	486	298	660		2.5		1,910	2.60		392	0	76
May 3		331			49	40	616	330	331	715		3.0		1,920	2.61		287	16	82
May 4		333			82	40	605	442	319	700		3.5		1,970	2.68		369	6	78
May 11, 18, 24, 29	1.70	316			36	37	632	323	323	715	1.9	2.5	3.5	1,910	2.60		242	0	85
May 24		343			84	39	632	468	330	720		1.0		2,040	2.77		370	0	79
May 25		342								715									
June 2, 5, 9, 12, 16, 19, 26, 30	.80	344			36	40	669	324	349	760	1.8	3.5	2.0	2,020	2.75		254	0	85
June 21		352			38	41	687	326	371	780		5.4		2,080	2.83		264	0	85
June 22		362			56	43	691	372	382	790		2.5		2,150	2.92		317	12	83
July 3, 7, 10, 14, 21, 26, 28, 31		288			44	32	541	290	292	615	1.7	5.0	4.0	1,670	2.27		242	4	83
July 17		353			80	40	664	456	366	745		2.0		2,120	2.88		364	0	80
July 19, 24		106			46	12	170	275	105	138	1.3	.8	1.0	609	.83		164	0	69
Aug. 3		359																	
Aug. 7		370			54	41	703	342	392	810		.5		2,170	2.95		304	23	83
Aug. 10–11, 17, 21–22, 24–25		61.4			39	8.5	87	214	49	64	1.4	2.0		356	.48		132	0	59
Aug. 14–16, 28		170			82	22	258	281	170	310	1.5	8.3		990	1.35		295	64	65
Sept. 1, 4, 11, 15, 22		262								560									
Sept. 6–8, 18, 30		73.7								94									
Oct. 1, 5		103								168									
Oct. 9, 13, 16, 20, 23		55								555									
Oct. 26		206			99	27	318	377	180	390		3.0		1,200	1.63		358	49	66
Oct. 28		182			87	25	275	337	154	340		3.0		1,050	1.43		320	44	65
Nov. 1		150																	

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Gila River at Eden Crossing, near Eden, Ariz.																				
Nov. 5, 1943		215			90	31	340		370	185	420		4.0		1,250	1.70		352	48	67
Nov. 26		240			92	28	402		375	202	495		2.5		1,410	1.92		344	37	72
Dec. 16		195			90	28	309		373	167	375		4.0		1,160	1.58		340	34	66
Jan. 14, 1944		196			90	23	314		368	161	375		4.0		1,150	1.56		319	18	68
Feb. 15		269			114	32	452		465	242	540		4.0		1,610	2.19		416	34	70
Mar. 16		324			124	41	567		500	320	685		1.5		1,980	2.69		478	68	72
Apr. 13		336			120	43	586		516	326	700		1.0		2,030	2.76		476	54	73
May 4		352			58	43	652		314	356	785		5.0		2,050	2.79		322	64	82
May 25, 8:40 a. m		342									735									
May 25, 1:55 p. m		343			73	41	629		368	349	745		.5		2,020	2.75		350	48	80
June 22		378			69	47	705		369	381	850		2.0		2,240	3.05		366	63	81
July 17		365			48	39	708		342	388	805		.5		2,160	2.94		280	0	85
Aug. 7		386			84	42	722		424	423	825		.5		2,310			382	34	80
Oct. 26		206									400									
Gila River near Ashurst, Ariz.																				
Oct. 1–2, 1943		86.3									146									
Oct. 5, 22		178									365									
Oct. 8, 12, 15, 19, 25, 29		354			112	56	612		281	405	840		3.0		2,170	2.95		510	279	72
Nov. 1, 8, 12, 15, 19, 22, 30	22.0	266			107	36	441		359	249	580		2.5		1,590	2.16		415	120	70
Nov. 5		228			100	33	358		358	209	460		3.0		1,340	1.82		385	91	67
Nov. 26		242			104	34	379		368	221	490		2.0		1,410	1.92		400	98	67
Dec. 3, 7, 10, 13, 20, 23, 27, 31	34.5	250			106	38	409		387	233	525	1.9	4.5	5.0	1,510	2.05		420	103	68
Dec. 16		211			96	32	331		373	189	415		3.5		1,250	1.70		371	65	66

Jan. 3, 6, 10, 17, 20, 23, 27, 31, 1944	70.6	227			100	32	367	382	205	460		5.0		1,360	1.85		381	68	68
Jan. 14		203			94	26	316	362	177	385		5.0		1,180	1.60		342	45	67
Feb. 3, 7, 10, 17, 21, 24, 28	40.3	314			104	42	536	382	310	675	1.9	5.0	2.0	1,860	2.53		432	119	73
Feb. 15		273			120	36	436	416	260	555		3.0		1,610	2.19		448	107	68
Mar. 2, 7, 9, 13, 20, 22, 27, 31	16.6	401			100	59	714	280	450	950	1.8	4.0	3.0	2,420	3.29		492	262	76
Mar. 16		399			145	56	704	458	438	915		2.0		2,490	3.39		592	217	72
Apr. 4, 7, 11, 18, 21, 25, 28	10.0	388			78	61	741	240	465	970	1.8	4.0	3.2	2,440	3.32		446	248	78
Apr. 13		467			176	71	792	486	534	1,060		3.0		2,880	3.92		731	332	70
May 2, 9, 12, 16, 19, 23, 30	4.11	516			124	80	930	252	629	1,270	2.2	1.5	1.5	3,160	4.30		638	432	76
May 4		432			84	64	768	232	491	1,020		3.0		2,540	3.45		472	282	78
May 25		595			176	93	1,050	392	737	1,430		1.0		3,680	5.00		822	500	74
June 2, 6, 9, 13, 16, 20, 27	.62	762			226	128	1,330	243	979	1,960	2.0	4.0	1.5	4,750	6.46		1,090	892	73
June 22		775			263	132	1,360	364	1,000	2,000		1.0		4,940	6.72		1,200	901	71
July 4, 7, 14		703			184	120	1,240	125	897	1,840	1.6	4.0	4.0	4,350	5.92		952	850	74
July 9–10		243								480									
July 17		833			272	142	1,430	296	1,050	2,160		.5		5,200	7.07		1,260	1,020	71
July 19–20, 24, 27		143			54	14	233	226	170	232	1.5	6.8	1.0	823	1.12		192	8	72
Aug. 1, 4		854			249	148	1,500	125	1,100	2,290	1.8	5.0		5,360	7.29		1,230	1,130	73
Aug. 7		891			330	155	1,540	336	1,120	2,390		.5		5,700	7.75		1,460	1,190	70
Aug. 10–11, 22, 24–25		65.0			40	9.2	81	209	35	72	1.2	2.0		338	.46		138	0	56
Sept. 1, 5, 22		526								1,310									
Sept. 6–8, 18		78.7								104									
Sept. 12, 15		234								505									
Oct. 26		251			115	35	398	390	239	515		3.0		1,500	2.04		431	112	67

Gila River above Colvin-Jones Canal heading, near Fort Thomas, Ariz.

Nov. 5, 1943		269			109	39	426	315	256	590		2.5		1,580	2.15		432	174	68
Nov. 26		302			140	42	472	371	284	670		2.5		1,790	2.43		522	218	66
Dec. 16		254			122	40	395	377	237	545		4.0		1,530	2.08		469	160	65
Jan. 14, 1944		225			111	30	354	367	201	465		4.0		1,350	1.84		400	99	66
Feb. 15		329			152	47	516	411	320	725		3.0		1,970	2.68		573	236	66
March 16		516			218	81	862	420	578	1,280		1.5		3,230	4.39		877	533	68
Apr. 13, 11:15 a. m		583								1,450									
Apr. 13, 12 m		582			246	90	949	408	654	1,440		1.0		3,580	4.87		984	650	68
May 4, 12:05 p. m		588								1,480									
May 4, 12:50 p. m		586			212	90	980	282	670	1,490		1.0		3,580	4.87		899	668	70
May 25		696			281	111	1,130	280	778	1,830		.5		4,270	5.81		1,160	928	68
May 26		776			344	128	1,250	293	863	2,100		.5		4,930	6.57		1,380	1,140	66
June 22		882			483	147	1,350	375	945	2,450		1.0		5,560	7.56		1,810	1,500	62
June 30		908																	
July 17		874			445	151	1,320	231	914	2,460		1.0		5,400	7.34		1,730	1,540	62
Aug. 7		876			472	156	1,320	272	940	2,470		.5		5,490	7.47		1,820	1,600	61
Oct. 26		302			121	45	485	308	309	685		1.0		1,800	2.45		487	234	68

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Gila River at Fort Thomas, Ariz.																				
Oct. 1, 3, 1943		113									206									
Oct. 5, 22, 25, 29	7.7	291			139	44	451	322	280	675		2.0		1,750	2.38		528	264	65	
Oct. 8, 12, 15, 19		560			220	93	934	173	634	1,530		2.0		3,500	4.76		932	790	69	
Nov. 1, 12, 15, 19, 22, 28		379			161	57	614	322	378	930		2.0		2,300	3.13		636	372	68	
Nov. 5		307			118	48	489	291	300	710		2.5		1,810	2.46		492	254	68	
Nov. 9		317			148	46	495	340	298	740		3.0		1,900	2.58		558	280	66	
Nov. 23		399			176	57	633	380	395	940		2.5		2,390	3.25		674	362	67	
Nov. 26		328			151	46	512	368	311	745		2.5		1,950	2.65		566	264	66	
Dec. 3	43	332			149	51	524	379	317	760	1.9	4.5	4.5	1,999	2.71		582	271	66	
Dec. 6, 9, 13, 20, 23, 27	44.2	307			139	48	487	368	294	700	1.7	4.0	4.5	1,860	2.53		544	242	66	
Dec. 14		280			135	40	431	376	256	610		3.5		1,660	2.26		502	194	65	
Dec. 16		271			132	40	426	374	255	600		4.0		1,640	2.23		494	188	65	
Dec. 31	27	484			204	79	782	373	510	1,200		6.2	5.0	2,960	4.03		834	528	67	
Jan. 3, 6, 10, 17, 20, 23, 27, 31, 1944	78.3	286			130	41	460	376	271	640		4.0		1,730	2.35		493	186	67	
Jan. 14		244			120	33	380	368	220	515		5.0		1,450	1.97		435	133	66	
Jan. 15		278			139	40	428	385	258	605		5.0		1,660	2.26		512	196	65	
Jan. 18	63	313			145	44	503	411	297	700		5.0		1,900	2.58		453	206	67	
Jan. 21	40	372			172	55	596	419	363	870		4.0		2,270	3.09		655	312	66	
Jan. 25	90	276			122	39	441	352	254	615		5.0		1,650	2.24		465	176	67	
Jan. 28	74	304			144	43	486	402	288	680		5.0		1,840	2.50		536	207	66	
Feb. 1		264			96	35	433	278	253	590		.5		1,540	2.09		384	156	71	
Feb. 3, 7, 10, 14, 17, 21, 24, 28		400			173	55	650	405	400	935		5.0		2,420	3.29		658	326	68	
Feb. 4		313			104	43	518	234	314	740		1.0		1,840	2.50		436	244	72	
Feb. 8	76.0	289			130	39	461	394	269	625		3.0		1,720	2.34		485	162	67	
Feb. 10		374			166	52	596	428	363	845		5.0	3.5	2,240	3.05		628	278	67	
Feb. 11		332			108	48	555	236	336	785		5.0		1,950	2.65		447	254	73	
Feb. 15		370			172	55	570	390	365	845		4.0		2,200	2.99		655	336	65	
Feb. 18		550			245	84	884	403	589	1,370		4.0		3,370	4.58		957	626	67	
Feb. 22		528			234	75	857	417	569	1,290		2.5		3,230	4.39		892	550	68	
Feb. 25		421			169	55	704	389	429	1,000		2.5		2,550	3.47		648	329	70	
Feb. 29		375			154	50	620	399	373	865		3.0		2,260	3.07		590	263	70	

Mar. 2, 6, 9, 13, 20, 22, 1944		533			194	81	887	300	579	1,340	1.7	3.0	1.0	3,230	4.39		817	571	70
Mar. 3		429			118	63	744	231	465	1,060		3.5		2,570	3.50		554	364	75
Mar. 7		532			186	79	888	318	571	1,320		3.0		3,200	4.35		789	528	71
Mar. 10		486			155	78	816	224	539	1,230		3.5		2,930	3.98		708	524	71
Mar. 14		576			196	92	955	210	643	1,490		1.0		3,480	4.73		868	696	71
Mar. 16		587			256	92	960	392	653	1,490		1.5		3,650	4.96		1,020	696	67
Mar. 17		600			276	94	976	425	663	1,530		2.5		3,750	5.10		1,080	727	66
Mar. 21		632			266	103	1,010	325	692	1,630		2.0		3,860	5.25		1,090	821	67
Mar. 24		612			240	96	990	277	677	1,570		1.5		3,710	5.05		994	766	68
Mar. 28		644			253	106	1,060	267	719	1,700		.5		3,970	5.40		1,070	848	68
Mar. 31		642			246	105	1,050	244	721	1,680		.5		3,920	5.33		1,050	846	69
Apr. 3, 7, 10, 17, 20, 27		647			207	101	1,080	125	708	1,730	1.3	2.5	3.5	3,890	5.29		932	830	72
Apr. 4		612			181	102	1,070	98	700	1,690	1.7	2.5	2.0	3,800	5.17		871	790	73
Apr. 7		504			126	83	898	114	579	1,350	1.8	4.5	.5	3,100	4.22		656	562	75
Apr. 11		634			217	105	1,090	146	724	1,750	1.7	1.5	1.0	3,960	5.39		973	854	71
Apr. 13		744			331	119	1,210	351	817	1,990		1.0		4,640	6.31		1,320	921	67
Apr. 14		733			331	118	1,180	363	805	1,950		1.5		4,560	6.20		1,310	1,010	66
Apr. 18		639			224	109	1,150	103	750	1,870	1.6	4.0	1.0	4,160	5.66		1,010	922	71
Apr. 21		638			236	110	1,130	123	755	1,850	1.6	2.5	.2	4,150	5.64		1,050	941	70
Apr. 25		689			246	113	1,130	142	660	1,930	1.7	1.0	.5	4,150	5.64		1,080	962	69
Apr. 28		687			253	106	1,170	126	781	1,900	1.6	2.0	1.0	4,280	5.82		1,070	964	70
May 1, 8, 11, 15, 18, 22, 29		756			302	131	1,310	118	877	2,210	1.6	1.0	3.5	4,890	6.65		1,290	1,200	69
May 2		708			243	116	1,190	94	788	1,960	1.7	3.0	1.0	4,350	5.92		1,080	1,010	70
May 4		700			257	109	1,150	196	778	1,860		1.0		4,250	5.78		1,090	929	70
May 5	10.0	679			260	107	1,120	228	747	1,820		1.0		4,170	5.67		1,090	902	69
May 9		755			273	127	1,280	80	856	2,140	1.7	2.0	1.0	4,120	5.60		1,200	1,040	70
May 12		725			263	121	1,240	116	827	2,040	1.7	3.0	1.5	4,550	6.19		1,150	1,060	70
May 16		814			373	134	1,320	343	891	2,230	1.6	2.0	2.5	5,120	6.96		1,480	1,200	66
May 19		814			308	142	1,350	128	914	2,290	1.6	2.0	2.0	5,070	6.90		1,350	1,250	68
May 23		820			328	137	1,360	104	917	2,340	1.6	1.0	4.0	5,140	6.99		1,380	1,300	68
May 25		825			349	136	1,340	256	916	2,250		.5		5,120	6.96		1,430	1,220	67
May 26	6.6	759			296	121	1,250	236	830	2,050		1.0		4,660	6.34		1,240	1,040	69
May 30		825			338	135	1,370	150	928	2,330	1.6	1.0	4.0	5,180	7.04		1,400	1,280	68
June 2		897			383	148	1,470	98	984	2,580	1.6	3.0	4.0	5,620	7.64		1,560	1,480	67
June 2, 5, 12, 19–20, 26, 30		939			446	154	1,500	204	1,030	2,670	1.6	3.0	1.5	5,910	8.04		1,750	1,580	65
June 6		926			408	156	1,470	86	1,010	2,650	1.6	2.5	4.0	5,740	7.81		1,660	1,590	66
June 9		931			428	152	1,510	127	1,020	2,700	1.6	3.0	3.5	5,880	8.00		1,690	1,590	66
June 13		936			439	154	1,490	145	1,010	2,690	1.6	1.5	3.2	5,860	7.97		1,730	1,610	65
June 16		959			443	159	1,550	129	1,050	2,780	1.6	2.5	4.0	6,050	8.23		1,760	1,650	66
June 18		929			476	159	1,380	209	965	2,600		1.5		5,680	7.72		1,840	1,670	62
June 21		988			474	163	1,570	171	1,060	2,850	2.0	1.0	3.0	6,200	8.43		1,850	1,710	65
June 22		952			485	164	1,490	224	1,020	2,770		2.5		6,020	8.19		1,820	1,670	63
June 23		946			459	154	1,490	196	1,040	2,700		2.5		5,950	8.09		1,820	1,660	64
June 27		942			446	166	1,490	125	1,020	2,740	1.6	.5	7.5	5,930	8.06		1,800	1,690	64
July 3, 31		858								2,430									
July 4		794			376	128	1,280	193	897	2,240	1.2	4.0	4.2	5,020	6.83		1,460	1,310	66
July 7		902			430	149	1,470	179	984	2,630	1.2	5.0	4.5	5,760	7.83		1,690	1,540	66
July 9		220			94	26	356	375	274	370		1.0	4.5	1,310	1.78		342	34	69

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^3$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Gila River at Fort Thomas, Ariz.—Continued																				
July 9, 11, 28		467									1,190									
July 10		389			186	50	607	246	463	920			8.6	5.0	2,360	3.21		670	468	66
July 14		871			390	154	1,390	86	950	2,530	1.2		3.5	4.2	5,460	7.43		1,610	1,540	65
July 17		937			477	161	1,440	249	986	2,660			1.0		5,850	7.96		1,850	1,650	63
July 19, 24, 25		107								142										
July 20		158			60	14	258	173	192	290	1.5	17		4.0	918	1.25		207	65	73
July 24		246			104	30	401	360	258	490		1.5			1,460	1.99		383	88	69
July 25		81.2			42	10	125	254	116	63		.5			482	.66		146	0	65
July 27		321			171	50	449	200	347	765		5.7			1,890	2.57		632	468	61
Aug. 1		861			428	156	1,300	75	958	2,460		2.0			5,340	7.26		1,710	1,650	62
Aug. 3		952			472	177	1,440	87	1,050	2,750		2.0			5,930	8.06		1,910	1,830	62
Aug. 7		1,000			533	182	1,540	220	1,100	2,900		.5			6,360	8.64		2,080	1,900	62
Aug. 8		936			488	171	1,390	175	1,010	2,650		.5			5,800	7.89		1,920	1,780	61
Aug. 11		49.5			34	10	58	177	36	49		1.0			275	.37		126	0	50
Aug. 14		95.0			60	16	116	161	84	170		11			536	.73		216	84	54
Aug. 16		156								234										
Aug. 22		47.2			42	9.2	47	172	38	46		.2			267	.36		143	2	42
Aug. 24		92.4			56	14	114	186	79	148		2.5			505	.69		198	45	56
Aug. 25		63.1								90										
Aug. 28		187			106	27	259	269	172	380		3.4			1,080	1.47		376	155	60
Sept. 1		500								1,360										
Sept. 5		699								2,010										
Sept. 6		76.9			46	11	110	219	94	86		1.0			456	.62		160	0	60
Sept. 7		63.5								71										
Sept. 8		85.6			52	10	126	164	91	150		5.0			515	.70		171	36	62
Sept. 12		370			170	61	589	198	198	408		8.5			2,300	3.13		676	513	65
Sept. 15		156			90	22	227	223	144	335		3.0			931	1.27		315	132	61
Sept. 16		191								395										
Sept. 18		89.3			58	12	120	187	94	142		4.0			522	.71		194	40	57
Sept. 22		411			186	73	652	126	449	1,140		3.0			2,570	3.50		764	660	65
Oct. 1		78.0			62	15	89	207	65	118		8.8			460	.63		216	46	47
Oct. 2		93.1			62	16	119	214	79	156		2.0			539	.73		220	45	54
Oct. 10		275			128	43	441	312	282	640		4.0			1,690	2.30		496	241	66
Oct. 13		399			153	63	670	246	437	1,020		3.0			2,470	3.36		641	440	69
Oct. 16		324			178	49	495	395	324	750		3.0			1,990	2.71		646	322	62
Oct. 17		366								865										
Oct. 20		413			214	63	660	411	432	1,020		4.0			2,600	3.54		793	456	64
Oct. 24		484			232	76	799	412	534	1,230		2.0			3,080	4.19		892	554	66

Oct. 26		328			135	50	520	295	337	765		1.0		1,950	2.65		542	300	68
Oct. 27		341			175	52	513	394	334	775		2.0		2,050	2.79		650	328	63
Oct. 31		200			108	28	308	319	183	425		3.0		1,210	1.65		384	123	64
Gila River above wash 1.8 miles below Fort Thomas, Ariz.																			
Jan. 15, 1944		288			147	41	445	385	276	635		5.0		1,740	2.37		536	220	64
Feb. 18		558			265	86	879	447	599	1,370		5.0		3,420	4.65		1,020	648	65
Mar. 17		600			248	94	998	335	685	1,550		4.0		3,740	5.09		1,010	731	68
Apr. 14		747			356	118	1,200	399	848	1,970		3.0		4,690	6.38		1,370	1,050	66
May 5		688			263	109	1,130	214	779	1,830		1.5		4,220	5.74		1,100	929	69
May 26		721			310	111	1,160	328	816	1,870		2.5		4,430	6.02		1,230	961	67
June 22, 8:06 a. m		896			455	164	1,490	214	1,100	2,640	1.1	1.5	2.0	5,960	8.11		1,810	1,630	64
June 22, 9:06 a. m		932								2,640									
June 22, 10:04 a. m		932								2,660									
June 22, 11:01 a. m		932								2,670									
June 22, 12 m		932								2,660									
June 22, 1:01 p. m		947								2,690									
June 22, 2 p m		947			448	163	1,530	184	1,100	2,700	1.1	1.0	2.0	6,030	8.20		1,790	1,640	65
June 22, 3:02 p. m		947								2,690									
June 22, 4:04 p. m		950								2,700									
June 22, 5:08 p. m		953								2,690									
June 22, 6:05 p. m		944								2,680									
June 22, 6:55 p. m		947								2,680									
June 22, 7:58 p. m		947								2,660									
June 22, 9 p. m		913								2,660									
June 22, 10:01 p. m		935								2,660									
June 22, 11 p. m		927								2,660									
June 22, 11:58 p. m		938								2,660									
June 23, 12:59 a. m		935								2,650									
June 23, 2 a. m		938								2,630									
June 23, 2:59 a. m		941								2,630									
June 23, 4 a. m		938								2,630									
June 23, 5 a. m		929								2,630									
June 23, 6 a. m		938			468	162	1,470	251	1,080	2,620	1.1	1.5	1.5	5,930	8.06		1,830	1,630	64
June 23, 7 a. m		932								2,630									
June 23, 8 a. m		935								2,650									
June 23, 9 a. m		938								2,630									
June 23, 10 a. m		944								2,650									
June 23, 11 a. m		938								2,650									
June 23, 12 m		947			452	160	1,520	209	1,110	2,670	1.1	1.5	3.0	6,020	8.19		1,790	1,610	65
June 23, 1 p. m		947								2,690									
June 23, 2 p. m		934								2,700									
June 23, 3 p. m		944								2,680									
June 23, 4 p. m		947								2,700									
June 23, 5 p. m		947			452	161	1,540	200	1,120	2,700	1.1	1.5	1.5	6,070	8.26		1,790	1,630	65
June 23, 6 p. m		950								2,690									
June 23, 7 p. m		950								2,700									
June 23, 8:10 p. m		944								2,670									
July 18		810			387	117	1,340	416	1,130	2,010		12		5,200	7.07		1,450	1,110	67
Oct. 27		355			168	56	558	341	403	825		2.0		2,180	2.96		650	370	65

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Gila River near Geronimo, Ariz.																				
Oct. 1, 3, 1943		124									234									
Oct. 6, 9, 13, 15, 20, 22, 26, 29		501			207	76	819	216	548	1,320		2.0			3,080	4.19		829	652	68
Nov. 2, 5, 12, 16, 19, 27, 30	33.5	415			196	60	665	369	420	1,020		4.0			2,550	3.47		736	432	66
Nov. 9		365			164	52	566	333	352	860		4.0			2,160	2.94		624	351	66
Nov. 23		479			210	65	782	386	489	1,180		3.0			2,920	3.97		792	475	68
Dec. 3	55	369			158	54	591	365	360	865	1.8	4.5	4.5		2,210	3.01		616	318	68
Dec. 7, 10, 17, 21, 24, 28	55.2	383			161	57	604	328	382	905	1.6	4.5	5.0		2,280	3.10		636	418	67
Dec. 14	64	305			150	43	484	372	295	700		5.0			1,860	2.53		552	246	66
Dec. 31	32	600			280	92	962	418	648	1,520	1.7	4.5	4.0		3,710	5.05		1,080	735	66
Jan. 4, 7, 11, 1944		241			108	34	381	313	227	525		5.0			1,430	1.94		410	153	67
Jan. 15		302			152	43	469	379	290	680		5.0			1,830	2.49		556	246	65
Jan. 18	75	336			163	47	528	389	326	770		5.0			2,030	2.76		600	281	66
Jan. 21	53	414			185	58	671	386	418	995		4.5			2,520	3.43		700	384	68
Jan. 25	99	290			117	40	466	325	272	650		5.0			1,710	2.33		456	190	69
Jan. 28	85	336			152	46	542	390	330	765		5.0			2,030	2.76		568	249	67
Feb. 1		295			94	41	485	226	292	685		3.0			1,710	2.33		403	218	72
Feb. 4		351			109	49	588	213	362	850		3.0			2,070	2.82		474	299	73
Feb. 8	80	323			142	42	516	385	308	715		4.0			1,920	2.61		527	211	68
Feb. 10		417			172	56	673	374	419	975		5.0	3.5		2,480	3.37		660	353	69
Feb. 11		390			155	54	637	333	398	925		2.5			2,340	3.18		609	336	69
Feb. 15	62	391			150	57	627	261	406	945		3.0			2,320	3.16		609	395	69
Feb. 18	32	562			270	79	914	452	613	1,400		3.0			3,500	4.76		999	628	67
Feb. 22		569			240	83	928	350	626	1,430		2.5			3,480	4.73		940	654	68
Feb. 25		465			184	65	768	364	483	1,130		2.5			2,810	3.82		726	498	70
Feb. 29		405			161	56	676	365	423	965		2.5			2,460	3.35		632	333	68
Mar. 3		466			135	65	807	225	515	1,160		4.0			2,800	3.81		604	420	74
Mar. 7		570			202	80	966	263	630	1,460		3.0			3,470	4.72		833	618	72
Mar. 10		534			176	81	899	206	598	1,370		3.5			3,230	4.39		772	603	72
Mar. 14		619			225	94	1,040	222	705	1,620		3.0			3,800	5.17		948	766	70
Mar. 17	29	607			272	91	1,010	397	686	1,570		2.5			3,830	5.21		1,050	728	68
Mar. 21		652			270	100	1,070	296	730	1,700		3.5			4,020	5.47		1,080	842	68
Mar. 24		634			260	96	1,030	306	707	1,630		2.5			3,880	5.28		1,040	792	68
Mar. 28		670			270	103	1,100	269	756	1,760		2.5			4,120	5.60		1,100	877	69
Mar. 31		668			270	100	1,100	273	751	1,750		2.5			4,110	5.59		1,080	862	69

Apr. 4		635			201	102	1,090	108	735	1,700	1.2	2.5	1.0	3,910	5.39		991	836	76
Apr. 7		555			174	84	988	168	654	1,490	1.7	3.0	.5	3,480	4.73		780	642	73
Apr. 11		648			223	101	1,140	113	773	1,800	1.2	1.5	.5	4,100	5.58		972	880	72
Apr. 14		719			330	108	1,170	367	810	1,890		3.0		4,490	6.11		1,270	966	67
Apr. 18		677			264	102	1,180	187	794	1,880	1.6	5.0	1.0	4,320	5.88		1,080	925	70
Apr. 21		618			224	101	1,150	116	763	1,830	1.6	3.5	1.0	4,130	5.62		974	880	72
Apr. 25		691			242	105	1,200	119	812	1,910	1.6	1.5	4.2	4,330	5.89		1,040	938	72
Apr. 28		675			241	103	1,180	114	799	1,890	1.2	2.0	4.0	4,270	5.81		1,020	932	71
May 2		659			231	102	1,160	100	776	1,860	1.6	3.0	2.5	4,180	5.68		996	914	72
May 5		683			262	103	1,130	233	768	1,800		2.0		4,180	5.68		1,080	886	69
May 9		725			279	109	1,210	180	786	1,980	1.7	3.0	3.0	4,460	6.07		1,140	997	70
May 12		717			242	110	1,210	95	822	1,950	1.6	4.0	2.5	4,390	5.97		1,060	978	71
May 16		729			253	112	1,260	119	850	2,010	1.6	3.0	3.0	4,550	6.19		1,090	994	71
May 19		755			316	112	1,260	238	863	2,050	1.6	2.0	3.5	4,720	6.42		1,250	1,050	69
May 23		774			303	115	1,310	230	881	2,100	1.6	4.5	2.0	4,830	6.57		1,230	1,040	70
May 26		732			266	106	1,220	161	829	1,960		1.5		4,460	6.07		1,100	968	71
May 30		793			311	117	1,330	146	909	2,180	1.6	2.0	2.0	4,920	6.69		1,260	1,140	70
June 2		793			303	119	1,310	87	904	2,180	1.6	2.5	10	4,860	6.61		1,250	1,170	70
June 6		771			295	113	1,280	91	876	2,120	1.6	2.5	10	4,730	6.43		1,200	1,130	70
June 9		790			341	113	1,300	230	889	2,140	1.6	4.5	4.2	4,900	6.66		1,320	1,130	68
June 13		762			297	108	1,270	135	862	2,080	1.6	3.0		4,690	6.38		1,180	1,070	70
June 16		755			318	100	1,250	250	836	2,020	1.6	2.5	4.8	4,650	6.32		1,200	1,000	69
June 21		747			312	101	1,250	240	834	2,010	1.7	1.5	4.2	4,630	6.30		1,190	998	69
June 22, 8:30 a. m		750			324	101	1,250	305	829	2,000	1.7	1.0	1.0	4,660	6.34		1,220	974	69
June 22, 9:31 a. m		744								1,980									
June 22, 10:30 a. m		741								1,990									
June 22, 11:33 a. m		733								1,980									
June 22, 12:31 p. m		735								1,970									
June 22, 1:32 p. m		737								1,980									
June 22, 2:31 p. m		731			282	94	1,240	193	808	1,970	1.7	1.0	1.5	4,490	6.11		1,090	932	71
June 22, 3:30 p. m		734								1,980									
June 22, 4:32 p. m		734								1,970									
June 22, 5:30 p. m		734								1,990									
June 22, 6:30 p. m		727								1,980									
June 22, 7:30 p. m		738								1,980									
June 22, 8:30 p. m		739								1,990									
June 22, 9:30 p. m		742								1,980									
June 22, 10:30 p. m		735			322	104	1,250	311	829	2,000	1.7	1.0	1.5	4,660	6.34		1,230	976	69
June 22, 11:30 p. m		737								1,980									
June 23, 12:30 a. m		743								1,990									
June 23, 1:30 a. m		744								1,990									
June 23, 2:30 a. m		746								1,990									
June 23, 3:33 a. m		748			314	101	1,250	264	831	2,010	1.7	1.0	2.0	4,640	6.31		1,200	982	70
June 23, 4:34 a. m		747								1,990									
June 23, 5:32 a. m		746								2,000									
June 23, 6:30 a. m		742								1,990									
June 23, 7:30 a. m		748								1,980									
June 23, 8:30 a. m		742								1,990									
June 23, 9:30 a. m		742								1,980									
June 23, 10:30 a. m		738								1,980									
June 23, 11:30 a. m		736								1,980									
June 23, 12:30 p. m		738								1,970									
June 23, 1:30 p. m		735			309	97	1,230	267	816	1,970	1.7	1.5	2.0	4,560	6.20		1,170	951	70

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° (C)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Gila River near Geronimo, Ariz.—Continued																				
June 23, 2:30 p. m.		727									1,970									
June 23, 3:30 p. m.		730									1,970									
June 23, 4:30 p. m.		730									1,980									
June 23, 5:30 p. m.		733									1,980									
June 23, 6:30 p. m.		735									1,9[illegible]0									
June 23, 7:30 p. m.		733									1,990									
June 23, 8 p. m.		728			302	99	1,250	231	828		2,000	1.7	1.0	2.5	4,600	6.26		1,160	971	70
June 27		737			322	97	1,230	307	810		1,970	1.7	1.0	4.0	4,580	6.23		1,200	954	69
July 4		569			210	72	961	131	614		1,530	1.0	3.0	4.8	3,460	4.71		820	712	72
July 7		720			279	96	1,230	209	785		1,960	.9	3.0	4.8	4,460	6.07		1,090	920	71
July 9		600			290	81	979	350	737		1,510		1.5	4.2	3,770	5.13		1,060	770	67
July 10		577			224	70	973	186	647		1,510	.9	4.5	4.5	3,520	4.79		847	694	71
July 14		692			260	90	1,170	178	752		1,870	.9	5.0	4.5	4,240	5.77		1,020	873	71
July 18		134			319	94	1,200	316	760		1,950		1.0		4,480	6.09		1,180	924	69
July 20		162			58	11	269	166	199		295		18	3.5	932	1.27		190	54	76
July 24		269			114	33	431	363	286		540		2.0		1,580	2.15		420	122	69
July 25		76.2			38	8.7	121	219	125		60		1.5		462	.63		131	0	67
July 27		344			146	42	550	205	379		825		7.8		2,050	2.79		537	369	69
Aug. 1		687			248	96	1,120	83	761		1,840		2.5		4,110	5.59		1,010	946	71
Aug. 4		718			255	96	1,210	96	796		1,950		4.0		4,360	5.93		1,030	952	72
Aug. 8		640			293	80	1,030	309	685		1,660		.5		3,900	5.30		1,060	807	68
Aug. 11		57.7			36	9.8	74	222	42		47		.2		318	.43		130	0	55
Aug. 14		142			80	19	190	182	128		286		7.1		800	1.09		278	128	60
Aug. 16		133									192									
Aug. 22		48.3			40	8.7	48	154	42		49		2.5		263	.36		135	10	43
Aug. 24		95.0			56	13	124	174	86		162		2.5		529	.72		194	51	58
Aug. 25		63.0									91									
Aug. 28		239			126	32	340	273	223		515		4.8		1,380	1.88		446	222	62
Sept. 1		483									1,300									
Sept. 5		645									1,770									
Sept. 6		77.5			44	7.9	114	211	90		88		.5		448	.61		142	0	64
Sept. 7		64.2									76									
Sept. 8		87.9			54	10	129	171	102		146		5.0		530	.72		176	36	61
Sept. 12		418			166	59	699	126	473		1,120		2.0		2,580	3.51		657	554	70
Sept. 15		213			112	26	331	272	216		460		12		1,290	1.75		386	164	65
Sept. 16		313									785									

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sept. 22		440			204	63	713	221	431	1,150		2.0		2,730	3.71		768	587	67
Oct. 1		83.6			56	10	107	185	73	130		4.0		471	.64		181	30	56
Oct. 2		109			70	16	145	225	94	192		2.0		630	.86		240	56	57
Oct. 10		316			126	46	514	229	337	765		4.0		1,900	2.58		504	316	69
Oct. 13		439			157	67	750	182	505	1,150		3.0		2,720	3.70		668	518	71
Oct. 16		384			187	56	608	343	407	930		4.0		2,360	3.21		697	416	65
Oct. 17		431								1,040									
Oct. 20		480			250	70	765	447	521	1,180		4.0		3,010	4.09		912	546	65
Oct. 24		551			251	81	916	345	626	1,430		1.0		3,480	4.73		960	677	67
Oct. 27		400			202	60	617	390	408	955		2.0		2,440	3.32		750	431	64
Oct. 31		247			130	33	369	323	230	535		4.0		1,460	1.99		460	196	64
Gila River 1 mile below Goodwin Wash, near Geronimo, Ariz.																			
Dec. 14, 1943		301			146	43	476	367	294	685		3.5		1,830	2.49		542	240	66
Jan. 15, 1944		294			147	39	461	375	285	655		4.0		1,780	2.42		528	220	66
Feb. 10		403			172	54	652	388	404	940		5.0	4.5	2,420	3.29		651	333	69
Feb. 18		527			240	73	851	422	570	1,280		5.0		3,230	4.39		899	553	67
Mar. 17		548			218	80	916	314	620	1,390		2.5		3,380	4.60		873	616	70
Apr. 14		639			262	93	1,060	287	723	1,670		3.0		3,950	5.37		1,040	802	69
Apr. 14		599			254	85	983	300	674	1,540		3.0		3,690	5.02		984	738	68
May 5		601			202	86	1,000	156	676	1,560		1.5		3,600	4.90		858	730	72
May 26		634			266	86	1,050	305	700	1,640		1.0		3,890	5.29		1,020	768	69
June 23		513			211	61	854	304	556	1,280		2.0		3,110	4.26		778	528	70
July 18		499			162	56	923	199	509	1,380		2.5		3,130	4.26		635	472	76
Oct. 27		397			186	58	619	360	403	945		2.0		2,390	3.25		702	408	66
Gila River ½ mile below Goodwin Wash, near Geronimo, Ariz.																			
Mar. 17, 1944		561			234	81	945	357	634	1,430		2.5		3,500	4.76		917	624	69
Gila River at Geronimo Crossing, near Geronimo Ariz.																			
Nov. 9, 1943		322			136	43	505	306	305	740		3.0		1,880	2.56		516	266	68
Nov. 23		424			178	55	696	351	438	1,020		2.0		2,560	3.48		670	382	69
Dec. 14		289			140	40	448	364	274	640		3.5		1,720	2.34		514	216	65
Jan. 15, 1944		293			147	40	456	375	282	650		5.0		1,760	2.39		532	224	65
Feb. 10		383			160	50	614	364	381	880		5.0	4.5	2,270	3.09		605	306	69
Feb. 18		492			226	67	797	403	525	1,200		3.0		3,020	4.11		840	509	67
Mar. 17		514			207	73	869	310	579	1,310		1.5		3,190	4.34		816	562	70
Apr. 14		568			232	80	927	264	635	1,450		2.0		3,460	4.71		908	692	69
May 5		557			204	79	929	212	622	1,440		1.0		3,380	4.60		834	660	71
May 26		563			210	74	943	226	624	1,450		.5		3,410	4.64		828	614	71
June 22		435			140	53	735	150	470	1,100		1.5		2,570	3.50		568	444	74
June 23		434			160	53	718	205	467	1,080		2.0		2,580	3.51		618	450	72
July 17		398			120	45	681	140	421	1,000		2.0		2,340	3.18		484	380	75
July 18		411			126	44	714	172	409	1,050		1.0		2,430	3.30		496	354	76
Aug. 8		400			144	46	659	194	416	985		.5		2,350	3.20		548	390	72
Oct. 27		383			181	55	598	352	388	910		1.0		2,310	3.14		678	389	66

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids: Parts per million	Dissolved solids: Tons per acre-foot	Dissolved solids: Tons per day	Hardness as $CaCO_3$: Total	Hardness as $CaCO_3$: Non-carbonate	Percent sodium
Gila River at Black Point, Ariz.																				
Oct. 1, 3, 1943		120									220									
Oct. 6, 9, 13, 15, 20, 22, 26, 29		418			163	57	695	230	447	1,060		3.0			2,540	3.45		642	453	70
Nov. 2, 5, 12, 16, 19, 27, 30	43.5	372			148	52	603	282	377	900		3.0			2,220	3.02		584	352	69
Nov. 9		323			144	42	519	336	312	750		3.0			1,940	2.64		532	256	68
Nov. 23		424			183	56	685	346	435	1,020		1.5			2,550	3.47		687	404	68
Dec. 3, 7, 10, 17, 21, 24, 28, 31	67.5	345			144	52	561	317	347	825	1.6	4.5	4.5		2,090	2.84		574	314	68
Dec. 14		281			134	37	444	360	268	620		4.0			1,680	2.28		486	191	66
Jan. 4, 7, 11, 18, 21, 25, 28, 1944	95.7	296			134	40	486	354	291	680		5.0			1,810	2.46		499	209	68
Jan. 15		286			142	39	445	362	275	635		4.0			1,720	2.34		515	218	65
Feb. 1, 4, 8, 11, 15, 22, 25, 29	67.3	361			128	51	600	276	372	860	1.8	4.5			2,150	2.92		529	303	71
Feb. 18		485			214	67	787	365	519	1,190		2.5			2,960	4.03		810	510	68
Mar. 3, 7, 10, 14, 21, 24, 28, 31	38.5	486			137	70	850	120	547	1,280	1.4	2.5			2,950	4.01		630	532	75
Mar. 17		516			204	75	861	292	577	1,310		1.5			3,170	4.31		818	578	70
Apr. 4, 7, 11, 18, 21, 25, 28	24.7	528			165	75	901	117	594	1,390	1.4	2.0	3.2		2,190	4.34		720	625	73
Apr. 14		561			230	79	923	274	623	1,440		1.5			3,430	4.66		899	674	69
May 2, 9, 12, 16, 19, 23, 30	13.8	541			184	73	909	155	588	1,410	2.2	2.5	2.0		3,250	4.42		759	632	72
May 5		571			227	81	932	253	634	1,460		.5			3,460	4.71		900	692	69
May 26		569			222	78	932	214	626	1,470		.5			3,430	4.66		874	699	70
June 2, 6, 9, 13, 20, 27	4.42	474			161	60	779	149	504	1,200	1.4	1.5	4.0		2,780	3.78		648	526	72
June 23		433			164	55	713	232	454	1,080		1.0			2,580	3.51		636	446	71
July 4, 7, 10–11, 14, 22, 27		323			118	36	535	197	349	760	1.4	6.3	4.5		1,900	2.58		442	281	72
July 9, 24		628			302	86	1,000	218	727	1,660	1.5	7.4	2.0		3,890	5.29		1,110	928	66
July 18		278			114	28	461	193	270	680		4.5			1,650	2.24		400	242	71
July 20, 25		104			42	11	170	241	124	134	1.3	.8	1.5		602	.82		150	0	71
Aug. 1, 4, 29		363			128	43	596	194	373	875	1.6	8.8			2,120	2.88		496	338	72
Aug. 8		376			139	42	613	202	388	910		.5			2,190	2.98		520	354	72
Aug. 11, 21–22, 24		64.1								65										
Aug. 10, 15–17, 26		140								255										
Sept. 1, 5, 12, 22		358								895										
Sept. 6–7, 18, 30		76.0								104										
Sept. 9, 15		156								320										
Oct. 1, 30		104								182										
Oct. 6, 10, 13, 17, 20, 24, 31		350								845										
Oct. 27		376			160	58	591	287	388	910		1.0			2,250	3.06		638	403	67

Gila River at Calva, Ariz.

Oct. 6, 9, 13, 17, 23, 26, 30, 1943		389			159	54	632	216	400	990		3.0		2,340	3.18		619	442	69
Nov. 5, 16, 19, 27	39.4	384			144	53	631	265	384	945		1.0		2,290	3.11		578	360	70
Nov. 9		350			150	47	568	321	338	840		3.0		2,100	2.86		568	304	69
Nov. 23		393			150	53	644	267	390	970		.5		2,340	3.18		592	374	70
Dec. 3, 7, 17, 24, 28	70.2	324			133	47	515	315	308	755		3.5	4.5	1,920	2.61		526	268	68
Dec. 14		274			120	36	446	323	257	625		3.5		1,650	2.24		448	183	68
Jan. 4, 7, 18, 25, 28, 1944	94.3	302			126	41	492	309	290	705		4.0		1,810	2.46		483	230	69
Jan. 15		273			123	37	434	330	251	615		4.0		1,630	2.22		459	188	67
Feb. 4, 8, 15, 25	70.1	381			123	53	640	222	387	940	1.6	2.5	3.0	2,260	3.07		525	343	73
Feb. 18		428			168	59	707	303	435	1,060		3.0		2,580	3.51		662	414	70
Mar. 3, 7, 14, 24, 28	42.9	474			134	67	819	105	502	1,260	1.4	2.5	3.5	2,840	3.86		610	474	74
Mar. 17		501			203	73	821	269	529	1,290		1.0		3,050	4.15		806	586	69
Apr. 4, 7, 18, 25, 28		510			172	72	870	134	533	1,380	1.4	1.5	3.2	3,100	4.22		725	615	72
Apr. 14		521			202	74	852	224	537	1,360		.5		3,140	4.27		808	625	70
May 5		539			206	74	867	199	543	1,400		.5		3,190	4.34		818	655	70
May 9, 16, 19, 23, 30		518			182	66	897	158	516	1,420	2.2	1.0	2.0	3,160	4.30		726	596	73
May 26		551			210	73	899	195	536	1,460		.5		3,270	4.45		824	664	70
June 6, 9, 16		538			190	72	873	131	476	1,460	1.8	1.0	3.0	3,140	4.27		770	662	71
July 19–20, 25		126								190									
Aug. 10–11, 15, 17, 20, 24, 26		85.0			44	10	129	240	72	110	1.4	2.0		487	.66		151	0	65
Sept. 5, 12		365								930									
Sept. 6–7, 26, 29		64.4								64									
Sept. 9, 18		110								190									
Oct. 6, 13, 17, 24		311								740									
Oct. 27		435			200	62	674	298	434	1,080		1.0		2,600	3.54		754	510	66

San Francisco River 2 miles above Clifton, Ariz.

Jan. 10, 1944		54.7			44	12	58	204	17	70	0.8	0.2	0.4	302	0.41		160	0	44
Aug. 1		63.7			48	14	68	213	21	92		.2		348	.47		178	3	46
Nov. 1		57.6			49	12	59	211	16	77	.8	.5	.2	318	.43		172	0	43

San Francisco River at Clifton, Ariz.

Jan. 10, 1944	60	116			72	13	156	206	19	270	0.8	0.5	0.6	633	0.86		233	64	59
Aug. 1	25	126			76	17	161	213	23	290	1.2	.2	.5	673	.92		260	85	57
Nov. 1	50	99.5			65	12	128	211	17	210	1.0	1.0	.5	538	.73		212	38	57

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids: Parts per million	Dissolved solids: Tons per acre-foot	Dissolved solids: Tons per day	Hardness as $CaCO_3$: Total	Hardness as $CaCO_3$: Non-carbonate	Percent sodium
Blue River above Juan Miller Creek, near Clifton, Ariz.																				
June 25, 1944	3.3	64.1	.....	.....	61	20	44		227	22	85	.....	.....	3.2	344	0.47	.....	234	48	29
Eagle Creek at Phelps-Dodge pumping plant, near Morenci, Ariz.																				
Oct. 1–10, 1943	.....	46.9	48	0.05	44	20	31	4.9	259	8.6	27	0.5	0.2	0.2	312	0.42	.....	192	0	25
Oct. 11, 14–18	.....	47.7	50	.07	44	20	31	4.3	256	9.2	29	.5	.2	.2	314	.43	.....	192	0	25
Oct. 28–31	.....	45.7	42	.04	43	20	33	5.0	250	12	29	.6	6.9	.2	315	.43	.....	190	0	27
Nov. 1–10	.....	45.2	42	.03	44	20	29	4.9	256	9.2	26	.5	1.0	.4	303	.41	.....	192	0	24
Nov. 11–20	.....	47.4	46	.04	44	20	29	3.2	255	8.5	28	.5	.6	.4	305	.41	.....	192	0	24
Nov. 21–30	.....	47.0	45	.04	44	20	29	3.0	257	8.1	27	.5	.2	.4	303	.41	.....	192	0	24
Dec. 1–10	.....	46.8	45	.04	44	20	29	2.9	253	8.6	27	.5	.2	.4	302	.41	.....	192	0	24
Dec. 11–20	.....	46.0	46	.05	43	19	29	2.5	253	9.3	26	.5	.1	.4	300	.41	.....	185	0	25
Dec. 21–31	.....	45.9	43	.05	43	20	29	4.3	254	9.5	25	.5	1.0	.4	300	.41	.....	190	0	24
Jan. 1–10, 1944	.....	45.8	42	.05	44	20	28	3.8	257	9.1	26	.5	.4	.2	300	.41	.....	192	0	24
Jan. 11–20	.....	46.2	41	.05	44	20	29	4.0	252	10	26	.5	.1	.2	299	.41	.....	192	0	24
Jan. 21–29	.....	46.9	46	.08	44	20	30	3.6	258	10	29	.5	1.5	.0	312	.42	.....	192	0	25
Feb. 9–10	.....	46.0	.....	.....	44	22	30		266	9.5	26	.5	.1	.0	263	.36	.....	200	0	24
Feb. 11–20	.....	45.6	47	.03	44	20	26	4.6	254	8.5	25	.5	.2	.0	301	.41	.....	192	0	22
Feb. 21–29	.....	45.1	45	.04	43	20	26	4.2	254	8.5	25	.5	.2	.0	298	.41	.....	190	0	22
Mar. 1–10	.....	45.4	46	.03	43	20	27	4.0	256	8.5	26	.5	.4	.0	302	.41	.....	190	0	23
Mar. 11–20	.....	46.3	47	.03	44	19	28	4.0	254	8.4	26	.5	.2	.0	302	.41	.....	188	0	24
Mar. 21–31	.....	46.2	47	.03	44	20	28	4.2	262	8.6	27	.5	.2	.0	309	.42	.....	192	0	24
Apr. 1–10	.....	46.8	47	.04	44	20	29	4.2	255	8.6	27	.5	.6	.0	307	.42	.....	192	0	24
Apr. 11–19	.....	46.3	48	.03	43	20	28	4.6	254	8.3	28	.5	.1	.0	306	.42	.....	190	0	24
June 24	4.6	51.8	.....	.....	43	21	39		252	13	39	.....	4.5	1.5	284	.39	.....	194	0	30
San Simon Creek at mouth, near Solomonsville, Ariz.																				
May 1, 1944	.....	102	.....	.....	60	14	137		223	61	182	.....	2.0	.....	566	.77	.....	207	26	59

Nov. 4, 1943		94.3								155									
Nov. 25		103								172									
Dec. 13		151								265									
Jan. 13, 1944		147								262									
Feb. 14		122								208									
Mar. 15		280			124	40	469	526	260	550		22		1,720	2.34		474	43	68
Apr. 12		316								585									
May 3		233								430									
May 24		319								585									
June 21		309								600									
Oct. 28		113								194									
Oct. 30		114								202									

Ash Creek at mouth, near Pima, Ariz.

Nov. 4, 1943		244			76	33	428	491	185	460		16		1,440	1.96		325	0	74
Nov. 25		137								244									
Dec. 13		156			68	19	254	347	109	280		7.4		908	1.23		248	0	69
Jan. 13, 1944	1.4	309								610									
Feb. 14		144								250									
Mar. 15		317								635									
Apr. 12		319								620									
May 3		315								665									
May 24		325			57	38	618	496	267	665		25		1,910	2.60		298	0	82
June 2, 7, 14		309			14	34	628	386	263	655	1.5	28	4.0	1,810	2.46		175	0	89
June 21		303								630									
Oct. 28		103								174									
Oct. 30		89.0								148									

Cottonwood Wash at Pima, Ariz.

Nov. 4, 1943		89.5								147									
Nov. 25		90.3								150									
Dec. 13		90.7								145									
Jan. 1, 1944		99.5								166									
Feb. 14		138								234									
Oct. 28, 8 a. m.		86.5								143									
Oct. 28, 12 m.		83.4								134									
Oct. 30		69.7								106									

Matthews Wash near Glenbar, Ariz.

Aug. 8, 1944		169			24	7.6	346	329	168	275	1.9	6.2		991	1.35		91	0	89

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Markham Wash at mouth, near Eden, Ariz.																				
Oct. 28, 1943		142									255									
Black Rock Wash at Black Rock, near Fort Thomas, Ariz.																				
Mar. 26, 1944		9.9							17		28	2.5		0.2				27	0	
Black Rock Wash at mouth, at Fort Thomas, Ariz.																				
Nov. 26, 1943		263									545									
Dec. 16		198									395									
Jan. 14, 1944		387			201	62	581		341	360	965		5.0		2,340	3.18		756	477	63
Feb. 15		334			152	49	516		353	323	760		6.8		1,980	2.69		581	292	66
Mar. 16		1,470			816	310	2,310		215	1,740	4,500		2.5		9,780	13.3		3,310	3,140	60
Apr. 13		1,510									4,550									
May 4		748									2,060									
May 25		458									1,050									
Oct. 26		47.8									40									
Goodwin Wash at mouth near Geronimo, Ariz.																				
Nov. 9, 1943		186									355									
Dec. 14		198									380									
Jan. 15, 1944		139									255									
Feb. 18		267									545									

Tidwell Canal at heading, near Solomonsville, Ariz.

June 19, 1944		122								262									

Tidwell Canal wasteway near Solomonsville, Ariz.

May 1, 1944		98.9								176									
May 10		118			68	17	151	206	61	236		3.5		638	0.87		240	71	58
June 19		127			65	18	166	188	56	272		.0		670	.91		236	82	60

San Jose Canal below first wasteway, near Solomonsville, Ariz.

May 1, 1944		99.1								178									
May 10		116								230									
June 19		123								266									

Graham Canal near Thatcher, Ariz.

Oct. 4, 7, 11, 14, 18, 21, 25, 28, 1943		141								260									
Nov. 1, 5, 8, 15, 18, 22, 25, 29	21.4	104			68	17	131	240	65	184		1.5		585	0.80		240	43	54
Dec. 2, 6, 9, 13, 16, 20, 23, 27, 30	27.7	91.7								149									
Jan. 27, 31, 1944		87.6								144									
Feb. 3, 7, 10, 14, 17	51.3	92.9			61	16	121	241	59	154	1.6	.5	0.1	532	.72		218	20	55

Smithville Canal near Thatcher, Ariz.

Oct. 7, 14, 21, 28, 1943		91.1								148									
Nov. 11, 18, 25	21.0	101			64	16	129	238	59	176		2.0		563	0.77		226	30	55
Dec. 2, 9, 16, 23, 30	24.4	96.9								160									
Jan. 6, 17, 20, 27, 1944	21.1	95.4								163									
Feb. 3, 12, 17, 29	21.2	117			70	19	165	274	86	206	1.6	2.5	0.1	685	.93		252	28	59

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Smithville Canal wasteway near Thatcher, Ariz.																				
Oct. 4, 7, 11, 14, 18, 21, 25, 28, 1943		95.8			60	17	119	233	59	158		2.5		530	0.72		220	28	54	
Nov. 1, 8, 11, 15, 18, 22, 29	12.4	100			64	16	129	237	61	176		1.5		564	.77		226	32	62	
Nov. 4		93.2								156										
Nov. 25		98.5								166										
Dec. 2, 6, 9, 16, 20, 23, 27, 30	17.6	97.0			60	15	129	241	60	160	1.6	1.5	2.5	546	.74		211	14	57	
Dec. 13		92.2			60	13	124	236	60	151		5.0		529	.72		203	10	57	
Jan. 3, 6, 10, 17, 20, 24, 27, 31, 1944	28.6	97.4			64	16	131	249	64	169		1.5		568	.77		226	22	56	
Jan. 13		95.7			64	16	122	243	65	158		2.0		547	.74		226	26	54	
Feb. 2, 7, 11, 17	8.6	125			72	20	184	300	95	220	1.8	4.0	.1	745	1.01		262	16	61	
Feb. 14		113			68	18	151	274	79	186		3.0		640	.87		244	19	57	
Mar. 15		192			95	26	301	406	151	355		11		1,140	1.55		344	12	66	
Apr. 12		125			72	20	168	260	88	228		1.5		706	.96		262	48	58	
May 3		189			78	29	287	318	154	355		19		1,080	1.47		314	52	67	
May 24		269			172	44	369	538	219	505		38		1,610	2.19		610	168	57	
Oct. 30		80.1			52	12	110	205	50	140		2.0		467	.64		180	12	57	
Union Canal near Thatcher, Ariz.																				
Oct. 4, 7, 11, 14, 18, 21, 25, 28, 1943		88.3								150										
Nov. 1, 4, 8, 11, 15, 18, 22, 25, 29	34.0	91.4			59	15	118	227	53	158		0.5		515	0.70		208	22	55	
Dec. 2, 6, 9, 13, 16, 20, 23, 27, 30	31.9	85.9								140										
Jan. 3, 6, 10, 13, 17, 20, 24, 28, 31, 1944	31.4	85.1								143										
Feb. 3, 7, 10, 14	33.5	93.9			62	15	125	239	64	157	1.6	1.0	0.1	543	.74		216	21	58	
Union Canal Diversion along Ray Lane near Thatcher, Ariz.																				
Nov. 15, 1943		95.2																		
Oct. 4, 11, 14, 18		119								206										
Dec. 9, 13		85.5								139										

Dodge-Nevada Canal at heading, near Pima, Ariz.

Nov. 25, 1943		130			73	19	186	296	93	230		1.0		748	1.02		260	18	61
Apr. 12, 1944		169			89	25	246	342	128	315		2.5		974	1.32		325	44	62
May 3		219			52	35	364	261	197	455		7.1		1,240	1.69		274	60	74
May 24		255			78	40	419	342	230	530		3.5		1,470	2.00		359	78	72
Oct. 28		149								275									
Oct. 30		93.9			56	14	126	224	65	154		4.0		529	.72		198	14	58

Dodge-Nevada Canal wasteway near Pima, Ariz.

Nov. 4, 1943, 12:50 p. m.		110								190								
Nov. 4, 5 p. m.		101								174								
Nov. 25		133								234								
Dec. 13		123								216								
Jan. 13, 1944		112								192								
Feb. 14		131								226								
Mar. 15, 10:40 a. m.		243								475								
Mar. 15, 2 p. m.		242								480								
Apr. 12		189								355								
May 3		262								525								
May 24		286								595								
Oct. 28		147								265								
Oct. 30		97.5								164								

Dodge-Nevada Canal near Glenbar, Ariz.

Oct. 1, 5, 8, 12, 15, 19, 22, 25, 30, 1943		202								455								
Nov. 1, 5, 8, 12, 15, 19, 22, 25, 30	12.5	181			69	17	294	263	122	380		2.5		1,010	1.37		242	26	73
Dec. 2, 7, 10, 13, 17, 21, 24, 28, 31	15.5	134								240								
Jan. 4, 7, 11, 14, 18, 21, 25, 28, 1944	11.8	116								208								
Feb. 1, 4, 8, 11, 15, 18, 22	8.8	157			78	24	242	336	127	285	2.0	4.5	0.5	928	1.26		293	18	64
Mar. 10, 14, 17, 21, 31	6.47	252			48	31	451	242	214	580	2.3	5.0	2.0	1,460	1.99		248	49	80
Apr. 3, 7, 20, 24, 27	9.15	273						283		615									
May 8, 11, 15, 18	3.44	368			70	28	715	261	293	930	3.1	5.0	1.5	2,170	2.95		290	75	84
June 2, 5, 22, 26	3.03	469			66	21	948	220	353	1,240	3.9	7.1	4.2	2,750	3.74		251	70	89
Sept. 1, 4, 12, 22, 29		338								860									
Sept. 7, 15, 18		117								230									

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Curtis Canal at heading, near Pima, Ariz.																				
Nov. 25, 1943		148			74	20	228		327	114	266		2.0		865	1.18		266	0	65
Feb. 14, 1944		158									280									
Mar. 15		279			102	35	495		504	248	565		10		1,700	2.31		398	0	73
Apr. 12		248			105	34	405		484	207	470		8.6		1,470	2.00		402	5	69
May 3		295									615									
May 24		311			104	35	557		584	268	600		11		1,860	2.53		404	0	75
June 21		295			60	36	551		461	260	595		9.8		1,740	2.37		298	0	80
Oct. 28		155									280									
Curtis Canal wasteway near Pima, Ariz.																				
Nov. 4, 1943		174									320									
Nov. 25		156									275									
Dec. 13		163									290									
Jan. 13, 1944		133									234									
Feb. 14		149									256									
Apr. 12		253									480									
Oct. 28		161									295									
Curtis Canal near Glenbar, Ariz.																				
Oct. 1, 5, 8, 12, 15, 19, 22, 25, 27, 1943		243									475									
Nov. 1, 5, 8, 12, 15, 19, 22, 25, 30	11.9	166			82	23	247		355	121	295		3.9		947	1.29		299	8	64
Dec. 3, 7, 9, 11, 13, 20, 23, 27, 31	13.7	164									290									
Jan. 3, 6, 17, 20, 27, 31, 1944	17.1	146									270									
Feb. 3, 7, 10, 21, 24, 28	13.2	182			88	25	290		387	149	335	1.9	5.0	0.5	1,080	1.47		322	5	66
Mar. 2, 6, 9, 13, 16, 20, 22, 27, 30	13.3	259			50	35	475		346	236	540	2.3	6.4	1.5	1,520	2.07		269	0	79
Apr. 3, 7, 10, 13, 17, 20, 24, 27	15.9	240			28	32	444		275	219	500	2.3	5.2	3.8	1,370	1.86		202	0	83

May 1, 4, 8, 11, 15, 18, 20, 22, 29	8.46	336			52	23	667	375	368	9 640	2.6	5.9	3.2	1,990	2.71		224	0	87
June 2, 12, 16, 30		473			60	58	924	250	679	1,002	.1	15	4.8	2,900	3.94		388	183	84
June 5, 9		297			16	35	590	346	272	625	2.3	15		1,730	2.35		184	0	87
June 19, 22, 26	3.17	577			72	64	1,170	278	911	1,270	2.0	8.0	4.8	3,630	4.94		442	214	85
Sept. 1, 4, 11, 22		280								585									
Sept. 7, 18, 25		69.9								86									

Fort Thomas Consolidated Canal at heading, near Glenbar, Ariz.

Nov. 4, 1943		180			80	26	281	338	158	335		3.0		1,050	1.43		306	29	67
Nov. 25		215			88	25	357	380	191	415		3.5		1,270	1.73		322	11	71
Mar. 15, 1944		357			123	45	643	522	384	750		5.0		2,210	3.01		492	64	74
Apr. 12		353			106	45	631	466	377	740		4.0		2,130	2.90		450	68	75
May 3		325								700									

Fort Thomas Consolidated Canal near Glenbar, Ariz.

Oct. 1, 2, 5, 8, 12, 15, 19, 22, 25, 29, 1943		197								390									
Nov. 1, 8, 12, 15, 19, 22, 25, 30	34.0	220			95	28	355	392	191	425		4.5		1,290	1.75		352	30	69
Dec. 2, 7, 10, 13, 17, 21, 24, 28, 31	46.5	225								450									
Jan. 4, 7, 11, 13, 18, 21, 25, 28, 1944	66.8	181								360									
Feb. 1, 4, 8, 11, 15, 18, 22, 25, 29	45.1	247			96	29	423	406	222	500	2.1	5.0	2.5	1,480	2.01		358	26	72
Mar. 3, 7, 10, 14, 17, 21, 24, 28, 31	14.1	352			60	43	666	352	374	770	2.2	4.3	3.5	2,090	2.84		326	38	82
Apr. 2, 7, 10, 13, 17, 20, 24, 27	12.3	336			49	43	642	290	375	750	2.2	3.9	3.2	2,010	2.73		300	62	82
May 1, 4, 8, 11, 15, 18, 22, 25, 29	6.26	339			48	41	720	324	372	845	2.2	5.0	2.0	2,190	2.98		288	22	84
June 2, 5, 9, 12, 16, 19, 22, 26, 30	1.16	372			37	44	727	285	426	830	1.8	2.0	4.5	2,210	3.01		274	40	85
July 3, 7, 10, 14, 17, 21, 28, 31		300			48	35	552	272	334	630		7.0		1,740	2.37		264	41	82
July 9, 19, 24		114			51	14	182	294	121	152		.2		665	.90		185	0	68
Aug. 7		376								810									
Aug. 10, 11, 21, 24, 25		59.6			39	8.7	78	193	44	67	1.2	1.5		334	.45		134	0	56
Aug. 14, 16–18, 28		120			51	12	108	243	140	180	1.3	5.5		708	.96		177	0	71
Sept. 1, 4, 11, 15, 22		278								595									
Sept. 6, 8, 18, 25		81.8								104									

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Fort Thomas Consolidated Canal upper wasteway, near Eden, Ariz.																				
Dec. 16, 1943		186									360									
Jan. 14, 1944		170									328									
Feb. 15, 9:30 a. m		262									525									
Feb. 15, 11:05 a. m		233									455									
Fort Thomas Consolidated Canal lower wasteway, near Eden, Ariz.																				
Nov. 5, 1943		170									325									
Nov. 26		203									425									
Dec. 16		176									330									
Jan. 14, 1944		176									330									
Mar. 16		323									700									
May 4		438									995									
Oct. 26		179									380									
Fort Thomas Consolidated Canal at Fort Thomas, Ariz.																				
Oct. 5, 8, 12, 15, 25, 29, 1943		234									470									
Nov. 1, 4–5, 8, 12, 15, 19, 22, 26, 29	14.1	207			90	27	330	372	174	400		3.6			1,210	1.65		336	32	68
Dec. 3, 6, 9, 13, 17, 20, 23, 27, 31	16.9	201								385										
Jan. 3, 6, 10, 17, 20, 23, 27, 31, 1944	7.83	147								276										
Feb. 3, 7, 10, 14, 17, 21		232			94	29	396	402	204	470	2.1	5.0	2.0		1,400	1.90		354	24	71
Feb. 28		146						173		308										
Mar. 16, 22, 27, 30	5.85	345			50	45	606	316	382	680	2.2	5.0	2.0		1,930	2.62		310	50	81
Apr. 3, 7, 24		308								680										
May 8. 18, 22		373			47	45	707	290	392	840	2.2	3.5	1.5		2,180	2.96		302	64	84
May 19–20		894			410	180	1,430	234	1,180	2,420	1.1	58	1.0		5,790	7.87		1,760	1,570	64
June 9, 12, 16, 22		421			42	44	833	287	444	985	2.6	5.4	7.0		2,500	3.40		286	51	86
Aug. 11, 14, 17, 21, 24		78.2			44	9.5	113	207	71	104	1.4	1.5			446	.61		149	0	62
Sept. 7, 18		68.5								82										
Sept. 11, 15, 22		201								420										

Colvin-Jones Canal near Fort Thomas, Ariz.

Apr. 10, 13, 17, 20, 22, 24, 27		550			148	86	943	145	620	1,420	1.8	3.0	4.0	3,290	4.47		723	604	74
May 1, 4, 8, 11, 15, 18, 20, 25		647			226	105	1,060	204	733	1,680	2.1	1.5	2.0	3,910	5.32		996	828	70
Aug. 11, 14, 21		62.6								82									

Chemical analyses, in equivalents per million

Colorado River above Eagle River, Dotsero, Colo.

Oct. 2, 1943					2.00	0.90	0.90	1.84	1.25	0.71		0.00							24
Jan. 22, 1944					2.10	.90	1.44	2.08	1.17	1.18		.01							32
Mar. 23					1.90	.90	1.27	1.97	1.25	.85		.00							31
May 8					2.10	1.07	.31	2.02	1.10	.34		.02							9

Eagle River, 3.5 miles above Pando, near Tennessee Pass, Colo.

May 8, 1944					0.33	0.17	0.05	0.43	0.12	0.00		0.00							9

Eagle River at Red Cliff, Colo.

May 8, 1944					0.90	0.75	0.03	1.38	0.25	0.00		0.05							2

Eagle River at Wolcott, Colo.

May 8, 1944					1.55	0.80	0.63	1.31	1.02	0.62		0.03							21

Eagle River at Gypsum, Colo.

Oct. 2, 1943					5.99	2.06	2.33	2.95	5.45	1.95		0.03							22
Jan. 22, 1944 [1]								3.23	5.91	3.92									
Jan. 22 [2]								3.34	4.93	1.78									
Jan. 22 [3]								3.47	4.16	.14									
Mar. 23 [1]								2.95	5.39	3.50									
Mar. 23 [2]								3.31	5.27	2.43									
Mar. 23 [3]								3.31	4.16	.14									

See footnotes on p. 279.

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Eagle River near Gypsum, Colo.																				
May 8, 1944					3.19	1.32	0.78		2.05	2.50	0.71		0.03							15
Homestead Creek near Red Cliff, Colo.																				
May 8, 1944					0.25	0.23			0.33		0.00									
Brush Creek near Eagle, Colo.																				
May 8, 1944					5.99	2.22	1.36		2.90	5.45	1.18		0.04							14
Gypsum Creek at Gypsum, Colo.																				
May 8, 1944					5.84	1.81	0.01		3.16	4.50	0.00									0
May 8					8.09	2.71	.53		3.36	7.87	.06		0.04							5
Rivulet, consisting of seepage, flowing into Eagle River, at Gypsum, Colo.																				
May 8, 1944					14.32	7.24	3.52		5.02	19.76	0.28		0.02							14
San Juan River above Pagosa Springs, Colo.																				
May 22, 1944					0.38	0.30			0.54	0.10	0.00		0.00							

San Juan River near Blanco, N. Mex.

Oct. 13, 1943									2.00											
Nov. 25									2.43											

La Plata River near Farmington, N. Mex.

Feb. 29, 1944					10.58	8.39	8.49	3.51	22.07	1.78		0.10								31
Apr. 15					5.84	4.28	2.63	3.34	8.77	.62		.02								21
May 22					5.29	3.37	2.74	2.85	7.99	.54		.02								24

Mancos River about 20 miles south of Cortez, Colo.

Mar 1, 1944					11.23	13.32	8.69	3.80	28.73	0.65		0.06								26

McElmo Creek near Cortez, Colo.

Mar. 1, 1944					17.07	21.79	13.06	4.80	44.55	1.89		0.68								25

Butler Wash near Bluff, Utah

Mar. 1, 1944					5.69	4.28	4.53	3.29	10.81	0.39		0.01								31

Comb Wash near Bluff, Utah

Mar. 1, 1944					20.46	9.54	15.72	2.41	32.48	10.83		0.00								34

Lime Creek near Bluff, Utah

Mar. 1, 1944					14.28	9.37	5.57	2.25	24.98	1.97		0.02								19

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Bright Angel Creek near Grand Canyon, Ariz.																				
Nov. 18, 1943					2.00	1.73	0.23		3.64	0.16	0.13	0.02	0.01							6
Dec. 16					2.05	1.73	.28		3.67	.19	.17	.02	.01							7
Jan. 29, 1944									3.67											
Feb. 15					2.00	1.81			3.72											
Mar. 16									3.59											
Apr. 17									3.28											
May 15									2.00											
June 15									1.97											
July 15									3.47											
Aug. 16									3.34											
Sept. 16									3.74											
Williams River near Planet, Ariz.																				
Oct. 11, 1943									4.15		1.64									
Nov. 1, 15					2.00	1.07	3.72		4.05	1.08	1.61		0.05							55
Dec. 13					2.00	1.07	3.58		3.93	1.00	1.64		.08							54
Jan. 17, 1944									4.03	1.04	1.58									
Feb. 14									4.20		1.66									
Mar. 14					1.25	.82	1.54		2.38	.60	.62		.01							43
Apr. 11									3.77		1.38									
May 17									3.74		1.47									
July 11									3.70	1.06	1.47									
Aug. 1									3.69	1.04	1.64									
Aug. 15									3.66		1.47									
Gila River at New Mexico-Arizona State line near Virden, N. Mex.																				
Aug. 1, 1944					2.50	0.99	2.16		4.29	0.73	0.48	0.13	0.02							38
Nov. 1					2.25	.79	1.96		3.75	.62	.48	.13	.02							39

Gila River near Clifton, Ariz.

Aug. 1, 1944					1.95	0.49	3.36	3.77	1.17	0.73	0.12	0.01							58
Nov. 1					2.20	.74	2.62	3.75	.98	.68	.13	.02							47

Gila River above Tidwell canal heading, near Solomonsville, Ariz.

May 1, 1944										4.96									
May 10					3.29	1.32	6.56	3.36	1.21	6.60		0.00							59
June 19					3.29	1.48	6.98	3.15	1.15	7.45		.00							59

Gila River above San Jose Wash, near Solomonsville, Ariz.

May 1, 1944										5.02									
May 10					3.24	1.32	6.56	3.50	1.25	6.37		0.00							59

Gila River above Union canal heading, near Solomonsville, Ariz.

May 1, 1944					2.70	1.23	5.70	3.33	1.27	5.02		0.01							59
May 10					3.19	1.23	6.73	3.51	1.31	6.32		.01							60

Gila River below San Simon Creek, near Solomonsville, Ariz.

May 1, 1944					3.94	1.97	8.73	4.37	2.46	7.73		0.08							60
June 19					2.80	2.22	8.97	3.11	2.79	8.01		.08							64

Gila River above Graham canal heading, at Safford, Ariz.

May 1, 1944					2.80	1.32	6.36	3.46	1.54	5.47		0.01							61

Gila River above Smithville canal heading, at Thatcher, Ariz.

May 2, 1944					3.69	1.73	8.63	4.71	2.08	7.22		0.04							61

[1] Sample collected at one-fourth distance from right bank.
[2] Sample collected in midstream.
[3] Sample collected at three-fourths distance from right bank.

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Gila River near Thatcher, Ariz.																				
Oct. 2, 21, 1943											3.22									
Oct. 4, 7, 11, 14, 18, 25, 28					3.59	2.55	11.42	4.52	3.14	9.81		0.09								65
Nov. 1, 8, 11, 15, 18, 22, 29	4.05				4.89	2.80	12.54	6.10	3.33	10.72		.08								62
Nov. 4					4.29	2.14	7.89	5.12	2.19	6.99		.02								55
Nov. 25					5.69	2.63	12.96	7.27	3.37	10.58		.06								61
Dec. 2, 6, 9, 16, 20, 23, 27, 30	6.53				4.64	2.71	11.80	5.95	3.04	10.01	0.09	.06								62
Dec. 13					4.19	1.81	8.69	5.33	2.19	7.11		.06								59
Jan. 3, 6, 10, 17, 20, 24, 27, 31, 1944	29.8				3.59	1.73	6.93	4.63	1.71	5.87		.04								47
Jan. 13					3.54	1.56	6.29	4.44	1.56	5.36		.03								45
Feb. 14					3.69	1.48	7.58	4.75	1.94	6.04		.02								49
Feb. 3, 7, 9, 10, 12, 17	15.4				4.04	2.30	10.57	5.23	2.79	8.74	.09	.06								63
Mar. 15					6.09	3.04	15.26	7.64	4.10	12.55		.10								63
Apr. 12					6.49	3.21	14.78	7.81	4.02	12.55		.10								60
May 2					2.99	3.04	15.60	4.56	4.02	12.97		.08								72
May 3					4.54	3.12	15.51	6.23	3.98	12.83		.13								67
May 24					6.59	3.29	16.37	6.49	5.00	14.67		.09								62
June 20					5.29	3.54	16.98	5.95	4.58	15.09		.19								66
June 21					6.99	3.62	17.36	7.84	4.68	15.37		.08								62
Oct. 28										9.87										
Oct. 30					2.99	1.32	5.58	3.74	1.58	4.51		.06								56
Gila River above Dodge-Nevada canal heading, near Pima, Ariz.																				
Nov. 4, 1943					3.29	1.64	5.62	4.15	1.42	4.96		0.02								53
Dec. 13					3.39	1.32	7.15	4.48	1.69	5.64		.05								60
Jan. 13, 1944					3.39	1.32	6.28	4.36	1.50	5.08		.05								57
Feb. 14					3.59	1.40	7.78	4.77	1.94	6.04		.02								61
Mar. 15					5.29	2.96	16.91	7.50	4.29	13.26		.11								67
May 3					2.60	2.80	17.23	4.55	4.27	13.68		.13								76

Gila River below Dodge-Nevada Canal heading, near Pima, Ariz.

Nov. 25, 1943					5.69	2.71	16.39	8.04	4.18	12.55		0.02							66
Apr. 12, 1944					7.49	3.78	21.45	9.77	5.60	17.34		.01							66
May 3					4.34	3.45	22.51	6.95	5.56	17.77		.02							74
June 21					7.39	3.37	21.34	9.26	5.33	17.49		.02							66
Oct. 28										10.29									
Oct. 30										4.40									

Gila River at Pima, Ariz.

Oct. 2, 21, 1943										3.78									
Oct. 4, 7, 11, 14, 18, 21, 25, 28					2.89	2.47	16.62	5.64	3.96	12.27		0.11							76
Nov. 1, 8, 11, 15, 18, 22, 29	14.0				4.34	2.56	17.93	7.13	4.33	13.26		.10							72
Nov. 4					3.89	2.47	14.36	6.78	3.33	10.58		.13							66
Nov. 25					4.79	2.63	18.26	7.74	4.46	13.40		.08							71
Dec. 2, 6, 9, 16, 20, 23, 27, 30	26.9				4.39	2.30	13.26	6.69	3.06	10.01	0.09	.10							66
Dec. 13					4.19	1.81	11.68	6.05	2.81	8.74		.08							66
Jan. 3, 6, 10, 17, 20, 24, 27, 31, 1944	64.6				3.74	1.73	9.65	5.34	2.27	7.45		.06							64
Jan. 13					3.74	1.64	8.53	5.08	2.06	6.71		.06							61
Feb. 3, 7, 10, 17	47.6				3.89	2.22	13.40	5.94	3.33	10.01	.11	.12							69
Feb. 14, 11:15 a. m					3.99	1.73	9.49	5.26	2.37	7.47		.11							62
Feb. 14, 4 p. m					3.99	1.81	10.13	5.55	2.56	7.76		.06							64
Mar. 15					5.49	2.96	22.06	8.98	5.29	16.08		.16							72
Apr. 12, 9:35 a. m					5.29	2.71	17.10	7.83	4.16	12.97		.14							68
Apr. 12, 2:30 p. m					4.39	2.63	16.78	6.92	4.08	12.69		.11							71
May 3, 8:45 a. m					2.30	2.96	24.25	6.36	5.62	17.34		.19							82
May 3, 2:30 p. m										17.63									
May 24, 11:15 a. m					3.69	2.96	24.33	7.80	5.70	17.34		.14							79
May 24, 1 p. m										17.20									
June 21, 10:25 a. m					3.69	2.96	23.75	8.21	5.41	16.64		.14							78
June 21, 11:30 a. m										16.78									
Oct. 28					3.99	1.73	10.19	5.36	2.46	8.04		.05							64
Oct. 30					3.39	1.64	8.14	4.59	2.04	6.49		.05							62

Gila River above Curtis Canal heading, near Pima, Ariz.

Nov. 4, 1943					3.79	1.97	11.52	5.85	2.71	8.60		0.12							67
Dec. 13					3.89	1.89	10.52	5.72	2.48	8.04		.06							65
Jan. 13, 1944					3.74	1.56	8.37	5.02	2.06	6.54		.05							61
Feb. 14					3.94	1.89	10.13	5.62	2.52	7.76		.06							63

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids: Parts per million	Dissolved solids: Tons per acre-foot	Dissolved solids: Tons per day	Hardness as $CaCO_3$: Total	Hardness as $CaCO_3$: Non-carbonate	Percent sodium
Gila River below Curtis Canal heading, near Pima, Ariz.																				
Nov. 25, 1943					3.19	1.48	8.37		5.13	1.85	6.04		0.02							64
Jan. 13, 1944											7.11									
Mar. 15					4.64	2.30	14.98		7.61	3.39	10.86		.06							68
Apr. 12					4.89	2.63	15.94		7.91	3.77	11.70		.08							68
May 3					1.95	2.63	18.74		5.38	4.27	13.54		.13							80
May 24					3.99	2.47	17.19		7.25	3.91	12.41		.08							73
June 21					3.14	2.38	15.90		6.18	3.62	11.56		.06							74
Oct. 28											6.43									
Gila River above Fort Thomas Consolidated Canal heading, near Glenbar, Ariz.																				
Dec. 13, 1943					4.19	1.97	12.63		5.47	3.16	9.87		0.06							67
Jan. 13, 1944					3.84	1.81	12.23		5.57	2.94	9.31		.06							68
Feb. 14					4.19	1.73	12.81		5.77	3.19	9.73		.04							68
May 4					4.19	3.26	26.87		6.46	7.52	20.59		.11							77
May 24, 11:25 a. m					5.09	3.87	28.54		7.87	8.14	21.43		.06							76
May 24, 3:20 p. m					4.19	3.62	29.27		6.91	8.27	21.86		.04							79
June 20					4.44	3.70	30.48		7.18	8.68	22.70		.06							79
June 21					5.04	3.95	30.35		7.38	8.91	22.99		.06							77
Oct. 28					4.39	1.97	12.02		5.51	3.23	9.59		.05							65
Gila River below Fort Thomas Consolidated Canal heading, near Glenbar, Ariz.																				
Nov. 25, 1943					4.29	2.14	13.36		6.21	3.39	10.15		0.04							68
Apr. 12, 1944					5.34	2.88	19.35		8.17	4.89	14.38		.13							70
May 3					2.70	3.37	25.88		4.73	7.04	20.02		.16							81
May 24											21.58									
June 21											22.99									
Gila River near Glenbar, Ariz.																				
Oct. 1–2, 1943											3.95									
Oct. 3, 8, 12, 15, 19, 22, 25, 29					3.39	2.96	21.23		6.03	5.37	16.08		0.10							77

Nov. 1, 8, 12, 15, 19, 22, 28 29					4.34	2.96	21.70	7.25	5.29	16.36		.10						75
Nov. 4					4.19	2.88	20.93	7.11	5.18	15.65		.06						75
Nov. 5					3.44	2.96	20.79	6.48	4.98	15.65		.08						77
Nov. 25					4.99	2.71	19.34	7.66	4.81	14.52		.05						72
Nov. 26					6.19	3.29	25.26	9.52	6.10	19.04		.08						73
Dec. 2, 7, 10, 20, 24, 28, 31	1.87				4.34	3.12	22.11	7.26	5.35	16.78	0.09	.09						75
Dec. 13					4.79	2.96	20.16	7.29	5.00	15.51		.11						70
Dec. 16					3.59	3.37	24.25	6.85	5.95	18.33		.08						78
Jan. 4, 7, 11, 18, 21, 25, 27, 1944	5.13				3.99	2.63	18.62	6.55	4.52	14.10		.07						74
Jan. 13					4.74	2.22	16.69	6.94	4.08	12.55		.08						71
Jan. 14					4.79	2.22	16.26	6.73	3.91	12.55		.08						70
Feb. 1, 4, 8, 11, 18, 22, 25, 29	3.62				3.99	2.88	21.76	6.96	5.29	16.22	.09	.07						76
Feb. 14					4.29	2.22	18.41	6.78	4.43	13.68		.03						74
Feb. 15					5.54	2.80	23.85	8.85	5.79	17.49		.06						74
Mar. 2, 7, 10, 14, 21, 24, 28, 31	3.04				2.75	3.04	25.94	5.92	6.33	19.32	.08	.08						82
Mar. 15					4.89	3.04	25.96	8.06	6.45	19.32		.06						77
Mar. 16					5.59	3.21	25.69	8.88	6.37	19.18		.06						74
Apr. 3, 7, 20, 27	3.04				2.35	3.12	25.95	5.55	6.39	19.32	.10	.06						83
Apr. 12					4.09	3.37	26.14	7.12	6.72	19.74		.02						78
Apr. 13					4.64	3.21	24.96	7.96	6.20	18.61		.04						76
May 3					2.45	3.29	26.78	5.41	6.89	20.17		.05						82
May 4					4.09	3.29	26.31	7.25	6.64	19.74		.06						78
May 11, 18, 24, 29	1.70				1.80	3.04	27.48	5.29	6.72	20.17	.10	.04						85
May 24					4.19	3.21	27.47	7.67	6.87	20.31		.02						79
May 25										20.17								
June 2, 5, 9, 12, 16, 19, 26, 30	.80				1.80	3.29	29.07	5.31	7.27	21.43	.09	.06						85
June 21					1.90	3.37	29.88	5.34	7.72	22.00		.09						85
June 22					2.80	3.54	30.03	6.10	7.95	22.28		.04						83
July 3, 7, 10, 14, 21, 26, 28, 31					2.20	2.63	23.51	4.75	6.08	17.34	.09	.08						83
July 17					3.99	3.29	28.85	7.47	7.62	21.01		.03						80
July 19, 24					2.30	.99	7.38	4.51	2.19	3.89	.07	.01						69
Aug. 3																		
Aug. 7					2.70	3.37	30.55	5.61	8.16	22.84		.01						83
Aug. 10-11, 17, 21-22, 24-25					1.95	.70	3.79	3.51	1.02	1.81	.07	.03						59
Aug. 14-16, 28					4.09	1.81	11.20	4.61	3.54	8.74	.08	.13						65
Sept. 1, 4, 11, 15, 22										15.79								
Sept. 8, 8, 19, 30										2.85								
Oct. 1, 5										4.74								
Oct. 9, 13, 16, 20, 23										15.65								
Oct. 26					4.94	2.22	13.82	6.18	3.75	11.00		.05						66
Oct. 28					4.34	2.06	11.97	5.52	3.21	9.59		.05						65
Nov. 1																		

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Gila River at Eden Crossing, near Eden, Ariz.																				
Nov. 5, 1943					4.49	2.55	14.79	6.07	3.85	11.85		0.06								67
Nov. 26					4.59	2.30	17.47	6.15	4.21	13.96		.04								72
Dec. 16					4.49	2.30	13.44	6.11	3.48	10.58		.06								66
Jan. 14, 1944					4.49	1.89	13.64	6.03	3.35	10.58		.06								68
Feb. 15					5.69	2.63	19.64	7.63	5.04	15.23		.06								70
Mar. 16					6.19	3.37	24.64	8.20	6.66	19.32		.02								72
Apr. 13					5.99	3.54	25.48	8.46	6.79	19.74		.02								73
May 4					2.89	3.54	28.35	5.15	7.41	22.14		.08								82
May 25, 8:40 a. m										20.73										
May 25, 1:55 p. m					3.64	3.37	27.33	6.05	7.27	21.01		.01								80
June 22					3.44	3.87	30.67	6.05	7.93	23.97		.03								81
July 17					2.40	3.21	30.79	5.61	8.08	22.70		.01								85
Aug. 7					4.19	3.45	31.40	6.95	8.81	23.27		.01								80
Oct. 26										11.28										
Gila River near Ashurst, Ariz.																				
Oct. 1–2, 1943										4.12										
Oct. 5, 22										10.29										
Oct. 8, 12, 15, 19, 25, 29					5.59	4.61	26.59	4.62	8.43	23.69		0.05								72
Nov. 1, 8, 12, 15, 19, 22, 30	22.0				5.34	2.96	19.17	5.89	5.18	16.36		.04								70
Nov. 5					4.99	2.71	15.55	5.88	4.35	12.97		.05								67
Nov. 26					5.19	2.90	15.49	6.03	4.20	13.32		.03								67
Dec. 3, 7, 10, 13, 20, 23, 27, 31	34.5				5.29	3.12	17.77	6.35	4.85	14.81	0.10	.07								68
Dec. 16					4.79	2.63	14.39	6.12	3.93	11.70		.06								66
Jan. 3, 6, 10, 17, 20, 23, 27, 31, 1944	70.6				4.99	2.63	15.96	6.26	4.27	12.97		.08								68
Jan. 14					4.69	2.14	13.73	5.93	3.69	10.86		.08								67
Feb. 3, 7, 10, 17, 21, 24, 28	40.3				5.19	3.45	23.29	6.26	6.45	19.04	.10	.08								73
Feb. 15					5.99	2.96	18.97	6.81	5.41	15.65		.05								68
Mar. 2, 7, 9, 13, 20, 22, 27, 31	16.6				4.99	4.85	31.06	4.59	9.37	26.79	.09	.06								76
Mar. 16					7.24	4.61	30.62	7.51	9.12	25.81		.03								72

Apr. 4, 7, 11, 18, 21, 25, 28	10.0				3.89	5.02	32.22	3.94	9.68	27.36	.09	.06						78
Apr. 13					8.78	5.84	34.42	7.97	11.12	29.90		.05						70
May 2, 9, 12, 16, 19, 23, 30	4.11				6.19	6.58	40.42	4.13	13.10	35.82	.12	.02						76
May 4					4.19	5.26	33.40	3.81	10.22	28.77		.05						78
May 25					8.78	7.65	45.69	6.43	15.34	40.33		.02						74
June 2, 6, 9, 13, 16, 20, 27	.62				11.28	10.53	58.00	3.98	20.38	55.28	.11	.06						73
June 22					13.13	10.86	59.23	5.97	20.82	56.41		.02						71
July 4, 7, 14					9.18	9.87	53.71	2.05	18.68	51.89	.08	.06						74
July 9–10										13.54								
July 17					13.58	11.68	62.38	4.85	21.86	60.92		.01						71
July 19–20, 24, 27					2.70	1.15	10.12	3.70	3.54	6.54	.08	.11						72
Aug. 1, 4					12.43	12.17	65.11	2.05	22.90	64.59	.09	.08						73
Aug. 7					16.47	12.75	67.03	5.51	23.32	67.41		.01						70
Aug. 10–11, 22, 24–25					2.00	.76	3.52	3.43	.73	2.03	.06	.03						56
Sept. 1, 5, 22										36.95								
Sept. 6–8, 18										2.93								
Sept. 12, 15										14.24								
Oct. 26					5.74	2.88	17.32	6.39	4.98	14.52		.05						67

Gila River above Colvin-Jones Canal heading, near Fort Thomas, Ariz.

Nov. 5, 1943					5.44	3.21	18.52	5.16	5.33	16.64		0.04						68
Nov. 26					6.99	3.45	20.50	6.09	5.91	18.90		.04						66
Dec. 16					6.09	3.29	17.16	6.18	4.93	15.37		.06						65
Jan. 14, 1944					5.54	2.47	15.37	6.03	4.18	13.11		.06						66
Feb. 15					7.59	3.87	22.44	6.74	6.66	20.45		.05						66
March 16					10.88	6.66	37.49	6.88	12.03	36.10		.02						68
April 13, 11:15 a. m.										40.89								
April 13, 12 m.					12.28	7.40	41.26	6.69	13.62	40.61		.02						68
May 4, 12:05 p. m.										41.74								
May 4, 12:50 p. m.					10.58	7.40	42.63	4.62	13.95	42.02		.02						70
May 25					14.03	9.13	49.25	4.59	16.20	51.61		.01						68
May 26					17.17	10.53	54.31	4.80	17.97	59.23		.01						66
June 22					24.11	12.09	58.74	6.15	19.67	69.10		.02						62
June 30																		
July 17					22.21	12.42	57.59	3.79	19.03	69.38		.02						62
Aug. 7					23.56	12.83	57.31	4.46	19.57	69.66		.01						61
Oct. 26					6.04	3.70	21.08	5.05	6.43	19.32		.02						68

Gila River at Fort Thomas, Ariz.

Oct. 1, 3, 1943										5.81								
Oct. 5, 22, 25, 29	7.7				6.94	3.62	19.62	5.28	5.83	19.04		0.03						65
Oct. 8, 12, 15, 19					10.98	7.65	40.59	2.84	13.20	43.15		.03						69
Nov. 1, 12, 15, 19, 22, 28					8.04	4.69	26.68	5.28	7.87	26.23		.03						68
Nov. 5					5.89	3.95	21.24	4.77	6.25	20.02		.04						68
Nov. 9					7.39	3.78	21.52	5.57	6.20	20.87		.05						66
Nov. 23					8.78	4.69	27.53	6.23	8.22	26.51		.04						67
Nov. 26					7.54	3.78	22.24	6.04	6.47	21.01		.04						66

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Gila River at Fort Thomas, Ariz.—Continued																				
Dec. 3	43				7.44	4.19	22.78	6.21	6.60	21.43	0.10	0.07								66
Dec. 6, 9, 13, 20, 23, 27	44.2				6.94	3.95	21.16	6.04	6.12	19.74	.09	.06								66
Dec. 14					6.74	3.29	18.72	6.16	5.33	17.20		.06								65
Dec. 16					6.59	3.29	18.54	6.13	5.31	16.92		.06								65
Dec. 31	27				10.18	6.50	33.99	6.11	10.62	33.84		.10								67
Jan. 3, 6, 10, 17, 20, 23, 27, 31, 1944	78.3				6.49	3.37	20.02	6.13	5.64	18.05		.06								67
Jan. 14					5.99	2.71	16.52	6.04	4.58	14.52		.08								66
Jan. 15					6.94	3.29	18.59	6.31	5.37	17.06		.08								65
Jan. 18	63				7.24	3.62	21.88	6.74	6.18	19.74		.08								67
Jan. 21	40				8.58	4.52	29.93	6.87	7.56	24.54		.06								66
Jan. 25	90				6.09	3.21	19.18	5.77	5.29	17.34		.08								67
Jan. 28	74				7.19	3.54	21.12	6.59	6.00	19.18		.08								66
Feb. 1					4.79	2.88	18.81	4.56	5.27	16.64		.01								71
Feb. 3, 7, 10, 14, 17, 21, 24, 28					8.63	4.52	28.27	6.64	8.33	26.37		.08								68
Feb. 4					5.19	3.54	22.54	3.84	6.54	20.87		.02								72
Feb. 8	76.0				6.49	3.21	20.04	6.46	5.60	17.63		.05								67
Feb. 10					8.29	4.28	25.92	7.02	7.56	23.83		.08								67
Feb. 11					4.99	3.95	24.15	3.87	7.00	22.14		.08								73
Feb. 15					8.58	4.52	24.78	6.39	7.60	23.83		.06								65
Feb. 18					12.23	6.91	38.43	6.61	12.26	38.64		.06								67
Feb. 22					11.68	6.17	37.26	6.84	11.85	36.38		.04								68
Feb. 25					8.44	4.52	30.59	6.38	8.93	28.20		.04								70
Feb. 29					7.69	4.11	26.06	5.54	7.77	24.40		.05								70
Mar. 2, 6, 9, 13, 20, 22					9.68	6.66	38.56	4.92	12.05	37.79	.09	.05								70
Mar. 3					5.89	5.18	32.36	3.79	9.68	29.90		.06								75
Mar. 7					9.28	6.50	38.60	5.21	11.89	37.23		.05								71
Mar. 10					7.74	6.41	35.49	3.67	11.22	34.69		.06								71
Mar. 14					9.78	7.57	41.52	3.44	13.39	42.02		.02								71
Mar. 16					12.78	7.57	41.72	6.43	13.60	42.02		.02								67
Mar. 17					13.78	7.73	42.45	6.97	13.80	43.15		.04								66
Mar. 21					13.28	8.47	43.99	5.33	14.41	45.97		.03								67
Mar. 24					11.98	7.89	43.06	4.54	14.09	44.28		.02								68
Mar. 28					12.63	8.72	45.96	4.38	14.97	47.95		.01								68
Mar. 31					12.28	8.63	45.49	4.00	15.01	47.38		.01								69

Apr. 3, 7, 10, 17, 20, 27					10.33	8.31	47.05	2.05	14.74	48.79	.07	.04							72
Apr. 4					9.03	8.39	46.55	1.61	14.57	47.66	.09	.04							73
Apr. 7					6.29	6.83	39.03	1.87	12.05	38.07	.09	.07							75
Apr. 11					10.83	8.63	47.47	2.39	15.07	49.36	.09	.02							71
Apr. 13					16.52	9.79	52.59	5.75	17.01	56.12		.02							67
Apr. 14					16.52	9.70	51.51	5.95	16.76	55.00		.02							66
Apr. 18					11.18	8.96	50.04	1.69	15.61	52.74	.08	.06							71
Apr. 21					11.78	9.05	49.20	2.01	15.72	52.74	.08	.04							70
Apr. 25					12.28	9.29	49.04	2.33	13.74	54.43	.09	.02							69
Apr. 28					12.63	8.72	50.68	2.07	16.26	53.59	.08	.03							70
May 1, 8, 11, 15, 18, 22, 29					15.07	10.77	56.78	1.93	18.26	62.33	.08	.02							69
May 2					12.13	9.54	51.70	1.54	16.41	55.28	.09	.05							70
May 4					12.83	8.96	50.10	3.21	16.20	52.46		.02							70
May 5					12.98	8.80	48.86	3.74	15.55	51.33		.02							69
May 9					13.63	10.44	55.53	1.31	17.82	60.35	.09	.03							70
May 12					13.13	9.95	53.71	1.90	17.22	57.53	.09	.05							70
May 16					18.62	11.02	57.53	5.62	18.55	62.89	.08	.03							66
May 19					15.37	11.68	58.79	2.11	19.03	64.59	.08	.03							68
May 23					16.37	11.27	59.25	1.70	19.09	66.00	.08	.02							68
May 25					17.42	11.18	58.14	4.20	19.07	63.46		.01							67
May 26					14.77	9.95	54.27	3.87	17.28	57.82		.02							69
May 30					16.87	11.10	59.62	2.46	19.32	65.71	.08	.02							68
June 2					19.12	12.17	63.70	1.61	20.49	72.76	.08	.05							67
June 2, 5, 12, 19–20, 26, 30					22.26	12.66	65.29	3.34	21.44	75.30	.08	.05							65
June 6					20.36	12.83	64.11	1.41	21.03	74.74	.08	.04							66
June 9					21.36	12.50	65.74	2.08	21.24	76.15	.08	.05							66
June 13					21.91	12.66	64.81	2.38	21.03	75.87	.08	.02							65
June 16					22.11	13.08	67.30	2.11	21.86	78.40	.08	.04							66
June 18					23.76	13.08	60.03	3.43	20.09	73.33		.02							62
June 21					23.66	13.40	68.32	2.80	22.07	80.38	.11	.02							65
June 22					24.21	13.49	64.82	4.33	21.44	76.71		.04							63
June 23					22.91	13.49	64.65	3.21	21.65	76.15		.04							64
June 27					22.26	13.65	64.75	2.05	21.24	77.28	.08	.01							64
July 3–31										68.53									
July 4					18.77	10.53	55.84	3.16	18.68	63.18	.06	.06							66
July 7					21.46	12.25	64.02	2.93	20.49	74.17	.06	.08							66
July 9					4.69	2.14	15.48	6.15	5.70	10.44		.02							69
July 9, 11, 28										33.56									
July 10					9.28	4.11	26.37	4.03	9.64	25.95		.14							66
July 14					19.47	12.66	60.53	1.41	19.78	71.35	.06	.06							65
July 17					23.81	13.24	62.60	4.08	20.53	75.02		.02							63
July 19, 24, 25										4.00									
July 20					2.99	1.15	11.23	2.84	4.00	8.18	.08	.27							73
July 24					5.19	2.47	17.45	5.90	5.37	13.82		.02							69
July 25					2.10	.82	5.45	4.16	2.42	1.78		.01							65
July 27					8.54	4.11	19.52	3.28	7.22	21.58		.09							61

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Gila River at Fort Thomas, Ariz.—Continued																				
Aug. 1					21.36	12.83	56.40	1.23	19.95	69.38		0.03								
Aug. 3					23.56	14.56	62.76	1.43	21.86	77.56		.03								62
Aug. 7					26.60	14.97	66.74	3.61	22.90	81.79		.01								62
Aug. 8					24.36	14.06	60.23	2.87	21.03	74.74		.01								61
Aug. 11					1.70	.82	2.53	2.90	.75	1.38		.02								50
Aug. 14					2.99	1.32	5.05	2.64	1.75	4.79		.18								54
Aug. 16										6.60										
Aug. 22					2.10	.76	2.05	2.82	.79	1.30		.00								42
Aug. 24					2.80	1.15	4.95	3.05	1.64	4.17		.04								56
Aug. 25										2.54										
Aug. 28					5.29	2.22	11.25	4.41	3.58	10.72		.05								60
Sept. 1										38.36										
Sept. 5										56.69										
Sept. 6					2.30	.90	4.80	3.59	1.96	2.43		.02								60
Sept. 7										2.00										
Sept. 8					2.50	.82	5.47	2.69	1.89	4.23		.08								62
Sept. 12					8.49	5.02	25.59	3.25	8.49	27.22		.14								65
Sept. 15					4.49	1.81	9.86	3.66	3.00	9.45		.05								61
Sept. 16										11.14										
Sept. 18					2.89	.99	5.21	3.07	1.96	4.00		.06								57
Sept. 22					9.28	6.00	28.34	2.07	9.35	32.15		.05								65
Oct. 1					3.09	1.23	3.89	3.39	1.35	3.33		.14								47
Oct. 2					3.09	1.32	5.17	3.51	1.64	4.40		.03								54
Oct. 10					6.39	3.54	19.16	5.11	5.37	18.05		.03								3
Oct. 13					7.64	5.18	29.13	4.03	9.10	28.77		.05								39
Oct. 16					8.88	4.03	21.51	6.47	6.75	21.15		.05								62
Oct. 17										24.40										
Oct. 20					10.68	5.18	28.70	6.74	8.99	28.77		.06								64
Oct. 24					11.58	6.25	34.76	6.75	11.12	34.69		.03								66
Oct. 26					6.74	4.11	22.61	4.84	7.02	21.58		.02								68
Oct. 27					8.73	4.28	22.29	6.46	6.95	21.86		.03								63
Oct. 31					5.39	2.30	13.39	5.23	3.81	11.99		.05								64

Gila River above wash 1.8 miles below Fort Thomas, Ariz.

Jan. 15, 1944					7.43	3.37	19.35	6.32	5.75	17.91		0.08						64
Feb. 18					13.23	7.07	38.22	7.33	12.47	38.64		.08						65
Mar. 17					12.38	7.73	43.41	5.49	14.26	43.71		.06						68
Apr. 14					17.77	9.70	52.33	6.54	17.65	55.56		.05						66
May 5					13.13	8.96	49.27	3.51	16.22	51.61		.02						69
May 26					15.47	9.13	50.55	5.38	16.99	52.74		.04						67
June 22, 8:06 a. m					22.71	13.49	64.75	3.51	22.90	74.46	0.06	.02						64
June 22, 9:06 a. m										74.46								
June 22, 10:04 a. m										75.02								
June 22, 11:01 a. m										75.30								
June 22, 12 m										75.02								
June 22, 1:01 p. m										75.87								
June 22, 2 p. m					22.36	13.40	66.39	3.02	22.90	76.15	.06	.02						65
June 22, 3:02 p. m										75.87								
June 22, 4:04 p. m										76.15								
June 22, 5:08 p. m										75.87								
June 22, 6:05 p. m										75.58								
June 22, 6:55 p. m										75.58								
June 22, 7:58 p. m										75.02								
June 22, 9 p. m										75.02								
June 22, 10:01 p. m										75.02								
June 22, 11 p. m										75.02								
June 22, 11:58 p. m										74.74								
June 23, 12:59 a. m										74.74								
June 23, 2 a. m										74.17								
June 23, 2:59 a. m										74.17								
June 23, 4 a. m										74.17								
June 23, 5 a. m										74.17								
June 23, 6 a. m					23.36	13.32	63.89	4.11	22.49	73.89	.06	.02						64
June 23, 7 a. m										74.17								
June 23, 8 a. m										74.74								
June 23, 9 a. m										74.17								
June 23, 10 a. m										74.74								
June 23, 11 a. m										74.74								
June 23, 12 m					22.56	13.16	66.20	3.43	23.11	75.30	.06	.02						65
June 23, 1 p. m										75.87								
June 23, 2 p. m										76.15								
June 23, 3 p. m										75.58								
June 23, 4 p. m										76.15								
June 23, 5 p. m					22.56	13.24	67.03	3.28	23.32	76.15	.06	.02						65
June 23, 6 p. m										75.87								
June 23, 7 p. m										76.15								
June 23, 8:10 p. m										75.30								
July 18					19.32	9.62	58.29	6.82	23.53	56.69		.19						67
Oct. 27					8.39	4.61	24.28	5.59	8.39	23.27		.03						65

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Gila River near Geronimo, Ariz.																				
Oct. 1, 3, 1943											6.60									
Oct. 6, 9, 13, 15, 20, 22, 26, 29					10.33	6.25	35.63	3.54	11.41	37.23		0.03								68
Nov. 2, 5, 12, 16, 19, 27, 30	33.5				9.78	4.93	28.92	6.06	8.74	28.77		.06								66
Nov. 9					8.19	4.28	24.62	5.45	7.33	24.25		.06								66
Nov. 23					10.48	5.35	34.01	6.33	10.18	33.28		.05								68
Dec. 3	55				7.89	4.44	25.71	5.98	7.50	24.40	0.09	.07								68
Dec. 7, 10, 17, 21, 24, 28	55.2				8.04	4.69	26.27	5.38	7.95	25.52	.08	.07								67
Dec. 14	64				7.49	3.54	21.03	6.10	6.14	19.74		.08								66
Dec. 31	32				13.98	7.57	41.82	6.85	13.49	42.87	.09	.07								66
Jan. 4, 7, 11, 1944					5.39	2.80	16.56	5.13	4.73	14.81		.08								67
Jan. 15					7.59	3.54	20.39	6.22	6.04	19.18		.08								65
Jan. 18	75				8.14	3.87	22.97	6.39	6.79	21.72		.08								66
Jan. 21	53				9.23	4.77	29.16	6.33	8.70	28.06		.07								68
Jan. 25	99				5.84	3.29	20.27	5.33	5.66	18.33		.08								69
Jan. 28	85				7.59	3.78	23.55	6.39	6.87	21.58		.08								67
Feb. 1					4.69	3.37	21.09	3.70	6.08	19.32		.05								72
Feb. 4					5.44	4.03	25.58	3.49	7.54	23.97		.05								73
Feb. 8	80				7.09	3.45	22.42	6.32	6.41	20.17		.06								68
Feb. 10					8.58	4.61	29.24	6.13	8.72	27.50		.08								69
Feb. 11					7.74	4.44	27.70	5.46	8.29	26.09		.04								69
Feb. 15	62				7.49	4.69	27.25	4.28	8.45	26.65		.05								69
Feb. 18	32				13.48	6.50	39.72	7.41	12.76	39.48		.05								67
Feb. 22					11.98	6.83	40.33	5.74	13.03	40.33		.04								68
Feb. 25					9.18	5.35	33.41	5.97	10.06	31.87		.04								70
Feb. 29					8.04	4.61	29.41	5.99	8.81	27.22		.04								68
Mar. 3					6.74	5.35	35.10	3.69	10.72	32.72		.06								74
Mar. 7					10.08	6.58	42.00	4.31	13.12	41.18		.05								72
Mar. 10					8.78	6.66	39.09	3.38	12.45	38.64		.06								72
Mar. 14					11.23	7.73	45.10	3.64	14.68	45.69		.05								70
Mar. 17	29				13.58	7.48	44.05	6.51	14.28	44.28		.04								68
Mar. 21					13.48	8.22	46.36	4.85	15.20	47.95		.06								68
Mar. 24					12.98	7.89	44.88	5.02	14.72	45.97		.04								68
Mar. 28					13.48	8.47	47.88	4.41	15.74	49.64		.04								69
Mar. 31					13.48	8.22	47.81	4.47	15.64	49.36		.04								69

Apr. 4					10.03	8.39	47.29	1.77	15.30	48.51	.07	.06						72
Apr. 7					8.68	6.91	42.94	2.75	13.62	42.02	.09	.05						73
Apr. 11					11.13	8.31	49.35	1.85	16.99	50.77	.06	.02						72
Apr. 14					16.47	8.88	50.88	6.02	16.86	53.30		.05						67
Apr. 18					13.18	8.39	51.21	3.07	16.53	53.02	.08	.08						70
Apr. 21					11.18	8.31	50.05	1.90	15.89	51.61	.08	.06						72
Apr. 25					12.08	8.63	52.12	1.95	16.91	53.87	.08	.02						72
Apr. 28					12.03	8.47	51.39	1.87	16.63	53.30	.06	.03						71
May 2					11.53	8.39	50.47	1.64	16.16	52.46	.08	.05						72
May 5					13.08	8.47	49.06	3.82	15.99	50.77		.03						69
May 9					13.93	8.96	52.40	2.95	16.36	55.84	.09	.05						70
May 12					12.08	9.05	52.68	1.56	17.11	55.00	.08	.06						71
May 16					12.63	9.21	54.63	1.95	17.70	56.69	.08	.05						71
May 19					15.77	9.21	54.82	3.90	17.97	57.82	.08	.03						69
May 23					15.12	9.46	56.92	3.78	18.34	59.23	.08	.07						70
May 26					13.28	8.72	53.20	2.64	17.26	55.28		.02						71
May 30					15.52	9.62	57.76	2.39	18.92	61.48	.08	.03						70
June 2					15.12	9.79	56.94	1.43	18.82	61.48	.08	.04						70
June 6					14.72	9.29	55.63	1.49	18.24	59.79	.08	.04						70
June 9					17.02	9.29	56.47	3.77	18.51	60.35	.08	.07						68
June 13					14.82	8.88	55.25	2.21	17.95	58.66	.08	.05						70
June 16					15.87	8.22	54.51	4.10	17.41	56.97	.08	.04						69
June 21					15.57	8.31	54.21	3.93	17.36	56.69	.09	.02						69
June 22, 8:30 a. m					16.17	8.31	54.30	5.00	17.26	56.41	.09	.02						69
June 22, 9:31 a. m										55.84								
June 22, 10:30 a. m										56.12								
June 22, 11:33 a. m										55.84								
June 22, 12:31 p. m										55.56								
June 22, 1:32 p. m										55.84								
June 22, 2:31 p. m					14.08	7.73	53.84	3.16	16.82	55.56	.09	.02						71
June 22, 3:30 p. m										55.84								
June 22, 4:32 p. m										55.56								
June 22, 5:30 p. m										56.12								
June 22, 6:30 p. m										55.84								
June 22, 7:30 p. m										55.84								
June 22, 8:30 p. m										56.12								
June 22, 9:30 p. m										55.84								
June 22, 10:30 p. m					16.07	8.55	54.26	5.10	17.26	56.41	.09	.02						69
June 22, 11:30 p. m										55.84								
June 23, 12:30 a. m										56.12								
June 23, 1:30 a. m										56.12								
June 23, 2:30 a. m										56.12								
June 23, 3:33 a. m					15.67	8.31	54.54	4.33	17.30	56.69	.09	.02						70
June 23, 4:34 a. m										56.12								
June 23, 5:32 a. m										56.41								
June 23, 6:30 a. m										56.12								
June 23, 7:30 a. m										55.84								
June 23, 8:30 a. m										56.12								
June 23, 9:30 a. m										55.84								
June 23, 10:30 a. m										55.84								
June 23, 11:30 a. m										55.84								
June 23, 12:30 a. m										55.56								
June 23, 1:30 p. m					15.42	7.98	53.64	4.38	16.99	55.56	.09	.02						70
June 23, 2:30 p. m										55.56								

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Gila River near Geronimo Ariz.—Continued																				
June 23, 3:30 p. m.											55.56									
June 23, 4:30 p. m.											55.84									
June 23, 5:30 p. m.											55.84									
June 23, 6:30 p. m.											56.12									
June 23, 7:30 p. m.											56.12									
June 23, 8 p. m.					15.07	8.14	54.34	3.79	17.24	56.41	0.09	0.02								70
June 27					16.12	7.98	53.46	5.03	16.86	55.56	.09	.02								69
July 4					10.48	5.92	41.78	2.15	12.78	43.15	.05	.05								72
July 7					13.93	7.89	53.33	3.43	16.34	55.28	.05	.05								71
July 9					14.47	6.66	42.56	5.74	15.34	42.59		.02								67
July 10					11.18	5.76	42.29	3.05	13.47	42.59	.05	.07								71
July 14					12.98	7.40	51.07	2.92	15.66	52.74	.05	.08								71
July 18					15.92	7.73	52.37	5.18	15.82	55.00		.02								69
July 20					2.89	.90	11.68	2.72	4.14	8.32		.29								76
July 24					5.89	2.71	18.76	5.95	5.95	15.23		.03								69
July 25					1.00	.72	5.28	3.59	2.60	1.69		.02								67
July 27					7.29	3.45	23.91	3.36	7.89	23.27		.13								69
Aug. 1					12.38	7.89	48.86	1.36	15.84	51.89		.04								71
Aug. 4					12.73	7.89	52.58	1.57	16.57	55.00		.06								72
Aug. 8					14.62	6.58	44.95	5.06	14.26	46.82		.01								68
Aug. 11					1.80	.81	3.23	3.64	.87	1.33		.00								55
Aug. 14					3.99	1.56	8.27	2.98	2.66	8.07		.11								60
Aug. 16										5.42										
Aug. 22					2.00	.72	2.09	2.52	.87	1.38		.04								43
Aug. 24					2.80	1.07	5.38	2.85	1.79	4.57		.04								58
Aug. 25										2.57										
Aug. 28					6.29	2.63	14.79	4.47	4.64	14.52		.08								62

Sept. 1										36.66									
Sept. 5										49.92									
Sept. 6					2.20	.65	4.97	3.46	1.87	2.48		.01							64
Sept. 7										2.14									
Sept. 8					2.70	.82	5.60	2.80	2.12	4.12		.08							61
Sept. 12					8.29	4.85	30.40	2.07	9.85	31.59		.03							70
Sept. 15					5.59	2.14	14.39	4.46	4.50	12.97		.19							65
Sept. 16										22.14									
Sept. 18					2.85	.99	5.82	3.47	1.79	4.34		.06							60
Sept. 22					10.18	5.18	31.02	3.62	10.01	32.72		.03							67
Oct. 1					2.80	.82	4.66	3.03	1.52	3.67		.06							56
Oct. 2					3.49	1.32	6.29	3.69	1.96	5.42		.03							57
Oct. 10					6.29	3.78	22.34	3.75	7.02	21.58		.06							69
Oct. 13					7.84	5.51	32.62	2.98	10.51	32.43		.05							71
Oct. 16					9.33	4.61	26.44	5.62	8.47	26.23		.06							65
Oct. 17										29.33									
Oct. 20					12.48	5.76	33.28	7.33	10.85	33.28		.06							65
Oct. 24					12.53	6.66	39.84	5.65	13.03	40.33		.02							67
Oct. 27					10.08	4.93	26.83	6.39	8.49	26.93		.03							64
Oct. 31					6.49	2.71	16.03	5.29	4.79	15.09		.06							64
Gila River 1 mile below Goodwin Wash, near Geronimo, Ariz.																			
Dec. 14, 1943					7.29	3.54	20.69	6.02	6.12	19.32		0.06							66
Jan. 15, 1944					7.34	3.21	20.06	6.15	5.93	18.47		.06							66
Feb. 10					8.58	4.44	28.34	6.36	8.41	26.51		.08							69
Feb. 18					11.98	6.00	36.99	6.92	11.87	36.10		.08							67
Mar. 17					10.88	6.58	39.84	5.15	12.91	39.20		.04							70
Apr. 14					13.08	7.65	46.17	4.70	15.05	47.10		.05							69
Apr. 14					12.68	6.99	42.76	4.92	14.03	43.43		.05							68
May 5					10.08	7.07	43.50	2.56	14.07	44.00		.02							72
May 26					13.28	7.07	45.49	5.00	14.57	46.25		.02							69
June 23					10.53	5.02	37.14	4.98	11.58	36.10		.03							70
July 18					8.09	4.61	40.12	3.26	10.60	38.92		.04							76
Oct. 27					9.28	4.77	26.92	5.90	8.39	26.65		.03							66
Gila River ½ mile below Goodwin Wash, near Geronimo, Ariz.																			
Mar. 17, 1944					11.68	6.66	41.08	5.85	13.20	40.33		0.04							69

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Gila River at Geronimo Crossing, near Geronimo, Ariz.																				
Nov. 9, 1943					6.79	3.54	21.96	5.02	6.35	20.87		0.05								68
Nov. 23					8.88	4.52	30.27	5.75	9.12	28.77		.03								69
Dec. 14					6.99	3.29	19.50	5.97	5.70	18.05		.06								65
Jan. 15, 1944					7.34	3.29	19.81	6.16	5.87	18.33		.08								65
Feb. 10					7.99	4.11	26.70	5.97	7.93	24.82		.08								69
Feb. 18					11.28	5.51	34.64	6.61	10.93	33.84		.05								67
Mar. 17					10.33	6.00	37.77	5.08	12.05	36.95		.02								70
Apr. 14					11.58	6.58	40.31	4.33	13.22	40.89		.03								69
May 5					10.18	6.50	40.37	3.47	12.95	40.61		.02								71
May 26					10.48	6.09	41.02	3.70	12.99	40.89		.01								71
June 22					6.99	4.36	31.94	2.46	9.79	31.02		.02								74
June 23					7.99	4.36	31.22	3.36	9.72	30.46		.03								72
July 17					5.99	3.70	29.60	2.29	8.77	28.20		.03								75
July 18					6.29	3.62	31.06	2.82	8.52	29.61		.02								76
Aug. 8					7.19	3.78	28.66	3.18	8.66	27.78		.01								72
Oct. 27					9.03	4.52	25.98	5.77	8.08	25.66		.02								66
Gila River at Black Point, Ariz.																				
Oct. 1, 3, 1943											6.20									
Oct. 6, 9, 13, 15, 20, 22, 26, 29					8.14	4.69	30.20	3.77	9.31	29.90		0.05								70
Nov. 2, 5, 12, 16, 19, 27, 30	43.5				7.39	4.28	26.23	4.62	7.85	25.38		.05								69
Nov. 9					7.19	3.45	22.57	5.51	6.50	21.15		.05								68
Nov. 23					9.13	4.61	29.78	5.67	9.06	28.77		.02								68
Dec. 3, 7, 10, 17, 21, 24, 28, 31	67.5				7.19	4.28	24.37	5.20	7.22	23.27	0.08	.07								68
Dec. 14					6.69	3.04	19.31	5.91	5.58	17.49		.06								66
Jan. 4, 7, 11, 18, 21, 25, 28, 1944	95.7				6.69	3.29	21.14	5.80	6.06	19.18		.08								68
Jan. 15					7.09	3.21	19.34	5.94	5.73	17.91		.06								65
Feb. 1, 4, 8, 11, 15, 22, 25, 29	67.3				6.39	4.19	26.09	4.52	7.74	24.25	.09	.07								71
Feb 18					10.68	5.51	34.20	5.98	10.81	33.56		.04								68
Mar. 3, 7, 10, 14, 21, 24, 28, 31	38.5				6.84	5.76	36.97	1.97	11.39	36.10	.07	.04								75
Mar. 17					10.18	6.17	37.42	4.79	12.01	36.95		.02								70

Apr. 4, 7, 11, 18, 21, 25, 28	24.7				8.24	6.17	39.18	1.92	12.37	39.20	.07	.03						73
Apr. 14					11.48	6.50	40.11	4.49	12.97	40.61		.02						69
May 2, 9, 12, 16, 19, 23, 30	13.8				9.18	6.00	39.53	2.54	12.24	39.77	.12	.04						72
May 5					11.33	6.66	40.54	4.14	13.20	41.18		.01						69
May 26					11.08	6.41	40.52	3.51	13.03	41.46		.01						70
June 2, 6, 9, 13, 20, 27	4.42				8.04	4.93	33.89	2.44	10.49	33.84	.07	.02						72
June 23					8.19	4.52	31.02	3.80	9.45	30.46		.02						71
July 4, 7, 10–11, 14, 22, 27					5.89	2.96	23.25	3.23	7.27	21.43	.07	.10						72
July 9, 24					15.07	7.07	43.59	3.57	15.14	46.82	.08	.12						66
July 18					5.69	2.30	20.04	3.16	5.62	19.18		.07						71
July 20, 25					2.10	.90	7.39	3.95	2.58	3.78	.07	.01						71
Aug. 1, 4, 29					6.39	3.54	25.92	3.18	7.77	24.68	.08	.14						72
Aug. 8					6.94	3.45	26.67	3.31	8.08	25.66		.01						72
Aug. 11, 21–22, 24										1.83								
Aug. 10, 15–17, 26										7.19								
Sept. 1, 5, 12, 22										25.24								
Sept. 6–7, 18, 30										2.93								
Sept. 9, 15										9.03								
Oct. 1, 30										5.13								
Oct. 6, 10, 13, 17, 20, 24, 31										23.83								
Oct. 27					7.99	4.77	25.70	4.70	8.08	25.66		.02						67
Gila River at Calva, Ariz.																		
Oct. 6, 9, 13, 17, 23, 26, 30, 1943					7.94	4.44	27.46	3.54	8.33	27.92		0.05						69
Nov. 5, 16, 19, 27	39.4				7.19	4.36	27.45	4.34	7.99	26.65		.02						70
Nov. 9					7.49	3.87	24.69	5.27	7.04	23.69		.05						69
Nov. 23					7.49	4.36	28.02	4.38	8.12	27.36		.01						70
Dec. 3, 7, 17, 24, 28	70.2				6.64	3.87	22.41	5.16	6.41	21.29		.06						68
Dec. 14					5.99	2.96	19.38	5.29	5.35	17.63		.06						68
Jan. 4, 7, 18, 25, 28, 1944	94.3				6.29	3.37	21.38	5.06	6.04	19.88		.06						69
Jan. 15					6.14	3.04	18.86	5.41	5.23	17.34		.06						67
Feb. 4, 8, 15, 25	70.1				6.14	4.36	27.83	3.64	8.06	26.51	0.08	.04						73
Feb. 18					8.39	4.85	30.74	4.97	9.06	29.90		.05						70
Mar. 3, 7, 14, 24, 28	42.9				6.69	5.51	35.62	2.72	10.45	35.54	.07	.04						74
Mar. 17					10.13	6.00	35.69	4.41	11.01	36.38		.02						69
Apr. 4, 7, 18, 25, 28					8.58	5.92	37.81	2.20	11.10	38.92	.07	.02						72
Apr. 14					10.08	6.09	37.05	3.67	11.18	38.36		.01						70
May 5					10.28	6.09	37.69	3.27	11.30	39.48		.01						70
May 9, 16, 19, 23, 30					9.08	5.43	39.01	2.59	10.74	40.05	.12	.02						73
May 26					10.48	6.00	39.07	3.20	11.16	41.18		.01						70
June 6, 9, 16					9.48	5.92	37.95	2.15	9.91	41.18	.09	.02						71
July 19–20, 25										5.36								
Aug. 10–11, 15, 17, 20, 24, 26					2.20	.82	5.61	3.93	1.50	3.10	.07	.03						65
Sept. 5, 12										26.23								
Sept. 6–7, 26, 29										1.81								
Sept. 9, 18										5.36								
Oct. 6, 13, 17, 24										2.09								
Oct. 27					9.98	5.10	29.32	4.88	9.04	30.46		.02						66

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
San Francisco River 2 miles above Clifton, Ariz.																				
Jan. 10, 1944					2.20	.99	2.52		3.35	0.35	1.97	0.04	0.00							44
Aug. 1					2.40	1.15	2.97		3.49	.44	2.59		.00							46
Nov. 1					2.45	.99	2.57		3.46	.33	2.17	.04	.01							43
San Francisco River at Clifton, Ariz.																				
Jan. 10, 1944	60				3.59	1.07	6.78		3.38	0.40	7.61	0.04	0.01							59
Aug. 1	25				3.79	1.40	7.02		3.49	.48	8.18	.06	.00							57
Nov. 1	50				3.24	.99	5.57		3.46	.35	5.92	.05	.02							57
Blue River above Juan Miller Creek, near Clifton, Ariz.																				
June 25, 1944	3.3				3.04	1.64	1.90		3.72	0.46	2.40									29
Eagle Creek at Phelps-Dodge pumping plant, near Morenci, Ariz.																				
Oct. 1–10, 1943					2.20	1.64	1.35	0.12	4.25	0.18	0.76	0.03	0.00							25
Oct. 11, 14–18					2.20	1.64	1.35	.11	4.21	.19	.82	.03	.00							25
Oct. 28–31					2.15	1.64	1.44	.13	4.10	.25	.82	.03	.11							27
Nov. 1–10					2.20	1.64	1.26	.12	4.21	.19	.73	.03	.02							24
Nov. 11–20					2.20	1.64	1.26	.08	4.18	.18	.79	.03	.01							24
Nov. 21–30					2.20	1.64	1.26	.08	4.21	.17	.76	.03	.00							24
Dec. 1–10					2.20	1.64	1.26	.07	4.15	.18	.76	.03	.00							24
Dec. 11–20					2.15	1.56	1.26	.06	4.15	.19	.73	.03	.00							25
Dec. 21–31					2.15	1.64	1.26	.11	4.17	.20	.70	.03	.02							24
Jan. 1–10, 1944					2.20	1.64	1.22	.10	4.22	.19	.73	.03	.01							24
Jan. 11–20					2.20	1.64	1.26	.10	4.14	.21	.73	.03	.00							24
Jan. 21–29					2.20	1.64	1.30	.09	4.25	.21	.82	.03	.02							25
Feb. 9–10					2.20	1.81	1.29		4.34	.20	.73	.03	.00							24
Feb. 11–20					2.20	1.64	1.13	.12	4.15	.18	.71	.03	.00							22
Feb. 21–29					2.15	1.64	1.13	.11	4.15	.18	.71	.03	.00							22

Mar. 1-10					2.15	1.64	1.17	.10	4.18	.18	.73	.03	.01							23
Mar. 11-20					2.20	1.56	1.22	.10	4.14	.17	.73	.03	.00							24
Mar. 21-31					2.20	1.64	1.22	.11	4.28	.18	.76	.03	.01							24
Apr. 1-10					2.20	1.64	1.26	.11	4.19	.18	.76	.03	.01							24
Apr. 11-19					2.15	1.64	1.22	.12	4.15	.17	.79	.03	.00							24
June 24	4.6				2.15	1.73	1.69		4.13	.27	1.10		.07							30
San Simon Creek at mouth, near Solomonsville, Ariz.																				
May 1, 1944					2.99	1.15	5.95		3.63	1.27	5.13		0.03							59
Hawk Hollow Wash at mouth, near Thatcher, Ariz.																				
Nov. 4, 1943											4.37									
Nov. 25											4.85									
Dec. 13											7.47									
Jan. 13, 1944											7.39									
Feb. 14											5.87									
Mar. 15					6.19	3.29	20.41		8.62	5.41	15.51		0.35							68
Apr. 12											16.50									
May 3											12.13									
May 24											16.50									
June 21											16.92									
Oct. 28											5.47									
Oct. 30											5.70									
Ash Creek at mouth, near Pima, Ariz.																				
Nov. 4, 1943					3.79	2.71	18.63		8.05	3.85	12.97		0.26							74
Nov. 25											6.88									
Dec. 13					3.39	1.56	11.03		5.69	2.27	7.90		.12							69
Jan. 13, 1944	1.4										17.20									
Feb. 14											7.05									
Mar. 15											17.91									
Apr. 12											17.49									
May 3											18.76									
May 24					2.85	3.12	26.88		8.13	5.56	18.76		.40							82
June 2, 7, 14					.70	2.80	27.31		6.33	5.48	18.47	0.08	.45							89
June 21											17.77									
Oct. 28											4.91									
Oct. 30											4.17									

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Cottonwood Wash at Pima, Ariz.																				
Nov. 4, 1943											4.15									
Nov. 25											4.23									
Dec. 13											4.09									
Jan. 13, 1944											4.68									
Feb. 14											6.60									
Oct. 28, 8 a. m											4.03									
Oct. 28, 12 m											3.78									
Oct. 30											2.99									
Matthews Wash near Glenbar, Ariz.																				
Aug. 8, 1944					1.20	0.62	15.03		5.39	3.50	7.76	0.10	0.10							89
Markham Wash at mouth, near Eden, Ariz.																				
Oct. 28, 1943											7.19									
Black Rock Wash at Black Rock, near Fort Thomas, Ariz.																				
Mar. 26, 1944									0.57	0.58	0.07		0.00							
Black Rock Wash at mouth, at Fort Thomas, Ariz.																				
Nov. 26, 1943											15.37									
Dec. 16											11.14									
Jan. 14, 1944					10.03	5.10	25.26		5.59	7.50	27.22		0.08							63
Feb. 15					7.59	4.03	22.43		5.79	6.72	21.43		.11							66
Mar. 16					40.73	25.49	100.48		3.52	36.23	126.91		.04							60
Apr. 13											128.32									
May 4											58.10									
May 25											29.61									
Oct. 26											1.13									

Goodwin Wash near at mouth, Geronimo, Ariz.

Nov. 9, 1943										10.01									
Dec. 14										10.72									
Jan. 15, 1944										7.19									
Feb. 18										15.37									

Tidwell Canal at heading, near Solomonsville, Ariz.

June 19, 1944										7.39									

Tidwell Canal wasteway, near Solomonsville, Ariz.

May 1, 1944										3.84									
May 10					3.39	1.40	6.57	3.37	1.27	6.66		0.06							58
June 19					3.24	1.48	7.20	3.08	1.17	7.67		.00							60

San Jose Canal below first wasteway, near Solomonsville, Ariz.

May 1, 1944										5.02									
May 10										6.49									
June 19										7.50									

Graham Canal near Thatcher, Ariz.

Oct. 4, 7, 11, 14, 18, 21, 25, 28, 1943										7.33									
Nov. 1, 5, 8, 15, 18, 22, 25, 29	21.4				3.39	1.40	5.70	3.93	1.35	5.19		0.02							54
Dec. 2, 6, 9, 13, 16, 20, 23, 27, 30	27.7									4.20									
Jan. 27, 31, 1944										4.06									
Feb. 3, 7, 10, 14, 17	51.3				3.04	1.32	5.25	3.95	1.23	4.34	0.08	.01							55

Smithville Canal near Thatcher, Ariz.

Oct. 7, 14, 21, 28, 1943										4.17									
Nov. 11, 18, 25	21.0				3.19	1.32	5.61	3.90	1.23	4.96		0.03							55
Dec. 2, 9, 16, 23, 30	24.4									4.51									
Jan. 6, 17, 20, 27, 1944	21.1									4.60									
Feb. 3, 12, 17, 29	21.2				3.49	1.56	7.16	4.49	1.79	5.81	0.08	.04							59

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Smithville Canal Waterway near Thatcher, Ariz.																				
Oct. 4, 7, 11, 14, 18, 21, 25, 28, 1943					2.99	1.40	5.16		3.85	1.23	4.46		0.04							54
Nov. 1, 8, 11, 15, 18, 22, 29	12.4				3.19	1.32	5.62		3.88	1.27	4.96		.02							62
Nov. 4											4.40									
Nov. 25											4.68									
Dec. 2, 6, 9, 16, 20, 23, 27, 30	17.6				2.99	1.23	5.59		3.95	1.25	4.51	0.08	.02							57
Dec. 13					2.99	1.07	5.40		3.87	1.25	4.26		.08							57
Jan. 3, 6, 10, 17, 20, 24, 27, 31, 1944	28.6				3.19	1.32	5.69		4.08	1.33	4.77		.02							56
Jan. 13					3.19	1.32	5.31		3.98	1.35	4.46		.03							54
Feb. 3, 7, 11, 17	8.6				3.59	1.64	8.02		4.92	1.98	6.20	.09	.06							61
Feb. 14					3.39	1.48	6.56		4.49	1.64	5.25		.05							57
Mar. 15					4.74	2.14	13.10		6.65	3.14	10.01		.18							66
Apr. 12					3.59	1.64	7.31		4.26	1.83	6.43		.02							58
May 3					3.89	2.38	12.48		5.22	3.21	10.01		.31							67
May 24					8.58	3.62	16.04		8.83	4.56	14.24		.61							57
Oct. 30					2.60	.99	4.79		3.36	1.04	3.95		.03							57
Union Canal near Thatcher, Ariz.																				
Oct. 4, 7, 11, 14, 18, 21, 25, 28, 1943											4.23									
Nov. 1, 4, 8, 11, 15, 18, 22, 25, 29	34.0				2.94	1.23	5.12		3.72	1.10	4.46		0.01							55
Dec. 2, 6, 9, 13, 16, 20, 23, 27, 30	31.9										3.95									
Jan. 3, 6, 10, 13, 17, 20, 24, 28, 31, 1944	31.4										4.03									
Feb. 3, 7, 10, 14	33.5				3.09	1.23	5.44		3.90	1.33	4.43	0.08	.02							56

Union Canal Diversion along Ray Lane, near Thatcher, Ariz.

Nov. 15, 1943																			
Oct. 4, 11, 14, 18										5.81									
Dec. 9, 13										3.92									

Dodge-Nevada Canal at heading, near Pima, Ariz.

Nov. 25, 1943					3.64	1.56	8.10	4.85	1.94	6.49		0.02							61
Apr. 12, 1944					4.44	2.06	10.70	5.62	2.66	8.88		.04							62
May 3					2.60	2.88	15.83	4.28	4.10	12.83		.11							74
May 24					3.89	3.29	18.23	5.61	4.79	14.95		.06							72
Oct. 28										7.76									
Oct. 30					2.80	1.15	5.47	3.67	1.35	4.34		.06							58

Dodge-Nevada Canal wasteway near Pima, Ariz.

Nov. 4, 1943, 12:50 p. m.										5.36									
Nov. 4, 5 p. m.										4.91									
Nov. 25										6.60									
Dec. 13										6.09									
Jan. 13, 1944										5.42									
Feb. 14										6.37									
Mar. 15, 10:40 a. m.										13.40									
Mar. 15, 2 p. m.										13.54									
Apr. 12										10.01									
May 3										14.81									
May 24										16.78									
Oct. 28										7.47									
Oct. 30										4.63									

Dodge-Nevada Canal near Glenbar, Ariz.

Oct. 1, 5, 8, 12, 15, 19, 22, 25, 30, 1943										12.83									
Nov. 1, 5, 12, 15, 19, 22, 25, 30	12.5				3.44	1.40	12.77	4.31	2.54	10.72		0.04							73
Dec. 2, 7, 10, 13, 17, 21, 24, 28, 31	15.5									6.77									
Jan. 4, 7, 11, 14, 18, 21, 25, 28, 1944	11.8									5.87									
Feb. 1, 4, 8, 11, 15, 18, 22	8.18				3.89	1.97	10.51	5.51	2.64	8.04	0.11	.07							64
Mar. 10, 14, 17, 21, 31	6.47				2.40	2.55	20.04	3.97	4.46	16.36	.12	.08							80
Apr. 3, 7, 20, 24, 27	9.15							4.64		17.34									
May 8, 11, 15, 18	3.44				3.49	2.30	31.07	4.29	6.10	26.23	.16	.08							84
June 2, 5, 22, 26	3.03				3.29	1.73	41.23	3.61	7.35	34.97	.21	.11							89
Sept. 1, 4, 12, 22, 29										24.25									
Sept. 7, 15, 18										6.49									

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Curtis Canal at heading, near Pima, Ariz.																				
Nov. 25, 1943					3.69	1.64	9.93		5.36	2.37	7.50		0.03							65
Feb. 14, 1944											7.90									
Mar. 15					5.09	2.88	21.54		8.26	5.16	15.93		.16							73
Apr. 12					5.24	2.80	17.61		7.94	4.31	13.26		.14							69
May 3											17.34									
May 24					5.19	2.88	24.20		9.59	5.58	16.92		.18							75
June 21					2.99	2.96	23.96		7.56	5.41	16.78		.16							80
Oct. 28											7.90									
Curtis Canal wasteway near Pima, Ariz.																				
Nov. 4, 1943											9.03									
Nov. 25											7.76									
Dec. 13											8.18									
Jan. 13, 1944											6.60									
Feb. 14											7.22									
Apr. 12											13.54									
Oct. 28											8.32									
Curtis Canal near Glenbar, Ariz.																				
Oct. 1, 5, 8, 12, 15, 19, 22, 25, 27, 1943											13.40									
Nov. 1, 5, 8, 12, 15, 19, 22, 26, 30	11.9				4.09	1.89	10.74		5.82	2.52	8.32		0.06							64
Dec. 3, 7, 9, 11, 13, 20, 23, 27, 31	13.7										8.18									
Jan. 3, 6, 17, 20, 27, 31, 1944	17.1										7.61									
Feb. 3, 7, 10, 21, 24, 28	13.2				4.39	2.06	12.63		6.35	3.10	9.45	0.10	.08							66
Mar. 2, 6, 9, 13, 16, 20, 22, 27, 30	13.3				2.50	2.88	20.66		5.68	4.91	15.23	.12	.10							79

Apr. 3, 7, 10, 13, 17, 20, 24, 27	15.9				1.40	2.63	19.32	4.49	4.56	14.10	.12	.08						83
May 1, 4, 8, 11, 15, 18, 20, 22, 29	8.46				2.60	1.89	29.02	6.15	7.66	19.46	.14	.10						87
June 2, 12, 16, 30					2.99	4.77	40.16	4.10	14.14	29.33	.11	.24						84
June 5, 9					.88	2.88	25.64	5.67	5.66	17.63	.12	.24						87
June 19, 22, 26	3.17				3.59	5.26	50.74	4.56	18.97	35.82	.11	.13						85
Sept. 1, 4, 11, 22										16.50								
Sept. 7, 18, 25										2.43								

Fort Thomas Consolidated Canal at heading, near Glenbar, Ariz.

Nov. 4, 1943					3.99	2.14	12.21	5.55	3.29	9.45		0.05						67
Nov. 25					4.39	2.06	15.52	6.23	3.98	11.70		.06						71
Mar. 15, 1944					6.14	3.70	27.94	8.56	7.99	21.15		.08						74
Apr. 12					5.29	3.70	27.43	7.64	7.85	20.87		.06						75
May 3										19.74								

Fort Thomas Consolidated Canal near Glenbar, Ariz.

Oct. 1–2, 5, 8, 12, 15, 19, 22, 25, 29, 1943										11.00								
Nov. 1, 8, 12, 15, 19, 22, 25, 30	34.0				4.47	2.30	15.43	6.43	3.98	11.99		0.07						69
Dec. 2, 7, 10, 13, 17, 21, 24, 28, 31	46.5									12.69								
Jan. 4, 7, 11, 13, 18, 21, 25, 28, 1944	66.8									10.15								
Feb. 1, 4, 8, 11, 15, 18, 22, 25, 29	45.1				4.79	2.38	18.40	6.66	4.62	14.10	0.11	.08						72
Mar. 3, 7, 10, 14, 17, 21, 24, 28, 31	14.1				2.99	3.54	28.95	5.78	7.79	21.72	.12	.07						82
Apr. 3, 7, 10, 13, 17, 20, 24, 27	12.3				2.45	3.54	27.90	4.75	7.81	21.15	.12	.06						82
May 1, 4, 8, 11, 15, 18, 22, 25, 29	6.26				2.40	3.37	31.32	5.32	7.74	23.83	.12	.08						84
June 2, 5, 9, 12, 16, 19, 22, 26, 30	1.16				1.85	3.62	31.60	4.67	8.87	23.41	.09	.03						85
July 3, 7, 10, 14, 17, 21, 28, 31					2.40	2.88	24.01	4.46	6.95	17.77		.11						82
July 9, 19, 24					2.55	1.15	7.93	4.82	2.52	4.29		.00						68
Aug. 7										22.84								
Aug. 10–11, 21, 24, 25					1.95	.72	3.38	3.16	.92	1.89	.06	.02						56
Aug. 14, 16–18, 28					2.55	.99	8.60	3 98	2.91	5.08	.07	.10						71
Sept. 1, 4, 11, 15, 22										16.78								
Sept. 6, 8, 18, 25										2.93								

MISCELLANEOUS ANALYSES OF STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Mean discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	Silica (SiO_2)	Iron (Fe)	Calcium (Ca)	Magnesium (Mg)	Sodium (Na)	Potassium (K)	Bicarbonate (HCO_3)	Sulfate (SO_4)	Chloride (Cl)	Fluoride (F)	Nitrate (NO_3)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Fort Thomas Consolidated Canal upper wasteway, near Eden, Ariz.																				
Dec. 16, 1943											10.15									
Jan. 14, 1944											99.25									
Feb. 15, 9:30 a. m											14.81									
Feb. 15, 11:05 a. m											12.83									
Fort Thomas Consolidated Canal lower wasteway, near Eden, Ariz.																				
Nov. 5, 1943											9.17									
Nov. 26											11.99									
Dec. 16											9.31									
Jan. 14, 1944											9.31									
Mar. 16											19.74									
May 4											28.06									
Oct. 26											10.72									
Fort Thomas Consolidated Canal at Fort Thomas, Ariz.																				
Oct. 5, 8, 12, 15, 25, 29, 1943											13.26									
Nov. 1, 4–5, 8, 12, 15, 19, 22, 26, 29	14.1				4.49	2.22	14.35	6.07	3.62	11.28		0.06								63
Dec. 3, 6, 9, 13, 17, 20, 23, 27, 31	16.9									10.86										
Jan. 3, 6, 10, 17, 20, 23, 27, 31, 1944	7.83									7.78										
Feb. 3, 7, 10, 14, 17, 21					4.69	2.38	17.22	6.59	4.25	13.26	0.11	.08								71
Feb. 28								2.84		8.69										

Mar. 16, 22, 27, 30	5.85				2.50	3.70	26.33	5.20	7.95	19.18	.12	.08							81
Apr. 3, 7, 24								4.00		19.18									
May 8, 18, 22					2.35	3.70	30.75	4.77	8.16	23.69	.12	.06							84
May 19–20					20.46	14.80	62.39	3.83	24.57	68.25	.06	.94							64
June 9, 12, 16, 22					2.10	3.62	36.23	4.70	9.24	27.78	.14	.09							86
Aug. 11, 14, 17, 21, 24					2.20	.78	4.91	3.39	1.48	2.93	.07	.02							62
Sept. 7, 18										2.31									
Sept. 11, 15, 22										11.85									

Colvin-Jones Canal near Fort Thomas, Ariz.

Apr. 10, 13, 17, 20, 22, 24, 27					7.39	7.07	41.02	2.38	12.91	40.05	0.09	0.05							74
May 1, 4, 8, 11, 15, 18, 20, 25					11.28	8.63	46.21	3.35	15.26	47.38	.11	.02							70
Aug. 11, 14, 21										2.31									

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