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QUALITY OF SURFACE WATERS OF THE UNITED STATES 1943

With a summary of analyses of streams in Colorado River, Pecos River, and Rio Grande Basins, 1925 to 1943

BY

C. S. HOWARD AND S. K. LOVE

Prepared in cooperation with the States of GEORGIA, NEW MEXICO, and TEXAS and other agencies

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QUALITY OF SURFACE WATERS OF THE UNITED STATES, 1943

WITH A SUMMARY OF ANALYSES OF STREAMS IN COLORADO RIVER, PECOS RIVER, AND RIO GRANDE BASINS, 1925 TO 1943

By C. S. HOWARD and S. K. LOVE

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 detailed analyses are given were collected between October 1, 1942, and September 30, 1943.

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 gages are maintained for measurement of discharge. The discharge corresponding to an analysis of a composite sample is 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 irregular periods or for slightly different periods as indicated by footnotes. 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 analyses, records of suspended sediment for certain stations in the Colorado River Basin and records of daily river temperatures for one station in Georgia are included.

In order that complete information may be readily available, descriptive statements are given for each station for which regular series of analyses have been made. These statements include the location of the sampling station, drainage area, length of time for which records are available, extremes of dissolved solids and hardness, and other pertinent data.

A summary is given of analyses made by the Geological Survey from 1925 to 1943 for streams in the Colorado River, Pecos River, and Rio Grande Basins. Tables include weighted average analyses and maximum and minimum dissolved solids and total hardness by years, and references to published analytical data in reports of the

Geological Survey. Included also is a table of references to published sediment records for stations in the Colorado River Basin.

ANALYTICAL METHODS

For each month three composite samples were regularly 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 character, composite samples were at times made more frequently on the basis of the concentration of dissolved solids indicated by measurements of the specific conductance of the daily samples.

The samples were analyzed according to the methods[1] regularly used by the Geological Survey. The results are reported in parts per million and, for most stations, in equivalents per million. The constituents determined were not the same for all projects. 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 results for percent sodium, which has a bearing on the suitability of the water for irrigation. In analyses of waters carrying 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 as $CaCO_3$ is calculated from the calcium and magnesium. In some of the analyses the noncarbonate hardness also is reported. This is calculated from the total hardness and the bicarbonate.

COOPERATION AND DIVISION OF WORK

The analyses reported 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 drainage basins, according to Geological Survey practice in reporting records of stream flow.

SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS

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 made under the direction of S. K. Love. Analyses were made in the Geological Survey laboratory in Washington by 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

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

Division of Mines, Mining, and Geology, Capt. Garland Peyton, director. The sampling and the analytical work were under the direction of W. L. Lamar. The analyses were made in the Geological Survey laboratory in Washington by W. L. Lamar and M. B. Thomas. Records of discharge were furnished by M. T. Thomson, district engineer, Atlanta, Ga.

LOWER MISSISSIPPI RIVER BASIN

Colorado.—Quality of water studies in Colorado, which were made in cooperation with the Corps of Engineers, United States Army, consisted of analyses of miscellaneous samples collected from streams above John Martin Reservoir in the Arkansas River Basin. The work was done under the direction of C. S. Howard. Analyses were made in the Geological Survey laboratory in Albuquerque, N. Mex., by T. Downer, J. D. Hem, C. S. Howard, and W. F. White, Jr.

New Mexico.—In cooperation with the Corps of Engineers, United States Army, records were obtained of the contributions of the Canadian River and the Conchas River to the storage behind Conchas Dam, in New Mexico, and of the quality of water in the reservoir. Work on the quality of water was under the direction of C. S. Howard. The analyses were made in the Geological Survey laboratories in Roswell and Albuquerque, N. Mex., by T. Downer, J. D. Hem, C. S. Howard, W. F. White, Jr., and H. B. Waha. Records of discharge were furnished by Berkeley Johnson, district engineer, Santa Fe, N. Mex.

Texas.—Quality of water studies in the lower Mississippi River Basin in Texas were confined to analyses of samples collected from the Pease River near Crowell. The work was done by the Geological Survey in cooperation with the Texas State Board of Water Engineers, and was under the direction of W. W. Hastings Analyses were made in the Geological Survey laboratory in Austin, Tex., by W. W. Hastings and J. H. Rowley. Records of discharge were furnished by C. E. Ellsworth, district engineer, Austin, Tex.

WESTERN GULF OF MEXICO BASINS

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 supervision of C. S. Howard. The analyses were made in the Geological Survey laboratories in Roswell and Albuquerque, N. Mex., by M. Cummings, T. Downer, J. D. Hem, C. S. Howard, W. L. Minton, H. B. Waha, and W. F. White, Jr. Records of discharge were furnished by Berkeley Johnson, district engineer, Santa Fe, N. Mex.

Texas.—Quality of water investigations in Texas were made in cooperation with State and local agencies. Work on the Brazos River was done under a cooperative agreement with the Texas State Board of Water Engineers, and work on the Pecos River was done under a cooperative agreement with the Red Bluff Water Power Control District. The investigations were made under the direction of W. W. Hastings. Analyses were made in the Geological Survey laboratory in Austin, Tex., by W. W. Hastings, B. Irelan, J. H. Rowley, P. A.

Witt, and J. Yett. Records of discharge were furnished by C. E. Ellsworth, district engineer, Austin, Tex.

COLORADO RIVER BASIN

Study of the quality of the water of the Colorado River and tributaries has been a continuing Federal project under the direction of C. S. Howard, with the cooperation of the following district engineers of the Geological Survey: J. H. Gardiner, Tucson, Ariz.; Robert Follansbee, Denver, Colo.; Berkeley Johnson, Santa Fe, N. Mex.; and M. T. Wilson, Salt Lake City, Utah. Samples were collected in the Safford Valley of the Gila River after June 1, 1943, as part of an investigation undertaken at the request of and financed by the Defense Plant Corporation. Samples were collected from Lake Mead by the Bureau of Reclamation. The analyses were made in the Geological Survey laboratory in Albuquerque, N. Mex., by T. Downer, J. D. Hem, C. S. Howard, R. T. Kiser, W. L. Minton, R. L. White, W. F. White, Jr., and H. B. Waha, and by chemists in the Rubidoux Laboratory of the Department of Agriculture at Riverside, Calif.

In addition to the tables of analyses of the dissolved mineral matter, records are given of the loads of suspended sediment at a few points in the Colorado River Basin. The samples were collected by Roy Cabell, Jules Conrath, Frank Dodge, A. V. Maxwell, N. D. Nevills, J. W. Ravdin, and N. A. Talvitie.

PUBLICATIONS

Records of chemical analyses of series of samples collected in the years ended September 30, 1941 and 1942, for most of the stations listed in this report are included in Water-Supply Papers 942 and 950, respectively. References to published chemical analyses of series of samples made by the Geological Survey in the Colorado River, Pecos River, and Rio Grande Basins are given in summarized form on pages 167-168, 174-176. References to suspended sediment data are included in the section on the Colorado River Basin. Analyses that were representative of a large number of rivers throughout the United States in 1905 to 1912 are given in Professional Paper 135.

CHEMICAL ANALYSES, SUSPENDED SEDIMENT, AND WATER TEMPERATURE

SOUTH ATLANTIC SLOPE AND EASTERN GULF OF MEXICO BASINS

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

[Single samples collected at monthly intervals at gaging stations.]

Chemical analyses, in parts per million

Cypress Creek Canal at Pompano

Date of collection	Color	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 $CaCO_3$
Oct. 8, 1942	45	48.8	90	2.6	10	260	14	21	0.3	266	235
Nov. 11	45	45.2	86	2.2	7.8	244	12	20	.3	248	224
Dec. 10	150	47.4	70	7.0	21	187	38	38	2.6	269	204
Jan. 7, 1943	60	48.3	87	4.4	9.2	258	12	22	.1	262	235
Feb. 4	60	64.5	90	8.7	33	282	18	59	.4	348	260
Mar. 4	45	45.3	86	3.3	5 3	252	10	16	.2	245	228
Apr. 2	40	44.4	86	3.9	3 6	246	12	17	.4	244	231
May 6	40	44.6	86	4.1	3.8	252	8.6	17	.2	244	232
June 2	60	57.5	98	5.9	16	286	16	38	.0	315	269

Hillsboro Canal near Deerfield Beach

Oct. 7, 1942	160	114	89	27	114	365	42	167	2.4	620	333
Nov. 11	100	94.7	80	21	88	307	30	138	1.2	509	286
Dec. 10	90	94.4	85	21	86	329	31	129	1.6	516	298
Jan. 7, 1943	100	94.7	80	21	90	325	22	136	.2	509	286
Feb. 4	90	116	98	23	113	374	34	172	.5	625	339
Mar. 4	65	103	98	17	95	336	37	147	.2	560	314
Apr. 1	65	123	103	22	125	360	43	198	.3	669	348
May 6	80	120	104	22	121	377	36	188	.4	657	350
June 2	120	147	106	27	182	384	52	285	.0	841	376
July 7	90	144	106	26	166	395	47	255	.9	796	372
Aug. 5	186	115	102	29	104	442	21	152	.0	626	374
Sept. 2	170	105	99	26	86	394	34	134	.2	573	354

North New River Canal near Fort Lauderdale

Oct. 8, 1942	180	94.4	106	33	48	368	81	83	1.8	534	400
Nov. 11	100	72 2	74	21	47	280	37	74	.4	391	271
Dec. 10	50	50 8	54	16	29	190	36	50	.4	279	201
Jan. 7, 1943	75	68 5	72	20	43	269	33	70	.4	371	262
Feb. 4	50	59.3	64	17	34	227	38	56	.2	321	230
Mar. 5	50	65.9	67	19	95	250	36	148	.5	489	245
Mar. 31	40	52.5	58	17	26	204	38	46	.4	286	214
May 5	40	51.9	60	16	23	203	34	45	.2	278	216
June 3	85	81.3	83	27	49	318	42	86	.2	444	318
July 8	120	104	106	36	67	384	78	116	.3	592	412
Aug. 5	150	95.2	94	31	64	362	50	109	.0	526	362
Sept. 2	160	75.1	82	24	20	300	38	78	.4	391	303

Tamiami Canal at Krome Ave., near Miami

Oct. 16, 1942	40	28.4	48	3.7	5.1	150	2.7	14	0.4	148	135
Nov. 3	50	33.3	57	4.4	5.3	175	2.7	17	1.1	174	160
Dec. 9	50	53.7	97	7.0	11	312	4.9	23	2.8	299	271
Jan. 5, 1943	50	56.0	101	7.4	12	327	4.7	23	4.2	313	282
Feb. 5	35	57.3	104	8.3	6.9	332	5.8	20	2.9	312	294
Mar. 8	35	58.5	108	7.4	6.2	340	4.3	20	3.2	317	300
Apr. 2	36	58.5	110	8.3	4.1	342	3.9	21	4.6	320	308
May 7	38	55.7	103	8.3	3.9	324	3.5	20	2.9	301	291
June 5	40	61.6	107	9.2	12	338	7.2	32	2.2	336	305

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

Chemical analyses, in parts per million—Continued

Tamiami Canal near Coral Gables

Date of collection	Color	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 $CaCO_3$
Oct. 16, 1942	70	41.6	74	4.6	4.8	232	3.5	14	1.2	216	204
Nov. 3	65	43.0	79	3.1	7.4	243	5.6	14	1.4	230	210
Dec. 11	70	44.7	82	5.7	7.1	258	4.9	18	3.2	148	229
Jan. 5, 1943	80	45.0	84	6.1	6.2	263	7.6	16	2.7	252	234
Feb. 5	60	46.4	87	6 6	1.2	268	4.5	15	1.8	248	244
Mar. 8	55	44.9	84	6 6	2.1	258	7.4	15	1.2	243	236
Apr. 2	60	42.1	80	5.4	1.1	238	5.3	16	1.3	226	222
May 7	70	45.0	84	5 7	3.8	257	7.2	16	.8	244	233
June 8	38	46 6	88	7.0	.9	267	9.5	15	.4	252	248
July 6	45	45.8	88	7.0	1.4	260	12	18	.7	255	248
Aug. 2	33	46.7	87	7.0	3.2	264	13	16	.6	257	246
Sept. 4	32	46.5	90	7.2	----	260	16	15	.4	----	254

West Palm Beach Canal at West Palm Beach

Oct. 8, 1942	80	79.9	55	18	84	212	47	121	1 2	431	212
Nov. 11	150	101	67	25	103	252	67	153	1.6	541	270
Dec. 10	65	91 3	56	19	105	214	50	154	2.2	492	218
Jan. 7, 1943	75	85.2	56	17	99	211	50	141	1.5	468	210
Feb. 4	60	75.5	54	16	77	194	45	115	.6	403	201
Mar. 4	65	78.4	59	16	79	210	46	116	.7	420	213
Apr. 1	42	60.6	56	14	47	188	36	77	.6	323	198
May 5	50	68.4	59	16	58	200	40	94	.8	366	213
June 2	55	74.5	58	16	72	206	41	110	.2	399	210
July 7	160	110	88	28	108	320	70	158	13	623	334
Aug. 5	180	70.7	63	17	56	218	39	92	1.4	376	227
Sept. 2	190	51.8	46	12	41	160	25	68	.4	271	164

Chemical analyses, in equivalents per million

Cypress Creek Canal at Pompano

Oct. 8, 1942	----	----	4.49	0.21	0.44	4 26	0.29	0 59	0.00	----	----
Nov. 11	----	----	4.29	.18	.34	4.00	.25	.56	.00	----	----
Dec. 10	----	----	3.49	.58	.90	3.07	.79	1.07	.04	----	----
Jan. 7, 1943	----	----	4.34	.36	.40	4.23	.25	.62	.00	----	----
Feb. 4	----	----	4.49	.72	1.45	4.62	.37	1.66	.01	----	----
Mar. 4	----	----	4.29	.27	.23	4.13	.21	.45	.00	----	----
Apr. 2	----	----	4.29	.32	.16	4.03	.25	.48	.01	----	----
May 6	----	----	4.29	.34	.16	4.13	.18	.48	.00	----	----
June 2	----	----	4.89	.49	.71	4.69	.33	1.07	.00	----	----

Hillsboro Canal near Deerfield Beach

Oct. 7, 1942	----	----	4.44	2.22	4.94	5.98	0.87	4.71	0.04	----	----
Nov. 11	----	----	3.99	1.73	3.84	5.03	.62	3.89	.02	----	----
Dec. 10	----	----	4.24	1.73	3.74	5.39	.65	3.64	.03	----	----
Jan. 7, 1943	----	----	3.99	1.73	3.91	5.33	.46	3.84	.00	----	----
Feb. 4	----	----	4.89	1.89	4.92	6.13	.71	4.85	.01	----	----
Mar. 4	----	----	4.89	1.40	4.14	5.51	.77	4.15	.00	----	----
Apr. 1	----	----	5.14	1.81	5.43	5.90	.90	5.58	.00	----	----
May 6	----	----	5.19	1.81	5.24	6.18	.75	5.30	.01	----	----
June 2	----	----	5.29	2.22	7.90	6.29	1.08	8.04	.00	----	----
July 7	----	----	5.29	2.14	7.22	6.47	.98	7.19	.01	----	----
Aug. 5	----	----	5.09	2.38	4.50	7.24	.44	4.29	.00	----	----
Sept. 2	----	----	4.94	2.14	3.87	6.46	.71	3.78	.00	----	----

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

Chemical analyses, in equivalents per million—Continued

North New River Canal near Fort Lauderdale

Date of collection	Color	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 $CaCO_3$
Oct. 8, 1942			5.29	2.71	2.09	6.03	1.69	2.34	0.03		
Nov. 11			3.69	1.73	2.04	4.59	.77	2.09	.01		
Dec. 10			2.70	1.32	1.26	3.11	.75	1.41	.01		
Jan. 7, 1943			3.59	1.64	1.85	4.41	.69	1.97	.01		
Feb. 4			3.19	1.40	1.50	3.72	.79	1.58	.00		
Mar. 5			3.34	1.56	4.13	4.10	.75	4.17	.01		
Mar. 31			2.89	1.40	1.15	3.34	.79	1.30	.01		
May 5			2.99	1.32	1.00	3.33	.71	1.27	.00		
June 3			4.14	2.22	2.15	5.21	.87	2.43	.00		
July 8			5.29	2.96	2.93	6.29	1.62	3.27	.00		
Aug. 5			4.69	2.55	2.80	5.93	1 04	3.07	.00		
Sept. 2			4.09	1.97	.86	4.92	.79	2.20	.01		

Tamiami Canal at Krome Ave., near Miami

Oct. 16, 1942			2.40	0.30	0.22	2.46	0.06	0.39	0.01		
Nov. 3			2.84	.36	.23	2.87	.06	.48	.02		
Dec. 9			4.84	.58	.49	5.11	.10	.65	.05		
Jan. 5, 1943			5.04	.61	.53	5.36	.10	.65	.07		
Feb. 5			5.19	.68	.30	5.44	.12	.56	.05		
Mar. 8			5.39	.61	.27	5.57	.09	.56	.05		
Apr. 2			5.49	.68	.18	5.61	.08	.59	.07		
May 7			5.14	.68	.17	5.31	.07	.56	.05		
June 5			5.34	.76	.53	5.54	.15	.90	.04		

Tamiami Canal near Coral Gables

Oct. 16, 1942			3.69	0.38	0.21	3.80	0.07	0.39	0.02		
Nov. 3			3.94	.25	.32	3.98	.12	.39	.02		
Dec. 11			4.09	.49	.31	4.23	.10	.51	.05		
Jan. 5, 1943			4.19	.50	.27	4.31	.16	.45	.04		
Feb. 5			4.34	.54	.05	4.39	.09	.42	.03		
Mar. 8			4.19	.54	.09	4.23	.15	42	.02		
Apr. 2			3.99	.44	.05	3.90	.11	.45	.02		
May 7			4.19	.47	.16	4.21	.15	.45	.01		
June 8			4.39	.58	.04	4.38	20	.42	.01		
July 6			4.39	.58	.06	4.26	.25	.51	.01		
Aug. 2			4.34	.58	.14	4.33	.27	.45	.01		
Sept. 4			4.49	.59		4.26	.33	.42	.01		

West Palm Beach Canal at West Palm Beach

Oct. 8, 1942			2.75	1.48	3.66	3.48	0.98	3.41	0 02		
Nov. 11			3.34	2.06	4.47	4.13	1.39	4.32	.03		
Dec. 10			2.80	1.56	4.57	3.51	1.04	4.34	.04		
Jan. 7, 1943			2.80	1.40	4.30	3.46	1.04	3.98	.02		
Feb. 4			2.70	1.32	3.35	3.18	.94	3.24	.01		
Mar. 4			2.94	1.32	3.42	3.44	.96	3.27	.01		
Apr. 1			2.80	1.15	2.06	3.08	.75	2.17	.01		
May 5			2.94	1.32	2.51	3.28	.83	2.65	.01		
June 2			2.89	1.32	3.12	3.38	.85	3.10	.00		
July 7			4.39	2.30	4.69	5.25	1.46	4.46	.21		
Aug. 5			3.14	1.40	2.45	3.57	.81	2.59	.02		
Sept. 2			2.30	.99	1.78	2.62	.52	1.92	.01		

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]

Snake Creek Canal at U. S. Highway 1

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.)
1942			*1943*			*1943*		
Oct. 7	3,720	13,750	Jan. 24	4,200	15,350	May 15	4,900	18,300
Nov 9	4,300	16,000	Feb 8	4,440	16,120	June 1	4,380	15,800
Nov 24	3,450	12,600	Mar. 15	4,550	16,450	June 19	5,140	19,200
Dec. 10	4,250	16,000	Apr. 2	3,330	11,900	July 4	----------	14,200
Dec. 23	2,650	9,200	Apr. 17	5,130	19,200			
			May 5	4,070	14,800			
1943								
Jan. 6	3,960	14,550						

Snake Creek Canal at Miami Drive

1942			*1943*			*1943*		
Oct. 7	61.9	24	Jan. 6	59.3	34	Apr. 2	3,500	12,200
Nov. 9	60 4	35	Jan. 24	61 5	36	May 5	183	360
Nov. 24	59.3	35	Feb. 8	60 7	30	May 15	107	164
Dec. 10	59.1	36	Feb. 26	59.8	30	June 19	2,550	8,680
Dec. 23	59.5	32	Mar. 15	125	210	July 4	----------	165

Snake Creek Canal at Miami Gardens Drive

1942			*1943*			*1943*		
Oct. 7	54.3	23	Feb. 8	57 4	26	May 5	106	155
Nov. 9	55.3	23	Feb. 26	59 3	28	May 15	83 2	98
Nov. 14	56.3	31	Mar. 15	60.6	25	June 1	98 4	109
Dec. 10	55.5	27	Apr. 2	1,100	3,380	June 19	97.7	102
Dec. 23	67.9	27	Apr. 17	812	2,400	July 4	----------	149
1943								
Jan. 6	57.0	28						

Snake Creek Canal at Florida Highway 149

1942			*1943*			*1943*		
Oct. 7	50.0	15	Jan. 24	52.1	18	May 5	49 9	17
Nov. 9	52 0	17	Feb. 8	51 9	16	May 15	48.0	15
Nov. 24	50.8	20	Feb. 26	52.7	17	June 1	55.5	17
Dec. 10	43.4	13	Mar. 15	48.3	17	June 19	51.7	20
Dec. 23	50 4	16	Apr. 2	49.9	24	July 4	----------	17
			Apr. 17	56.3	30			
1943								
Jan. 6	51.4	18						

Biscayne Canal at U. S. Highway 1

1942			*1943*			*1943*		
Oct. 7	1,696	5,620	Feb. 8	4,010	14,380	June 1	4,490	16,400
Nov. 9	4,250	15,800	Feb. 26	4,890	18,030	June 19	4,220	15,400
Nov. 24	3,020	10,800	Mar. 15	4,730	17,170	July 4	----------	17,800
Dec. 10	4,530	17,300	Apr. 2	3,520	14,000	July 18	----------	17,600
Dec. 23	3,590	13,100	Apr. 16	4,720	17,500	Aug. 4	4,020	14,600
			May 5	2,236	7,510	Aug. 21	252	635
1943			May 15	4,170	15,400	Sept. 6	78.2	99
Jan. 6	4.920	18,600						
Jan. 24	4,840	17,940						

TIDAL CANALS IN AND NEAR MIAMI, FLA.—Continued

Biscayne Canal at Northeast Sixth Avenue

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.)
1942			*1943*			*1943*		
Oct. 7	3,230	11,600	Feb. 8	4,100	14,770	June 19	3,500	12,400
Nov. 9	4,520	17,200	Feb. 26	4,230	15,250	July 4	----------	5,040
Nov. 24	3,510	12,900	Mar. 15	4,480	16,160	July 18	----------	16,100
Dec. 10	4,070	15,200	Apr. 2	4,080	14,700	Aug. 4	2,143	7,210
Dec. 23	3,690	13,350	Apr. 16	4,790	17,800	Aug. 21	63.5	55
			May 5	2,750	4,900	Sept. 6	69 1	71
1943			May 15	3,580	12,800	Sept. 21	1,383	4,420
Jan. 6	4,110	15,050	June 1	3,850	13,900			
Jan. 24	4,220	15,490						

Biscayne Canal at West Dixie Highway

1942			*1943*			*1943*		
Oct. 7	62.5	32	Feb. 8	249	605	June 19	2,580	8,930
Nov. 9	3,780	13,900	Feb. 26	3,180	11,080	July 4	----------	7,260
Nov. 24	802	2,450	Mar. 15	3,370	11,710	July 18	----------	8,640
Dec. 10	2,790	9,900	Apr. 2	3,150	10,900	Aug. 4	72.2	63
Dec. 23	1,271	4,020	Apr. 16	3,780	13,500	Aug. 21	57.5	41
			May 5	1,278	4,050	Sept. 6	62 9	55
1943			May 15	481	1,340	Sept. 21	58.2	35
Jan. 6	1,913	6,350	June 1	1,294	4,100			
Jan. 24	2,840	9,910						

Biscayne Canal at Northwest Seventh Avenue

1942			*1943*			*1943*		
Oct. 7	47.3	15	Feb. 8	49 2	15	June 19	62.2	32
Nov. 9	51 4	24	Feb. 26	51.7	17	July 4	----------	21
Nov. 24	49.6	18	Mar. 15	1,360	5,140	July 18	----------	23
Dec. 10	52.3	25	Apr. 2	1,620	5,180	Aug. 4	55.2	28
Dec. 23	49.2	17	Apr. 16	855	1,325	Aug. 21	51.5	21
			May 5	63.5	55	Sept. 6	50.6	21
1943			May 15	58.7	35	Sept. 21	49.3	17
Jan. 6	52 8	25	June 1	55.8	15			
Jan. 24	50.9	18						

Biscayne Canal at Northwest Twenty-seventh Avenue

1942			*1943*			*1943*		
Oct. 7	48.1	16	Feb. 8	51.7	15	June 19	62.6	17
Nov. 9	49.2	17	Feb. 26	51.3	15	July 4	----------	15
Nov. 24	49.5	17	Mar. 15	55 8	19	July 18	----------	14
Dec. 10	57.0	20	Apr. 2	53 9	23	Aug. 4	51.2	15
Dec. 23	52.3	16	Apr. 16	51.6	19	Aug. 21	50 9	16
			May 5	54 5	16	Sept. 6	50.7	16
1943			May 15	50 4	16	Sept. 21	50.7	15
Jan. 6	50.7	19	June 1	51.1	15			
Jan. 24	54.8	17						

Biscayne Canal at Le Jeune Road

1942			*1943*			*1943*		
Oct. 7	48.4	16	Feb. 8	51.7	14	June 19	----------	16
Nov. 9	50.2	14	Feb. 26	54.5	14	July 4	----------	15
Nov. 24	50.0	18	Mar. 15	51 9	15	July 18	----------	15
Dec. 10	47.4	15	Apr. 2	48.8	16	Aug. 4	54 9	15
Dec. 23	50.5	16	Apr. 16	51.5	15	Aug. 21	49.4	15
			May 5	51.5	15	Sept. 6	52.9	17
1943			May 15	50.5	15	Sept. 21	50.6	15
Jan. 6	51 2	15	June 1	51.9	15			
Jan. 24	51.7	16						

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.)
1942			*1943*			*1943*		
Oct. 7	46.1	16	Jan. 24	49.8	14	June 1	55 6	14
Nov. 9	47 5	15	Feb. 8	49.4	14	July 4		16
Nov. 24	48.2	15	Feb. 26	48.2	16	July 18		15
Dec. 10	46.0	15	Mar. 15	48.4	13	Aug. 4	53 1	14
Dec. 23	48.2	14	Apr. 2	43.0	15	Aug. 21	65 9	17
			Apr. 16	46 8	14	Sept. 6	59 9	17
1943			May 5	63.4	14	Sept. 21	58 2	15
Jan. 6	49.8	15						

Little River Canal at U. S. Highway 1

1942			*1943*			*1943*		
Oct. 7	4,150	15,350	Feb. 8	4,440	16,020	July 4		17,600
Nov. 9	3,530	12,800	Feb. 26	4,770	17,560	July 18		17,500
Nov. 24	4,210	15,750	Apr. 2	3,920	14,000	Aug. 4	4,500	16,700
Dec. 10	4,360	16,550	Apr. 16	4,230	15,100	Aug. 21	3,670	13,100
Dec. 23	3,950	14,600	May 5	3,020	10,500	Sept 6	4,000	14,400
			May 15	2,730	9,570	Sept. 21	3,530	12,800
1943			June 1	3,610	12,900			
Jan. 6	4,240	15,650	June 19	4,710	17,200			
Jan. 24	4,700	17,270						

Little River Canal at Northeast Second Avenue

1942			*1943*			*1943*		
Oct. 7	3,620	13,250	Feb. 8	3,620	12,730	June 19	4,000	14,300
Nov. 9	3,930	14,500	Feb. 26	3,860	13,800	July 4		8,880
Nov. 24	3,740	13,700	Mar. 15	4,130	14,910	July 18		7,560
Dec. 10	3,770	13,900	Apr. 2	4,250	15,300	Aug. 4	2,770	9,670
Dec. 23	3,860	14,200	Apr. 16	4,550	16,500	Aug. 21	3,390	12,000
			May 5	3,140	11,000	Sept. 6	291	755
1943			May 15	4,260	15,700	Sept. 21	2,446	8,340
Jan. 6	2,690	9,300	June 1	2,880	10,000			
Jan. 24	3,960	14,330						

Little River Canal at Northwest Seventh Avenue

1942			*1943*			*1943*		
Oct. 7	2,374	8,200	Feb. 8	288	730	June 19	2,219	7,410
Nov. 9	2,850	10,100	Feb. 26	3,130	10,890	July 4		6,720
Nov. 24	1,242	3,920	Mar. 15	2,770	9,470	July 18		4,580
Dec. 10	2,470	8,750	Apr. 2	3,180	11,200	Aug. 4	2,250	7,600
Dec. 23	2,012	6,800	Apr. 16	3,060	10,400	Aug. 21	850	2,500
			May 5	1,926	6,420	Sept. 6	56 1	41
1943			May 15		7,510	Sept. 21	1,060	3,300
Jan. 6	1,733	5,650	June 1	112	182			
Jan. 24	3,330	11,810						

Little River Canal at Northwest Ninety-fifth Street

1942			*1943*			*1943*		
Oct. 7	275	720	Feb. 8	53 9	33	June 19	751	2,220
Nov. 9	2,330	8,050	Feb. 26	1,811	5,980	July 4		58
Nov. 24	55.6	29	Mar. 15	2,790	10,590	July 18		45
Dec. 10	1,110	3,520	Apr. 2	2,620	8,930	Aug. 4	62.3	37
Dec. 23	138	285	Apr. 16	2,850	9,710	Aug. 21	52.8	25
			May 5	1,163	3,650	Sept. 6	51.3	27
1943			May 15	1,173	3,700	Sept. 21	52.4	26
Jan. 6	87.3	119	June 1	110	198			
Jan. 24	2,378	8,190						

TIDAL CANALS IN AND NEAR MIAMI, FLA.—Continued

Little River Canal at Northwest Twenty-seventh Avenue

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.)
1942			*1943*			*1943*		
Oct. 7	47.8	13	Feb. 8	47.5	14	June 19	63.7	57
Nov. 9	52.5	26	Feb. 26	48.9	17	July 4	----------	18
Nov. 24	49.0	15	Mar. 15	323	820	July 18	----------	17
Dec. 10	46.7	16	Apr. 2	1,278	4,020	Aug. 4	47.2	15
1943			Apr. 16	330	840	Aug. 21	47.2	14
Jan. 6	48.0	14	May 5	67.2	68	Sept. 6	46 1	15
Jan. 24	87.0	130	May 15	57.2	33	Sept. 21	49 5	14
			June 1	49.2	20			

Little River Canal at Le Jeune Road

1942			*1943*			*1943*		
Oct. 7	47.8	15	Feb. 8	50.1	15	June 19	48.8	16
Nov. 9	52.0	16	Feb. 26	50 0	15	July 4	----------	15
Nov. 24	50.9	18	Mar. 15	50.2	18	July 18	----------	15
Dec. 10	49.1	17	Apr. 2	374	1,010	Aug. 4	51.3	23
Dec. 23	49 5	17	Apr. 16	88.2	125	Aug. 21	49.1	15
1943			May 5	53 0	23	Sept. 6	48.3	15
Jan. 6	50.3	17	May 15	49.2	17	Sept. 21	49 2	14
Jan. 24	51.3	19	June 1	49.5	15			

Little River Canal at Red Road

1942			*1943*			*1943*		
Oct. 7	60.0	16	Feb. 8	53.7	15	June 19	52.6	18
Nov. 9	54.9	16	Feb. 26	54.5	18	July 4	----------	15
Nov. 24	54.0	16	Mar. 15	51.9	16	July 18	----------	14
Dec. 10	53.7	17	Apr. 2	52.1	18	Aug. 4	60.7	16
Dec. 23	49.5	18	Apr. 16	53.0	18	Aug. 21	54.5	13
1943			May 5	51.7	16	Sept. 6	53.6	16
Jan. 6	54.8	17	May 15	51.0	13	Sept. 21	53.9	14
Jan. 24	58.5	17	June 1	53.2	24			

Tamiami Canal at Northwest South River Drive

1942			*1943*			*1943*		
Oct. 7	40.2	15	Feb. 8	223	525	June 19	2,338	8,000
Nov. 9	94.8	159	Feb. 26	732	5,380	July 4	----------	1,970
Nov. 24	46.7	20	Mar. 15	2,291	7,750	July 18	----------	755
Dec. 10	531	1,500	Apr. 2	2,600	8,830	Aug. 4	716	2,150
Dec. 23	619	1,800	Apr. 16	3,270	11,300	Aug. 21	265	660
1943			May 5	826	2,450	Sept. 6	186	425
Jan. 6	86.4	132	May 15	490	1,390	Sept. 21	67.7	74
Jan. 23	887	2,700	June 1	682	1,970			

Tamiami Canal at Le Jeune Road

1942			*1943*			*1943*		
Oct. 7	41.0	17	Feb. 8	72.7	86	June 19	1,567	5,090
Nov. 9	46.4	23	Feb. 26	107	187	July 4	----------	495
Nov. 24	45.4	18	Mar. 15	1,341	4,250	July 18	----------	210
Dec. 10	91.6	147	Apr. 2	1,709	5,530	Aug. 4	130	255
Dec. 23	86.5	138	Apr. 16	2,680	9,080	Aug. 21	119	222
1943			May 5	720	2,125	Sept. 6	64 1	63
Jan. 6	52 0	34	May 15	614	1,790	Sept 21	60.5	53
Jan. 23	282	740	June 1	171	372			

TIDAL CANALS IN AND NEAR MIAMI, FLA.—Continued

Tamiami 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.)
1942			*1943*			*1943*		
Oct. 7	39 8	15	Feb. 8	48 1	16	June 19	47.2	17
Nov. 9	44 7	18	Feb. 26	46 9	16	July 4	----------	19
Nov. 24	45.0	17	Mar. 15	46.0	16	July 18	----------	17
Dec. 10	45.6	16	Apr. 2	47.1	17	Aug. 4	47.5	17
Dec. 23	45 9	17	Apr. 16	54.4	33	Aug. 21	49.0	18
			May 5	52 1	29	Sept. 6	48.1	19
1943			May 15	48.7	15	Sept. 21	46.8	16
Jan. 6	47.1	18	June 1	48.7	16			
Jan. 23	47.2	18						

Coral Gables Canal at Ingraham Highway

1942			*1943*			*1943*		
Oct. 7	4,200	15,300	Feb. 8	4,430	16,120	June 19	5,010	18,500
Nov. 9	4,500	16,800	Feb. 26	4,510	16,500	July 4	----------	19,500
Nov. 24	4,210	15,350	Mar. 15	4,940	18,270	July 18	----------	16,900
Dec. 10	4,250	15,750	Apr 2	5,440	17,200			
Dec. 23	3,490	12,850	Apr. 16	5,220	19,700			
			May 5	4,940	18,400			
1943			May 15	5,160	19,400			
Jan. 6	4,660	17,450	June 1	5,280	19,800			
Jan. 23	4,860	18,180						

Coral Gables Canal at Hardee Road

1942			*1943*			*1943*		
Oct. 7	3,940	14,350	Feb. 8	4,420	15,920	June 1	4,610	16,900
Nov. 9	4,220	15,750	Feb. 26	4,770	17,460	June 19	4,610	16,800
Nov. 24	3,770	13,550	Mar. 15	4,560	16,690	July 4	----------	6,860
Dec. 10	4,060	15,000	Apr. 2	4,200	15,200	July 18	----------	15,300
Dec. 23	3,640	13,400	Apr. 16	5,140	19,000	Aug. 4	4,340	16,000
			May 5	4,240	15,600	Aug. 21	4,610	16,900
1943			May 15	5,140	19,200	Sept. 6	3,940	14,200
Jan. 23	4,700	17,410				Sept. 21	2,610	9,080

Coral Gables Canal at U. S. Highway 1

1942			*1943*			*1943*		
Oct. 7	1,862	6,100	Feb. 8	707	2,075	June 19	2,950	10,200
Nov. 9	2,670	9,400	Feb. 26	1,012	3,120	July 4	----------	2,425
Nov. 24	136	255	Mar. 15	1,706	5,580	July 18	----------	935
Dec. 10	1,687	5,600	Apr. 2	2,329	7,900	Aug. 4	1,345	4,280
Dec. 23	1,355	4,380	Apr. 16	3,140	10,800	Aug. 21	2,860	9,810
			May 5	2,340	7,900	Sept. 6	767	2,270
1943			May 15	854	2,600	Sept. 21	461	1,280
Jan. 6	1,415	4,420	June 1	1,659	5,380			
Jan. 23	3,310	11,860						

Coral Gables Canal at Granada Boulevard

1942			*1943*			*1943*		
Oct. 7	50.3	17	Feb. 8	70.3	83	June 1	903	2,750
Nov. 9	703	2,100	Feb. 26	106	199	June 19	2,235	7,560
Dec. 10	92.4	138	Mar. 15	887	2,650	July 4	----------	700
Dec. 23	73.2	111	Apr. 2	1,553	5,040	July 18	----------	370
			Apr. 16	1,392	4,350	Aug. 4	678	2,000
1943			May 5	1,560	5,040	Aug. 21	1,509	4,900
Jan. 6	255	680	May 15	340	915	Sept. 6	186	428
Jan. 23	997	3,100				Sept. 21	67.4	55

TIDAL CANALS IN AND NEAR MIAMI, FLA.—Continued

Coral Gables Canal at Bird 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.)
1942			*1943*			*1943*		
Oct. 7	45.0	14	Feb. 8	47.5	16	June 19	1,226	3,880
Nov. 9	48.0	16	Feb. 26	46.5	15	July 4	----------	145
Nov. 24	55.8	17	Mar. 15	48.4	23	July 18	----------	17
Dec. 10	48.2	15	Apr. 2	883	2,700	Aug. 4	62 2	58
Dec. 23	48.2	15	Apr. 16	1,054	3,250	Aug. 21	577	1,630
			May 5	891	2,720	Sept. 6	52 0	22
1943			May 15	61.4	56	Sept. 21	49.8	37
Jan. 6	48.3	17	June 1	74.9	93			
Jan. 23	49.2	17						

Coral Gables Canal at Red Road

1942			*1943*			*1943*		
Oct. 7	46.1	16	Feb. 8	47.0	14	June 19	46.6	21
Nov. 9	45.2	15	Feb. 26	46 4	14	July 4	----------	14
Nov. 24	55.5	15	Mar. 15	45.1	14	July 18	----------	14
Dec. 10	48.2	13	Apr. 2	38 4	15	Aug. 4	49.1	13
Dec. 23	47.8	15	Apr. 16	38.0	15	Aug. 21	53.0	18
			May 5	39.1	16	Sept. 6	47.0	13
1943			May 15	40 4	15	Sept. 21	52.5	14
Jan. 6	48.3	15	June 1	47.0	14			
Jan. 23	47.3	14						

Snapper Creek Canal at Ingraham Highway

1942			*1943*			*1943*		
Oct. 7	2,990	10,550	Feb. 8	395	1,050	June 1	5,370	19,700
Nov. 9	4,300	15,950	Feb. 26	521	1,460	June 19	4,720	17,500
Nov. 24	330	880	Mar. 15	4,540	15,680	July 4	----------	9,270
Dec. 10	514	1,450	Apr. 2	4,140	15,000			
Dec. 23	505	1,430	Apr. 16	5,340	20,000			
			May 5	4,930	18,700			
1943			May 15	1,451	4,680			
Jan. 6	4,150	15,100						
Jan. 23	4,510	16,550						

Snapper Creek Canal at North Kendal Drive and Red Road

1942			*1943*			*1943*		
Oct. 7	52 3	14	Jan. 22	49.2	14	May 5	44.6	17
Nov. 9	56.9	15	Feb. 8	47.5	14	May 15	49.5	14
Nov. 24	48.8	15	Feb. 26	47.6	14	June 1	64.5	16
Dec. 10	46.7	15	Mar. 15	59 6	17	June 19	46.8	16
Dec. 23	47.5	15	Apr. 2	46 4	16	July 4	----------	15
			Apr. 16	47 8	17			
1943								
Jan. 6	49.1	13						

Snapper Creek Canal at U. S. Highway 1

1942			*1943*			*1943*		
Oct. 7	44.8	14	Jan. 23	47.5	14	May 5	39.1	12
Nov. 9	48.2	15	Feb. 8	46 0	12	May 15	50.4	14
Nov. 24	49.0	14	Feb. 26	47.1	12	June 1	48.1	13
Dec. 10	46.5	13	Mar. 15	50.7	15	June 19	51.2	16
Dec. 23	47.2	14	Apr. 2	43.3	13	July 4	----------	15
			Apr. 16	44 6	13			
1943								
Jan. 6	47.0	14						

Snapper Creek Canal at Palmetto Drive

1942			*1943*			*1943*		
Oct. 7	44.8	13	Jan. 23	46.7	12	May 5	41.3	13
Nov. 9	48.0	16	Feb. 8	46.6	13	May 15	55.0	14
Nov. 24	47.4	13	Feb. 26	47.1	11	June 1	47.7	14
Dec. 10	46.8	14	Mar 15	53.7	13	June 16	44.2	14
Dec. 23	46.8	14	Apr. 2	43.5	12	July 4	----------	14
			Apr. 16	45.9	15			
1943								
Jan. 6	46.6	12						

CONASAUGA RIVER AT TILTON, GA.

LOCATION.—At gaging station 250 feet downstream from county bridge, a quarter of a mile downstream from Swamp Creek, half a mile northeast of Tilton, and 12 miles upstream from confluence with Coosawattee River.

DRAINAGE AREA.—682 square miles.

RECORDS AVAILABLE.—Chemical analyses: October 1942 to September 1943.
Water temperatures: October 1942 to September 1943.

EXTREMES.—Dissolved solids: Maximum, 91 parts per million Sept. 1–20; minimum, 45 parts per million Mar. 21–31.
Total hardness: Maximum, 82 parts per million Sept. 11–20; minimum, 34 parts per million Dec. 1–10, Mar. 21–31.
Water temperatures: Maximum, 89°F. Aug. 31; minimum, 36°F. Feb. 17.

REMARKS.—Records of discharge for water year October 1942 to September 1943 are given in Water-Supply Paper 972.

Chemical analyses, in parts per million, water year October 1942 to September 1943

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, 1942	95.6	20	1.4	1.0	10	6.1	0.06	14	4.2	2.5	1.0	62	3.7	2.8	0.1	0.5	67	52
Oct. 11–20	116	9	2.4	2.4	12	8.9	.03	17	5.5	3.9	1.2	78	4.0	4.1	.1	.0	84	65
Oct. 21–31	213	16	2.9	2.6	8	8.1	.04	17	5.1	3.3	1.2	75	4.2	3.6	.1	.2	80	63
Nov. 1–10	175	9	2.7	1.9	9	8.4	.07	16	5.1	3.4	1 0	74	4.0	3.5	.1	.2	77	61
Nov. 11–20	137	8	2.8	1.8	10	7.9	.07	18	5.4	3.3	1.0	79	3.7	3.5	.1	.1	81	67
Nov. 21–30	366	12	3.0	1.9	11	6.1	.05	19	5.5	3.9	1.1	84	4.2	4.8	.0	.4	86	70
Dec. 1–10	468	117	6.0	3.8	21	5.9	.01	9.4	2.6	2.2	1.2	37	5.1	2 1	.0	.4	51	34
Dec. 11–20	341	16	2.8	2.0	10	6.8	.05	15	4.0	2.4	.9	61	4.2	2 2	.1	.5	67	54
Dec. 21–31	995	82	5.0	3.0	15	4.9	.03	13	3.2	2.0	1.0	52	4.2	1.9	.0	.3	59	46
Jan. 1–10, 1943	1,329	22	2.1	1.4	6	6.9	.03	12	3.1	1.9	1.0	48	4.7	1.8	.1	.9	56	43
Jan. 11–20	386	174	4.5	1.4	5	6.8	.01	14	3.6	2.1	1.0	56	4.3	1.9	.1	.9	62	50
Jan. 21–31	954	66	3.1	1.8	6	6.7	.03	11	2.8	1.9	.9	42	4.4	2.0	.1	.7	52	39
Feb. 1–10	1,755	54	3.1	1.6	7	8.3	.02	11	2.8	2.2	.9	45	4.2	1.6	.0	.5	54	39
Feb. 11–19	3,044	26	1.7	1.2	6	7.0	.05	14	3.5	1.7	.8	56	4.2	1.9	.0	6	61	49
Feb. 20–28	1,913	11	1.2	.8	8	6.9	.07	16	4.3	2.0	.9	68	3.7	2.1	.0	.6	71	58
Mar. 1–10	2,026	5	2.1	2.1	5	8.6	.03	18	4.8	2 7	.8	75	4.8	2 2	.0	.5	78	65
Mar. 11–20	2,344	115	4.8	3.3	11	5.8	.01	10	2.6	2.1	.9	40	4.6	1.8	.0	.8	51	36
Mar. 21–31	2,913	52	3.6	2.3	8	5.8	.03	9.7	2.5	1.8	.8	38	4.0	1.5	.0	.6	45	34
Apr. 1–10	768	15	1.9	1.5	7	6.7	.04	15	4.1	2.2	.8	62	4.2	2.2	.0	.6	67	54
Apr. 11–20	550	45	3.1	2.3	11	6.6	.06	15	3.9	2.4	1.0	61	3.6	2.1	.1	.6	67	54
Apr. 21–30	357	30	3.0	2.3	15	7.3	.14	12	3.1	2.0	.8	49	4.0	1.6	.1	.6	59	43
May 1–10	611	18	2.4	2.4	7	6.7	.04	16	4.4	2.6	.8	70	3.3	2.0	.0	.4	72	58
May 11–20	308	66	3.3	2.4	7	6.7	.02	16	4.2	2.2	.9	67	3.5	2.1	.1	.8	69	57
May 21–31	619	77	3.5	3.3	11	8.5	.02	16	4.5	2.7	.9	68	3.4	2.5	.0	.5	73	58

June 1–10	559	34	2.6	1.8	8	8.6	.03	18	5.5	3.1	.9	78	4.6	2.8	.1	.6	84	68
June 11–20	920	74	2.7	3.9	6	8.9	.01	16	5.0	3.0	1.0	71	5.2	2.5	.0	.4	77	60
June 21–30	329	92	2.6	2.4	7	8.3	.02	17	5.6	3.5	1.0	77	4.7	3.4	.0	.8	81	58
July 1–10	688	140	3.4	2.4	7	6.6	.02	17	3.9	2.6	1.2	50	4.9	3.8	.0	.8	66	58
July 11–20	517	141	3.6	2.4	6	7.2	.02	14	4.3	2.8	1.2	60	4.6	2.6	.0	1.0	66	53
July 21–31	254	290	6.7	2.4	8	6.1	.01	11	3.5	2.6	1.4	45	4.7	3.0	.1	1.2	57	42
Aug. 1–10	817	142	4.0	2.5	6	7.2	.05	14	4.2	2.9	1.4	57	5.1	2.2	.1	.9	64	52
Aug. 11–20	951	84	3.5	2.6	7	7.8	.05	15	4.7	2.8	1.3	63	4.4	2.8	.1	.8	70	57
Aug. 21–31	2,324	16	2.0	1.6	7	7.5	.03	20	6.6	3.4	1.2	89	4.5	3.2	.0	.4	88	77
Sept. 1–10	502	10	2.2	2.4	6	6.8	.03	20	6.9	3.5	1.4	94	4.3	3.6	.0	.4	91	78
Sept. 11–20	352	21	2.4	2.0	8	5.8	.05	21	7.3	3.7	1.2	96	3.8	3.8	.0	.2	91	82
Sept. 21–30	438	51	4.9	2.8	12	6.8	.04	11	4.0	1.9	1.2	50	3.7	1.8	.1	.5	55	44
Average	1,231	60	3.1	2.2	9	7.1	0.04	15	4.3	2.6	1.0	63	4.2	2.6	0.0	0.6	69	55

Chemical analyses, in equivalents per million, water year October 1942 to September 1943

Oct. 1–10, 1942	95.6							0.699	0.345	0.109	0.026	1.016	0.077	0.079	0.005	0.008		
Oct. 11–20	116							.848	.452	.170	.031	1.278	.083	.116	.005	.000		
Oct. 21–31	213							.848	.419	.144	.031	1.229	.087	.102	.005	.003		
Nov. 1–10	175							.799	.419	.148	.026	1.213	.083	.099	.005	.003		
Nov. 11–20	137							.898	.444	.144	.026	1.295	.077	.099	.005	.002		
Nov. 21–30	366							.948	.452	.170	.028	1.377	.087	.135	.000	.006		
Dec. 1–10	468							.469	.214	.096	.031	.606	.106	.059	.000	.006		
Dec. 11–20	341							.749	.329	.104	.023	1.000	.087	.062	.005	.008		
Dec. 21–31	995							.649	.263	.087	.026	.852	.087	.054	.000	.005		
Jan. 1–10, 1943	1,329							.599	.255	.083	.026	.787	.098	.051	.005	.015		
Jan. 11–20	386							.699	.296	.091	.026	.918	.090	.054	.005	.015		
Jan 21–31	954							.549	.230	.083	.023	.688	.092	.056	.005	.011		
Feb. 1–10	1,755							.549	.230	.096	.023	.738	.087	.045	.000	.008		
Feb. 11–19	3,044							.699	.288	.074	.020	.918	.087	.054	.000	.010		
Feb. 20–28	1,913							.799	.354	.087	.023	1.115	.077	.059	.000	.010		
Mar. 1–10	2,026							.898	.395	.117	.020	1.229	.100	.062	.000	.008		
Mar. 11–20	2,344							.499	.214	.091	.023	.656	.096	.051	.000	.013		
Mar. 21–31	2,913							.484	.206	.078	.020	.623	.083	.042	.000	.010		
Apr. 1–10	768							.749	.337	.096	.020	1.016	.087	.062	.000	.010		
Apr. 11–20	550							.749	.321	.104	.026	1.000	.075	.059	.005	.010		
Apr. 21–30	357							.599	.255	.087	.020	.803	.083	.045	.005	.010		
May 1–10	611							.799	.362	.113	.030	1.147	.059	.056	.000	.006		
May 11–20	308							.799	.345	.096	.023	1.098	.073	.059	.005	.013		
May 21–31	619							.799	.370	.117	.023	1.115	.071	.071	.000	.008		

CONASAUGA RIVER AT TILTON, GA.—Continued

Chemical analyses, in equivalents per million, water year October 1942 to September 1943—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	559							0.898	0.452	0.135	0.023	1.278	0.096	0.079	0.005	0.010		
June 11–20	920							.799	.411	.130	.026	1.164	.108	.071	.000	.006		
June 21–30	329							.848	461	.152	.026	1.262	.098	.096	.000	.013		
July 1–10	688							.848	.321	.113	.031	.820	.102	.107	.000	.013		
July 11–20	517							.699	.354	.122	.031	.984	.096	.073	.000	.016		
July 21–31	254							.549	.288	.113	.036	.738	.098	.085	.005	.019		
Aug. 1–10	817							.699	.345	.126	.036	.934	.106	.062	.005	.015		
Aug. 11–20	951							.749	.387	.122	.033	1.033	.092	.079	.005	.013		
Aug. 21–31	2,324							.998	.543	.148	.031	1.459	.094	.090	.000	.006		
Sept. 1–10	502							.998	.567	.152	.036	1.541	.090	.102	.000	.006		
Sept. 11–20	352							1.048	.600	.161	.031	1.574	.079	.107	.000	.003		
Sept. 21–30	438							.549	.329	.083	.031	.820	.077	.051	.005	.008		
Average	1,231							0.746	0.357	0.115	0.027	1.037	0.088	0.073	0.002	0.009		

CONASAUGA RIVER AT TILTON, GA.—Continued

Temperature (°F.) of water of Conasauga River, water year October 1942 to September 1943

Day	October	November	December	January	February	March	April	May	June	July	August	September
1	58	51	45	48	48	47	57	65	73	81	76	79
2	58	53	46	46	46	47	58	64	75	73	76	80
3	61	53	44	47	46	42	56	64	76	72	75	80
4	64	51	40	48	48	39	53	68	77	75	76	79
5	66	51	40	45	50	42	55	63	77	69	79	78
6	64	51	43	41	53	45	54	61	80	70	76	77
7	62	53	44	41	51	42	56	63	80	72	75	78
8	61	56	44	41	48	41	57	69	79	71	81	77
9	60	56	45	41	49	41	60	70	78	75	79	80
10	61	60	45	42	51	44	60	70	76	74	83	75
11	63	54	45	41	51	47	61	71	77	72	81	72
12	64	50	42	40	48	50	62	69	78	72	81	70
13	63	48	42	40	46	50	61	67	79	73	78	69
14	61	48	40	39	41	55	57	68	79	74	80	70
15	62	47	43	41	38	59	52	72	80	75	81	70
16	63	48	42	44	37	55	51	70	80	76	82	71
17	62	49	39	49	36	54	55	71	81	81	82	70
18	62	52	39	55	38	51	59	73	80	81	76	70
19	61	54	39	52	41	53	56	77	78	72	76	76
20	62	54	39	47	43	56	56	75	80	83	79	62
21	61	51	38	----	46	52	54	76	80	79	75	62
22	62	57	39	42	49	47	55	75	79	78	76	62
23	61	58	39	46	51	48	55	71	80	82	73	65
24	59	55	41	50	53	48	56	67	79	82	78	65
25	61	51	43	50	48	49	56	67	79	82	78	63
26	60	52	46	52	51	51	58	66	79	74	80	62
27	56	47	50	49	45	54	63	67	81	73	80	62
28	52	44	54	45	45	52	64	69	82	75	81	61
29	54	44	56	46	----	54	65	70	82	75	81	62
30	53	43	55	45	----	50	66	71	79	79	80	62
31	58	----	52	46	----	54	----	71	----	80	89	----
Average	60	51	44	45	46	49	58	69	79	76	79	70

MISCELLANEOUS STREAMS IN GEORGIA

Chemical analyses, in parts per million

Source	Date of collection	Discharge (second-feet)	Color	Silica (SiO_2)	Iron (Fe)	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 $CaCO_3$
Aloovy River near Monroe	Oct. 31, 1942	71.2	5	12	0.02	3.0	1.5	3.4	20	1.4	1 9	0.5	37	14
Apalachee River near Campton	do	41.1	17	13	.16	2.9	1.4	2.9	18	1.5	1.9	.4	37	13
Auchumpkee Creek near Roberta	do	11.6	5	16	.02	5.0	2.5	4.9	33	1 9	3.1	.1	50	23
Beach Creek near Buchanan	Oct. 12	11.6	7	9.7	.06	2.0	1.0	3.0	14	1.9	1.5	.0	26	9.1
Beach Creek at Louise	Oct. 28	29.5	3	16	.01	3.6	1.5	5.1	25	2.1	2.4	.1	46	15
Big Clouds Creek near Point Peter	Oct. 29	31.3	1	14	.04	3.4	1.3	4.5	22	2.2	2.2	.2	40	14
Big Indian Creek near Madison	Oct. 28	11.6	17	17	.18	3.9	1.7	4.8	26	2.5	2 2	.1	47	17
Big Creek near Louisville	Oct. 10	36.3	8	12	.02	4.6	1.0	1.5	16	1.6	2.4	.9	34	16
Brushy Creek near Wrens	do	2.26	12	12	.15	2.4	1.0	2.0	8.0	1.6	3.4	1.9	32	10
Brier Creek near Keysville	Oct. 13	17.8	25	6.4	.25	1.0	.5	2.4	6.0	1.2	2.4	.2	21	4.6
Cedar Creek at Youngs	Oct. 9	2.62	0	9.1	.02	27	10	1.7	129	3.5	1.4	1.1	112	108
Coldwater Creek near Ruckersville	Oct. 30	42.4	2	12	.02	2.4	1.0	2.5	14	1.6	1.5	.3	30	10
Commissioners Creek near McIntyre	Oct. 8	31.4	18	12	.31	3 2	1.4	3.9	18	3.0	3.0	.1	37	14
Commissioners Creek near Gray	Nov. 3	6.47	8	26	.11	6.1	2.8	7.5	43	1.5	4.4	.1	70	27
Cotton Indian Creek near Stockbridge	Oct. 28	40.6	0	17	.09	3.0	1.7	4.0	22	3.9	2.2	.4	47	17
Dowdell Creek near Waverly Hall	Nov. 13	13.2	5	16	.06	2.3	1.2	4.3	19	1.4	2.1	.1	38	11
Echeconnee Creek near Culloden	Oct. 30	6.95	0	15	.07	2 4	1.4	.8	16	2.1	2.2	.1	35	17
Elkins Creek near Zebulon	Oct. 20	3.86	8	12	.08	2.8	1.4	3.3	18	2.1	2.0	.2	34	13
Falling Creek near Fortsonia	Oct. 30	25.3	8	21	.03	5.2	3.0	6.9	37	3.4	4.5	.3	63	25
Falling Creek near Gray	Nov. 3	6.50	8	20	.09	9.3	4.7	7.6	63	1.9	3.8	.0	78	43
Fishing Creek near Metasville	Oct. 15	9.43	16	31	.16	7.4	3 3	8.1	50	3.1	3.8	.1	83	32
Flat Shoal Creek near Chipley	Oct. 30	42.8	5	12	.15	2.6	1.4	3.8	19	1.5	2.4	.1	36	12
Flat Creek near Hogansville	Oct. 28	25.0	3	15	.01	3.4	1.7	4.3	24	1 9	2.1	.2	44	16
Glovers Creek near Franklin	Nov. 13	34.6	4	11	.16	2.8	1.5	2.6	18	1.7	1.5	.1	31	13
Greenbrier Creek near Wrayswood	Oct. 7	4.24	2	21	.01	4.7	1.9	6.3	32	3.3	2.5	.1	58	20
Greenbrier Creek near Appling	Oct. 14	4.37	7	32	.04	5.4	2.5	8.3	38	4 2	4.4	.1	79	24
Harden Creek at Ficklin	Oct. 15	3.72	8	31	.02	8.0	3.7	9.9	56	2.8	5.6	.0	86	35
Hickory Level Creek near Maysville	Oct. 22	6 75	14	21	.18	4.8	2.0	4.3	30	2.7	1.5	.1	53	20
Hog Creek near Gray	Nov. 4	5 81	3	23	.06	6.8	3.1	7.0	47	1 8	3.2	.0	67	30
Jacks Creek near Monroe	Oct. 31	6.64	6	14	.07	2.5	1.4	2.7	17	1.3	1.6	.4	36	12
Keg Creek near Sandersville	Oct. 9	12.2	16	13	.26	5.6	1.1	1.5	18	2.2	3.1	.4	39	18
Kendle Creek near Upatoi	Nov. 1	.78	4	20	.02	4.4	2.4	7.3	34	3.0	4.1	.0	57	21
Kettle Creek near Washington	Oct. 20	3.55	8	31	.02	7.6	3.1	8.3	52	3.4	2.5	.0	82	32
Little Shoulderbone Creek near Sparta	Oct. 8	3.18	5	26	.02	4.9	2.3	7.3	36	2.9	3.6	.0	69	22
Lazar Creek near Woodland	Nov. 1	34.8	6	19	.08	4.0	1.8	5.0	28	1.5	2.6	.1	50	17

Leatherwood Creek near Ayersville	Oct. 22, 1942	2.05	13	23	0.07	5.2	2.4	5.3	36	2.3	1.8	0.0	58	23
Little River near Buchanan	Oct. 12	12.1	29	13	.35	3.7	1.8	2.8	22	2.6	1.4	.1	38	17
Little Tobesofkee Creek near Culloden	Oct. 30	5.87	1	13	.01	2.3	1.0	2.2	12	1.4	2.2	.2	31	9.8
Little Sandy Creek at Indian Springs	Oct. 29	3.89	3	16	.02	2.2	1.0	4.6	16	2.0	3.0	.2	39	9.6
Little Haynes Creek near Walnut Grove	Oct. 28	18.7	1	14	.03	2.6	1.0	3.7	16	1.9	2.1	.6	36	11
Long Creek near Lexington	Oct. 20	8.47	10	25	.13	3.4	1.4	5.9	26	2.7	2.0	.1	56	14
Long Creek at Jewell	Oct. 13	1.29	5	21	.02	2.7	1.4	7.2	24	2.4	4.1	.1	52	12
Middle Oconee River near Pendergrass	Oct. 23	32.9	11	15	.11	3.4	1.5	4.6	24	2.0	1.9	.1	42	15
Mountain Creek near Hollingsworth	Oct. 22	9.16	6	15	.03	2.6	1.2	4.5	21	1.9	1.4	.0	36	11
Murder Creek near Eatonton	Nov. 2	52.4	24	21	.31	6.0	2.6	4.5	36	2.1	2.5	.1	59	26
Nails Creek near Ashland	Oct. 23	9.97	9	15	.15	3.8	1.5	4.3	25	1.7	1.8	.1	42	16
New River near Cooksville	Oct. 29	81.1	9	13	.08	4.6	1.7	7.5	27	3.1	6.5	.4	53	18
Osahatchee Creek near Cataula	Nov. 2	4.39	10	24	.12	5.1	2.3	6.9	38	1.7	3.0	.1	65	22
Potato Creek near Barnesville	Oct. 20	7.29	10	14	.12	3.8	1.7	14	26	8.0	12	1.1	70	14
Randall Creek near Ellerslie	Nov. 1	2.93	8	26	.01	5.6	2.9	6.1	40	2.1	3.0	.0	67	26
Richland Creek at Greensboro	Oct. 7	2.58	7	24	.02	7.2	3.1	8.3	48	3.7	3.8	.0	78	31
Rooty Creek near Eatonton	Nov. 2	9.70	8	28	.02	7.4	3.6	6.8	49	1.9	4.0	.2	77	33
Sandy Creek at Athens	Oct. 20	16.3	10	16	.15	3.2	1.6	3.7	21	2.6	1.8	.1	41	15
Sandy Creek near Apalachee	Oct. 29	40.8	1	13	.02	3.4	1.5	3.4	20	1.9	2.4	.3	37	15
Shoal Creek near Monticello	Nov. 4	7.69	3	20	.02	5.1	2.2	5.2	33	1.6	3.1	.2	54	22
Shoal Creek near Sharpsburg	Oct. 14	6.22	17	20	.22	3.6	1.7	4.2	25	1.9	1.8	.1	48	16
Snake Creek near Banning	Oct. 13	17 8	1	11	.03	2.3	1.1	2.4	14	1.8	1.5	.1	27	10
Snapfinger Creek near Lithonia	Oct. 28	16.9	10	14	.21	3.4	1.5	2.9	19	2.2	2.0	.4	38	15
Soap Creek near Lincolnton	Oct. 15	2.22	5	27	.02	9.0	4.5	9.3	57	5.7	6.0	.0	87	41
South Fork of Broad River near Danielsville	Oct. 29	21.9	7	12	.25	2.4	1.3	2.9	15	2.3	1.9	.2	33	11
Spirit Creek near Hephzibah	Oct. 13	48.0	12	6.9	.04	2.6	.8	4.1	5.0	2.7	4.5	6.8	39	9.5
Sulphur Creek near Chipley	Oct. 30	5.90	10	11	.21	3.5	1.3	1.7	15	1.9	2.4	.0	34	14
Tobesofkee Creek near Forsyth	do	10.9	13	15	.35	2.7	1.3	4.2	17	2.8	2.8	.5	43	12
Towaliga Creek near Jackson	Oct. 28	62.5	11	12	.05	3.0	1.3	4.6	20	2.8	2.4	.2	40	13
Tussahaw Creek near Jackson	Oct. 29	30.6	2	11	.12	2.6	1.2	3.4	16	2.6	2.0	.3	33	11
Upatoi Creek near Geneva	Nov. 1	1.18	9	27	.03	7.1	3.7	6.6	49	2.3	3.4	.0	75	33
Yellow River near Lawrenceville	Oct. 31	9.59	9	14	.10	3.9	1.8	2.7	22	2.0	1.9	.2	41	17
Walkers Branch near Forsyth	Oct. 29	.97	1	18	.02	3.9	1.9	3.9	25	2.3	2.1	.1	45	18
Whiteoak Creek near Newnan	Oct. 14	5.49	15	19	.20	5.2	2.5	5.3	37	1.6	2.0	.1	54	23
Whitewater Creek near La Grange	Oct. 29	15.3	5	13	.14	3.8	1.7	3.6	24	1.5	2.1	.1	38	16

MISCELLANEOUS STREAMS IN GEORGIA—Continued

Chemical analyses, in equivalents per million

Source	Date of collection	Discharge (second-feet)	Color	Silica (SiO_2)	Iron (Fe)	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 $CaCO_3$
Alcovy River near Monroe	Oct. 31, 1942	71.2				0.150	0.123	0.146	0.328	0 029	0.054	0.008		
Apalachee River near Campton	do	41.1				.145	.115	.126	.295	.031	.054	.006		
Auchumpkee Creek near Roberta	do	11.6				.250	.206	.214	.541	.040	.087	.002		
Beach Creek near Buchanan	Oct. 12	11.6				.100	.082	.130	.230	.040	.042	.000		
Beach Creek at Louise	Oct. 28	29.5				.180	.123	.221	.410	.044	.068	.002		
Big Clouds Creek near Point Peter	Oct. 29	31.3				.170	.107	.195	.361	.046	.062	.003		
Big Indian Creek near Madison	Oct. 28	11.6				.195	.140	.207	.426	.052	.062	.002		
Big Creek near Louisville	Oct. 10	36.3				.230	.082	.066	.262	.033	.068	.015		
Brushy Creek near Wrens	do	2 26				.120	.082	.089	.131	.033	.096	.031		
Brier Creek near Keysville	Oct. 13	17.8				.050	.041	.103	.098	025	.068	.003		
Cedar Creek at Youngs	Oct. 9	2 62				1.348	.822	.074	2.114	.073	.039	.018		
Coldwater Creek near Ruckersville	Oct. 30	42.4				.120	.082	.108	.230	.033	.042	.005		
Commissioners Creek near McIntyre	Oct. 8	31.4				.160	.115	.169	.295	.062	.085	.002		
Commissioners Creek near Gray	Nov. 3	6.47				.304	.230	.328	.705	.031	.124	.002		
Cotton Indian Creek near Stockbridge	Oct. 28	40.6				.195	.140	.175	.361	.081	.062	.006		
Dowdell Creek near Waverly Hall	Nov. 13	13.2				.115	.099	.187	.311	.029	.059	.002		
Echeconnee Creek near Culloden	Oct. 30	6.95				.120	.115	.035	.262	.044	.062	.002		
Elkins Creek near Zebulon	Oct. 20	3.86				.140	.115	.143	.295	.044	.056	.003		
Falling Creek near Fortsonia	Oct. 30	25.3				.260	.247	.302	.606	.071	.127	.005		
Falling Creek near Gray	Nov. 3	6.50				.464	.387	.329	1.033	.040	.107	.000		
Fishing Creek near Metasville	Oct. 15	9.43				.369	.271	.354	.820	.065	.107	.002		
Flat Shoal Creek near Chipley	Oct. 30	42.8				.130	.115	.167	.311	.031	.068	.002		
Flat Creek near Hogansville	Oct. 28	25.0				.170	.140	.185	.393	.040	.059	.003		
Glovers Creek near Franklin	Nov. 13	34.6				.140	.123	.111	.295	.035	.042	.002		
Greenbrier Creek near Wrayswood	Oct. 7	4.24				.235	.156	.275	.524	.069	.071	.002		
Greenbrier Creek near Appling	Oct. 14	4.37				.270	.206	.360	.623	.087	.124	.002		
Harden Creek at Ficklin	Oct. 15	3.72				.399	.304	.431	.918	.058	.158	.000		
Hickory Level Creek near Maysville	Oct. 22	6.75				.240	.164	.188	.492	.056	.042	.002		
Hog Creek near Gray	Nov. 4	5.81				.339	.255	.303	.770	.037	.090	.000		
Jacks Creek near Monroe	Oct. 31	6.64				.125	.115	.117	.279	.027	.045	.006		
Keg Creek near Sandersville	Oct. 9	12.2				.280	.090	.064	.295	.046	.087	.006		
Kendle Creek near Upatoi	Nov. 1	.78				.220	.198	.317	.557	.062	.116	.000		
Kettle Creek near Washington	Oct. 20	3.55				.379	.255	.360	.852	.071	.071	.000		
Little Shoulderbone Creek near Sparta	Oct. 8	3.18				.245	.189	.318	.590	.060	.102	.000		
Lazar Creek near Woodland	Nov. 1	34.8				.200	.148	.217	.459	.031	.073	.002		

Leatherwood Creek near Ayersville	Oct. 22, 1942	2.05				0.240	0.164	0.188	0.492	0.056	0 042	0.002		
Little River near Buchanan	Oct. 12	12.1				.185	.148	.123	.361	.054	.039	.002		
Little Tobesofkee Creek near Culloden	Oct. 30	5.87				.115	.082	.094	.197	.029	.062	.003		
Little Sandy Creek at Indian Springs	Oct. 29	3.89				.110	.082	.200	.262	.042	.085	.003		
Little Haynes Creek near Walnut Grove	Oct. 28	18 7				.130	.082	.159	.262	.040	.059	.010		
Long Creek near Lexington	Oct. 20	8.47				.170	.115	.255	.426	.056	.056	.002		
Long Creek at Jewell	Oct. 13	1.29				.135	.115	.311	.393	.050	.116	.002		
Middle Oconee River near Pendergrass	Oct. 23	32.9				.170	.123	.198	.393	.042	.054	.002		
Mountain Creek near Hollingsworth	Oct. 22	9.16				.130	.099	.194	.344	.040	.039	.000		
Murder Creek near Eatonton	Nov. 2	52.4				.299	.214	.194	.590	.044	.071	.002		
Nails Creek near Ashland	Oct. 23	9.97				.190	.123	.185	.410	.035	.051	.002		
New River near Cooksville	Oct. 29	81.1				.230	.140	.327	.443	.065	.183	.006		
Osahatchee Creek near Cataula	Nov. 2	4.39				.255	.189	.301	.623	.035	.085	.002		
Potato Creek near Barnesville	Oct. 20	7.29				.190	.140	.619	.426	.167	.338	.018		
Randall Creek near Ellerslie	Nov. 1	2.93				.280	.238	.267	.656	.044	.085	.000		
Richland Creek at Greensboro	Oct. 7	2.58				.359	.255	.362	.787	.077	.107	.000		
Rooty Creek near Eatonton	Nov. 2	9.70				.369	.296	.294	.803	.040	.113	.003		
Sandy Creek at Athens	Oct. 20	16.3				.160	.132	.159	.344	.054	.051	.002		
Sandy Creek near Apalachee	Oct. 29	40.8				.170	.123	.148	.328	.040	.068	.005		
Shoal Creek near Monticello	Nov. 4	7.69				.255	.181	.228	.541	.033	.087	.003		
Shoal Creek near Sharpsburg	Oct. 14	6.22				.180	.140	.183	.410	.040	.051	.002		
Snake Creek near Banning	Oct. 13	17.8				.115	.090	.106	.230	.037	.042	.002		
Snapfinger Creek near Lithonia	Oct. 28	16.9				.170	.123	.126	.311	.046	.056	.006		
Soap Creek near Lincolnton	Oct. 15	2.22				.449	.370	403	934	119	169	.000		
South Fork of Broad River near Danielsville	Oct. 29	21.9				.120	.107	.124	.246	048	.054	.003		
Spirit Creek near Hephzibah	Oct. 13	48.0				.130	.066	.179	.082	.056	.127	.110		
Sulphur Creek near Chipley	Oct. 30	5.90				.175	.107	.072	.246	.040	.068	.000		
Tobesofkee Creek near Forsyth	do	10.9				.135	.107	.182	.279	058	.079	.008		
Towaliga Creek near Jackson	Oct. 28	62.5				150	.107	.200	.328	.058	.068	.003		
Tussahaw Creek near Jackson	Oct. 29	30.6				.130	.099	.148	.262	.054	.056	.005		
Upatoi Creek near Geneva	Nov. 1	1.18				.354	.304	.289	.803	.048	.096	.000		
Yellow River near Lawrenceville	Oct. 31	9 59				.195	.148	.117	.361	.042	.054	.003		
Walkers Branch near Forsyth	Oct. 29	.97				.195	.156	.168	.410	.048	.059	.002		
Whiteoak Creek near Newnan	Oct. 14	5.49				.260	.206	.231	.606	.033	.056	.002		
Whitewater Creek near La Grange	Oct. 29	15.3				.190	.140	.155	.393	.031	.059	.002		

LOWER MISSISSIPPI RIVER BASIN

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 1943.

EXTREMES, 1942–43.—Dissolved solids: Maximum, 2,324 parts per million June 10–11; minimum, 436 parts per million Oct. 18.
Total hardness: Maximum, 1,256 parts per million June 10–11; minimum, 236 parts per million Oct. 18.

EXTREMES, 1940–43.—Dissolved solids: Maximum, that of June 10–11, 1943; minimum, 264 parts per million May 11–20, 1941.
Total hardness: Maximum, that of June 10–11, 1943; minimum, 104 parts per million Sept. 22, 28, 29, 1941.

REMARKS.—Records of discharge for water year October 1942 to September 1943 are given in Water-Supply Paper 977.

Chemical analyses, in parts per million, water year October 1942 to September 1943

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, 1942	311	129	10	0.07	112	57	108		175	541	28	0.3	1.1	0.4	944	1.28	793	514	370	31
Oct. 11–17, 19–20	880	118	10	.05	104	51	93		165	482	24	.2	1.4	.6	856	1.16	2,030	469	334	30
Oct. 18	3,750	63.9			65	18	54		125	223	14				436	.59	4,410	236	134	33
Oct. 21, 29–31	615	111	13	.05	107	52	77		197	436	21	.5	1.8	.2	805	1.09	1,340	481	320	26
Oct. 23–28	547	110			101	48	80		203	409	20		2.9		761	1.03	1,120	450	283	28
Nov. 1–10	335	124	17	.07	119	55	81		210	469	26	.5	1.7	.2	873	1.19	790	523	351	25
Nov. 11–20	310	132	16	.04	130	61	92		218	537	26	.4	1.8	.4	972	1.32	814	576	397	26
Nov. 21–30	241	141	14	.03	128	66	112		210	593	30	.4	1.6	.2	1,048	1.43	682	591	419	29
Dec. 1–10	200	141	14	.04	130	66	108		212	588	31	.3	1.6	.2	1,043	1.42	563	596	422	28
Dec. 11–15	176	143	14	.06	138	65	118		222	612	33	.4	1.7	.2	1,092	1.49	519	612	430	29
Jan. 31–Feb. 10, 1943	198	149	12	.08	141	71	114		234	628	29	.4	4.1	.2	1,114	1.52	596	644	452	28
Feb. 11–19	155	153	10	.08	142	73	121		222	660	30	.4	4.8	.2	1,151	1.57	482	654	472	29
Feb. 20–28	144	155	12	.08	139	73	128		209	678	31	.4	4.6	.3	1,169	1.59	455	647	476	30
Mar. 1–10	136	161	11	.08	147	77	129		219	705	33	.4	4.8	.2	1,215	1.65	446	684	504	29
Mar. 11–20	141	167	13	.15	150	82	134		210	746	35	.4	4.0	.3	1,268	1.72	483	712	540	29
Mar. 21–31	100	182	10	.08	158	91	151		197	843	38	.4	3.6	.2	1,392	1.89	376	768	607	30
Apr. 1–10	69	192	10	.08	160	96	168		172	919	42	.4	2.5	.3	1,483	2.02	276	794	653	32
Apr. 11–20	67	206	11	.08	172	105	184		170	1,009	48	.4	1.1	.3	1,614	2.20	292	860	721	32
Apr. 21–24	61	211	8.5	.08	176	106	193		161	1,048	49	.4	.8	.2	1,661	2.26	274	875	743	32
Apr. 25–30	43	228	9.5	.08	193	116	192		162	1,121	52	.4	1.8	.7	1,766	2.40	205	958	826	30

May 1–10	35	235	11	08	202	117	205	171	1,161	57	.4	1.6	.7	1,839	2.50	174	985	845	31
May 11–20	57	161	13	.05	142	74	131	189	705	37	.5	2.3	.4	1,198	1.63	184	659	504	30
May 21–31	170	199	12	.10	163	100	171	175	950	39	.4	2 1	6	1,523	2.07	699	818	674	31
June 1–9	50	166	14	.05	139	80	135	191	728	38	.4	1.8	.5	1,230	1.67	166	676	520	30
June 10–11	153	288	------	------	251	153	256	178	1,506	69	------	1.6	------	2,324	3.16	960	1,256	1,110	31
June 12–20	26	136	11	.05	116	61	107	173	563	31	.4	1.7	.3	976	1.33	69	540	398	30
June 21–30	16	165	14	.12	144	76	135	186	726	40	.4	.8	.6	1,228	1.67	53	672	520	30
July 1–5	[1]94	193	13	.08	169	91	162	151	919	46	.5	.8	.4	1,476	2.01	375	796	672	31
July 6–10	------	204	------	------	------	------	------	151	------	44	------	------	------	------	------	------	------	------	------
July 11–20	161	156	13	.2	135	69	129	150	704	31	.5	1.0	.4	1,157	1.57	503	620	498	31
July 21–31	35	135	12	.03	118	58	108	153	576	29	.4	1.0	.4	978	1.33	92	533	408	31
Aug. 1–10	20	179	12	.04	152	81	147	156	806	45	.3	.6	.4	1,321	1.80	71	712	584	31
Aug. 11–17	73	246	10	.04	216	120	220	143	1,258	58	.5	.6	.3	1,954	2.66	385	1,032	916	32
Aug. 18–20	1,212	88.5	18	1.0	84	33	66	165	318	15	.4	.1	.2	617	.84	2,020	345	210	29
Aug. 21–27, 29–31	233	108	13	.08	104	42	82	161	432	18	.4	1.6	.3	772	1.05	486	432	300	29
Aug. 28	643	204	------	------	196	93	179	168	1,018	45	------	.1	------	1,614	2.20	2,800	872	734	31
Sept. 1–10	76	127	13	.03	120	52	95	178	512	27	.4	2.8	.4	910	1.24	187	514	368	29
Sept. 11–20	26	147	15	.01	136	66	121	175	654	34	.4	1.0	.4	1,114	1.52	78	611	468	30
Sept. 21–30	20	189	26	.02	163	87	158	174	865	45	.4	1.8	.4	1,432	1.95	77	764	622	31

[1] Includes discharge for July 6–10.

Chemical analyses, in equivalents per million, water year October 1942 to September 1943

Oct. 1–10, 1942	311	------	------	------	5.59	4.69	4.68	2.87	11.26	0.79	0.02	0.02	------	------	------	------	------	------	31
Oct. 11–17, 19–20	880	------	------	------	5.19	4.19	4.06	2.70	10.03	.68	.01	.02	------	------	------	------	------	------	30
Oct. 18	3,750	------	------	------	3.24	1.48	2.36	2.05	4.64	.39	------	------	------	------	------	------	------	------	33
Oct. 21, 29–31	615	------	------	------	5.34	4.28	3.34	3.23	9.08	.59	.03	.03	------	------	------	------	------	------	26
Oct. 23–28	547	------	------	------	5.04	3.95	3.47	3.33	8.52	.56	------	.05	------	------	------	------	------	------	28
Nov. 1–10	335	------	------	------	5.94	4.52	3.53	3.44	9.76	.73	.03	.03	------	------	------	------	------	------	25
Noq. 11–20	310	------	------	------	6.49	5.02	4.02	3.57	11.18	.73	.02	.03	------	------	------	------	------	------	26
Nov. 21–30	241	------	------	------	6.39	5.43	4.87	3.44	12.35	.85	.02	.03	------	------	------	------	------	------	29
Dec. 1–10	200	------	------	------	6 49	5.43	4.71	3.47	12.24	.87	.02	.03	------	------	------	------	------	------	28
Dec. 11–15	176	------	------	------	6.89	5.35	5.12	3.64	12.74	.93	.02	.03	------	------	------	------	------	------	29
Jan. 31–Feb. 10, 1943	198	------	------	------	7.04	5.84	4.94	3.84	13.07	.82	.02	.07	------	------	------	------	------	------	28
Fev. 11–19	155	------	------	------	7.09	6.00	5.24	3.64	13.74	.85	.02	.08	------	------	------	------	------	------	29
Feb. 20–28	144	------	------	------	6.94	6.00	5.57	3.43	14.12	.87	.02	.07	------	------	------	------	------	------	30
Mar. 1–10	136	------	------	------	7.34	6.33	5.63	3.59	14.68	.93	.02	.08	------	------	------	------	------	------	29
Mar. 11–20	141	------	------	------	7.49	6.74	5.81	3.44	15.53	.99	.02	.06	------	------	------	------	------	------	29
Mar. 21–31	100	------	------	------	7.89	7.48	6.56	3.23	17.55	1.07	.02	.06	------	------	------	------	------	------	30
Apr. 1–10	69	------	------	------	7.99	7.89	7.31	2.82	19.13	1.18	.02	.04	------	------	------	------	------	------	32
Apr. 11–20	67	------	------	------	8.58	8.63	7.98	2.79	21.01	1.35	.02	.02	------	------	------	------	------	------	32
Apr. 21–24	61	------	------	------	8.78	8.72	8.37	2.64	21.82	1.38	.02	.01	------	------	------	------	------	------	32
Apr. 25–30	43	------	------	------	9.63	9.54	8.35	2.66	23.34	1.47	.02	.03	------	------	------	------	------	------	30

CANADIAN RIVER NEAR SANCHEZ, N. MEX.—Continued

Chemical analyses, in equivalents per million, water year October 1942 to September 1943—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	35				10.08	9 62	8.93		2.80	24.17	1.61	0.02	0.03							31
May 11–20	57				7.09	6 09	5.71		3.10	14.68	1 04	.03	.04							30
May 21–31	170				8.14	8.22	7.44		2.87	19.78	1.10	.02	.03							31
June 1–9	50				6.94	6.58	5.89		3.13	15.16	1.07	.02	.03							30
June 10–11	153				12.53	12.58	11.14		2.92	31.35	1.95		.03							31
June 12–20	26				5.79	5.02	4.67		2.84	11.72	.87	.02	.03							30
June 21–30	16				7.19	6.25	5.88		3.05	15.11	1.13	.02	.01							30
July 1–5	[1] 94				8.44	7.48	7.03		2.48	19.13	1.30	.03	.01							31
July 6–10									2 48		1.24									
Jhly 11–20	161				6.74	5.67	5.63		2.46	14.66	.87	.03	.02							31
July 21–31	35				5.89	4.77	4.70		2 51	11.99	.82	.02	.02							31
Aug. 1–10	20				7.59	6.66	6.39		2 56	16.78	1.27	.02	.01							31
Aug. 11–17	73				10.78	9.87	9.56		2.34	26.19	1.64	.03	.01							32
Aug. 18–20	1,212				4 19	2.71	2.86		2.70	6.62	.42	.02	.00							29
Aug. 21–27, 29–31	233				5.19	3.45	3.55		2.64	8.99	.51	.02	.03							29
Aug. 28	643				9.78	7.65	7.78		2.75	21.19	1.27		.00							31
Sept. 1–10	76				5.99	4.28	4.14		2.92	10.66	.76	.02	.05							29
Sept. 11–20	26				6.79	5.43	5.27		2.87	13.62	.96	.02	.02							30
Sept. 21–30	20				8.14	7.15	6.89		2.85	18.01	1.27	.02	.03							31

[1] Includes discharge for July 6–10.

CONCHAS RIVER NEAR VARIADERO, N. MEX.

[Composites of daily samples collected at the Quintana Ranch approximately 4 miles upstream from the gaging station, which is located on Highway 104 at Variadero, approximately 14 miles west of Conchas Dam. Samples are obtained at this point only when rainfall is sufficient to cause the river to flow. Analyses in parts per million]

Date of collection	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 $CaCO_3$
June 8–10, 1943	163	89	51	213	241	542	92	1,108	432
July 2–4	89.5	54	29	102	223	225	41	562	254
July 12–16, 18–19	61.1	49	19	55	181	133	23	370	200
July 24–25	46.3	46	13	34	175	77	13	271	168

RESERVOIR BEHIND CONCHAS DAM, N. MEX.

Chemical analyses, in parts per million

Monthly composite samples

Date of collection	Sampling point	Depth (feet)	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 $CaCO_3$
Oct. 7, 1942			61.2				138	186	14		
Oct. 30			65.1				132				
Nov. 6, 13, 19, 26			67.0								
Dec. 10, 25, 31			69.1								
Jan. 14, 22, 28, 1943			73.4								
Feb. 3, 12, 18, 26			78.2	69	29	59	148	265	15	511	291
Mar. 12, 20, 27			80.4	72	31	60	153	274	18	531	307
Apr. 1, 9, 24			81.7				165				
Apr. 21	Station 1 [1]		81.5				158		17		
May 8			78.4				155		18		
May 28			80.8				165				
June 11			85.5				169				
June 18, 24			86.3				172				
July 3, 8			87.2				168				
July 15, 23, 31			87.4				159				
Aug. 5, 12, 19			88.2				155				
Sept. 2, 10, 16, 23, 30			89.3				156				
Oct. 1, 1942			60.9				133	187	12		
Oct. 30			64.5				136				
Nov. 13, 19, 26			68.4								
Dec. 10, 25, 31			69.3								
Jan. 14, 22, 1943			73.8								
Jan. 28			64.5				162		14		
Feb. 4, 12, 18, 26			78.1	70	29	60	151	265	16	515	294
Mar. 12, 20			80.2	71	30	61	154	274	16	529	300
Apr. 1, 9, 24	Station 2 [2]		81.7				165				
May 21			81.4				158		23		
May 28			84.5				169				
June 11			84.5				169				
June 18, 24			86.3				170				
July 3, 8			86.7				166				
July 15, 23, 31			87.0				159				
Aug. 5, 12, 19, 26			88.5				154				
Sept. 2, 10, 16, 23, 30			89.6				156				
Oct. 7, 1942			62.1								
Oct. 30			68.5				138				
Nov. 6, 13, 19, 26			71.8								
Dec. 10, 25			72.8								
Jan. 14, 22, 28, 1943			75.6								
Feb. 3, 7, 12, 18, 26			76.2	62	28	65	143	254	20	500	270
Mar. 12, 20, 27			80.5	72	30	64	161	270	20	536	303
Apr. 1, 9, 24			81.2				164				
Apr. 29	Station 3 [3]		79.7				156		18		
May 21			81.3				160		18		
May 28			84.8				165				
June 1			85.3				168				
June 18			85.1				169				
July 3, 8			87.5				165				
July 15, 23, 31			86.0				158				
Aug. 5, 12, 19, 26			89.6				153				
Sept. 2, 10, 16, 23, 30			91.7				157				

See footnotes at end of table.

RESERVOIR BEHIND CONCHAS DAM, N. MEX.—Continued

Chemical analyses, in parts per million—Continued

Samples from different depths

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 $CaCO_3$
Dec. 17, 1942	Station 1 [1]	Surface	69.7	68	24	46	141	221	16	445	268
		25	69.6								
		50	70.1								
		78	81.9	80	32	60	155	298	17	564	331
		83	82.5								
		88	82.3								
		93	82.2								
		98	82.0								
		103	82.4	77	31	61	156	290	16	552	320
June 3, 1943	Station 1 [1]	Surface	84.1	75	33	66	164	296	16	567	322
		25	86.6								
		50	85.0								
		75	85.9								
		100	86.2								
		105	86.4								
		110	87.6								
		115	89.4	82	34	74	188	310	18	614	344
		125	90.0	84	36	72	328	208	20	582	358
Sept. 20, 1943	Station 1 [1]	Surface	91.0	74	36	73	151	326	20	603	332
		25	89.3								
		50	88.4								
		75	87.4								
		100	89.3								
		105	89.3								
		110	87.1								
		115	88.9								
		120	87.8	80	35	64	174	300	19	585	344
		125	93.1	87	35	68	196	307	19	616	361
Dec. 17, 1942	Station 2 [2]	Surface	70.3	60	25	60	148	230	15	464	252
		25	69.9								
		50	70.4								
		75	82.3	88	29	47	157	276	17	535	338
		112	82.9								
		117	82.3								
		122	82.8								
		127	82.8								
		132	82.7	82	33	53	156	293	16	554	340
June 3, 1943	Station 2 [2]	Surface	84.4	73	32	76	166	304	18	586	314
		25	84.9								
		50	85.1								
		75	85.8								
		100	87.3								
		115	88.5	76	34	74	173	309	18	598	330
		120	88.0								
		125	88.3								
		130	88.3								
		135	91.6	84	35	79	198	322	19	636	354
Sept. 20, 1943	Station 2 [2]	Surface	90.3	72	37	75	144	335	20	610	332
		25	90.0								
		50	88.9								
		75	87.9								
		100	88.7								
		107	88.5								
		112	88.3								
		117	86.3								
		122	89.4								
		127	89.6								
		132	89.8				180	305	19		

See footnotes at end of table.

RESERVOIR BEHIND CONCHAS DAM, N. MEX.—Continued

Chemical analyses, in parts per million—Continued

Samples from different depths—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 $CaCO_3$
Dec. 31, 1942	Station 3 [3]	Surface	74.2	71	26	53	148	246	15	484	284
		25	73.8								
		50	74.0								
		75	74.5								
		81	74.6								
		85	74.9								
		91	74.8								
		96	75.7								
		101	89.8	96	32	62	217	291	17	606	371
June 3, 1943	Station 3 [3]	Surface	85.1	58	32	91	168	300	17	581	276
		25	84.8								
		50	85.5								
		75	86.2								
		100	87.6								
		107	88.6								
		112	88.6								
		117	88.6								
		122	92.0								
		127	92.2	78	37	80	265	264	20	610	346
Sept. 20, 1943	Station 3 [3]	Surface	91.6	78	37	77	160	337	22	630	346
		25	91.6								
		50	88.8								
		75	88.8								
		100	88.4								
		105	88.8								
		110	88.6								
		115	88.4								
		120	89.0								
		125	88.5				167	324	24		
June 3, 1943	Station 6 [4]	Surface	85.5	74	32	63	165	281	17	549	316
		25	84.2								
		50	84.7								
		75	85.2								
		83	84.9								
		88	85.1								
		93	86.1								
		98	85.9	77	33	63	169	287	18	562	328
		103	93.7	89	36	75	320	233	20	611	370
Sept. 20, 1943	Station 6 [4]	Surface	88.3	74	35	74	155	319	21	600	328
		25	89.0								
		50	88.6								
		75	86.9								
		83	86.5								
		88	87.9								
		93	88.6								
		98	88.3				173	296	19		
Dec. 31, 1942	Station 7 [5]	Surface	76.8	72	28	62	150	273	16	525	294
		25	77.2								
		50	77.9								
		60	77.8								
		65	77.7								
		70	78.0								
		75	78.4								
		80	78.2	74	29	60	152	273	17	528	304
		85	83.4	84	30	60	167	292	16	566	333
June 3, 1943	Station 7 [5]	Surface	86.7	76	33	69	175	293	18	576	325
		25	85.0								
		50	92.3	79	36	72	174	318	19	611	345
		75	88.4								
		99	88.6								
		104	89.1								
		109	89.4	78	34	68	171	301	19	586	334
		119	93.1	86	36	71	259	267	19	607	362

See footnotes at end of table.

RESERVOIR BEHIND CONCHAS DAM, N. MEX.—Continued

Chemical analyses, in parts per million—Continued

Samples from different depths—Continued

Date of collection	Sampling point	Depth (feet)	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 $CaCO_3$
June 30, 1943	Station 7 [5]	Surface	89.1	77	35	70	172	309	18	595	336
Sept. 20, 1943	Station 7 [5]	Surface	95.8	82	38	78	162	352 [2]	22	652	360
		25	97.6	----	----	----	----	----	----	----	----
		50	97.1	----	----	----	----	----	----	----	----
		75	93.2	----	----	----	----	----	----	----	----
		85	91.0	----	----	----	----	----	----	----	----
		90	91.2	----	----	----	----	----	----	----	----
		95	90.7	----	----	----	----	----	----	----	----
		100	91.2	----	----	----	----	----	----	----	----
		105	89.6	----	----	----	----	----	----	----	----
		110	90.2	----	----	----	161	317	20	----	----

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

PEASE RIVER NEAR CROWELL, TEX.

LOCATION.—At gaging station on bridge on State Highway 283, 4 miles upstream from Raggedy Creek, 7 miles upstream from Kansas City, Mexico, and Orient Railway bridge, and 8 miles north of Crowell.

DRAINAGE AREA.—About 2,940 square miles, of which about 530 square miles is probably noncontributing.

RECORDS AVAILABLE.—Chemical analyses: July 1942 to June 1943.

EXTREMES, July 1942–June 1943.—Dissolved solids: Maximum, 13,930 parts per million Dec. 24; minimum, 1,600 parts per million Apr. 17. Total hardness: Maximum, 3,370 parts per million May 1–3, 6–8; minimum, 868 parts per million Oct. 15.

REMARKS.—Records of discharge for period October 1942 to June 1943 are given in Water-Supply Paper 977.

Chemical analyses, in parts per million, water year October 1942 to September 1943

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. 1–10, 1942	9 48	1,324	16	0.10	752	141	2,271	23	129	2,076	3,620	0.0	5.0	2.0	8,970	12.20	230	2,456	2,351	67
Oct. 11–14	683	1,295	7.0	.05	793	153	2,169	24	130	2,216	3,490	.2	5 0	1.5	8,920	12.13	16,400	2,610	2,500	65
Oct. 15	4,270	244	12	.15	302	28	240		96	779	352	------	6.0	.5	1,767	2.40	20,400	868	790	38
Oct. 16–20	462	390	12	.10	298	41	532	14	107	782	810	.2	7.0	1.0	2,550	3.47	2,770	912	824	56
Oct. 21, 30	122	624	16	.05	466	86	793	18	108	1,174	1,390	.5	2.0	1.5	4,000	5 44	1,320	1,516	1,428	54
Oct. 22–29, 31	76.4	1,169	19	.10	665	122	1,984	18	149	1,771	3,160	.1	3.0	2.5	7,820	10.64	1,610	2,161	2,039	67
Nov. 1–10	46.7	1,259	16	.10	734	149	2,142	24	146	2,031	3,470	4	4.0	2.0	8,640	11.75	1,090	2,444	2,325	66
Nov. 11–20	18.8	1,306	12	.05	794	163	2,188	23	147	2,190	3,570	.2	3 5	3.0	9,020	12.27	458	2,650	2,530	64
Nov. 21–30	13.0	1,286	13	.10	818	170	2,174	22	159	2,275	3,540	.2	3.5	3.0	9,090	12.36	319	2,740	2,610	63
Dec. 1–3, 5–10	21.0	1,358	6.0	.05	768	162	2,320	21	160	2,155	3,740	.4	3.5	2.0	9,250	12.58	524	2,580	2,452	66
Dec. 11–20	22.6	1,534	8.0	.10	820	174	2,740	21	147	2,277	4,440	.2	3.5	2.5	10,560	14.36	644	2,760	2,640	68
Dec. 21–22, 25–31	1 40.9	1,173	7.0	.05	635	140	1,981	18	149	1,751	3,220	5	3 0	3.0	7,830	10.65	865	2,160	2,038	67
Dec. 24	49.0	2,036	------	------	864	170	4,050		145	2,296	6,480	------	2.5	------	13,930	18.94	1,840	2,860	2,740	75
Jan. 1–5, 7–10, 1943	39.0	1,412	14	.10	684	145	2,429	22	163	1,870	3,920	.3	2.0	2.5	9,160	12.46	965	2,303	2,170	70
Jan. 11–20	17.9	1,704	11	.05	854	183	3,050	28	170	2,392	4,900	.1	1.5	3 0	11,500	15.64	556	2 880	2,740	70
Jan. 21, 23–31	14.1	1,484	12	.10	812	171	2,540	23	164	2,263	4,100	.0	1.0	2.0	10,000	13.60	381	2,730	2,600	67
Feb. 1–10	11.9	1,555	13	.05	839	187	2,730	28	140	2,384	4,430	.1	1.5	2.0	10,680	14.52	343	2,860	2,750	68
Feb. 11–19	7.92	1,422	11	.05	839	186	2,380	26	149	2,374	3,890	.1	2.0	1.5	9,770	13.29	206	2,860	2,740	65
Feb. 20–28	8.18	1,453	13	.05	849	189	2,500	27	135	2,459	4,070	.1	1.5	2.5	10,200	13.87	225	2,900	2,790	66
Mar. 1–19	7.49	1,473	11	.05	863	180	2,560	25	149	2,441	4,130	.1	1.0	3.0	10,280	13.98	208	2,890	2,770	66
Mar. 11–20	6.60	1,540	10	.05	891	186	2,750	22	135	2,540	4,430	.0	.5	3.5	10,900	14.82	194	2,990	2,880	67
Mar. 21–31	11.3	1,565	10	.05	872	185	2,860	22	141	2,484	4,590	.0	.5	3.0	11,090	15.08	338	2,940	2,820	68

See footnotes at end of table.

PEASE RIVER NEAR CROWELL, TEX.—Continued

Chemical analyses, in parts per million, water year October 1942 to September 1943—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. 1–7, 9–10	5.36	1,550	6.0	0.05	911	191	2,780	22	117	2,570	4,500	0.5	4.0	2.5	11,000	14.96	159	3,060	2,960	66
Apr. 11, 16, 18–20	[2] 72.8	1,333	14	.05	830	167	2,136	21	123	2,291	3,500	1.0	6.4	2.0	9,030	12.28	1,770	2,760	2,660	63
Apr. 17	1,060	242	12	.12	326	33	134		76	847	208	.6	1.5	3.0	1,600	2.18	4,580	949	886	23
Apr. 21–23, 26–30	31.3	1,434	7.0	.10	900	192	2,332	25	127	2,510	3,840	.5	3.0	3.0	9,870	13 42	834	3,040	2,930	63
May 1–3, 6–8	[3] 23.7	1,629	8.0	.05	991	217	2,730	26	122	2,810	4,470	.2	1.0	3.5	11,300	15.37	723	3,370	3,270	64
May 10, 14, 17–20	[4] 1,102	507	7.0	.05	408	56	686	15	102	1,063	1,110	.1	3.0	2.0	3,400	4 62	10,100	1,248	1,165	55
May 15–16, 23–26, 31	73.4	1,229	4.0	.05	671	120	2,036	21	126	1,815	3,280	.3	1.0	3.5	8,010	10.89	1,590	2,168	2,064	67
May 21–22, 27–30	81.3	431	7.0	.05	342	48	544	15	88	907	875	.4	3.0	2.5	2,780	3.78	610	1,051	979	53
June 1–3	[5] 55.5	1,207	12	.10	741	133	1,964	27	134	1,966	3,220	.5	1.0	3.5	8,130	11.06	1,220	2,396	2,286	64
June 6–10	[6] 2,169	401	10	.10	335	46	505	20	119	858	820	.4	1.2	2.5	2,650	3.60	15,500	1,025	928	52
June 12–20	[7] 44.9	1,088	9.0	.10	702	135	1,742	24	131	1,929	2,840	.7	1.5	3.5	7,450	10.13	903	2,307	2,200	62
June 21–30	24.7	1,265	11	.10	814	163	2,058	26	125	2,286	3,350	.2	2.5	3.5	8,770	11.93	585	2,700	2,600	63
Weighted average [8]	161	554	13	0.08	424	64	783	16	112	1,130	1,250	0.4	3.2	2.3	3,740	5.09	1,620	1,320	1,230	56

See footnotes at end of table.

Chemical analyses, in equivalents per million, water year October 1942 to September 1943

Oct. 1–10, 1942	9.48				37.53	11.60	98.75	0.59	2.11	43.22	102.10	0.00	0.08							67
Oct. 11–14	683				39.58	12.58	94.32	.61	2.13	46.14	98.43	.01	.08							65
Oct. 15	4,270				15.07	2.30	10.45		1.57	16.22	9.93		.10							38
Oct. 16–20	402				14.87	3.37	23.13	.36	1.75	16.28	22.84	.01	.11							56
Oct. 21, 30	122				23.26	7.07	34.48	.46	1.77	24.44	39.20	.03	.03							54
Oct. 22–29	76.4				33.19	10.03	86.27	.46	2.44	36.87	89.12	.01	.05							67
Nov. 1–10	46.7				36.64	12.25	93.12	.61	2 39	42.28	97 87	.02	.06							66
Nov. 11–20	18.8				39.63	13.40	95.14	.59	2.41	45.59	100.69	.01	.06							64
Nov. 21–30	13.0				40.83	13.98	94.51	.56	2.61	47.36	99.84	.01	.06							63

Dec. 1–3, 5–10	21.0				38.33	13.32	100.86	.54	2.62	44.87	105.48	.02	.06						66
Dec. 11–20	22.6				40.93	14.31	119.33	.54	2.41	47.41	125.22	.01	.06						68
Dec. 21–22, 25–31	[1] 40.9				31.69	11.51	86.12	.46	2.44	36.45	90.81	.03	.05						67
Dec. 24	49.0				43.12	13.98	175.88		2.38	47.80	182.76		.04						75
Jan. 1–5, 7–10, 1943	39.0				34.14	11.92	105.59	.56	2.67	38.93	110.56	.02	.03						70
Jan. 11–20	17.9				42.63	15.05	132.42	.72	2.79	49.80	138.20	.01	.02						70
Jan. 21, 23–31	14.1				40.53	14.06	110.27	.59	2.69	47.11	115.63	.00	.02						67
Feb. 1–10	11.9				41.88	15.38	118.91	.72	2.29	49.63	124.94	.01	.02						68
Feb. 11–19	7.82				41.88	15.30	103.49	.67	2.44	49.43	109.43	.01	.03						65
Feb. 20–28	8.18				42.38	15.54	109.62	.69	2.20	51.20	114.79	.01	.02						66
Mar. 1–10	7.49				43.07	14.80	111.26	.64	2.44	50.82	116.48	.01	.02						66
Mar. 11–20	6.60				44.47	15.30	119.71	.56	2.21	52.88	124.94	.00	.01						67
Mar. 21–31	11.3				43.52	15.21	124.20	.56	2.31	51.72	129.45	.00	.01						68
Apr. 1–7, 9–10	5.36				45.47	15.71	120.69	.56	1.92	53.51	126.91	.03	.06						66
Apr. 11, 16, 18–20	[2] 72.8				41.43	13.73	92.88	.54	2.02	47.70	98.71	.05	.10						63
Apr. 17	1,060				16.27	2.71	5.82		1.25	17.63	5.87	.03	.02						23
Apr. 21–23, 26–30	31.3				44.92	15.79	101.37	.64	2.08	52.26	108.30	.03	.05						63
May 1–3, 6–8	[3] 23.7				49.46	17.85	118.62	.67	2.00	58.50	126.07	.01	.02						64
May 10, 14, 17–20	[4] 1,102				20.36	4.61	29.82	.38	1.67	22.13	31.31	.01	.05						55
May 15–16, 23–26, 31	73.4				33.49	9.87	88.51	.54	2.07	37.79	92.51	.02	.02						67
May 21–22, 27–30	81.3				17.07	3.95	23.67	.38	1.44	18.88	24.68	.02	.05						53
June 1–3	[5] 55.5				36.99	10.94	85.37	.69	2.20	40.93	90.81	.03	.02						64
June 6–10	[6] 2,169				16.72	3.78	21.97	.51	1.95	17.86	23.13	.02	.02						52
June 12–20	[7] 44.9				35.04	11.10	75.72	.61	2.15	40.16	80.10	.04	.02						62
June 21–30	24.7				40.63	13.40	89.47	.67	2.05	47.59	94.48	.01	.04						63
Weighted average [8]	161				21.16	5.26	34.05	0.41	1.84	23.53	35.25	0.02	0.05						56

[1] Includes discharge for Dec. 21–23, 25–31.
[2] Includes discharge for Apr. 11–16, 18–20.
[3] Includes discharge for May 1–9.
[4] Includes discharge for May 10–14, 17–20.
[5] Includes discharge for June 1–4.
[6] Includes discharge for June 5–10.
[7] Includes discharge for June 11–20.
[8] For 9 months ended June 30.

MISCELLANEOUS STREAMS IN ARKANSAS RIVER BASIN

Chemical analyses, in parts per million

South Arkansas River at Poncha Springs, Colo.

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. 11, 1942		43.0							224		16									
Creek flowing into South Arkansas River near Poncha Springs, Colo.																				
Oct. 11, 1942		16.6			24	4.8	5.5		88	12	5.0				95			80	8	
Arkansas River near Buena Vista, Colo.																				
Oct. 11, 1942		21.0			27	5.0	12		80	34	9.0				126			88	22	
Arkansas River near Boone, Colo.																				
Oct. 14, 1942		119			130	47	75		213	452	25				834			518	344	
Arkansas River near Rocky Ford, Colo.																				
Oct. 14, 1942		200			173	80	176		198	864	58				1,448			760	598	
Arkansas River near Las Animas, Colo.																				
Oct. 14, 1942		268			261	98	241		240	1,221	78				2,017			1,054	858	

Fountain Creek near Colorado Springs, Colo.

Oct. 14, 1942		55.0			66	14	26	128	147	14				330			222	117	

Fountain Creek near Pueblo, Colo.

Oct. 14, 1942		146			142	45	129	232	565	29				1,024			540	350	

St. Charles River near Pueblo, Colo.

Oct. 14, 1942		231						195		34									

Huerfano River near Boone, Colo.

Oct. 14, 1942		209			158	107	311	219	1,210	51				1,945			834	655	

MISCELLANEOUS STREAMS IN ARKANSAS RIVER BASIN—Continued

Chemical analyses, in parts per million—Continued

Arkansas River near Caddoa, Colo.

[Samples collected above John Martin reservoir at various points between mouth of Rule Creek and the highway bridge at Las Animas, Colo. Drainage area approximately 14,500 square miles.]

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	
Aug. 10–13, 15–20, 1942		179	16	0.12	180	65	155	8.8	183	814	42	0.4	5.6	1.2	1,377	1.87		716	566	
Aug. 21–25		259	17	.11	246	100	263	15	250	1,264	71	.8	5.4	1.0	2,106	2.86		1,025	820	
Sept. 4–10		182	16		182	68	157		171	845	37		3.2		1,392	1.89		734	594	
Sept. 11–17		254	17		251	107	242		227	1,267	61		2.0		2,059	2 80		1,066	880	
Sept. 18–26		283	15		272	120	292		241	1,442	73		7.5		2,340	3.18		1,172	975	
Sept. 27–29		233	13		229	101	217		237	1,136	57		1.6		1,871	2.54		987	793	
Oct. 1–9, 1942		270	14		256	112	279		233	1,348	74		10		2,208	3.00		1,100	908	
Oct. 10–18		294	14		269	128	315		247	1,495	85		5.6		2,433	3 31		1,198	996	
Oct. 19–21		160	9.0		162	62	135		162	743	29		6 8		1,227	1.67		660	526	
Oct. 22–24, 26–31		216	10		211	89	203		211	1,042	49		8.3		1,716	2.33		892	720	
Oct. 25		228			215	90	216		229	1,065	51		9.4		1,759			906	719	
Nov. 2–10		254			246	110	246		243	1,256	63		6.3		2,047			1,066	868	
Nov. 11–20		282			264	127	279		246	1,421	73		4.6		2,290			1,181	980	
Nov. 21–30		288	18	.10	272	124	238		275	1,315	76	.4	3.8	2 0	2,183	2.97		1,189	964	
Dec. 1–10		284			267	125	318		298	1,407	77		4 9		2,346			1,180	936	
Dec. 11–20		273			240	122	280		288	1,307	77		4.6		2,172			1,100	864	
Dec. 21–24		248	14	.09	241	108	243		276	1,200	65		8.0	1.0	2,015	2 74		1,046	820	
Dec. 25–26, 28–31		190	19	.04	193	80	155		258	831	45		10		1,460	1.99		810	599	
Jan. 1–10, 1943		230			221	104	210		254	1,096	58		5.1		1,819			979	771	
Jan. 11–13, 15–18, 26, 30		215	14	.40	212	96	189		224	1,027	54	.9	2.9	.6	1,706	2 32		924	740	
Jan. 14		213																		
Feb. 2, 6		236			233	94	221		258	1,105	58		4.6		1,843			968	756	
Feb. 9		384			237	114	604		206	2,021	71				3,150			1,060	891	
Feb. 13, 15, 20, 23, 27		275			234	112	227		230	1,331	79		4.2		2,235			1,120	906	
Mar. 2, 6, 9		190																		
Mar. 13, 16, 20		220			216	89	203		237	1,028	57		2.7	.5	1,712			905	711	
Aug. 7, 10, 14		225			218	82	216		203	1,050	56		16		1,738			881	714	

MISCELLANEOUS STREAMS IN ARKANSAS RIVER BASIN—Continued

Chemical analyses, in equivalents per million

South Arkansas River at Poncha Springs Colo.

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-fout	Tons per day	Total	Non-carbonate	
Oct. 11, 1942									3.67		0.45									

Creek flowing into South Arkansas River near Poncha Springs, Colo.

Oct. 11, 1942					1.20	0.39	0.24		1.44	0.25	.14									

Arkansas River near Buena Vista, Colo.

Oct. 11, 1942					1.35	.41	.51		1.31	.71	.25									

Arkansas River near Boone, Colo.

Oct. 14, 1942					6.49	3.87	3.25		3.49	9.41	71									

Arkansas River near Rocky Ford, Colo.

Oct. 14, 1942					8.63	6.58	7.67		3.25	17.99	1.64									

Arkansas River near Las Animas, Colo.

Oct. 14, 1942					13.03	8.06	10.46		3.93	25.42	2.20									

MISCELLANEOUS STREAMS IN ARKANSAS 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	
Fountain Creek near Colorado Springs, Colo.																				
Oct. 14, 1942					3.29	1.15	1.11		2.10	3.06	0.39									
Fountain Creek near Pueblo, Colo.																				
Oct. 14, 1942					7.09	3.70	5.59		3.80	11.76	82									
St. Charles River near Pueblo, Colo.																				
Oct. 14, 1942									3.20		.96									
Huerfano River near Boone, Colo.																				
Oct. 14, 1942					7.89	8.80	13.53		3.59	25.19	1.44									

Arkansas River near Caddoa, Colo.

[Samples collected above John Martin reservoir at various points between Mouth of Rule Creek and the highway bridge at Las Animas, Colo. Drainage area approximately 14,500 square miles.]

Aug. 10–13, 15–20, 1942					8.98	5.35	6.74	0.23	3.00	16.95	1.18	0.02	0.09													
Aug. 21–25					12.28	8.22	11.44	.38	4.10	26.32	2.00	.04	.09													
Sept. 4–10					9 08	5.59	6.81		2.80	17.59	1.04		.05													
Sept. 11–17					12.53	8.80	10.52		3.72	26.38	1.72		.03													
Sept. 18–26					13.58	9.87	12.70		3.95	30.02	2.06		.12													
Sept. 27–29					11.43	8.31	9.43		3.88	23.65	1.61		.03													
Oct. 1–9, 1942					12.78	9.21	12.14		3.82	28.06	2.09		.16													
Oct. 10–18					13.43	10.53	13.71		4.05	31.13	2.40		.09													
Oct. 19–21					8.09	5.10	5.87		2.66	15.47	.82		.11													
Oct. 22–24, 26–31					10.53	7.32	8.81		3.46	21.69	1.38		.13													
Oct 25					10.73	7.40	9.38		3.75	22.17	1.44		.15													
Nov. 2–10					12.28	9.05	10.68		3.98	26.15	1.78		.10													
Nov. 11–20					13.18	10.44	12.12		4.03	29.58	2.06		.07													
Nov. 21–30					13.58	10.20	10.33		4.51	27.38	2.14	.02	.06													
Dec. 1–10					13.33	10.28	13.81		4.88	29.29	2.17		.08													
Dec. 11–20					11.98	10.03	12.16		4.72	27.21	2.17		.07													
Dec. 21–24					12.03	8.88	10.55		4.52	24.98	1.83		.13													
Dec. 25–26, 28–31					9.63	6.58	6.75		4.23	17.30	1 27		.16													
Jan. 1–10, 1943					11.03	8 55	9.12		4.16	22.82	1.64		.08													
Jan. 11–13, 15–18 26, 30					10 58	7.89	8.20		3.67	21.38	1.52	.05	.05													
Jan. 14																										
Feb. 2, 6					11.63	7.73	9.59		4.23	23.01	1.64		.07													
Feb. 9					11.83	9.37	26.26		3.38	42.08	2.00															
Feb. 13, 16, 20, 23, 27					13.18	9.21	12.92		4.26	28.75	2.23		.07													
Mar. 2, 6, 9																										
Mar. 13, 16, 20					10.78	7.32	8.83		3.88	21.40	1.61		.04													
Aug. 7, 10, 14					10.88	6.74	9.42		3.33	21.86	1.58		.26													

WESTERN GULF OF MEXICO BASINS

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 1943.

EXTREMES, 1942–43.—Dissolved solids: Maximum, 8,480 parts per million May 20; minimum, 453 parts per million Oct. 17–20.
Total hardness: Maximum, 1,809 parts per million Aug. 1–10; minimum, 200 parts per million Oct. 17–20.

EXTREMES, JANUARY 1942–SEPTEMBER 1943.—Dissolved solids: Maximum, that of May 20, 1942; minimum, 312 parts per million Apr. 8–10, 1942.
Total hardness: Maximum, that of Aug. 1–10, 1942; minimum, 123 parts per million Apr. 8–10, 1942.

REMARKS.—Records of discharge for water year October 1942 to September 1943 are given in Water-Supply Paper 978.

Chemical analyses, in parts per million, water year October 1942 to September 1943

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. 1–10, 1942	540	362			184	38	544		133	445	868		1.2		2,146	2.92	3,130	615	506	66
Oct. 11–14	229	593			287	60	942		146	745	1,500		1.0		3,610	4.91	2,230	962	843	68
Oct. 15	2,700	210			113	20	282		104	233	460		2.5		1,162	1.58	8,470	364	279	63
Oct. 16	5,080	125			73	13	158		121	103	262		4.0		673	.92	9 230	236	136	59
Oct. 17–20	24,920	90.1			64	9 7	85		89	111	138		1.0		453	.62	30,500	200	126	48
Oct. 21–22	6,885	95.9			76	13	103		132	146	144		4.5		551	.75	10,200	243	134	48
Oct. 23–26, 31	1,620	174			115	19	226		136	249	342		4.0		1,022	1 39	4,470	365	254	57
Nov. 1		143							76	106	290		3.0		853	1.16	3,520			
Oct. 27–30	646	276			160	27	423		149	356	662		4.3		1,706	2.32	2,980	510	398	64
Nov. 4–10	[1] 821	275			148	30	381		136	307	630		1.5		1,564	2.13	3,470	493	382	63
Nov. 11–18	[2] 261	459	12	0 20	232	50	659		167	477	1,120	0.5	4.0		2,640	3.59	1,860	784	648	65
Nov. 28–30	[3] 138	558	9.0	.20	279	65	933		205	564	1,430	.1	4.0		3,290	4.47	1,230	994	799	65
Dec. 1–3, 5–10	[4] 129	517			259	61	779		213	525	1,325		1.0		3,050	4.15	1,060	898	723	65
Dec. 11–14, 16, 18–20	[5] 150	645			316	83	998		212	642	1,740		5.0		3,890	5.29	1,580	1,130	956	66
Dec. 21	[6] 543	395			292	80	1,598		180	579	2,680		4.5		5,320	7.24	7,800	1,058	910	77
Jan. 2–10, 1943	[7] 210	579			248	64	948		202	600	1,525		2.0		3,490	4.75	1,980	882	716	70
Jan. 11–20	120	658			288	77	1,071		208	658	1,775		6.0		3,980	5.41	1,290	1,035	864	69
Jan. 21–31	80.5	728			318	86	1,154		202	731	1,935		1.2		4,320	5.88	939	1,147	982	69

Feb. 1–3, 5–10	[8] 60.9	705			346	94	1,110	222	733	1,925		5.0		4,320	5.88	710	1,250	1,068	66
Feb. 11–20	52.7	644			324	94	981	226	701	1,710		3.0		3,920	5.33	558	1,195	1,010	64
Feb. 21–28	53.4	611			291	86	942	154	673	1,630		4.0		3,700	5 03	533	1,080	954	65
Mar. 1–10	54.8	599			286	93	906	119	681	1,600		3.0		3,630	4.94	537	1,096	999	64
Mar. 11–20	145	566			310	99	796	201	623	1,485		5.0		3,420	4.65	1,340	1,180	1,016	59
Mar. 21–24	117	537			304	99	770	195	871	1,255		3.0		3,400	4.62	1,070	1,166	1,006	59
Mar. 25–27	[9] 1,046	183			110	29	209	125	179	395		3.0		987	1.34	2,790	394	291	54
Apr. 1–3	215	501			296	74	722	135	810	1,175		2.0		3,150	4.28	1,830	1,043	932	60
Apr. 4–6	123	1,040			370	98	1,898	164	907	3,100		4.0		6,460	8.79	2,150	1,326	1,192	76
Apr. 7–10	628	836			366	98	1,420	139	915	2,365		3.0		5,240	7.13	8,880	1,316	1,202	70
Apr. 11, 13–14, 16	[10] 1,322	354			207	44	488	136	540	768		2.5		2,116	2.88	7,550	698	586	60
Apr. 17–19	[11] 1,693	151			88	18	197	108	164	328		.5		849	1.15	3,880	294	205	59
Apr. 23–28	[12] 147	325			177	45	442	154	416	728		2.0		1,886	2.56	749	626	500	61
May 1, 3, 6–10	[13] 141	363			210	62	488	171	529	815		.5		2,189	2.98	833	779	639	58
May 11–14, 16–19	[14] 125	407			236	65	561	153	642	910		.2		2,490	3.39	840	856	731	59
May 20	310	1,378			410	107	2,630	142	949	4,310		.5		8,480	11.53	7,100	1,463	1,346	80
May 22–28, 31	462	301			144	38	431	150	360	675		3.0		1,725	2.35	2,150	516	392	65
May 21, 29–30	213	640			258	66	1,059	149	663	1,705		2.0		3,830	5 21	2,200	916	794	72
June 1, 8–10	4,755	447			257	45	642	119	691	995		2.8		2,690	3.66	34,500	826	729	63
June 2–7	821	232			192	31	249	110	510	372		2.2		1,410	1.92	3,130	606	516	47
June 11–20	1,205	265			142	25	386	137	382	555		4.6		1,562	2.12	5,080	458	345	65
June 21, 26–29	337	329			230	36	419	108	548	690		1.5		1,978	2.69	1,800	722	634	56
June 22–25, 30	335	211			178	27	238	107	439	372		2.8		1,310	1.78	1,180	555	468	48
July 1, 4–7, 9–10	300	409			277	42	575	110	723	900		3.5		2,570	3.50	2,080	864	774	59
July 2–3	325	181			106	18	236	117	235	360		3.0		1,016	1.38	892	338	242	60
July 8	1,110	897			502	77	1,437	133	164	2,390		2.0		5,640	7.67	16,900	1,570	1,460	67
July 11–20	160	370			186	37	564	126	548	825		4.2		2,226	3.03	962	616	512	67
July 21–22, 25–27	29.4	539			278	60	840	120	793	1,305		1.0		3,340	4.54	265	940	842	66
July 23–24, 28–31	20.4	897			380	85	1,549	128	966	2,520		.5		5,560	7.56	306	1,298	1,193	72
Aug. 1–10	4.29	872			368	95	1,199	128	647	2,580		.2		4,950	6.73	57	1,809	1,704	59
Aug. 11–20	1.43	713			342	99	1,041	156	512	2,030		1.0		4,100	5.58	16	1,260	1,132	64
Aug. 21–31	.40	633	10	.05	326	83	962 | 4 8	176	541	1,800	.7	5.5		3,820	5.20	4	1,155	1,011	64
Sept. 1–10	.09	637			322	83	943	188	533	1,760		3.5		3,740	5.09	1	1,145	991	64
Sept. 11–20	0	555			288	73	813	216	484	1,490		3.5		3,260	4.43	0	1,018	842	63
Sept. 21–30	0	476			242	63	743	224	509	1,250		2.5		2,920	3.97	0	863	680	65
Weighted Average	678	244			136	27	340	118	305	549		2.2		1,420	1.93	2,600	450	354	62

See footnotes at end of table.

BRAZOS RIVER NEAR SOUTH BEND, TEX.—Continued

Chemical analyses, in equivalents per million, water year October 1942 to September 1943

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. 1–10, 1942	540				9.18	3.12	23.64		2.18	9.26	24.48		0.02							66
Oct. 11–14	229				14.32	4.93	40.97		2.39	15.51	42.30		.02							68
Oct. 15	2,700				5.64	1.64	12.28		1.70	4.85	12.97		.04							63
Oct. 16	5,080				3.64	1.07	6.86		1.98	2.14	7.39		.06							59
Oct. 17–20	24,920				3.19	.80	3.69		1.46	2.31	3.89		.02							48
Oct. 21–22	6,885				3.79	1.07	4.48		2.17	3.04	4.06		.07							48
Oct. 23–26, 31	1,620				5.74	1.56	9.82		2.23	5.18	9.65		.06							57
Nov. 1																				
Oct. 27–30	646				7.99	2.22	18.39		2.45	7.41	18.67		.07							64
Nov. 4–10	[1] 821				7.39	2.47	16.55		2.23	6.39	17.77		.02							63
Nov. 11–18	[2] 261				11.58	4.11	28.66		2.74	9.93	31.59	0.03	.06							65
Nov. 28–30	[3] 138				13.93	5.35	36.22		3.36	11.74	40.33	.01	.06							65
Dec. 1–3, 5–10	[4] 129				12.93	5.02	33.86		3.49	10.93	37.37		.02							65
Dec. 11–14, 16, 18–20	[5] 150				15.77	6.83	43.39		3.47	13.37	49.07		.08							66
Dec. 21	[6] 543				14.57	6.58	69.50		2.95	12.05	75.58		.07							77
Jan. 2–10, 1943	[7] 210				12.38	5.26	41.20		3.31	12.49	43.01		.03							70
Jan. 11–20	120				14.37	6.33	46.57		3.41	13.70	50.06		.10							69
Jan. 21–31	80.5				15.87	7.07	50.18		3.31	15.22	54.57		.02							69
Feb. 1–3, 5–10	[8] 60.9				17.27	7.73	48.27		3.64	15.26	54.29		.08							66
Feb. 11–20	52.7				16.17	7.73	42.67		3.70	14.59	48.23		.05							64
Feb. 21–28	53.4				14.52	7.07	40.97		2.52	14.01	45.97		.06							65
Mar. 1–10	54.8				14.28	7.65	39.38		1.95	14.18	45.13		.05							64
Mar. 11–20	145				15.47	8.14	34.61		3.29	12.97	41.88		.08							59
Mar. 21–24	117				15.17	8.14	33.46		3.20	18.13	35.39		.05							59
Mar. 25–27	[9] 1,046				5.49	2.38	9.10		2.05	3.73	11.14		.05							54
Apr. 1–3	215				14.77	6.09	31.38		2.21	16.86	33.14		.03							60
Apr. 4–6	123				18.47	8.36	82.53		2.69	18.88	87.43		.06							73
Apr. 7–10	628				18.27	8.06	61.75		2.28	19.05	66.70		.05							70
Apr. 11, 13–14, 16	[10] 1,322				10.33	3.62	21.22		2.23	11.24	21.66		.04							60
Apr. 17–19	[11] 1,693				4.39	1.48	8.57		1.77	3.41	9.25		.01							59
Apr. 23–28	[12] 147				8.83	3.70	19.21		2.52	8.66	20.53		.03							61

May 1, 3, 6–10	[13] 141				10.48	5.10	21.23		2.80	11.01	22.99		.01							58
May 11–14, 16–19	[14] 125				11.78	5.35	24.41		2.51	13.37	26.66		.00							59
May 20	310				20.46	8.80	114.40		2.33	19.76	121.56		.01							80
May 22–28, 31	462				7.19	3.12	18.74		2.46	7.50	19.04		.05							65
May 21, 29–30	213				12.88	5.43	46.05		2.44	13.80	48.09		.03							72
June 1, 8–10	4,755				12.83	3.70	27.92		1.95	14.39	28.06		.05							63
June 2–7	821				9.58	2.55	10.83		1.80	10.62	10.49		.04							47
June 11–20	1,205				7.09	2.06	16.77		2.25	7.95	15.65		.07							65
June 21, 26–29	337				11.48	2.96	18.22		1.77	11.41	19.46		.02							56
June 22–25, 30	335				8.88	2.22	10.33		1.75	9.14	10.49		.05							48
July 1, 4–7, 9–10	300				13.83	3.45	25.01		1.80	15.05	25.38		.06							59
July 2–3	325				5.29	1.48	10.24		1.92	4.89	10.15		.05							60
July 8	1,110				25.06	6.33	62.46		2.18	24.23	67.41		.03							67
July 11–20	160				9.28	3.04	24.50		2.07	11.41	23.27		.07							67
July 21–22, 25–27	29.4				13.88	4.93	36.50		1.97	16.51	36.81		.02							66
July 23–24, 28–31	20.4				18.97	6.99	67.33		2.10	20.11	71.07		.01							72
Aug. 1–10	4.29				18.37	7.81	52.15		2.10	13.47	72.76		.00							59
Aug. 11–20	1.43				17.07	8.14	45.28		2.56	10.66	57.25		.02							64
Aug. 21–31	.40				16.27	6.83	41.82	.12	2.88	11.26	50.77	.04	.09							64
Sept. 1–10	.09				16.07	6.83	40.98		3.08	11.10	49.64		.06							64
Sept. 11–20	0.				14.37	6.00	35.33		3.54	10.08	42.02		.06							63
Sept. 21–30	0.				12.08	5.18	32.30		3.67	10.60	35.25		.04							65
Weighted average	678				6.79	2.22	14.78		1.93	6.35	15.48		0.04							62

[1] Includes discharge for Nov. 2–10
[2] Includes discharge for Nov. 11–20.
[3] Includes discharge for Nov. 21–30.
[4] Includes discharge for Dec. 1–10.
[5] Includes discharge for Dec. 11–20.
[6] Includes discharge for Dec. 21–31.
[7] Includes discharge for Jan. 1–10.
[8] Includes discharge for Feb. 1–10.
[9] Includes discharge for Mar. 25–31.
[10] Includes discharge for Apr. 11–16.
[11] Includes discharge for Apr. 17–20.
[12] Includes discharge for Apr. 21–30.
[13] Includes discharge for May 1–10.
[14] Includes discharge for May 11–19.

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 1943.

EXTREMES, 1942–43.—Dissolved solids: Maximum, 1,291 parts per million Jan. 11–20; minimum, 846 parts per million Dec. 21–31.
Total hardness: Maximum, 440 parts per million, Jan. 11–20, Sept. 21–30; minimum, 318 parts per million Dec. 21–31.

EXTREMES, JANUARY 1942 TO SEPTEMBER 1943.—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 1942 to September 1943 are given in Water-Supply Paper 978.

Chemical analyses, in parts per million, water year October 1942 to September 1943

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, 1942	120	168	.....	.....	106	22	200		149	191	330	.....	3.0	.....	925	1.26	300	355	233	55
Oct. 11–20	13,310	156	.....	.....	102	20	189		142	179	315	.....	1 5	.....	877	1.19	31,500	336	220	55
Oct. 21, 23–30	[1] 3,097	179	.....	.....	115	21	235		141	221	380	.....	3.0	.....	1,044	1 42	8,730	374	258	58
Nov. 1–10	1,211	178	.....	.....	110	22	228		132	219	372	.....	1 5	.....	1,018	1 38	3,330	365	257	58
Nov. 11–20	309	171	.....	.....	106	21	218		134	208	352	.....	1.2	.....	972	1 32	811	351	241	57
Nov. 21–30	315	162	8.0	0 20	104	21	194		127	182	335	0 2	2.0	.....	909	1.24	773	346	242	55
Dec. 1–10	267	163	.....	.....	100	19	206		128	192	333	.....	.2	.....	913	1.24	658	328	222	58
Dec. 11–20	308	159	.....	.....	104	19	183		132	179	312	.....	1 0	.....	863	1 17	718	338	230	54
Dec. 21–31	350	157	.....	.....	98	18	183		123	187	298	.....	1.8	.....	846	1 15	799	318	218	56
Jan. 2–8, 10, 1943	[2] 245	185	.....	.....	108	19	243		132	215	385	.....	.8	.....	1,036	1 41	685	348	240	60
Jan. 11–20	536	233	.....	.....	132	27	302		140	242	516	.....	3 0	.....	1,291	1 76	1 870	440	326	60
Jan. 21–31	1,147	210	.....	.....	116	24	276		134	220	460	.....	1 0	.....	1,163	1 58	3,600	388	288	61
Feb. 2–10	[3] 1,141	200	.....	.....	118	23	265		134	218	445	.....	1 0	.....	1,136	1 54	3,500	389	279	60
Feb. 11–20	1,142	198	.....	.....	116	24	259		137	215	435	.....	1 0	.....	1,118	1 52	3,450	388	276	59
Feb. 21–28	1,172	198	.....	.....	118	22	272		141	223	445	.....	1 5	.....	1,151	1 57	3,640	385	270	61

Mar. 1–10	1,162	183			114	21	250	135	216	410		1.5		1,079	1.47	3,390	371	260	59
Mar. 11–20	1,198	174			103	21	213	121	195	358		5		950	1.29	3,070	344	244	57
Mar. 21–27, 29–31	1,350	168			112	21	210	134	195	360		1.0		965	1.31	3,520	366	256	55
Apr. 1–9	[4] 1,338	169			106	20	223	138	198	362		1.0		978	1.33	3,530	346	234	58
Apr. 11–20	1,246	182			106	21	234	131	204	382		2.0		1,014	1.38	3,410	351	244	59
Apr. 21–25, 27	[5] 1,240	183			109	21	230	135	203	380		1.0		1,010	1.37	3,380	358	248	58
May 7–10	[6] 598	177			107	21	224	130	195	375		1.5		988	1.34	1,600	354	247	58
May 11–12, 16–20	200	174			104	21	218	129	194	362		1.0		964	1.31	521	346	240	58
May 21–27, 29–30	[7] 882	173			103	22	212	130	192	355		2.5		950	1.29	2,260	348	241	57
June 3–4, 6–10	[8] 717	171			105	20	212	127	190	360		1.2		951	1.29	1,840	344	240	57
June 11–20	785	173			107	20	218	135	188	365		2.0		966	1.31	2,050	349	238	58
June 21–30	920	177			109	21	227	136	198	378		1.2		1,001	1.36	2,490	358	247	58
July 1–7, 9–10	899	184			114	21	230	140	204	385		2.0		1,025	1.39	2,490	371	256	57
July 11–20	793	189			112	23	243	140	203	408		1.5		1,060	1.44	2,270	374	260	59
July 21–31	1,107	194			116	24	248	138	218	415		1.0		1,090	1.48	3,260	388	275	58
Aug. 1–10	1,054	203			116	25	263	144	232	428		.5		1,135	1.54	3,230	392	274	59
Aug. 11–20	613	212			118	27	282	151	242	455		1.0		1,199	1.63	1,980	406	282	60
Aug. 21–31	433	214	7.0	.05	129	27	278 | 5.6	143	247	472	.4	3.8		1,240	1.69	1,450	433	316	58
Sept. 1–10	433	222			128	27	285	147	250	472		3.5		1,238	1.68	1,450	430	310	59
Sept. 11–20	67.4	224			125	28	299	147	252	490		3.5		1,270	1.73	231	427	306	60
Sept. 21–30	73.0	225			130	28	301	155	255	495		3.5		1,289	1.75	254	440	312	60
Weighted average	1,161	176			109	21	223	138	201	370		1.6		994	1.35	3,110	358	246	57

See footnotes at end of table.

Chemical analyses, in equivalents per million, water year October 1942 to September 1943

Oct. 1–10, 1942	120				5.29	1.81	8.68	2.44	3.98	9.31		0.05							55
Oct. 11–20	13,310				5.09	1.64	8.23	2.33	3.73	8.88		.02							55
Oct. 21, 23–30	[1] 3,097				5.74	1.73	10.21	2.31	4.60	10.72		.05							58
Nov. 1–10	1,211				5 49	1.81	9 93	2.16	4 56	10.49		.02							58
Nov. 11–20	309				5.29	1.73	9.46	2.20	4.33	9.93		.02							57
Nov. 21–30	315				5 19	1.73	8.44	2.08	3.79	9.45	0.01	.03							55
Dec. 1–10	267				4.99	1.56	8.94	2.10	4.00	9.39		.00							58
Dec. 11–20	308				5 19	1.56	7.96	2 16	3.73	8.80		.02							54
Dec. 21–31	350				4.89	1.48	7 97	2.02	3 89	8 40		.03							56
Jan. 2–8, 10, 1943	[2] 245				5.39	1.56	10.56	2.16	4 48	10.36		.01							60
Jan. 11–20	536				6.95	2 22	13.12	2.29	5.04	14.55		.05							60
Jan. 21–31	1,147				5 79	1.97	12.01	2.20	4.58	12.97		.02							61

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

Chemical analyses, in equivalents per million, water year October 1942 to September 1943—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
Feb. 2–10	[3] 1,141				5.89	1.89	11.53		2.20	4.54	12.55		0.02							60
Feb. 11–20	1,142				5.79	1.97	11.26		2.25	4.48	12.27		.02							59
Feb. 21–28	1,172				5.89	1.81	11.62		2.31	4.64	12.55		.02							61
Mar. 1–10	1,162				5.69	1.73	10.87		2.21	4.50	11.56		.02							59
Mar. 11–20	1,198				5.14	1.73	9.28		1.98	4.06	10.10		.01							57
Mar. 21–27, 29–31	1,350				5.59	1.73	9.11		2.20	4.06	10.15		.02							55
Apr. 1–9	[4] 1,338				5.29	1.64	9.68		2.26	4.12	10.21		.02							58
Apr. 11–20	1,246				5.29	1.73	10.18		2.15	4.25	10.77		.03							59
Apr. 21–25, 27	[5] 1,240				5.44	1.73	10.01		2.21	4.23	10.72		.02							58
May 7–10	[6] 598				5.34	1.73	9.72		2.13	4.06	10.58		.02							58
May 11–12, 16–20	200				5.19	1.73	9.46		2.11	4.04	10.21		.02							58
May 21–27, 29–30	[7] 882				5.14	1.81	9.23		2.13	4.00	10.01		.04							57
June 3–4, 6–10	[8] 717				5.24	1.64	9.23		2.08	3.96	10.15		.02							57
June 11–20	785				5.34	1.64	9.46		2.21	3.91	10.29		.03							58
June 21–30	920				5.44	1.73	9.86		2.23	4.12	10.66		.02							58
July 1–7, 9–10	899				5.69	1.73	10.01		2.29	4.25	10.86		.03							57
July 11–20	793				5.59	1.89	10.57		2.29	4.23	11.51		.02							59
July 21–31	1,107				5.79	1.97	10.80		2.26	4.54	11.70		.02							58
Aug. 1–10	1,054				5.79	2.06	11.42		2.36	4.83	12.07		.01							59
Aug. 11–20	613				5.89	2.22	12.26		2.48	5.04	12.83		.02							60
Aug. 21–31	433				6.44	2.22	12.07	0.14	2.34	5.14	13.31	0.02	.06							58
Sept. 1–10	433				6.39	2.22	12.37		2.41	5.20	13.31		.06							59
Sept. 11–20	67.4				6.24	2.30	13.00		2.41	5.25	13.82		.06							60
Sept. 21–30	73.0				6.49	2.30	13.08		2.54	5.31	13.96		.06							60
Weighted average	1,161				5.44	1.73	9.70		2.26	4.18	10.44		0.03							57

[1] Includes discharge for Oct. 21–31.
[2] Includes discharge for Jan. 1–10.
[3] Includes discharge for Feb. 1–10
[4] Includes discharge for Apr. 1–10.
[5] Includes discharge for Apr. 21–30
[6] Includes discharge for May 1–10.
[7] Includes discharge for May 21–31.
[8] Includes discharge for June 1–10.

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, March 1939 to September 1943. (See table on page 176.)

EXTREMES, 1942–43.—Dissolved solids: Maximum, 1,631 parts per million June 29–30; minimum, 347 parts per million May 1–10.
Total hardness: Maximum, 686 parts per million June 29–30; minimum, 168 parts per million May 1–10.

EXTREMES, 1937, 1939–43.—Dissolved solids: Maximum, that of June 29–30, 1943; minimum, 183 parts per million June 1–10, 1942.
Total hardness: Maximum, that of June 29–30, 1943; minimum, 101 parts per million June 11–20, 1942.

REMARKS.—Records of discharge for water year October 1942 to September 1943 are given in Water-Supply Paper 978.

Chemical analyses, in parts per million, water year October 1942 to September 1943

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, 1942	526	60 3	26	0.07	60	12	57	4.0	176	136	25	0.3	1.0	0.4	408	0 55	579	199	55	39
Oct. 11–20	688	69.6	28	.12	67	15	68	4.0	182	181	30	.3	2.5	.4	486	.66	903	228	80	40
Oct. 21–31	479	68.0	30	.11	66	13	62	3.0	193	150	28	.7	1.0	.4	449	.61	581	218	60	39
Nov. 1–10	341	71.9	32	.10	70	14	68	5 0	206	163	34	.7	.6	.4	489	67	450	232	63	40
Nov. 11–20	216	80.8	28	.07	76	14	77	4 6	217	182	40	5	.8	.8	530	.72	309	247	69	41
Nov. 21–30	305	81.0	28	.05	76	15	80	2 8	218	188	40	.4	.4	.8	538	.73	443	251	72	41
Dec. 1–10	678	71.8	28	.06	68	14	66	2.6	201	155	35	.3	.8	.6	469	.64	859	227	62	39
Dec. 11–20	847	64 9	30	.10	64	13	57	4.6	195	137	29	.7	1.0	.8	432	.59	988	213	53	38
Dec. 21–31	988	62.8	30	.08	60	13	56	3.8	186	131	30	.7	1.7	.8	418	.57	1,120	203	50	38
Jan. 1–10, 1943	878	64.3	30	.06	62	12	60	3.4	192	133	33	.8	1.3	.6	430	.59	1,020	204	46	40
an. 11–20	786	66.0	30	.06	63	13	61	3.8	189	131	35	.4	1.0	.4	431	.59	915	210	56	40
Jan. 21–31	852	62.4	29	.06	60	12	59	4.2	183	123	34	.4	1.0	.4	413	.56	950	199	49	40
Feb. 1–10	769	62.0	28	.07	59	13	57	2.7	183	121	32	.4	1.0	.4	404	.55	839	200	50	39
Feb. 11–20	718	61.3	28	.05	58	12	57	3 0	184	123	32	.3	1.3	.8	405	.55	785	194	43	40
Feb. 21–28	775	59.2	29	.07	56	11	55	2.9	175	119	31	.4	1.3	.8	392	.53	820	185	42	40
Mar. 1–10	704	58.9	28	.06	56	11	53	3.0	173	117	31	.4	1.4	.6	386	.52	734	185	43	39
Mar. 11–20	651	69.8	31	.08	63	14	70	5.8	183	167	36	.5	2.4	.4	480	.65	844	214	64	43
Mar. 21–31	190	77.2	36	.06	66	16	79	6.6	192	181	45	.5	1.7	.4	526	.72	270	230	73	44

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

Chemical analyses, in parts per million, water year October 1942 to September 1943—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	544	76.0	35	0.06	70	15	74	6 8	197	182	39	0.5	1.7	0.6	521	0.71	765	236	74	42
Apr. 11–20	879	65.2	26	02	65	14	61	6.4	178	154	28	.4	3.5	.3	446	.61	1,060	220	74	39
Apr. 21–30	1,110	61 8	24	.02	58	13	56	4.3	174	136	30	.5	3.2	.3	411	.56	1,230	198	56	39
May 1–10	1,513	52 1	24	.02	49	11	47	4.8	151	111	22	.4	3.2	.3	347	.47	1,420	168	44	39
May 11–20	802	62 4	33	.05	58	12	57	3 7	174	132	29	.4	2.4	5	413	56	894	194	52	40
May 21	785	128	------	------	112	24	142		191	387	89	.7	.4	.6	849	1.15	1.800	378	222	45
May 22–23, 25–31	328	77.4	34	.04	69	15	74	4.3	197	180	38	.5	2.0	.5	514	70	455	234	72	42
June 1, 3–10	373	70 5	36	.05	68	14	64	3.7	193	163	30	.4	2.2	.5	476	.65	479	227	69	39
June 11–20	290	73.1	30	.05	62	14	76	4.6	179	176	36	.4	2.1	.6	489	.67	383	212	66	45
June 21–26, 28	207	75.5	28	.05	68	14	73	4.2	195	171	35	.4	2.4	.6	492	.67	275	227	67	42
June 29–30	3,650	223	------	------	191	51	277		283	354	118	------	1.0	------	1,631	2.22	16,100	686	454	47
July 1–2	1,640	102	21	.04	80	18	118	5.3	175	331	35	------	1 2	.5	696	.95	3,080	274	130	49
July 3–10	490	70 7	28	.04	65	13	72	5.6	183	172	31	.5	5.0	.6	492	.66	638	216	66	43
July 11–20	227	76.0	32	.06	69	14	77	5.4	196	183	36	.6	2.8	.6	516	.70	316	230	69	43
July 21	837	117	------	------	104	26	132		266	314	77	------	.5	------	784	1.07	1,770	366	148	44
July 22–25, 27–31	492	79.5	32	.28	73	15	80	4.2	198	195	37	4	2.5	.6	537	.73	713	244	91	42
Aug. 1–2, 4, 8–13, 16–17, 20	347	92.5	30	.12	82	17	99	4.3	201	250	45	.6	1.8	.6	629	.86	589	274	110	45
Aug. 5–7, 14–15, 18–19	572	157	24	.16	154	34	172	6.0	226	600	57	.7	1.4	.6	1,161	1 58	1,790	524	340	42
Aug. 21–22	377	106	------	------	108	22	103		234	323	38	.6	.5	.5	710	.97	723	360	168	38
Aug. 23–29, 31	883	171	22	.02	172	36	178	7.0	245	648	72	.6	.8	.7	1,257	1.71	3,000	577	376	41
Sept. 1–10	309	94 5	27	.02	88	17	95	7 7	201	267	42	.6	2.5	.7	646	.88	539	290	125	43
Sept. 11–20	272	81.5	10	.02	76	15	80	6.9	197	217	33	.6	3.0	.6	539	.73	396	251	90	42
Sept. 21–30	257	77.2	31	.04	72	14	72	4.8	210	184	34	.6	2.0	.6	518	.70	359	237	65	41
Weighted average	613	78.3	28	0.06	73	16	78	4.4	191	203	36	0.5	1.8	0.5	535	0.73	885	248	92	40

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

Chemical analyses, in equivalents per million, water year October 1942 to September 1943

Oct. 1–10, 1942	526				2.99	0.99	2.48	0.10	2.88	2 83	0 71	0.02	0.02						39
Oct. 11–20	688				3.34	1.23	2.96	.10	2.98	3.77	.85	.02	.04						40
Oct. 21–31	479				3.29	1.07	2.70	.08	3.16	3.12	.79	.04	.02						39
Nov. 1–10	341				3.49	1.15	2.96	.13	3.38	3.39	.96	.04	.01						40
Nov. 11–20	216				3.79	1.15	3 35	.12	3.56	3.79	1.13	.03	.01						41
Nov. 21–30	305				3.79	1.23	3.48	.07	3.57	3.91	1.13	.02	.01						41
Dec. 1–10	678				3.39	1.15	2.87	.07	3.29	3.23	.99	.02	.01						39
Dec. 11–20	847				3.19	1.07	2.48	.12	3.20	2.85	.82	.04	.02						38
Dec. 21–31	988				2.99	1.07	2.44	.10	3.05	2.73	.85	.04	.03						38
Jan. 1–10, 1943	878				3.09	.99	2.61	.09	3.15	2.77	93	.04	.02						40
Jan. 11–20	786				3.14	1.07	2.65	.10	3.10	2.73	.99	.02	.02						40
Jan. 21–31	852				2.99	.99	2.57	.11	3.00	2.56	.96	.02	.02						40
Feb. 1–10	769				2.94	1.07	2.48	.07	3 00	2.52	.90	.02	.02						39
Feb. 11–20	718				2.89	.99	2.48	.08	3.02	2.56	.90	.02	.02						40
Feb. 21–28	775				2.80	.90	2.39	.07	2.87	2.48	.87	.02	.02						40
Mar. 1–10	704				2.80	.90	2.30	.08	2.84	2.44	.87	.02	.02						39
Mar. 11–20	651				3.14	1.15	3 04	.15	3.00	3.48	1.02	.03	04						43
Mar. 21–31	190				3.29	1.32	3.44	.17	3.15	3.77	1.27	.03	.03						44
Apr. 1–10	544				3.49	1.23	3.22	.17	3.23	3.79	1.10	.03	.03						42
Apr. 11–20	879				3.24	1.15	2.65	.16	2.92	3.21	.79	.02	.06						39
Apr. 21–30	1,110				2.89	1.07	2.44	.11	2.85	2.83	.85	.03	.05						39
May 1–10	1,513				2.45	.90	2.04	.12	2.48	2.31	.62	.02	.05						39
May 11–20	802				2.89	.99	2 48	.09	2.85	2.75	.82	.02	.04						40
May 21	785				5.59	1.97	6.19		3.13	8.06	2.51	.04	.01						45
May 22–23, 25–31	328				3.44	1.23	3.22	.11	3.23	3.75	1.07	.03	.03						42
June 1, 3–10	373				3.39	1.15	2.78	.09	3.16	3.39	.85	.02	.04						39
June 11–20	290				3.09	1.15	3.30	.12	2.93	3.66	1.02	.02	.03						45
June 21–26, 28	207				3.39	1.15	3.17	.11	3.20	3.56	.99	.02	.04						42
June 29–30	3,650				9.53	4.19	12.05		4.64	17.78	3.33	-----	.02						47
July 1–2	1,640				3.99	1.48	5.13	.14	2.87	6.89	.99	-----	.02						49
July 3–10	490				3.24	1.07	3.11	.14	3.00	3.58	.87	.03	.08						43
July 11–20	227				3.44	1.15	3.35	.14	3.21	3.81	1.02	.03	.05						43
July 21	837				5.19	2.14	5.75		4.36	6.54	2.17	-----	.01						44
July 22–25, 27–31	492				3.64	1.23	3.48	.11	3.25	4.06	1.04	.02	.04						42
Aug. 1–2, 4, 8–13, 16–17, 20	347				4.09	1.40	4.30	.11	3.29	5.20	1.27	.03	.03						45
Aug. 5–7, 14–15, 18–19	572				7.69	2.80	7.48	.15	3.70	12.49	1.61	.04	.02						42
Aug. 21–22	377				5.39	1.81	4.47		3.84	6.72	1.07	.03	.01						38
Aug. 23–29, 31	883				8.58	2.96	7.74	.18	4.02	13.49	2.03	.03	.01						41
Sept. 1–10	309				4.39	1.40	4.13	.20	3.29	5.56	1.18	.03	.04						43
Sept. 11–20	272				3.79	1.23	3.48	.18	3.23	4.52	93	.03	.05						42
Sept. 21–30	257				3.59	1.15	3.13	.12	3.44	3.83	.96	.03	.03						41
Weighted average	613				3.64	1.32	3.39	0.11	3.13	4.23	1.02	0.03	0.03						40

PECOS RIVER NEAR GUADALUPE, 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 east of Guadalupe.

DRAINAGE AREA.—4,390 square miles (contributing area).

RECORDS AVAILABLE.—Chemical analyses: June 1937 to September 1943. (See table on page 174.)

EXTREMES, 1942-43.—Dissolved solids: Maximum, 1,605 parts per million Sept. 21–30; minimum, 735 parts per million Oct. 1–10.
Total hardness: Maximum, 1,070 parts per million, Sept. 21–30; minimum, 503 parts per million Oct. 1–10.

EXTREMES, 1937–43.—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, 12–30, 1941.

REMARKS.—Records of discharge for water year October 1942 to September 1943 are given in Water-Supply Paper 978.

Chemical analyses, in parts per million, water year October 1942 to September 1943

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. 1–7, 9–10, 1942	142	98.4	16	0.05	162	24	30	2.6	103	423	26	0.4	0.6	0.4	735	1.00	282	503	418	12
Oct. 11–20	265	102	14	.06	168	25	30	2.6	119	432	29	.3	.8	.4	760	1.03	544	522	425	12
Oct. 21–31	172	109	14	.05	182	27	31	3.6	106	480	33	.4	.6	.6	824	1.12	383	565	478	11
Nov. 1–10	2,367	111	12	.06	188	27	30	3.6	117	484	34	.6	.4	.6	837	1.14	5,350	580	484	11
Nov. 11–20	283	117	12	.06	199	29	34	3.4	118	516	36	.5	.2	.6	888	1.21	679	616	519	11
Nov. 21–30	78.9	126	9.5	.04	212	28	39	1.4	117	556	42	.3	.4	.4	946	1.29	202	644	548	12
Dec. 1–9	3.6	133	12	.05	216	35	49	2.0	129	594	47	.4	.2	.8	1,019	1.39	9.9	683	578	14
Dec. 12–20	117	130	10	.04	221	31	41	1.6	122	586	46	.7	.2	.4	998	1.36	315	679	579	12
Dec. 21–31	175	135	10	.04	231	33	40	2.4	125	606	47	.3	.4	.6	1,032	1.40	488	712	610	11
Jan. 1–10, 1943	172	138	11	.03	236	34	34	1.8	125	615	47	.2	.2	.6	1,041	1.42	483	729	626	9
Jan. 11–12, 14–15, 17–20	159	141	10	.03	242	34	36	2.2	122	635	50	.3	.2	.6	1,070	1.46	459	744	644	10
Jan. 21–31	83.0	148	16	.10	237	44	56	2.2	138	669	56	.3	.6	.6	1,149	1.56	257	772	660	14
Feb. 1–10	4.6	154	12	.06	258	44	52	3.0	132	719	61	.3	.2	.6	1,215	1.65	15	825	717	12
Feb. 11–20	3.6	156	13	.08	272	45	49	3.2	132	737	62	.2	.2	.6	1,247	1.70	12	864	756	11
Feb. 21–28	3.2	161	11	.04	277	49	54	1.8	136	754	62	.2	.4	.4	1,269	1.73	11	864	752	12
Mar. 1–10	3.4	163	10	.04	278	43	55	1.6	120	770	65	.2	.2	.6	1,282	1.74	12	871	772	12
Mar. 11–20	3.7	164	11	.04	283	43	55	2.0	120	778	65	.3	.2	.6	1,297	1.76	13	884	785	12
Mar. 21–30	677	160	17	.06	274	45	55	4.0	80	790	66	.3	.8	.2	1,292	1.76	2,360	869	804	13

Apr. 1–10	393	164	15	.05	285	45	55	4.4	102	813	68	.3	.2	.2	1,336	1.82	1,420	896	813	12
Apr. 11–20	119	164	13	.07	287	42	54	4.0	97	818	65	.3	.2	.2	1,331	1.81	428	888	809	12
Apr. 21–30	90.3	166	22	.05	286	44	57	3.5	71	822	67	.3	1.3	.4	1,338	1.82	33	895	837	13
May 1–10	99.6	167	19	.05	293	42	54	2.6	73	830	67	.3	1.2	.4	1,345	1.83	362	904	844	12
May 11–15, 17–20	117	167	19	.05	291	42	54	2.7	65	837	67	.3	.8	.4	1,346	1.83	425	898	845	12
May 21–31	121	167	16	.05	292	43	54	2.6	75	827	68	.3	1.1	.4	1,341	1.82	438	906	844	12
June 1–10	1,198	172	14	.05	300	44	55	3.2	86	850	70	.3	.9	.4	1,380	1.88	4,460	930	859	12
June 11–16, 18–20	753	173	14	.05	308	43	53	2.2	95	848	71	.3	.9	.4	1,387	1.89	2,820	946	868	11
June 21–23, 27–30	93.6	171	12	.06	307	42	55	3.8	96	849	69	.4	.8	.2	1,386	1.88	350	938	860	12
July 1–10	32.5	161	17	.04	272	41	60	3.2	76	781	67	.4	.6	.3	1,280	1.74	112	848	785	14
July 11–20	101	172	12	.04	298	42	60	2.2	89	831	71	.4	.6	.3	1,361	1.85	371	916	843	13
July 21–30	121	170	14	.04	295	42	61	3.0	83	830	70	.4	.4	.3	1,357	1.85	443	908	840	13
Aug. 1–7, 9–10	106	173	13	.06	304	46	55	2.3	89	854	71	.4	1.0	.4	1,391	1.89	398	948	874	11
Aug. 11–20	941	179	14	.06	314	45	56	1.8	99	879	72	.4	.4	.4	1,431	1.95	3,640	968	888	11
Aug. 21–25, 27–31	978	181	13	.04	324	45	57	2.2	105	884	75	.4	.8	.4	1,453	1.98	3,840	994	908	11
Sept. 1–8, 10	130	183	16	.02	316	47	64	5.3	92	900	76	.4	1.0	.4	1,471	2.00	516	982	906	13
Sept. 11–20	886	186	14	.02	326	48	65	5.3	104	926	78	.4	1.2	.4	1,515	2.06	3,620	1,011	926	13
Sept. 21–30	108	195	18	.02	345	51	68	4.6	110	979	84	.4	1.0	.4	1,605	2.18	468	1,070	980	13
Weighted average	311	153	13	0.05	266	39	48	3.2	102	733	59	0.4	0.7	0.4	1,213	1.65	1,020	824	741	11

Chemical analyses, in equivalents per million, water year October 1942 to September 1943

Oct. 1–7, 9–10, 1942	142				8.09	1.97	1.30	0.07	1.69	8.81	0.73	0.02	0.01						12
Oct. 11–20	265				8.39	2.06	1.30	.07	1.95	8.99	.82	.02	.01						12
Oct. 21–31	172				9.08	2.22	1.35	.09	1.74	9.99	.93	.02	.01						11
Nov. 1–10	2,367				9.38	2.22	1.30	.09	1.92	10.08	.96	.03	.01						11
Nov. 11–20	283				9.93	2.38	1.48	.09	1.93	10.74	1.02	.03	.00						11
Nov. 21–30	79.9				10.58	2.30	1 70	.04	1.92	11.58	1.18	.02	.01						12
Dec. 1–9	3.6				10.78	2.88	2.13	.05	2.11	12.36	1.33	.02	.00						14
Dec. 12–20	117				11.03	2.55	1.78	.04	2.00	12.20	1.30	.04	.00						12
Dec. 21–31	175				11.53	2.71	1.74	.06	2.05	12.62	1.33	.02	.01						11
Jan. 1–10, 1943	172				11.78	2.80	1.48	.05	2.05	12.80	1.33	.01	.00						9
Jan. 11–12, 14–15, 17–20	159				12.08	2.80	1.57	.06	2.00	13.22	1.41	.02	.00						10
Jan. 21–31	83.0				11.83	3.62	2.44	.06	2.26	13.93	1.58	.02	.01						14
Feb. 1–10	4.6				12.88	3.62	2.36	.08	2.16	14.97	1.72	.02	.00						12
Feb. 11–20	3.6				13.58	3.70	2.13	.08	2.16	15.34	1.75	.01	.00						11
Feb. 21–28	3.2				13.83	3.45	2.35	.05	2.23	15.70	1.75	.01	.01						12
Mar. 1–10	3.4				13.88	3.54	2.39	.04	1.97	16.03	1.83	.01	.00						12
Mar. 11–20	3.7				14.13	3.54	2.39	05	1.97	16:20	1.83	.02	.00						12
Mar. 21–30	677				13.68	3.70	2.39	.10	1.31	16.45	1.86	.02	.01						13

PECOS RIVER NEAR GUADALUPE, N. MEX.—Continued

Chemical analyses, in equivalents per million, water year October 1942 to September 1943—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	
Apr. 1–10	393				14.23	3.70	2.39	0.11	1.67	16.93	1.92	0.02	0.00							12
Apr. 11–20	119				14.32	3.45	2.35	.10	1 59	17.03	1.83	.02	.00							12
Apr. 21–30	90.3				14.28	3.62	2.48	.09	1.16	17.11	1.89	.02	.02							13
May 1–10	99.6				14.62	3.45	2.35	.07	1.20	17.28	1.89	.02	.02							12
May 11–15, 17–20	117				14.52	3.45	2.35	.07	1.07	17.43	1.89	.02	.01							12
May 21–31	121				14.57	3.54	2.35	.07	1.23	17.22	1.92	.02	.02							12
June 1–10	1,198				14.97	3.62	2.39	.08	1.41	17.70	1 97	.02	.01							12
June 11–16, 18–20	753				15.37	3.54	2.30	.06	1.56	17.65	2.00	.02	.01							11
June 21–23, 27–30	93.6				15.32	3.45	2.39	.10	1.57	17.68	1.95	.02	.01							12
July 1–10	32.5				13.58	3.37	2.61	.08	1.25	16.26	1.89	.02	.01							14
July 11–20	101				14.87	3.45	2.61	.06	1.46	17.30	2.00	.02	.01							13
July 21–30	121				14.72	3.45	2.65	.08	1.36	17.28	1.97	.02	.01							13
Aug. 1–7, 9–10	106				15.17	3.78	2.39	.06	1.46	17.78	2.00	.02	.02							11
Aug. 11–20	941				15.67	3.70	2.44	.05	1.62	18.30	2.03	.02	.01							11
Aug. 21–25, 27–31	978				16.17	3.70	2.48	.06	1.72	18.40	2.12	.02	.01							11
Sept. 1–8, 10	130				15.77	3.87	2.78	.14	1.51	18.74	2.14	.02	.02							13
Sept. 11–20	886				16.27	3.95	2.83	.14	1.70	19.28	2 20	.02	.02							13
Sept. 21–30	108				17.22	4.19	2.96	.12	1.80	20.38	2.37	.02	.02							13
Weighted average	311				13.28	3.21	2.09	0.08	1.67	15.26	1.66	0.02	0.01							11

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 1943. (See table on page 174.)

EXTREMES, 1942-43.—Dissolved solids: Maximum, 6,980 parts per million Mar. 21–27; minimum, 1,291 parts per million Nov. 1–10.
Total hardness: Maximum, 2,740 parts per million Mar. 21–27; minimum, 759 parts per million July 4–7.

EXTREMES, 1937–43.—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 1942 to September 1943 are given in Water-Supply Paper 978.

Chemical analyses, in parts per million, water year October 1942 to September 1943

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, 1942	177	259	16	.....	354	65	176		124	989	285	.....	1.0	.....	1,947	2.65	930	1,151	1,050	25
Oct. 11–20	190	245	17	.....	318	72	152		121	923	255	.....	1.5	.....	1,798	2.45	922	1,090	990	23
Oct. 21–31	226	230	15	.....	306	66	134		127	862	230	.....	1.5	.....	1,677	2.28	1,020	1,035	931	22
Nov. 1–10	2,049	169	15	.....	280	45	54		112	748	92	.....	2.0	.....	1,291	1.76	7,140	884	792	12
Nov. 11–20	383	194	17	.....	298	52	86		130	812	135	.....	1.5	.....	1,466	1.99	1,520	958	851	16
Nov. 21–30	142	256	14	.....	343	68	180		145	985	270	.....	1.5	.....	1,933	2.63	741	1,136	1,016	26
Dec. 1–4	114	275	13	.....	357	74	200		148	1,030	310	.....	.5	.....	2,057	2.80	633	1,196	1,074	27
Dec. 5–10	70.5	469	13	.....	458	123	494		160	1,378	820	.....	1.0	.....	3,370	4.58	641	1,649	1,518	39
Dec. 11–20	76.4	427	12	.....	452	117	416		149	1,374	680	.....	1.0	.....	3,130	4.26	646	1,609	1,487	36
Dec. 21–23, 25–27, 29–31	209	277	14	.....	334	74	227		136	967	364	.....	1.5	.....	2,048	2.79	1,160	1,138	1,026	30
Jan. 1–5, 7–10, 1943	186	255	11	.....	335	75	178		140	962	294	.....	1.5	.....	1,926	2.62	967	1,144	1,030	25
Jan. 11–20	146	285	12	.....	358	73	221		149	1,037	334	.....	1.5	.....	2,110	2.87	832	1,194	1,072	29
Jan. 21–31	173	276	11	.....	357	70	205		150	1,021	310	.....	1.0	.....	2,049	2.79	957	1,179	1,056	27
Feb. 1–10	41.9	503	10	.....	508	132	532		162	1,542	870	.....	2.0	.....	3,680	5.00	416	1,811	1,678	39
Feb. 11–20	22.5	592	11	.....	562	158	651		160	1,748	1,075	.....	2.0	.....	4,290	5.83	261	2,052	1,921	41
Feb. 21–28	20.9	634	11	.....	580	163	744		150	1,844	1,200	.....	1.0	.....	4,620	6.28	261	2,118	1,994	43
Mar. 1–10	15.6	753	18	.....	630	185	973		136	2,066	1,550	.....	1.0	.....	5,490	7.47	231	2,332	2,221	48
Mar. 11–20	9.6	893	16	.....	688	215	1,222		123	2,311	1,950	.....	1.0	.....	6,460	8.79	167	2,600	2,500	51
Mar. 21–27	9.4	951	16	.....	728	225	1,357		146	2,425	2,160	.....	1.0	.....	6,980	9.49	366	2,740	2,620	52
Mar. 30–31	1,030	224	9.0	.....	364	59	95		116	1,004	154	.....	1.5	.....	1,744	2.37	4,850	1,151	1,056	15

PECOS VALLEY NEAR ACME, N. MEX.—Continued

Chemical analyses, in parts per million, water year October 1942 to September 1943—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	392	270	10	------	403	70	181		118	1,172	262	------	2.5	------	2,159	2.94	2,290	1,294	1,197	23
Apr. 11–20	195	269	18	------	396	70	182		107	1,157	268	------	2.5	------	2,146	2.92	1,130	1,276	1,189	24
Apr. 21–30	26.3	448	20	------	550	123	438		95	1,728	675	------	1.5	------	3,580	4.87	254	1,878	1,800	34
May 1–10	8.9	598	23	------	665	165	662		100	2,140	1,040	------	1.2	------	4,750	6.46	114	2,338	2,256	38
May 11–20	9.0	633	20	------	672	171	722		99	2,198	1,120	------	1.5	------	4,950	6.73	120	2,380	2,299	40
May 21–23	23.7	594	17	------	658	165	656		98	2,153	1,010	------	1.0	------	4,710	6.41	301	2,320	2,240	38
May 24–27, 29–31	53.1	393	19	------	520	109	350		102	1,635	510	------	2.0	------	3,200	4.35	459	1,746	1,662	30
June 1–2, 4–6	202	404	15	------	572	128	311		96	1,854	440	------	2.5	------	3,370	4.58	1,840	1,954	1,876	26
June 7–10	1,302	220	19	------	377	56	100		106	1,077	126	------	3.2	------	1,810	2.46	6,360	1,172	1,084	16
June 11–20	835	214	15	------	379	54	85		97	1,067	114	------	1.0	------	1,763	2.40	3,970	1,168	1,088	14
June 21, 23–30	24.8	315	15	------	500	89	192		98	1,506	270	------	3.7	------	2,620	3.56	175	1,614	1,534	21
July 1–3	346	266	18	------	393	71	166		95	1,173	235	------	4.0	------	2,107	2.87	1,970	1,273	1,195	22
July 4–7	84.2	184	19	------	235	42	132		102	707	158	------	3.5	------	1,347	1.83	306	759	676	27
July 8–10	16.7	356	13	------	438	90	306		93	1,322	478	------	3.8	------	2,700	3.67	122	1,463	1,387	31
July 11	5.0	299	12	------	387	82	226		98	1,201	328	------	2.5	------	2,287	3.11	31	1,303	1,222	27
July 12–17	[3]	553	13	------	576	129	597		115	1,786	930	------	2.0	------	4,090	5.56	------	1,968	1,874	40
July 18–20	180	229	13	------	325	60	142		94	988	183	------	4.4	------	1,762	2.40	856	1,058	980	23
July 21–30	26.7	320	16	------	424	92	237		85	1,330	352	------	2.0	------	2,495	3.39	180	1,436	1,367	26
Aug. 1–4, 6–10	[4]	437	20	------	580	138	346		84	1,821	568	------	2.0	------	3,520	4.79	------	2,015	1,946	27
Aug. 5	------	271	------	------	382	75	183		55	1,212	250	------	.5	------	2,130	2.90	------	1,262	1,217	24
Aug. 11–14	[5]	465	14	------	572	162	396		102	1,913	622	------	2.0	------	3,730	5.07	------	2,094	2,010	29
Aug. 15–20	[6] 742	253	10	------	396	73	131		76	1,188	194	------	2.0	------	2,031	2.76	4,070	1,288	1,226	18
Aug. 21–31	996	222	14	------	372	56	96		100	1,062	126	------	2.5	------	1,778	2.42	4,780	1,159	1,077	15
Sept. 1–10	67.9	271	16	------	404	69	169		90	1,215	226	------	1.5	------	2,145	2.92	393	1,292	1,218	22
Sept. 11–20	749	237	13	------	389	63	114		111	1,137	144	------	1.5	------	1,916	2.61	3,870	1,230	1,139	17
Sept. 21–23, 25–30	[7] 65.3	266	9.0	------	424	80	135		102	1,254	206	------	2.0	------	2,160	2.94	381	1,387	1,304	17
Sept. 24	------	601	------	------	640	224	578		134	2,303	895	------	5.6	------	4,710	6.41	------	2,520	2,408	33
Weighted average	255	235	14	------	457	62	131		112	1,020	197	------	1.9	------	1,840	2.50	1,260	1,150	1,050	20

See footnotes at end of table.

PECOS RIVER NEAR ACME, N. MEX.—Continued

Chemical analyses, in equivalents per million, water year October 1942 to September 1943

Oct. 1–10, 1942	177				17.67	5.35	7.66	2.03	20.59	8.04		0.02							25
Oct. 11–20	190				15.87	5.92	6.62	1.98	19.22	7.19		.02							23
Oct. 21–31	226				15.27	5.43	5.84	2.08	17.95	6.49		.02							22
Nov. 1–10	2,049				13.98	3.70	2.35	1.84	15.57	2.59		.03							12
Nov. 11–20	383				14.87	4.28	3.72	2.13	16.91	3.81		.02							16
Nov. 21–30	142				17.12	5.59	7.81	2.38	20.51	7.61		.02							26
Dec. 1–4	114				17.82	6.09	8.71	2.43	21.44	8.74		.01							27
Dec. 5–10	70.5				22.86	10.12	21.48	2.62	28.69	23.13		.02							39
Dec. 11–20	76.4				22.56	9.62	18.07	2.44	28.61	19.18		.02							36
Dec. 21–23, 25–27, 29–31	209				16.67	6.09	9.89	2.23	20.13	10.27		.02							30
Jan. 1–5, 7–10, 1943	186				16.72	6.17	7.74	2.29	20.03	8.29		.02							25
Jan. 11–20	146				17.87	6.00	9.60	2.44	21.59	9.42		.02							29
Jan. 21–31	173				17.82	5.76	8.90	2.46	21.26	8.74		.02							27
Feb. 1–10	41.9				25.36	10.86	23.11	2.66	32.10	24.54		.03							39
Feb. 11–20	22.5				28.05	12.99	28.32	2.62	36.39	30.32		.03							41
Feb. 21–28	20.9				28.95	13.40	32.36	2.46	38.39	33.84		.02							43
Mar. 1–10	15.6				31.44	15.21	42.32	2.23	43.01	43.71		.02							48
Mar. 11–20	9.6				34.34	17.68	53.13	2.02	48.11	55.00		.02							51
Mar. 21–27	[1] 19.4				36.34	18.50	59.02	2.39	50.49	60.92		.02							52
Mar. 30–31	[2] 1,030				18.17	4.85	4.15	1.90	20.90	4.34		.02							15
Apr. 1–10	392				20.11	5.76	7.89	1.93	24.40	7.39		.04							23
Apr. 11–20	195				19.77	5.76	7.91	1.75	24.09	7.56		.04							24
Apr. 21–30	26.3				27.45	10.12	19.03	1.56	35.98	19.04		.02							34
May 1–10	8.9				33.19	13.57	28.78	1.64	44.55	29.33		.02							38
May 11–20	9.0				33.54	14.06	31.39	1.62	45.76	31.59		.02							40
May 21–23	23.7				32.84	13.57	28.53	1.61	44.82	28.49		.02							38
May 24–27, 29–31	53.1				25.95	8.96	15.21	1.67	34.04	14.38		.03							30
June 1–2, 4–6	202				28.55	10.53	13.54	1.57	38.60	12.41		.04							26
June 7–10	1,302				18.82	4.61	4.33	1.74	22.42	3.55		.05							16
June 11–20	835				18.92	4.44	3.68	1.59	22.21	3.22		.02							14
June 21, 23–30	24.8				24.96	7.32	8.35	1.61	31.35	7.61		.06							21
July 1–3	346				19.62	5.84	7.21	1.56	24.42	6.63		.06							22
July 4–7	84.2				11.73	3.45	5.73	1.67	14.72	4.46		.06							27
July 8–10	16.7				21.86	7.40	13.32	1.52	27.52	13.48		.06							31
July 11	5.0				19.32	6.74	9.84	1.61	25.00	9.25		.04							27
July 12–17	[3]				23.75	10.31	25.93	1.33	37.18	26.22		.03							40
July 18–20	180				16.22	4.93	6.19	1.54	20.57	5.16		.07							23
July 21–30	26.7				21.16	7.57	10.31	1.39	27.69	9.93		.03							26

See footnotes at end of table.

PECOS RIVER NEAR ACME, N. MEX.—Continued

Chemical analyses, in equivalents per million, water year October 1942 to September 1943—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
Aug. 1–4, 6–10	[4]				28.95	11.35	15 04		1.38	37 91	16 02		0.03							27
Aug. 5					19 07	6 17	7.95		.90	25 23	7.05		.01							24
Aug. 11–14	[5]				28.55	13 32	17.20		1.67	39.83	17 54		.03							29
Aug. 15–20	[6] 742				19 77	6.00	5 71		1.25	24 73	5.47		.03							18
Aug. 21–31	996				18 57	4 61	4.16		1 64	22 11	3 55		.04							15
Sept. 1–10	67.9				20 16	5 67	7.34		1.48	25 30	6 37		.02							22
Sept. 11–20	749				19 42	5 18	4 97		1 82	23 67	4 06		.02							17
Sept. 21–23, 25–30	[7] 65.3				21.16	6 58	5 88		1 67	26.11	5 81		.03							17
Sept. 24					31.94	18 42	25.12		2 20	47 95	25.24		.09							33
Weighted average	255				17.82	5.10	5.70		1 84	21 22	5.56		0.03							20

[1] Includes discharge for Mar. 28.
[2] Includes discharge for Mar. 29.
[3] No flow on July 14–17.
[4] One second-foot for Aug. 1; no flow on Aug. 2–4, 6–10.
[5] No flow on Aug. 11–14.
[6] No flow on Aug. 15.
[7] Includes discharge for Sept. 24.

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 1943. (See table on page 175.)

EXTREMES, 1942–43.—Dissolved solids: Maximum, 6,820 parts per million Aug. 11–18; minimum, 976 parts per million July 1–2.
Total hardness: Maximum, 2,550 parts per million May 1–10, Aug. 11–18; minimum, 506 parts per million July 1–2.

EXTREMES, 1937–43.—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 1942 to September 1943 are given in Water-Supply Paper 978.

Chemical analyses, in parts per million, water year October 1942 to September 1943

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, 1942	372	434	25	0.06	420	128	437	16	123	1,361	720	1.0	1.5	0.8	3,170	4.31	3,180	1,574	1,474	38
Oct. 11-20	374	480	21	.03	414	144	515	18	122	1,435	835	.6	2.0	.6	3,440	4.68	3,470	1,625	1,525	41
Oct. 21-31	414	397	21	.06	386	117	395	8.8	141	1,277	615	.4	5.0	6	2,890	3.93	3,230	1,444	1,329	38
Nov. 1-3	1,007	441	20	.04	420	141	452		168	1,376	735	6	2.5	6	3,230	4.39	8,780	1,628	1,490	38
Nov. 4-10	2,762	224	14	.04	362	56	119	3.2	116	1,035	150	.3	2.0	4	1,799	2.45	13,400	1,134	1,039	19
Nov. 11-20	585	296	12	.03	357	86	239	8.8	137	1,079	375	.5	1.5	.4	2,226	3.03	3,520	1,244	1,132	30
Nov. 21-30	316	439	19	.03	426	138	460	9.6	160	1,391	720	6	2.0	6	3,250	4.42	2,770	1,630	1,500	38
Dec. 1-5, 7-8, 10	280	508	19	.03	456	165	552	9.6	190	1,509	900	3	4.0	6	3,710	5.05	2,800	1,816	1,661	40
Dec. 11-14, 17-20	245	586	20	.04	488	170	696	16	187	1,653	1,095	7	4.0	.8	4,230	5.75	2,800	1,917	1,764	44
Dec. 21-26, 28-31	439	503	17	.04	422	136	601	12	172	1,411	920	.6	3.0	.6	3,610	4.91	4,280	1,612	1,471	45
Jan. 1-9, 1943	368	441	19	.04	416	126	467	12	181	1,347	725	.8	2.0	.6	3,200	4.35	3,180	1,556	1,408	40
Jan. 11-13, 15-20	351	448	16	.05	428	132	474	11	192	1,368	735	6	1.0	.8	3,260	4.43	3,090	1,611	1,454	39
Jan. 21-31	340	450	18	.03	428	147	456	8.0	172	1,409	750	1.2	2.5	.8	3,300	4.49	3,030	1,672	1,532	37
Feb. 1-9	231	544	18	.02	462	172	587	8.8	183	1,597	980	1.1	4.0	.6	3,920	5.33	2,440	1,860	1,710	41
Feb. 11-20	152	701	20	.03	548	221	861	10	205	1,939	1,395	1.0	3.0	.6	5,090	6.92	2,090	2,276	2,108	45
Feb. 21-23, 25-28	135	742	17	.04	554	234	925	12	235	2,013	1,500	1.2	2.0	1.0	5,330	7.29	1,950	2,344	2,173	46
Mar. 2-10	134	740	22	.04	532	230	928	13	135	2,005	1,510	.8	3.0	.8	5,310	7.22	1,920	2,273	2,162	47
Mar. 11-14, 16-18, 20	119	760	22	.04	556	237	980	14	149	2,068	1,575	7	3.0	8	5,530	7.52	1,780	2,362	2,240	48
Mar. 21-27, 29-30	113	803	22	.03	566	250	1,046	12	178	2,117	1,680	1.1	1.0	.8	5,780	7.86	1,760	2,440	2,294	48
Mar. 31	974	434									590									

PECOS RIVER NEAR ARTESIA, N. MEX.—Continued

Chemical analyses, in parts per million, water year October 1942 to September 1943—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	
Apr. 1–9	[1] 662	346	15	0.03	433	94	266	7.2	153	1,304	405	0.6	1.0	0.8	2,600	3.54	4,650	1,467	1,342	29
Apr. 11–14, 16–17, 19–20	224	492	23	.04	494	155	523	11	127	1,667	815	.5	3.0	.6	3,750	5.10	2,270	1,870	1,766	38
Apr. 21–29	113	651	20	.04	542	204	798	9.6	124	1,957	1,255	1.0	2.0	.8	4,850	6.60	1,480	2,192	2,090	44
May 1–4, 6–10	71	841	23	.04	604	254	1,133	11	150	2,267	1,810	.7	1.0	.8	6,180	8.40	1,180	2,550	2,429	49
May 11–12, 14–20	79	809	18	.04	574	254	1,076	10	165	2,191	1,700	.9	1.0	.8	5,910	8.04	1,260	2,477	2,342	49
May 21–24, 26–31	99.7	713	24	.02	554	218	916	10	130	2,044	1,440	1.0	2.0	1.6	5,270	7.17	1,420	2,279	2,172	47
June 1–7	133	670	22	.02	584	210	814	11	126	2,071	1,270	.9	1.8	1.6	5,050	6.87	1,810	2,321	2,218	43
June 8–10	1,230	306	17	.05	454	80	204	6.4	122	1,333	278	.5	2.8	1.0	2,436	3.31	8,090	1,462	1,362	24
June 11–15, 17–20	994	271	17	.02	426	71	158	5.2	99	1,225	222	.6	3.8	.4	2,177	2.96	5,840	1,355	1,274	21
June 21–24	110	431	20	.02	477	123	400	5.6	85	1,516	645	.9	5.0	.7	3,230	4.39	959	1,696	1,627	34
June 25–29	69.8	607	25	.02	548	170	690	8.0	107	1,824	1,125	1.0	3.4	1.0	4,450	6.05	839	2,076	1,979	42
June 30	729	293	19	------	302	83	263		118	938	416	.6	6.8	.6	2,086	2.84	4,110	1,095	998	34
July 1–2	1,170	150	18	.02	142	37	121	8.4	100	417	179	.4	3.6	.3	976	1.33	3,080	506	424	35
July 3–10	323	417	21	.02	403	125	426	6.8	121	1,381	645	.8	6.2	.8	3,070	4.18	2,680	1,520	1,420	38
July 11–20	145	621	20	.02	506	196	731	12	129	1,789	1,190	1.0	3.7	1.4	4,510	6.13	1,770	2,069	1,964	44
July 21–25	191	415	20	.02	422	120	408	7.2	130	1,393	625	1.0	3.8	.8	3,060	4.16	1,580	1,546	1,440	37
July 27–31	96.4	586	22	.02	498	187	656	7.2	120	1,763	1,070	1.1	2.0	1.8	4,270	5.81	1,110	2,012	1,914	42
Aug. 1–10	44.9	792	22	.04	578	240	1,061	18	95	2,176	1,670	.9	3.2	.4	5,820	7.92	706	2,430	2,352	49
Aug. 11–18	45.9	955	15	.04	602	254	1,398		99	2,283	2,215	1.1	2.8	.4	6,820	9.28	845	2,550	2,466	54
Aug. 19–20	689	397	13	.08	477	111	250		103	1,554	495	.7	6.0	1.2	3,060	4.16	5,690	1,647	1,562	32
Aug. 21–31	1,075	260	14	.04	419	66	146	3.6	94	1,205	195	.6	2.7	1.2	2,098	2.85	6,090	1,317	1,240	20
Sept. 1–8, 10	128	401	15	.04	466	108	378	9.6	84	1,477	570	.6	2.5	1.2	3,070	4.18	1,060	1,607	1,538	34
Sept. 11, 13–14	108	503	22	.04	466	149	566		85	1,659	855	.7	1.0	1.2	3,760	5.11	1,100	1,776	1,706	41
Sept. 15–20	[2] 867	257	11	.03	418	66	135	4.8	104	1,209	180	.5	1.6	1.2	2,077	2 82	4,860	1,314	1,230	19
Sept. 21	292	267	------	------	------	------	------	------	------	------	226	------	------	------	------	------	------	------	------	------
Sept. 22–30	138	415	13	------	458	119	371	15	109	1,444	615	.6	2.5	.5	3,090	4.20	1,150	1,632	1,543	34
Weighted average	365	388	17	0.04	424	112	369	8.1	133	1,340	570	0.6	2.6	0.7	2,910	3.96	2,870	1,520	1,410	34

[1] Includes discharge for Mar. 31 and Apr. 10.

[2] Includes discharge for Sept. 21.

PECOS RIVER NEAR ARTESIA, N. MEX.—Continued

Chemical analyses, in equivalents per million, water year October 1942 to September 1943

Oct. 1–10, 1942	372				20.96	10.53	19.00	0.41	2.02	28.34	20.31	0.05	0.02							38
Oct. 11–20	374				20.66	11.84	22.39	.46	2.00	29.88	23.55	.03	.03							41
Oct. 21–31	414				19.27	9.62	17.18	.23	2 31	26.59	17.34	.02	.08							38
Nov. 1–3	1,007				20.96	11.60	19.64		2.75	28.65	20.73	.03	.04							38
Nov. 4–10	2,762				18.07	4 61	5.17	.08	1.90	21.55	4.23	.02	.03							19
Nov. 11–20	585				17.82	7.07	10.39	.23	2.25	22.46	10.58	.03	.02							30
Nov. 21–30	316				21.26	11.35	20.00	.25	2.62	28.96	20.31	.03	.03							38
Dec. 1–5, 7–8, 10	280				22.76	13.57	24.00	.25	3.11	31.42	25.38	.02	.06							40
Dec. 11–14, 17–20	245				24.36	13.98	30.26	.41	3.07	34.41	30.88	.04	.06							44
Dec. 21–26, 28–31	439				21.06	11.18	26.13	.31	2.82	29.38	25.95	.03	.05							45
Jan. 1–9, 1943	368				20.76	10.36	20.31	.31	2.97	28.04	20.45	.04	.03							40
Jan. 11–13, 15–20	351				21.36	10.86	20.61	.28	3.15	28.48	20.73	.03	.02							39
Jan. 21–31	340				21.36	12.09	19.83	.20	2.82	29.33	21.15	.06	.04							37
Feb. 1–9	231				23.06	14.14	25.53	.23	3.00	33.25	27.64	.06	.06							41
Feb. 11–20	152				27.35	18.17	37.00	.26	3.36	40.37	39.34	.05	.05							45
Feb. 21–23, 25–28	135				27.65	19.24	40.22	.31	3.36	41.97	42.31	.06	.03							46
Mar. 2–10	134				26.55	18.91	40.35	.33	2.21	41.74	42.59	.04	.05							47
Mar. 11–14, 16–18, 20	119				27.75	19.49	42.61	.36	2.44	43.05	44.42	.04	.05							48
Mar. 21–27, 29–30	113				28.25	20.56	45.48	.31	2.92	44.07	47.38	.06	.02							48
Mar. 31	974										16.64									
Apr. 1–9	[1] 662				21.61	7.73	11.57	.18	2.51	27.15	11.42	.03	.02							29
Apr. 11–14, 16–17, 19–20	224				24.66	12.75	22.74	.28	2 08	34.71	22.99	.03	.05							38
Apr. 21–29	113				27.05	16.78	34.70	.25	2.03	40.74	35.40	.05	.03							44
May 1–4, 6–10	71				30.15	20.89	49.27	.28	2.46	47.20	51.05	.04	.02							49
May 11–12, 14–20	79				28.65	20.89	46.79	.26	2.70	45.62	47.95	.05	.02							49
May 21–24, 26–31	99.7				27.65	17.93	39.83	.26	2.13	42.56	40.61	.05	.03							47
June 1–7	133				29.15	17.27	35.40	.28	2.07	43.12	35.82	.05	.03							43
June 8–10	1,230				22.66	6.58	8.87	.16	2.00	27.75	7.84	.03	.05							24
June 11–15, 17–20	994				21.26	5.84	6.87	.13	1.62	25.50	6.26	.03	.06							21
June 21–24	110				23.81	10.12	17.39	.14	1.39	31.56	18.19	.05	.08							34
June 25–29	69.8				27.35	13.98	30.02	.20	1.75	37.97	31.73	.05	.05							42
June 30	729				15.07	6.83	11.43		1.93	19.53	11.73	.03	.11							34
July 1–2	1,170				7.09	3.04	5.26	.21	1.64	8.68	5.05	.02	.06							35
July 3–10	323				20.11	10.28	18.50	.17	1.98	28.75	18.19	.04	.10							38
July 11–20	145				25.26	16.12	31.79	.31	2.11	37.25	33.56	.05	.06							44
July 21–25	191				21.06	9.87	17.74	.18	2.13	29.09	17.63	.05	.06							37
July 27–31	96.4				24.86	15.38	28.52	.18	1.97	36.70	30.18	.06	.03							42

See footnotes at end of table.

PECOS RIVER NEAR ARTESIA, N. MEX.—Continued

Chemical analyses, in equivalents per million, water year October 1942 to September 1943—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	
Aug. 1–10	44.9	------	------	------	28 85	19 74	46 14	0 46	1 56	45 30	47 10	0 05	0 05	------	------	------	------	------	------	49
Aug. 11–18	45 9	------	------	------	30 05	20 89	60 79		1 62	47.53	62 47	06	05	------	------	------	------	------	------	54
Aug. 19–20	689	------	------	------	23 81	9 13	15 20		1 69	32.35	13 96	04	10	------	------	------	------	------	------	32
Aug. 21–31	1,075	------	------	------	20.91	5 43	6 35	09	1.54	25.09	5 50	.03	04	------	------	------	------	------	------	20
Sept. 1–8, 10	128	------	------	------	23.26	8 88	16 44	25	1.38	30 75	16 08	.03	04	------	------	------	------	------	------	34
Sept. 11, 13–14	108	------	------	------	23.26	12.25	24 59		1 39	34 54	24 11	04	02	------	------	------	------	------	------	41
Sept. 15–20	[2] 867	------	------	------	20.86	5.43	5 87	.12	1 70	25 17	5 08	03	03	------	------	------	------	------	------	19
Sept. 21	292	------	------	------	------	------	------	------	------	------	6 37	------	------	------	------	------	------	------	------	------
Sept. 22–30	138	------	------	------	22.86	9 79	16.13	38	1 79	30.06	17.34	.03	.04	------	------	------	------	------	------	34
Weighted average	365	------	------	------	21.16	9 21	16.05	0 21	2 18	27.98	16.08	0.03	0.04	------	------	------	------	------	------	34

[1] Includes discharge for Mar. 31 and Apr. 10.

[2] Includes discharge for Sept. 21.

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 1943. (See table on page 175.)

EXTREMES, 1942–43.—Dissolved solids: Maximum, 3,030 parts per million Dec. 1–10; minimum, 2,394 parts per million June 21–30.
Total hardness: Maximum, 1,732 parts per million Nov. 21–30; minimum, 1,292 parts per million June 11–20.

EXTREMES, 1937–43.—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 1942 to September 1943 are given in Water-Supply Paper 978.

Chemical analyses, in parts per million, water year October 1942 to September 1943

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	Per-cent sodium
Oct. 1–10, 1942	357	342	19	.....	440	103	248		139	1,327	400	.....	1.5	.....	2,610	3.55	2,520	1,522	1,408	26
Oct. 11–20	167	351	20	.....	426	111	276		166	1,307	440	.....	2.0	.....	2,660	3.62	1,200	1,520	1,384	28
Oct. 21–31	271	378	21	.....	459	118	299		157	1,430	470	.....	1.5	.....	2,880	3.92	2,110	1,630	1,502	29
Nov. 1–10	1,939	363	20	.....	449	103	300		129	1,371	470	.....	.5	.....	2,780	3.78	14,600	1,544	1,438	30
Nov. 11–20	754	343	16	.....	448	101	268		137	1,389	395	.....	1.5	.....	2,690	3.66	5,480	1,534	1,421	28
Nov. 21–30	441	386	20	.....	488	125	302		153	1,544	465	.....	1.5	.....	3,020	4.11	3,600	1,732	1,606	28
Dec. 1–10	314	388	21	.....	478	121	325		159	1,533	475	.....	1.5	.....	3,030	4.12	2,570	1,690	1,560	29
Dec. 11–20	249	382	17	.....	478	134	286		160	1,508	470	.....	1.5	.....	2,970	4.04	2,000	1,744	1,613	26
Dec. 21–31	450	356	16	.....	426	126	277		166	1,322	475	.....	1.5	.....	2,730	3.71	3,320	1,581	1,445	28
Jan. 1–10, 1943	329	379	16	.....	444	133	296		167	1,404	495	.....	1.0	.....	2,870	3.90	2,550	1,655	1,518	28
Jan. 11–20	389	391	12	.....	462	134	308		158	1,465	510	.....	1.0	.....	2,970	4.04	3,120	1,704	1,574	28
Jan. 21–31	240	387	14	.....	480	127	287		153	1,473	485	.....	1.0	.....	2,940	4.00	1,910	1,720	1,594	27
Feb. 1–10	313	381	13	.....	470	124	303		159	1,467	485	.....	1.0	.....	2,940	4.00	2,480	1,683	1,552	28
Feb. 11–20	132	361	15	.....	430	124	265		174	1,327	450	.....	1.5	.....	2,700	3.67	962	1,583	1,440	27
Feb. 21–28	120	338	18	.....	376	123	260		188	1,185	440	.....	2.0	.....	2,497	3.40	809	1,444	1,290	28
Mar. 1–10	258	390	16	.....	454	126	329		192	1,521	495	.....	2.0	.....	2,990	4.07	2,080	1,651	1,568	30
Mar. 11–20	134	343	18	.....	368	123	294		192	1,291	450	.....	2.0	.....	2,630	3.64	941	1,424	1,341	31
Mar. 21–31	100	332	18	.....	346	122	282		110	1,215	440	.....	2.0	.....	2,479	3.37	669	1,365	1,275	31

PECOS RIVER AT CARLSBAD, N. MEX.—Continued

Chemical analyses, in parts per million, water year October 1942 to September 1943—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	99.1	337	19	------	350	124	297		116	1,241	455	------	2.0	------	2,550	3.47	682	1,384	1,288	32
Apr. 11–12, 14–16, 18–20	98.8	330	21	------	342	118	289		112	1,198	445	------	1.5	------	2,470	3.36	659	1,338	1,246	32
Apr. 21–30	98.2	336	23	------	349	119	289		139	1,203	440	------	2.0	------	2,494	3.39	661	1,360	1,246	32
May 1–10	97.6	337	21	------	353	117	288		152	1,200	435	------	2.0	------	2,491	3.39	656	1,362	1,238	32
May 11–20	93.7	337	21	------	352	116	288		166	1,182	435	------	2.0	------	2,478	3.37	627	1,356	1,220	32
May 21–31	91.5	328	25	------	343	111	288		124	1,169	438	------	4.3	------	2,439	3.32	603	1,312	1,211	32
June 1–10	88.0	330	24	------	348	109	285		170	1,138	432	------	4.0	------	2,424	3.30	576	1,316	1,177	32
June 11–20	88.2	328	29	------	335	111	288		98	1,177	432	------	4.6	------	2,425	3.30	577	1,292	1,212	33
June 21–30	102	325	14	------	356	103	275		138	1,156	418	------	4.0	------	2,394	3.26	659	1,312	1,199	31
July 1–10	151	330	13	------	383	100	267		144	1,175	428	------	3.1	------	2,440	3.32	995	1,367	1,249	30
July 11–20	131	337	11	------	377	105	279		162	1,179	435	------	5.5	------	2,471	3.36	874	1,372	1,240	31
July 21–31	98.8	332	16	------	367	109	273		182	1,162	422	------	3.5	------	2,442	3.32	651	1,364	1,215	30
Aug. 1–10	93.6	334	24	------	340	113	302		113	1,190	450	------	4.6	------	2,479	3.37	626	1,313	1,220	33
Aug. 11–20	94.9	347	22	------	357	121	309		149	1,221	470	------	4.8	------	2,580	3.51	661	1,388	1,266	33
Aug. 21–31	96.7	344	20	------	354	118	316		130	1,225	475	------	5.6	------	2,580	3.51	674	1,368	1,262	33
Sept. 1–10	96.7	337	19	------	351	114	299		141	1,192	450	------	4.4	------	2,499	3.40	652	1,344	1,229	33
Sept. 11–20	97.0	347	19	------	365	117	311		183	1,210	465	------	4.4	------	2,580	3.51	676	1,392	1,242	33
Sept. 21–30	93.8	342	25	------	351	118	306		143	1,208	460	------	4.2	------	2,540	3.45	643	1,361	1,244	33
Weighted average	243	360	18	------	430	115	292		144	1,360	458	------	1.7	------	2,750	3.74	1,800	1,550	1,430	29

Chemical analyses, in equivalents per million, water year October 1942 to September 1943

Oct. 1–10, 1942	357	------	------	------	21.96	8.47	10.78		2.28	27.63	11.28	------	0.02	------	------	------	------	------	------	26
Oct. 11–20	167	------	------	------	21.26	9.13	11.98		2.72	27.21	12.41	------	.03	------	------	------	------	------	------	28
Oct. 21–31	271	------	------	------	22.91	9.70	13.01		2.57	29.77	13.26	------	.02	------	------	------	------	------	------	29
Nov. 1–10	1,939	------	------	------	22.41	8.47	13.04		2.11	28.54	13.26	------	.01	------	------	------	------	------	------	30
Nov. 11–20	754	------	------	------	22.36	8.31	11.66		2.25	28.92	11.14	------	.02	------	------	------	------	------	------	28
Nov. 21–30	441	------	------	------	24.36	10.28	13.15		2.51	32.15	13.11	------	.02	------	------	------	------	------	------	28

Dec. 1–10	314				3.86	9.95	14.14	2.61	31.92	13.40		.02						29
Dec. 11–20	249				3.86	11.02	12 42	2.62	31.40	13 26		.02						26
Dec. 21–31	450				21.26	10.36	12.04	2.72	27.52	13 40		.02						28
Jan. 1–10, 1943	329				22.16	10.94	12.85	2.74	29.23	13.96		.02						28
Jan. 11–20	389				23.06	11.02	13.41	2.59	30.50	14.38		.02						28
Jan. 21–31	240				23.96	10.44	12.48	2.51	30.67	13.68		.02						27
Feb. 1–10	313				23.46	10.20	13.19	2.61	30.54	13.68		.02						28
Feb. 11–20	132				21.46	10.20	11 53	2.85	27.63	12.69		.02						27
Feb. 21–28	120				18.77	10.12	11.30	3.08	24.67	12.41		.03						28
Mar. 1–10	258				22.66	10.36	14.31	1.67	31.67	13.96		.03						30
Mar. 11–20	134				18.37	10.12	12.78	1.67	26.88	12.69		.03						31
Mar. 21–31	100				17.27	10.03	12.24	1.80	25.30	12.41		.03						31
Apr. 1–10	99.1				17.47	10.20	12.93	1.90	25.84	12.83		.03						32
Apr. 11–12, 14–16, 18–20	98.8				17.07	9.70	12 58	1.84	24.94	12.55		.02						32
Apr. 21–30	98.2				17.42	9.79	12.56	2.28	25.05	12.41		.03						32
May 1–10	97.6				17.62	9.62	12.54	2.49	24.99	12.27		.03						32
May 11–20	93.7				17.57	9.54	12.52	2.72	24.61	12.27		.03						32
May 21–31	91.5				17.12	9.13	12.54	2.03	24.34	12.35		.07						32
June 1–10	88.0				17.37	8.96	12.39	2.79	23.69	12.18		.06						32
June 11–20	88.2				16.72	9.13	12.51	1 61	24.50	12.18		.07						33
June 21–30	102				17.77	8.47	11.94	2.26	24 07	11 79		.06						31
July 1–10	151				19.12	8.22	11.60	2.36	24.46	12.07		.05						30
July 11–20	131				18.82	8.63	12.12	2.66	24.55	12.27		.09						31
July 21–31	98.8				18.32	8.96	11.85	2 98	24.19	11.90		06						30
Aug. 1–10	93.6				16.97	9.29	13.13	1.85	24.78	12.69		.07						33
Aug. 11–20	94 9				17.82	9.95	13.43	2.44	25.42	13.26		.08						33
Aug. 21–31	96 7				17.67	9.70	13.75	2.13	25.50	13.40		.09						33
Sept. 1–10	96.7				17.52	9 37	13.00	2.31	24.82	12.69		.07						33
Sept. 11–20	97.0				18.22	9.62	13.53	3.00	25.19	13.11		.07						33
Sept. 21–30	93.8				17.52	9.70	13.31	2.34	25.15	12.97		.07						33
Weighted average	243				21.46	9.46	12.70	2.36	28.31	12.92		0.03						29

PECOS RIVER NEAR MALAGA, N. MEX.

LOCATION.—Two and one-half miles upsteam 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 1943. (See table on page 175.)

EXTREMES, 1942–43.—Dissolved solids: Maximum, 4,230 parts per million Aug. 11–20; minimum, 2,820 parts per million, Nov. 11–20, July 1–10. Total hardness: Maximum, 2,026 parts per million Aug. 1–10; minimum, 1,484 parts per million July 1–10.

EXTREMES, 1937–43.—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 1942 to September 1943 are given in Water-Supply Paper 978.

Chemical analyses, in parts per million, water year October 1942 to September 1943

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, 1942	532	400	17	.....	468	120	340		139	1,463	540	.....	2 5	.....	3,020	4.11	4,340	1,662	1,548	31
Oct. 11–20	308	437	18	.....	474	158	362		157	1,505	655	.....	2.5	.....	3,250	4 42	2,700	1,832	1,704	30
Oct. 21–31	397	441	16	.....	466	159	373		134	1,531	655	.....	2.0	.....	3,270	4.45	3,510	1,817	1,707	31
Nov. 1–10	2,043	404	21	.....	468	116	368		141	1,485	555	.....	2.0	.....	3,080	4.19	17,000	1,645	1,530	33
Nov. 11–20	884	368	18	.....	440	110	313		146	1,398	465	.....	2 0	.....	2,820	3.84	6,730	1,550	1,431	31
Nov. 21–30	548	407	21	.....	478	132	350		159	1,533	545	.....	1.5	.....	3,140	4.27	4,650	1,736	1,606	30
Dec. 1–10	425	443	22	.....	496	146	390		166	1,615	615	.....	2.0	.....	3,370	4.58	3,870	1,838	1,702	32
Dec. 11–20	421	433	16	.....	494	148	366		164	1,597	595	.....	2.5	.....	3,300	4 49	3,750	1,842	1,707	30
Dec. 21–31	581	407	11	.....	468	138	353		161	1,503	570	.....	2 5	.....	3,120	4 24	4,890	1,736	1,604	31
Jan. 1–10, 1943	403	426	16	.....	462	147	392		172	1,495	645	.....	2 5	.....	3,240	4 41	3,530	1,758	1,616	33
Jan. 11–20	494	416	16	.....	474	138	371		168	1,516	595	.....	2.5	.....	3,200	4.35	4,270	1,750	1,613	32
Jan. 21–31	320	436	14	.....	466	142	414		174	1,537	640	.....	2.0	.....	3,300	4 49	2,850	1,747	1,604	34
Feb. 1–10	384	426	16	.....	476	138	385		170	1,549	595	.....	1.5	.....	3,240	4.41	3,360	1,756	1,616	32
Feb. 11–20	236	452	16	.....	496	146	411		166	1,592	665	.....	2.0	.....	3,410	4 64	2,170	1,838	1,702	33
Feb. 21–28	186	474	15	.....	484	160	452		170	1,613	730	.....	2.0	.....	3,540	4.81	1,780	1,866	1,726	35
Mar. 1–3, 7–10	323	427	15	.....	458	149	404		136	1,567	630	.....	2.5	.....	3,290	4.47	2,870	1,756	1,644	33
Mar. 11–20	218	450	15	.....	500	144	423		143	1,664	660	.....	2.5	.....	3,490	4.75	2,050	1,840	1,723	34
Mar. 21–31	123	506	15	.....	502	163	526		150	1,700	830	.....	4.0	.....	3,810	5 18	1,270	1,923	1,800	37

Apr. 1–10	131	503	15	------	486	169	520	154	1,664	835	------	5.0	------	3,770	5.13	1,330	1,908	1,782	37
Apr. 11–20	132	516	18	------	468	173	547	135	1,674	860	------	4.0	------	3,810	5 18	1,360	1,880	1,769	39
Apr. 21–30	137	523	19	------	480	183	522	149	1,684	855	------	5 0	------	3,820	5 20	1,410	1,950	1,828	37
May 1–6	[1] 174	516	20	------	480	177	530	172	1,679	840	------	5.0	------	3,820	5.20	1,790	1,926	1,785	37
May 24–31	[2] 148	494	26	------	445	166	557	101	1,630	865	------	5.7	------	3,740	5.09	1,490	1,793	1,710	40
June 1–10	137	510	21	------	469	169	566	139	1,669	880	------	3.9	------	3,850	5.24	1,420	1,866	1,752	40
June 11–20	177	505	23	------	474	164	524	105	1,628	860	------	4.4	------	3,730	5.07	1,780	1,858	1,772	38
June 21–30	208	504	24	------	476	164	504	129	1,613	830	------	4 6	------	3,680	5.00	2.070	1,862	1,757	37
July 1–10	260	397	19	------	382	129	361	139	1,256	597	------	6.4	------	2,820	3.84	1,980	1,484	1,370	35
July 11–20	280	419	21	------	412	131	386	148	1,335	632	------	4.5	------	2,990	4.07	2,260	1,566	1,445	35
July 21–31	145	498	22	------	458	159	521	156	1,551	840	------	4.2	------	3,630	4 94	1,420	1,797	1 669	39
Aug. 1–10	110	548	27	------	530	171	564	109	1,719	970	------	7.0	------	4,040	5.49	1.200	2,026	1,936	38
Aug. 11–20	112	573	27	------	436	183	717	110	1,773	1,035	------	6.0	------	4,230	5.75	1,280	1,840	1,750	46
Aug. 21–31	124	565	24	------	490	178	649	125	1,755	1,015	------	6.8	------	4,180	5 68	1,400	1,955	1,852	42
Sept. 1–10	177	538	22	------	486	176	593	161	1,714	925	------	7.2	------	4,000	5.44	1,910	1,936	1,804	40
Sept. 11–20	144	555	22	------	498	178	629	171	1,750	975	------	6.4	------	4,140	5.63	1,610	1,975	1,835	41
Sept. 21–30	172	532	20	------	490	175	575	152	1,717	905	------	6.8	------	3,960	5.39	1,840	1,942	1,818	39
Weighted average	326	438	19	------	469	141	410	150	1,540	649	------	3.0	------	3,300	4 49	2,900	1,750	1,630	34

See footnotes at end of table.

Chemical analyses, in equivalents per million, water year October 1942 to September 1943

Oct. 1–10, 1942	532	------	------	------	23.36	9.87	14.78	2.28	30.46	15.23	------	0.04	------	------	------	------	------	------	31
Oct. 11–20	308	------	------	------	23.66	12.99	15.76	2.57	31.33	18.47	------	.04	------	------	------	------	------	------	30
Oct. 21–31	397	------	------	------	23.26	13.08	16 23	2.20	31.87	18.47	------	.03	------	------	------	------	------	------	31
Nov. 1–10	2,043	------	------	------	23.36	9.54	16.01	2.31	30.92	15.65	------	.03	------	------	------	------	------	------	33
Nov. 11–20	884	------	------	------	21.96	9.05	13.63	2 39	29.11	13.11	------	.03	------	------	------	------	------	------	31
Nov. 21–30	548	------	------	------	23.86	10.86	15.20	2 61	31.92	15.37	------	.02	------	------	------	------	------	------	30
Dec. 1–10	425	------	------	------	24.76	12.01	16.94	2 72	33.62	17.34	------	.03	------	------	------	------	------	------	32
Dec. 11–20	421	------	------	------	24.66	12.17	15.93	2.69	33.25	16.78	------	.04	------	------	------	------	------	------	30
Dec. 21–31	581	------	------	------	23.36	11.35	15.34	2.64	31.29	16.08	------	.04	------	------	------	------	------	------	31
Jan. 1–10, 1943	403	------	------	------	23.06	12.09	17.03	2.82	31.13	18.19	------	.04	------	------	------	------	------	------	33
Jan. 11–20	494	------	------	------	23.66	11.35	16.12	2.75	31.56	16.78	------	.04	------	------	------	------	------	------	32
Jan. 21–31	320	------	------	------	23.26	11.68	17.99	2.85	32.00	18.05	------	.03	------	------	------	------	------	------	34
Feb. 1–10	384	------	------	------	23.76	11.35	16.73	2.79	32.25	16.78	------	02	------	------	------	------	------	------	32
Feb. 11–20	236	------	------	------	24.76	12.01	17.88	2.72	33.14	18.76	------	.03	------	------	------	------	------	------	33
Feb. 21–28	186	------	------	------	24.16	13.16	19.67	2.79	33.58	20.59	------	.03	------	------	------	------	------	------	35
Mar. 1–3, 7–10	323	------	------	------	22.86	12.25	17.55	2.23	32.62	17.77	------	.04	------	------	------	------	------	------	33
Mar. 11–20	218	------	------	------	24.96	11.84	18.83	2.34	34.64	18.61	------	.04	------	------	------	------	------	------	34
Mar. 21–31	123	------	------	------	25.06	13.40	22.86	2.46	35.39	23.41	------	.06	------	------	------	------	------	------	37

PECOS RIVER NEAR MALAGA, N. MEX.—Continued

Chemical analyses, in equivalents per million, water year October 1942 to September 1943—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
Apr 1–10	131				24.26	13.90	22.63		2.52	34.64	23.55		0.08							37
Apr. 11–20	132				23.36	14.23	23.78		2.21	34.85	24.25		.06							39
Apr. 21–30	137				23.96	15.05	22.68		2.44	35.06	24.11		.08							37
May 1–6	[1] 174				23.96	14.56	23.03		2.82	34.96	23.69		.08							37
May 24–31	[2] 148				22.21	13.65	24.23		1.66	33.94	24.40		.09							40
June 1–10	137				23.41	13.90	24.60		2.28	34.75	24.82		.06							40
June 11–20	177				23.66	13.49	22.78		1.72	33.89	24.25		.07							38
June 21–30	208				23.76	13.49	21.92		2.11	33.58	23.41		.07							37
July 1–10	260				19.07	10.61	15.69		2.28	26.15	16.84		.10							35
July 11–20	280				20.56	10.77	16.78		2.43	27.79	17.82		.07							35
July 21–31	145				22.86	13.08	22.67		2.56	32.29	23.69		.07							39
Aug. 1–10	110				26.45	14.06	24.54		1.79	35.79	27.36		.11							38
Aug. 11–20	112				21.76	15.05	31.19		1.80	36.91	29.19		.10							46
Aug. 21–31	124				24.46	14.64	28.23		2.05	36.54	28.63		.11							42
Sept. 1–10	177				24.26	14.47	25.80		2.64	35.68	26.09		.12							40
Sept. 11–20	144				24.86	14.64	27.33		2.80	36.43	27.50		.10							41
Sept. 21–30	172				24.46	14.39	25.02		2.49	35.75	25.52		.11							39
Weighted average	326				23.41	11.60	17.83		2.46	32.04	18.30		0.05							34

[1] Includes discharge for May 7–20; no samples for May 7–20.

[2] Includes discharge for May 21–23; no samples for May 21–23.

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 1943. (See table on page 175.)

EXTREMES, 1942–43.—Dissolved solids: Maximum, 6,350 parts per million Aug. 11–20; minimum, 2,950 parts per million Nov. 11–20.
Total hardness: Maximum, 2,126 parts per million Aug. 11–20; minimum, 1,368 parts per million July 1–10.

EXTREMES, 1937–43.—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 1942 to September 1943 are given in Water-Supply Paper 978.

Chemical analyses, in parts per million, water year October 1942 to September 1943

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, 1942	556	463	22	0.02	448	131	496	16	117	1,514	755	0.3	1.5	0.8	3,440	4.68	5,160	1,656	1,560	40
Oct. 11–20	299	570	22	.03	464	151	688	16	129	1,590	1,090	.3	2.0	.8	4,090	5.56	3,300	1,779	1,674	46
Oct. 21–31	388	540	22	.02	452	154	642	13	146	1,584	990	.5	2.0	.8	3,930	5.34	4,120	1,761	1,642	45
Nov. 1–10	2,010	418	20	.04	456	116	397	24	136	1,468	635	.7	1.5	1.0	3,190	4.34	17,300	1,615	1,504	36
Nov. 11–20	908	391	15	.04	438	105	365	14	122	1,393	560	.3	1.5	1.0	2,950	4.01	7,230	1,524	1,424	35
Nov. 21–30	559	479	17	.04	478	126	507	19	144	1,524	800	.5	2.0	1.0	3,540	4.81	5,340	1,711	1,593	40
Dec. 1–10	445	524	17	.04	496	145	571	21	163	1,633	895	.5	3.0	1.0	3,860	5.25	4,640	1,834	1,700	41
Dec. 11–20	443	526	16	.04	496	146	592	14	160	1,666	895	.8	2.0	.8	3,910	5.32	4,680	1,838	1,708	42
Dec. 21–31	578	486	26	.03	460	129	549	13	132	1,557	815	.7	3.0	.8	3,620	4.92	5,650	1,678	1,570	42
Jan. 1–10, 1943	378	576	17	.03	456	144	727	14	154	1,564	1,110	.9	3.0	.8	4,110	5.59	4,190	1,730	1,604	48
Jan. 11–20	515	480	14	.04	464	134	527	13	151	1,562	785	.7	2.0	.8	3,580	4.87	4,980	1,709	1,585	40
Jan. 21–31	316	541	15	.02	470	150	622	14	155	1,577	985	.9	3.0	1.0	3,910	5.32	3,340	1,790	1,663	43
Feb. 1–10	388	516	18	.02	476	147	556	13	149	1,593	885	1.1	3.0	1.0	3,770	5.13	3,950	1,792	1,670	41
Feb. 12–20	241	578	14	.03	500	150	685	15	155	1,661	1,070	1.1	2.0	1.0	4,170	5.67	2,710	1,865	1,738	45
Feb. 21–27	172	687	14	.02	496	163	893	20	157	1,715	1,415	1.3	3.0	1.0	4,800	6.53	2,230	1,908	1,780	51
Mar. 1–10	299	553	19	.04	454	152	644	19	121	1,570	1,025	.5	2.0	.6	3,950	5.37	3,190	1,758	1,659	45
Mar. 11–20	220	595	18	.04	496	150	718	20	126	1,684	1,135	.7	2.0	.6	4,290	5.83	2,550	1,855	1,752	46
Mar. 21–31	130	746	17	.04	506	169	1,033	23	129	1,788	1,635	.7	2.0	.8	5,240	7.13	1,840	1,958	1,852	54

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

Chemical analyses, in parts per million, water year October 1942 to September 1943—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	
Apr. 1–10	135	781	16	0.05	488	179	1,094	26	146	1,753	1,745	0.7	2.0	0.8	5,380	7.32	1,960	1,954	1,834	55
Apr. 11–20	136	743	18	.03	474	194	1,022	22	105	1,784	1,610	.9	2.0	.8	5,180	7.04	1,900	1,980	1,894	53
Apr. 21–30	133	758	18	.04	478	192	1,038	22	113	1,809	1,650	.5	2.0	.8	5,270	7.17	1,890	1,982	1,890	54
May 1–10	156	736	20	.03	488	195	999	23	128	1,799	1,600	.7	2.0	.8	5,190	7.06	2,190	2,020	1,915	52
May 11–20	167	691	17	.03	486	196	903	18	149	1,765	1,440	.7	2.0	1.0	4,900	6.66	2,210	2,019	1,897	50
May 21–31	156	675	18	.02	460	175	903	21	111	1,709	1,455	.7	3.4	1.4	4,800	6.53	2,020	1,868	1,776	52
June 1–10	142	733	16	.02	484	192	1,030	25	125	1,799	1,615	.7	2.0	1.2	5,230	7.11	2,010	1,998	1,895	53
June 11–20	174	679	18	.02	484	181	888	32	105	1,723	1,415	.9	2.5	1.5	4,800	6.53	2,260	1,952	1,866	50
June 21–30	203	671	22	.02	460	173	872	30	73	1,699	1,395	1.0	1.0	1.4	4,690	6.38	2,570	1,860	1,800	51
July 1–5, 7–10	314	444	19	.02	344	124	502	15	92	1,182	810	.7	2.5	1.0	3,040	4.13	2,580	1,368	1,293	45
July 11–20	288	515	16	.02	398	136	610	18	106	1,371	985	.8	2.5	1.0	3,590	4.88	2,790	1,552	1,466	47
July 21–31	143	644	22	.02	432	155	841	30	115	1,511	1,355	1.0	2.0	1.4	4,410	6.00	1,700	1,716	1,622	52
Aug. 1–3		800									1,830									
Aug. 4–10	[1] 102	782	25	.03	480	193	1,130	29	46	1,819	1,770	.7	1.0	.8	5,470	7.44	1,510	1,992	1,954	56
Aug. 11–20	98.9	912	23	.03	506	210	1,397	37	66	1,941	2,205	.8	1.5	.2	6,350	8.64	1,700	2,126	2,072	59
Aug. 21–31	115	844	23	.04	510	204	1,238	27	94	1,909	1,950	.8	2.5	.8	5,910	8.04	1,840	2,112	2,035	56
Sept. 1–10	167	755	16	.04	500	197	1,053	27	112	1,842	1,655	.8	3.1	.8	5,350	7.28	2,410	2,058	1,966	53
Sept. 11–20	151	747	16	.04	500	195	1,050	24	140	1,827	1,645	.8	3.4	.4	5,330	7.25	2,170	2,050	1,936	53
Sept. 21–30	173	702	7.0		484	182	932	26	83	1,789	1,495	9	2.5	1.0	4,960	6.75	2,320	1,956	1,888	51
Weighted average	327	516	18	0.03	463	143	631	19	131	1,580	980	0.7	2.1	0.9	3,900	5.30	3,440	1,740	1,640	44

[1] Includes discharge for Aug. 1–3.

Chemical analyses, in equivalents per million, water year October 1942 to September 1943

Oct. 1–10, 1942	556				22.36	10.77	21.57	0.41	1.92	31.52	21.29	0.02	0.02							40
Oct. 11–20	299				23.16	12.42	29.92	.41	2.11	33.10	30.74	.02	.03							46
Oct. 21–31	388				22.56	12.66	27.92	.33	2.39	32.98	27.92	.03	.03							45
Nov. 1–10	2,010				22.76	9.54	17.26	.61	2.23	30.56	17.91	.04	.02							36
Nov. 11–20	908				21.86	8.63	15.87	.36	2.00	29.00	15.79	.02	.02							35
Nov. 21–30	559				23.86	10.36	22.05	.49	2.36	31.73	22.56	.03	.03							40

Dec. 1–10	445				24.76	11.92	24.83	.54	2.67	34.00	25.24	.03	.05						41
Dec. 11–20	443				24.76	12.01	25.74	.36	2.62	34.69	25.24	.04	.03						42
Dec. 21–31	578				22.96	10.61	23.87	.33	2.16	32.42	22.99	.04	.05						42
Jan. 1–10, 1943	378				22.76	11.84	31.61	.36	2.52	32.56	31.31	.05	.05						48
Jan. 11–20	515				23.16	11.02	22.92	.33	2.48	32.52	22.14	.04	.03						40
Jan. 21–31	316				23.46	12.34	27.05	.36	2.54	32.83	27.78	.05	.05						43
Feb. 1–10	388				23.76	12.09	24.18	.33	2.44	33.17	24.96	.06	.05						41
Feb. 11–20	241				24.96	12.34	29.79	.38	2.54	34.58	30.18	.06	.03						45
Feb. 21–27	172				24.76	13.40	38.83	.51	2.57	35.71	39.91	.07	.05						51
Mar. 1–10	299				22.66	12.50	28.00	.49	1.98	32.69	28.91	.03	.03						45
Mar. 11–20	220				24.76	12.34	31.22	.51	2.07	35.06	32.01	.04	.03						46
Mar. 21–31	130				25.26	13.90	44.92	.59	2.11	37.23	46.11	.04	.03						54
Apr. 1–10	135				24.36	14.72	47.57	.67	2.39	36.50	49.21	.04	.03						55
Apr. 11–20	136				23.66	15.95	44.44	.56	1.72	37.14	45.41	.05	.03						53
Apr. 21–30	133				23.86	15.79	45.14	.56	1.85	37.66	46.54	.03	.03						54
May 1–10	156				24.36	16.04	43.44	.59	2.10	37.45	45.13	.04	.03						52
May 11–20	167				24.26	16.12	39.27	.46	2.44	36.75	40.61	.04	.03						50
May 21–31	156				22.96	14.39	39.27	.54	1.82	35.58	41.04	.04	.05						52
June 1–10	142				24.16	15.79	44.79	.64	2.05	37.45	45.55	.04	.03						53
June 11–20	174				24.16	14.88	38.61	.82	1.72	35.87	39.91	.05	.04						50
June 21–30	203				22.96	14.23	37.92	.77	1.20	35.37	39.34	.05	.02						51
July 1–5, 7–10	314				17.17	10.20	21.83	.38	1.51	24.61	22.84	.04	.04						45
July 11–20	288				19.87	11.18	26.53	.46	1.74	28.54	27.78	.04	.04						47
July 21–31	143				21.56	12.75	36.56	.77	1.88	31.46	38.22	.05	.03						52
Aug. 1–3											51.61								
Aug. 4–10	[1] 102				23.96	15.87	49.14	.74	.75	37.87	49.92	.04	.02						56
Aug. 11–20	98.9				25.26	17.27	60.75	.95	1.08	40.41	62.19	.04	.02						59
Aug. 21–31	115				25.46	16.78	53.83	.69	1.54	39.74	55.00	.04	.04						56
Sept. 1–10	167				24.96	16.20	45.79	.69	1.84	38.35	46.68	.04	.05						53
Sept. 11–20	151				24.96	16.04	45.66	.61	2.29	38.04	46.39	.04	.05						53
Sept. 21–30	173				24.16	14.97	40.53	.67	1.36	37.25	42.16	.05	.04						51
Weighted average	327				23.11	11.76	27.44	0.49	2.15	32.79	27.64	0.04	0.03						44

[1] Includes discharge for Aug. 1–3.

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 1943. (See table on page 175.)

EXTREMES, 1942–43.—Dissolved solids: Maximum, 4,570 parts per million Sept. 21–30; minimum, 3,540 parts per million Dec. 1–10, 21–31. Total hardness: Maximum, 2,052 parts per million Sept. 21–30; minimum, 1,722 parts per million Oct. 1–10.

EXTREMES, 1937–43.—Dissolved solids: Maximum, 7,980 parts per million 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 1942 to September 1943 are given in Water-Supply Paper 978.

Chemical analyses, in parts per million, water year October 1942 to September 1943

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, 1942	538	489	25	0.10	476	130	552	22	124	1,558	845	0.4	1.5	1.0	3,670	4.99	5,330	1,722	1,621	42
Oct. 11–12, 14–20	478	487	22	.05	476	134	510	19	123	1,577	815	.6	1.5	1.2	3,620	4.92	4,670	1,739	1,638	39
Oct. 21–31	357	489	18	.05	490	135	545	21	125	1,579	835	1.0	2.0	1.0	3,690	5.02	3,560	1,778	1,676	41
Nov. 1–10	1,260	485	21	.10	488	135	491	19	112	1,590	790	.6	2.0	1.0	3,590	4.88	12,200	1,773	1,681	38
Nov. 11–20	1,044	477	19	.15	480	134	507	18	115	1,605	785	.8	1.5	1.0	3,610	4.91	10,200	1,749	1,655	39
Nov. 21–30	528	485	19	.10	496	135	497	18	118	1,618	790	.4	1.5	1.0	3,630	4.94	5,170	1,793	1,696	38
Dec. 1–10	471	491	17	.05	494	152	439	19	130	1,590	760	.8	1.2	2.0	3,540	4.81	4,500	1,858	1,752	34
Dec. 11–20	459	494	15	.10	492	151	448	21	120	1,564	790	.6	1.0	2.0	3,550	4.83	4,400	1,849	1,742	35
Dec. 21–31	497	494	15	.05	488	154	449	20	130	1,552	800	.6	1.0	2.0	3,540	4.81	4,750	1,851	1,744	35
Jan. 1–10, 1943	532	480	18	.05	484	128	501	19	131	1,588	770	.4	.8	1.5	3,570	4.86	5,130	1,734	1,627	39
Jan. 11–20	395	504	22	.10	480	132	552	22	132	1,588	855	.6	.8	1.0	3,720	5.06	3,970	1,741	1,633	41
Jan. 21–30	[1]314	497	15	.15	484	132	547	18	134	1,615	830	.4	.5	1.0	3,710	5.05	3,150	1,751	1,641	41
Feb. 1–10	181	501	22	.05	494	142	541	20	121	1,638	860	.7	.8	1.0	3,780	5 14	1,850	1,817	1,718	40
Feb. 11–19	170	507	18	.05	502	142	534	21	122	1,643	860	.7	.8	1.5	3,780	5.14	1,740	1,837	1,737	39
Feb. 20–28	177	504	19	.10	530	142	539	20	128	1,635	865	.6	.5	1.5	3,780	5.14	1,810	1,832	1,727	40
Mar. 1–10	157	520	16	.10	514	138	574	19	124	1,709	880	.3	.5	2.0	3,910	5.32	1,660	1,850	1,749	41
Mar. 11–20	188	514	15	.05	508	135	566	18	128	1,681	865	.5	.5	1.5	3,850	5.24	1,950	1,823	1,718	41
Mar. 21–30	[2]293	502	15	.05	500	138	545	17	129	1,669	835	.6	.5	1.5	3,780	5.14	2,990	1,816	1,710	40

Apr. 1–10	479	501	22	.05	500	135	510	17	99	1,612	830	.8	3.2	1.5	3,680	5.00	4,760	1,803	1,722	39
Apr. 11–20	610	509	16	.05	502	135	528	17	112	1,630	840	.8	1.5	2.0	3,730	5.07	6,140	1,808	1,716	39
Apr. 21–30	402	511	13	.05	512	135	530	17	123	1,623	860	.8	1.0	2.0	3,750	5.10	4,070	1,833	1,732	39
May 1–10	409	519	15	.05	500	132	555	18	98	1,633	875	.8	4.5	2.0	3,780	5.14	4,170	1,791	1,710	41
May 11–13, 20	370	552	12	.05	506	139	618	21	99	1,671	980	.7	2.0	1.5	4,000	5.44	4,000	1,834	1,754	43
May 21–31	238	581	10	.05	514	143	675	17	121	1,694	1,060	.7	1.5	2.0	4,170	5.67	2,680	1,871	1,772	44
June 1–10	298	537	21	.10	502	142	595	18	74	1,695	940	.9	1.5	2.0	3,950	5.37	3,180	1,837	1,776	42
June 11–20	331	544	18	.10	514	142	600	22	109	1,710	940	.9	1.8	1.5	4,000	5.44	3,570	1,867	1,778	42
June 21–30	280	547	24	.10	522	142	597	22	123	1,700	950	.9	.8	2.0	4,020	5.47	3,040	1,886	1,786	41
July 1–10	249	541	25	.05	498	149	623	20	98	1,710	950	.7	.5	1.5	4,020	5.47	2,700	1,860	1,775	43
July 11–20	408	537	23	.10	502	148	604	21	104	1,715	935	.7	.5	2.0	4,000	5.44	4,410	1,860	1,776	42
July 21–31	705	540	25	.05	508	149	622	19	120	1,727	935	.9	.2	1.5	4,050	5.51	7,710	1,880	1 782	42
Aug. 1–10	612	542	22	.10	502	154	593	24	82	1,712	950	.7	.2	2.0	4,000	5.44	6,610	1,886	1,819	41
Aug. 11–20	695	551	19	.05	500	154	653	18	85	1,742	965	.7	.5	1.5	4,090	5.56	7,670	1,881	1,812	43
Aug. 21–24, 26–31	672	559	19	.05	516	156	661	21	104	1,755	990	.7	.5	2.0	4,170	5.67	7,570	1,930	1,844	44
Sept. 1–10	371	582	18	.10	530	158	674	22	105	1,819	1,040	.9	.8	2.0	4,310	5.86	4,320	1,972	1,886	43
Sept. 11–20	98.8	602	19	.05	534	163	716	22	108	1,875	1,090	1.1	.5	2.0	4,470	6.08	1,190	2,002	1,914	44
Sept. 21–30	79.1	618	20	.10	552	164	733	22	117	1,893	1,130	1.1	.2	2.5	4,570	6.22	976	2,052	1,956	44
Weighted average	428	515	19	0.08	498	142	554	20	114	1,650	872	0.7	1.2	1.5	3,810	5.18	4,400	1,830	1,730	39

See footnotes at end of table.

Chemical analyses, in equivalents per million, water year October 1942 to September 1943

Oct. 1–10, 1942	538				23.76	10.69	24.00	0.56	2.03	32.44	23.83	0.02	0.02						42
Oct. 11–12, 14–20	478				23.76	11.02	22.18	.49	2.02	32.83	22.99	.03	.02						39
Oct. 21–31	357				24.46	11.10	23.70	.54	2.05	32.87	23.55	.05	.03						41
Nov. 1–10	1,260				24.36	11.10	21.33	.49	1.84	33.10	22.28	.03	.03						38
Nov. 11–20	1,044				23.96	11.02	22.06	.46	1.88	33.42	22.14	.04	.02						39
Nov. 21–30	528				24.76	11.10	21.62	.46	1.93	33.69	22.28	.02	.02						38
Dec. 1–10	471				24.66	12.50	19.07	.49	2.13	33.10	21.43	.04	.02						34
Dec. 11–20	459				24.56	12.42	19.50	.54	2.13	32.56	22.28	.03	.02						35
Dec. 21–31	497				24.36	12.66	19.52	.51	2.13	32.31	22.56	.03	.02						35
Jan. 1–10, 1943	532				24.16	10.53	21.78	.49	2.15	33.06	21.72	.02	.01						39
Jan. 11–20	395				23.96	10.86	23.99	.56	2.16	33.06	24.11	.03	.01						41
Jan. 21–30	314				24.16	10.86	23.78	.46	2.20	33.62	23.41	.02	.01						41
Feb. 1–10	181				24.66	11.68	23.53	.51	1.98	34.10	24.25	.04	.01						40
Feb. 11–19	170				25.06	11.68	23.23	.54	2.00	34.21	24.25	.04	.01						39
Feb. 20–28	177				24.96	11.68	23.43	.51	2.10	34.04	24.40	.03	.01						40
Mar. 1–10	157				25.66	11.35	24.96	.49	2.03	35.58	24.82	.02	.01						41
Mar. 11–20	188				25.36	11.10	24.62	.46	2.10	35.00	24.40	.03	.01						41
Mar. 21–30	[2] 293				24.96	11.35	23.71	.43	2.11	34.75	23.55	.03	.01						40

PECOS RIVER NEAR ORLA, TEX.—Continued

Chemical analyses, in equivalents per million, water year October 1942 to September 1943—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	479				24.96	11.10	22.19	0.43	1.62	33.56	23.41	0.04	0.05							39
Apr. 11–20	610				25.06	11.10	22.94	.43	1.84	33.94	23.69	.04	.02							39
Apr. 21–30	402				25.56	11.10	23.03	.43	2.02	33.79	24.25	.04	.02							39
May 1–10	409				24.96	10.86	24.12	.46	1.61	34.00	24.68	.04	.07							41
May 11–13, 20	370				25.26	11.43	26.89	.54	1.62	34.79	27.64	.04	.03							43
May 21–31	238				25.66	11.76	29.36	.43	1.98	35.27	29.90	.04	.02							44
June 1–10	298				25.06	11.68	25.88	.46	1.21	35.29	26.51	.05	.02							42
June 11–20	331				25.66	11.68	26.08	.56	1.79	35.60	26.51	.05	.03							42
June 21–30	280				26.05	11.68	25.97	.56	2.02	35.39	26.79	.05	.01							41
July 1–10	249				24.86	12.25	27.09	.51	1.61	35.60	26.79	.04	.01							43
July 11–20	408				25.06	12.17	26.26	.54	1.70	35.71	26.37	.04	.01							42
July 21–31	705				25.36	12.25	27.05	.49	1.97	35.96	26.37	.05	.00							42
Aug. 1–10	612				25.06	12.66	25.79	.61	1.34	35.64	26.79	.04	.00							41
Aug. 11–20	695				24.96	12.66	28.39	.46	1.39	36.27	27.22	.04	.01							43
Aug. 21–24, 26–31	672				25.76	12.83	28.74	.54	1.70	36.54	27.92	.04	.01							44
Sept. 1–10	371				26.45	12.99	29.31	.56	1.72	37.87	29.33	.05	.01							43
Sept. 11–20	98.8				26.65	13.40	31.13	.56	1.77	39.04	30.74	.06	.01							44
Sept. 21–30	79.1				27.55	13.49	31.87	.56	1.92	39.41	31.87	.06	.00							44
Weighted average	428				24.86	11.68	24.09	0.51	1.87	34.35	24.59	0.04	0.02							39

[1] Includes discharge for Jan. 21–31.

[2] Includes discharge for Mar. 21–31.

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 1943. (See table on page 175.)

EXTREMES, 1942–43.—Dissolved solids: Maximum, 4,260 parts per million June 11–20; minimum, 2,780 parts per million Oct. 1–10.
Total hardness: Maximum, 2,228 parts per million June 11–20; minimum, 1,596 parts per million Oct. 1–10.

EXTREMES, 1939–43.—Dissolved solids: Maximum, that of June 11–20, 1943; minimum, 568 parts per million Oct. 16–18, 1940.
Total hardness: Maximum, that of June 11–20, 1943; minimum, 324 parts per million Oct. 16–18, 1940.

Chemical analyses, in parts per million, water year October 1942 to September 1943

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, 1942		354	18		478	98	271		124	1,444	410		2.5		2,780	3.78		1,596	1,480	27
Oct. 11–20		377	18		492	108	293		123	1,518	445		1.5		2,940	4.00		1,672	1,571	28
Oct. 21–26, 29–30		401	19		524	116	322		128	1,607	500		1.0		3,150	4.28		1,784	1,680	28
Oct. 27, 31		410																		
Nov. 1–10		368																		
Nov. 11–15, 17–20		332																		
Nov. 21–30		400																		
Dec. 1–10		410																		
Dec. 11		410																		
Dec. 12–20		406	16		528	118	332		131	1,656	490		2.0		3,210	4.37		1,802	1,695	29
Dec. 21–22		395			514	116	323		128	1,626	470		1.5		3,110	4.23		1,760	1,655	28
Dec. 23–31		392																		
Jan. 1–10, 1943		408																		
Jan. 11–20		412																		
Jan. 21–31		412																		
Feb. 1–10		412																		
Feb. 11–20		410	14		524	126	317		134	1,625	505		.5		3,180	4.32		1,826	1,716	27
Feb. 21–23		408			532	126	319		134	1,656	500		.5		3,200	4.35		1,846	1,736	27
Feb. 24–28		409																		
Mar. 1–7, 9–10		433																		
Mar. 11–20		413	14		536	122	342		100	1,717	505		2.5		3,290	4.47		1,839	1,757	29
Mar. 21–31		413	20		534	121	351		87	1,710	525		2.0		3,310	4.50		1,830	1,758	29

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

Chemical analyses, in parts per million, water year October 1942 to September 1943—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	
Apr. 1–10		464	15		534	144	414		96	1,730	670		1.5		3,560	4.84		1,924	1,846	32
Apr. 11–18, 20		475	14		526	145	452		111	1,735	705		1.5		3,630	4.94		1,908	1,818	34
Apr. 21–30		456	18		532	131	428		87	1,719	662		2.8		3,540	4.81		1,866	1,794	33
May 1–10		472	16		548	135	456		104	1,766	700		5 2		3,680	5.00		1,922	1,838	34
May 11–20		478	14		562	135	452		103	1,799	695		4.4		3,710	5.05		1,958	1,873	33
May 21–31		443	12		548	124	409		115	1,712	630		3.1		3,490	4.75		1,878	1,784	32
June 1–10		546	12		605	160	562		116	1,970	880		4.6		4,250	5.78		2.168	2,073	36
June 11–20		552	11		624	163	540		110	1,977	885		7.2		4,260	5.79		2,228	2,138	35
June 21–27		462	15		576	133	437		94	1,852	655		6.6		3,720	5.06		1,984	1,908	32
June 29–30, July 1–6		267																		
July 7–10		393	10		486	110	326		130	1,440	540		7.8		2,980	4.05		1,666	1,559	30
July 11–20		432	12		528	125	417		126	1,695	615		4.6		3,460	4.71		1,832	1,728	33
July 21–31		452	11		554	131	385		124	1,669	650		2.0		3,460	4.71		1,921	1,820	30
Aug. 1–2		466									695									
Aug. 3–10		462	15		524	139	413		103	1,684	660		12		3,500	4.76		1,879	1,794	32
Aug. 11–20		465	14		516	137	434		104	1,689	668		11		3,520	4.79		1,851	1,766	34
Aug. 21–31		442	15		528	130	381		112	1,679	592		7.7		3,390	4.61		1,852	1,760	31
Sept. 1–10		383	14		510	111	291		108	1,579	445		4.2		3,010	4.09		1,730	1,641	27
Sept. 11–20		434	14		548	127	359		113	1,719	558		2.5		3,380	4.60		1,890	1,797	29
Sept. 21–30		420	19		540	122	341		105	1,671	540		3.5		3,290	4.47		1,849	1,763	29

Chemical analyses, in equivalents per million, water year October 1942 to September 1943

Oct. 1–10, 1942					23.86	8.06	11.77	2.03	30.06	11.56		0.04								27
Oct. 11–20					24.3	8.88	12.75	2.02	31.60	12.55		.02								28
Oct. 21–26, 29–30					26.15	9.54	13.99	2.10	23.46	14.10		.02								28
Oct. 27, 31																				
Nov. 1–10																				
Nov. 11–15, 17–20																				
Nov. 21–30																				

Dec. 1–10																					
Dec. 11																					
Dec. 12–20						26.35	.7	14.43	2.15	34.48	13.82		.03								29
Dec. 21–22						25.66	9.54	14.03	2.10	33.85	13.26		.02								28
Dec. 23–31																					
Jan. 1–10, 1943																					
Jan. 11–20																					
Jan. 21–31																					
Feb. 1–10																					
Feb. 11–20						26.15	10.36	13.77	2.20	33.83	14.24		.01								27
Feb. 21–23						26.55	10.36	13.88	2.20	34.48	14.10		.01								27
Feb. 24–28																					
Mar. 1–7, 9–10																					
Mar. 11–20						26.75	10.03	14.89	1.64	35.75	14.24		.04								29
Mar. 21–31						26.65	9.95	15.27	1.43	35.60	14.81		.03								29
Apr. 1–10						26.65	11.84	18.02	1.57	36.02	18.90		.02								32
Apr. 11–18, 20						26.25	11.92	19.67	1.82	36.12	19.88		.02								34
Apr. 21–30						26.55	10.77	18.62	1.43	35.79	18.67		.05								33
May 1–10						27.35	11.10	19.87	1 70	36.77	19.74		.08								34
May 11–20						28.05	11.10	19.66	1.69	37.45	19.60		.07								33
May 21–31						27.35	10.20	17.79	1.88	35.64	17.77		.05								32
June 1–10						30.20	13.16	24.44	1.90	41.01	24.8[2]		.07								36
June 11–20						31.15	13.40	23.49	1.80	41.16	24 96		.12								35
June 21–27						28.75	10.94	18.99	1.54	38.56	18.47		.11								32
June 29–30, July 1–6																					
July 7–10						24.26	9.05	14.16	2.13	29 98	15.23		.13								30
July 11–20						26.35	10.28	18.14	2.07	35.29	17.34		.07								33
July 21–31						27.65	10.77	16.72	2.03	34.75	18.33		.03								30
Aug. 1–2											19.60										
Aug. 3–10						26.15	11.43	17.97	1.69	35 06	18.61		.19								32
Aug. 11–20						25.75	11.27	18.86	1.70	35.16	18.84		.18								34
Aug. 21–31						26.35	10.69	16.58	1.84	34 96	16.70		.12								31
Sept. 1–10						25.46	9.13	12 67	1.77	32.87	12.55		.07								27
Sept. 11–20						27.35	10.44	15.63	1.85	35.79	15 74		.04								29
Sept. 21–30						26.95	10.03	14.82	1.72	34.79	15.23		.06								29

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 ($K+10^5$ at 25° C.)	Chloride (Cl, p. p. m)	Date	Specific conductance ($K+10^5$ at 25° C.)	Chloride (Cl, p. p. m.)	Date	Specific conductance ($K+10^5$ at 25° C.)	Chloride (Cl, p. p. m.)	Date	Specific conductance ($K+10^5$ at 25° C.)	Chloride (Cl, p p. m.)	Date	Specific conductance ($K+10^5$ at 25° C.)	Chloride (Cl, p. p. m.
1941			*1942*			*1942*			*1942*			*1943*		
Oct. 2	208	190	Feb. 19	468	740	July 23	437	665	Dec. 24	407	555	May 13	440	700
Oct. 9	285	260	Feb. 26	435	655	July 30	492	590	Dec. 31	403	565	May 20	440	700
Oct. 16	364	446	Mar. 5	416	600	Aug. 6	449	685				May 27	427	680
Oct. 23	374	490	Mar. 12	423	620	Aug. 13	485	755	*1943*			June 3	442	695
Oct. 30	294	334	Mar. 19	435	630	Aug. 20	459	710	Jan. 7	362	510	June 10	444	700
Nov. 6	324	455	Mar. 26	446	665	Aug. 27	443	685	Jan. 14	407	570	June 17	443	685
Nov. 13	369	505	Apr. 2	432	660	Sept. 3	396	562	Jan. 21	412	575	June 24	436	685
Nov. 20	391	520	Apr. 9	437	675	Sept. 10	335	272	Jan. 28	414	575	July 1	363	545
Nov. 27	423	620	Apr. 16	454	695	Sept. 17	363	395	Feb. 4	400	545	July 8	356	520
Dec. 4	410	595	Apr. 23	446	680	Sept. 24	352	442	Feb. 11	410	565	July 15	361	530
Dec. 11	423	605	Apr. 30	480	785	Oct. 1	357	430	Feb. 18	418	600	July 22	429	655
Dec. 18	427	640	May 7	332	400	Oct. 8	380	490	Feb. 25	426	630	July 29	432	675
Dec. 24	431	650	May 14	413	590	Oct. 15	409		Mar. 4	391	545	Aug. 5	464	710
			May 21	362	450	Oct. 22	413	582	Mar. 11	408	555	Aug. 12	444	670
1942			May 28	305	350	Oct. 29	395	540	Mar. 18	425	600	Aug. 19	449	680
Jan. 1	431	630	June 4	395	550	Nov. 5	392	575	Mar. 25	426	620	Aug. 26	455	695
Jan. 8	443	660	June 11	416	575	Nov. 12	361	460	Apr. 1	425	635	Sept. 2	458	685
Jan. 15	485	770	June 18	450	660	Nov. 19	338	400	Apr. 8	426	645	Sept. 9	454	675
Jan. 22	453	675	June 25	450	680	Nov. 26	395	505	Apr. 15	444	680	Sept. 16	464	705
Jan. 29	420	570	July 2	478	745	Dec. 3	417	555	Apr. 22	433	660	Sept. 23	440	665
Feb. 5	479	780	July 9	430	650	Dec. 10	414	550	Apr. 29	441	695	Sept. 30	431	650
Feb. 12	503	810	July 16	444	675	Dec. 17	427	585	May 6	444	705			

MISCELLANEOUS STREAMS IN PECOS RIVER BASIN

Chemical analyses, in parts per million

Pecos River near Anton Chico, N. Mex.

Date of collection	Discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	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)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
														Parts per million	Tons per acre-foot	Tons per day	Total	Noncarbonate	
Feb. 18, 1943		24.3																	
Apr. 16		22.6																	

Pecos River at Santa Rosa, N. Mex.

Dec. 18, 1942		111			202	28	10	161	465	18				802	1.09		619	487	4
Feb. 17, 1943		111								20									
Apr. 16		109								18									
Apr. 17		111								19									

Pecos River near Puerto de Luna, N. Mex.

Dec. 18, 1942		219			408	54	90	160	1,103	111				1,845	2.51		1,240	1,109	14
Feb. 18, 1943		233								110									
Apr. 17		218								101									

Pecos River near Malaga, N. Mex.

Aug. 11, 1943		581								1,060									
Sept. 20		539								930									

Creek (Rito) near Santa Rosa, N. Mex.

Dec. 18, 1942		274			595	75	62	190	1,592	82		0.5		2,500	3.40		1,794	1,638	7
Apr. 17, 1943		266								79									
Apr. 19		266								78									

MISCELLANEOUS STREAMS IN PECOS RIVER BASIN—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	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)	Borate (BO_3)	Dissolved solids			Hardness as $CaCO_3$		Percent sodium
														Parts per million	Tons per acre-foot	Tons per day	Total	Noncarbonate	
Seepage from fish hatchery into Creek (Rito) near Santa Rosa, N. Mex.																			
Apr. 17, 1943		313			656	93	77	171	1,784	134		0.8		2,830	3.85		2,020	1,880	8
Alamogordo Creek near Fort Sumner, N. Mex.																			
Dec. 18, 1942		118			28	14	206	330	235	43				740	1.01		128	0	79
South Berrendo Creek, sec. 15, T. 10 S., R. 24 E., near Roswell, N. Mex.																			
Feb. 19, 1943		315			257	90	333	213	762	540		7.0		2,094	2.85		1,012	837	42
Hagerman Canal at Dexter, N. Mex.																			
Nov. 10, 1942		432								785									
Dec. 19		397								690									
Jan. 22, 1943		363								535									
Mar. 2		451								850									
Apr. 12		474								870									
May 24		494								960									
Aug. 2		515						147		1,078									
Sept. 18		558								1,215									
Black River at Lookout Crossing, sec. 8, T. 24 S., R. 28 E., near Malaga, N. Mex.																			
Mar. 1, 1943		211			400	85	28	162	1,167	42		2.0		1,804	2.45		1,348	1,215	4

Black River at Forehand Crossing, sec. 9, T. 24 S., R. 28 E., near Malaga, N. Mex.

Sept. 30, 1942		199	15	0.12	405	71	27	180	1,147	12	0.3	2.4	0.6	1,769	2.41		1,302	1,155	4
Dec. 19		185			376	59	8.7	179	986	18		1.8		1,538	2.09		1,181	1,034	2
May 24, 1943		209			431	71	21	173	1,193	20		2.0		1,823	2.48		1,368	1,226	3
Sept. 19		213			435	76	21	165	1,226	22		3.1		1,864	2.54		1,398	1,263	3

Chemical analyses, in equivalents per million

Pecos River near Anton Chico, N. Mex.

Feb. 18, 1943																			
Apr. 16																			

Pecos River at Santa Rosa, N. Mex.

Dec. 18, 1942					10.	2.30	0.45	2.64	9.68	0.51									4
Feb. 17, 1943										.56									
Apr. 16										.51									
Apr. 17										.54									

Pecos River near Puerto de Luna, N. Mex.

Dec. 18, 1942					20.36	4.44	3.91	2.62	22.96	3.13									14
Feb. 18, 1943										3.10									
Apr. 17										2.85									

Pecos River near Malaga, N. Mex.

Aug. 11, 1943										29.90									
Sept. 20										26.23									

Creek (Rito) near Santa Rosa, N. Mex.

Dec. 18, 1942					29.70	6.17	2.70	3.11	33.14	2.31		0.01							7
Apr. 17										2.23									
Apr. 19										2.20									

MISCELLANEOUS STREAMS IN PECOS RIVER BASIN—Continued

Chemical analyses, in equivalents per million—Continued

Seepage from fish hatchery into Creek (Rito) near Santa Rosa, N. Mex.

Date of collection	Discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	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)	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. 17, 1943					32.74	7.65	3.34	2.80	37.14	3.78		0.01							8
Alamogordo Creek near Fort Sumner, N. Mex.																			
Dec. 18, 1942					1.40	1.15	8.96	5.41	4.89	1.21									79
South Berrendo Creek, sec. 15, T. 10 S., R. 24 E., near Roswell, N. Mex.																			
Feb. 19, 1943					12.83	7.40	14.46	3.49	15.86	15.23		0.11							42
Hagerman Canal at Dexter, N. Mex.																			
Nov. 10, 1942										22.14									
Dec. 19										19.46									
Jan. 22, 1943										15.09									
Mar. 2										23.97									
Apr. 12										24.54									
May 24										27.08									
Aug. 2								2.41		30.40									
Sept. 18										34.97									

Black River at Lookout Crossing, sec. 8, T. 24 S., R. 28 E., near Malaga, N. Mex.

Mar. 1, 1943					19.96	6.99	1.22	2.66	24.30	1.18		0.03							

Black River at Forehand Crossing, sec. 9, T.24 S., R.28 E., near Malaga, N. Mex.

Sept. 30, 1942					20.21	5.84	1.17	2.95	23.88	0.34	0.02	0.04							4
Dec. 19					18 77	4 85	.38	2.93	20.53	51		.03							2
May 24, 1943					21.51	5.84	.91	2.84	24 84	.56		.03							3
Sept. 19					21.71	6.25	.91	2.70	25.52	.62		.05							3

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 1943. (See table on page 167.)

EXTREMES, 1942–43.—Dissolved solids: Maximum, 661 parts per million Jan. 11–20; minimum, 119 parts per million June 21–30.
Total hardness: Maximum, 292 parts per million Dec. 1–10; minimum, 78 parts per million June 21–30.

EXTREMES, 1941–43.—Dissolved solids: Maximum, that of Jan. 11–20, 1943; minimum, 105 parts per million June 1–10, 1942.
Total hardness: Maximum, that of Dec. 1–10, 1942; minimum, 72 parts per million June 1–20, 1942.

REMARKS.—Records of discharge for water year October 1942 to September 1943 are given in Water-Supply Paper 979.

Chemical analyses, in parts per million, water year October 1942 to September 1943

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, 1942	810	94.4	14	0.06	80	19	83	4.6	154	156	130	0.1	0.5	0.2	563	0.77	1,230	278	152	40
Oct. 11–20	856	91.8	14	.07	80	20	83	5.2	158	151	126	.1	.5	.2	558	.76	1,290	282	152	40
Oct. 21–31	900	89 0	14	.06	76	20	81	5.0	160	144	123	.1	.5	.2	542	.74	1,320	272	140	40
Nov. 1–10	927	84.9	14	.07	74	19	75	5.2	154	138	115	.1	.5	.2	517	.70	1,290	262	136	39
Nov. 11–20	851	90.4	14	.07	76	20	83	5.8	165	144	126	.1	.5	.2	551	.75	1,270	272	136	41
Nov. 21–30	702	100	12	.10	82	21	98	4.2	168	159	146	.1	.5	.2	606	.82	1,150	291	154	43
Dec. 1–10	613	107	13	.04	84	20	105	2.4	171	164	154	.2	2.0	.2	629	.86	1,040	292	152	44
Dec. 11–20	669	102	14	.04	80	20	104	4.8	165	153	152	.6	1.0	.2	611	.83	1,100	282	146	45
Dec. 21–31	672	103	12	.06	78	19	109	2.6	163	148	158	.1	1.0	.2	608	.83	1,100	272	139	47
Jan. 1–10, 1943	613	111	13	.08	80	20	123	2.6	168	153	180	.5	1.0	.2	656	.89	1,090	282	144	49
Jan. 11–20	563	113	14	.09	80	20	124	2.8	170	151	184	.3	1.0	.2	661	.90	1,000	282	142	49
Jan. 21–31	630	100	12	.10	74	19	107	4.4	158	137	160	.1	2.0	.2	593	.81	1,010	262	133	48
Feb. 1–10	580	102	13	.08	75	18	111	4.4	160	139	163	.1	1.5	.4	604	.82	946	261	130	49
Feb. 11–20	624	102	14	.06	73	18	114	3.8	154	137	166	.1	1.0	.4	603	.82	1,020	256	130	50
Feb. 21–28	758	95.8	12	.05	71	17	98	3.2	146	135	141	.2	.5	.2	550	.75	1,130	247	128	47
Mar. 1–10	674	101	11	.04	72	17	112	2 6	155	137	160	.2	.4	.4	589	.80	1,070	250	122	50
Mar. 11–20	741	96.6	12	.09	74	17	102	2.2	149	143	142	.2	.5	.2	566	.77	1,130	254	132	47
Mar. 21–31	936	84.5	15	.10	67	17	81	5.0	144	130	119	.2	1.0	2	506	.69	1,280	237	119	44

Apr. 1–10	1,969	51.3	14	.15	47	12	42	3.2	120	85	50	.2	1.0	.2	314	.43	1,670	167	68	36
Apr. 11–20	2,058	49.3	14	.14	44	11	42	4.0	117	75	55	.2	.8	.1	304	.41	1,690	155	59	38
Apr. 21–30	4,133	31.0	12	.06	34	7.2	20	2.5	99	41	25	.2	.4	0	191	.26	2,130	114	33	29
May 1–10	6,650	23.1	11	.15	30	6.1	12	2.1	81	37	14	.2	.5	.2	153	.21	2,750	100	34	22
May 11–20	4,423	28.5	10	.10	29	7.3	20	1.9	85	41	23	.3	.4	.1	175	.24	2,090	102	33	31
May 21–31	5,610	28.6	10	.12	29	7.1	20	1.9	88	41	22	.3	.4	.1	175	.24	2,650	102	30	31
June 1–10	9,913	22.1	10	.04	27	5.3	11	1.4	82	30	9.5	.3	.7	0	136	.18	3,640	90	22	23
June 11–20	9,150	21.9	11	.03	25	5.2	12	1.0	73	32	11	.3	.6	0	134	.18	3,310	84	24	25
June 21–30	10,260	19.8	7.8	.03	24	4.5	10	1.2	67	28	10	.3	.6	0	119	.16	3,300	78	24	23
July 1–10	6,811	26.3	9.0	.03	27	6.2	17	1.2	76	41	20	.2	.7	.1	160	.22	2,940	93	30	29
July 11–20	3,436	38.4	10	.01	35	8.1	29	1.6	89	61	37	.3	.6	.1	226	.31	2,100	121	48	35
July 21–31	2,302	50.5	10	.02	48	10	38	2.2	105	87	51	.3	.8	.2	299	.41	1,860	161	75	35
Aug. 1–10	1,912	55.3	8.4	.04	51	12	44	1.9	114	92	57	.2	.6	0	323	.44	1,670	177	84	36
Aug. 11–20	1,788	55 9	10	.06	52	12	44	2.0	117	93	58	.2	.8	.1	330	.45	1,590	180	84	35
Aug. 21–31	1,611	58.5	12	.12	56	13	45	1.6	122	101	60	.2	.8	.1	350	.48	1,520	194	94	34
Sept. 1–10	1,295	67.3	10	.02	63	15	53	4.5	133	122	71	.2	.8	.2	405	.55	1,420	218	110	36
Sept. 11–20	1,045	79.6	10	02	70	16	68	4.6	142	136	96	.2	.8	.2	472	.64	1,330	240	124	39
Sept. 21–30	992	89.5	26	.01	83	17	77	4.8	146	164	110	.2	.8	.2	555	.75	1,490	277	158	39
Weighted average	2,455	41.5	11	0.06	40	9.0	33	2.2	99	63	43	0.2	0.7	0.2	251	0.34	1,660	137	56	34

Chemical analyses, in equivalents per million, water year October 1942 to September 1943

Oct. 1–10, 1942	810				3.99	1.56	3.61	0.12	2.52	3.25	3.67	0.01	0.01							40
Oct. 11–20	856				3.99	1.64	3 61	.13	2.59	3.14	3.55	.01	.01							40
Oct. 21–31	900				3 79	1.64	3.52	.13	2.62	3.00	3.47	.01	.01							40
Nov. 1–10	927				3.69	1.56	3.26	.13	2.52	2.87	3.24	.01	.01							39
Nov. 11–20	851				3.79	1.64	3.61	.15	2.70	3 00	3.55	.01	.01							41
Nov. 21–30	702				4.09	1.73	4.26	.11	2.75	3.31	4.12	.01	.01							43
Dec. 1–10	613				4.19	1.64	4.57	.06	2.80	3 41	4 34	.01	.03							44
Dec. 11–20	669				3.99	1.64	4.52	.12	2.70	3.19	4.29	.03	.02							45
Dec. 21–31	672				3.89	1.56	4.74	.07	2 67	3.08	4.46	.01	.02							47
Jan. 1–10, 1943	613				3.99	1.64	5.35	.07	2.75	3.19	5.08	.03	.02							49
Jan. 11–20	563				3.99	1.64	5.39	.07	2.79	3.14	5.19	.02	.02							49
Jan. 21–31	630				3.69	1.56	4.65	.11	2.59	2.85	4.51	.01	.03							48
Feb. 1–10	580				3.74	1.48	4.83	.11	2.62	2.89	4.60	.01	.02							49
Feb. 11–20	624				3.64	1.48	4.96	.10	2.52	2.85	4.68	.01	.02							50
Feb. 21–28	758				3.54	1.40	4.26	.08	2.39	2.81	3.98	.01	.01							47
Mar. 1–10	674				3.59	1.40	4.87	.07	2.54	2 85	4 51	.01	.01							50
Mar. 11–20	741				3.69	1.40	4.44	.06	2.44	2.98	4.00	.01	.01							47
Mar. 21–31	936				3.34	1.40	3.52	.13	2.36	2.71	3.36	.01	.02							44

COLORADO RIVER NEAR GLENWOOD SPRINGS, COLO.—Continued

Chemical analyses, in equivalents per million, water year October 1942 to September 1943—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	
Apr. 1–10	1,969				2.35	.99	1.83	.08	1.97	1.77	1.41	.01	.02							36
Apr. 11–20	2,058				2.20	.90	1.83	.10	1.92	1.56	1.55	.01	.01							38
Apr. 21–30	4,133				1.70	.59	.87	.06	1.62	.85	.71	.01	.01							29
May 1–10	6,650				1.50	.50	.52	.05	1.33	.77	.39	.01	.01							22
May 11–20	4,423				1.45	.60	.87	.05	1.39	.85	.65	.02	.01							31
May 21–31	5,610				1.45	.58	.87	.05	1.44	.85	.62	.02	.01							31
June 1–10	9,913				1.35	.44	.48	.04	1.34	.62	.27	02	.01							23
June 11–20	9,150				1.25	.43	.52	.03	1.20	.67	.31	.02	.01							25
June 21–30	10,260				1.20	.37	.43	.03	1.10	.58	.28	.02	.01							23
July 1–10	6,811				1.35	.51	.74	.03	1.25	.85	.56	.01	.01							29
July 11–20	3,436				1.75	.67	1.26	.04	1.46	1.27	1.04	.02	.01							35
July 21–31	2,302				2.40	.82	1.65	.06	1.72	1.81	1.44	.02	.01							35
Aug. 1–10	1,912				2.55	.99	1.91	.05	1.87	1.92	1.61	.01	.01							36
Aug. 11–20	1,788				2.60	.99	1.91	.05	1.92	1.94	1.64	.01	.01							35
Aug. 21–31	1,611				2.80	1.07	1.96	.04	2.00	2.10	1.69	.01	.01							34
Sept. 1–10	1,295				3.14	1.23	2.30	.12	2.18	2.54	2.00	.01	.01							36
Sept. 11–20	1,045				3.49	1.32	2.96	.12	2.33	2.83	2.71	.01	.01							39
Sept. 21–30	992				4.14	1.40	3.35	.12	2.39	3.41	3.10	.01	.01							39
Weighted average	2,455				2.00	0.74	1.44	0.06	1.62	1.31	1.21	0.01	0.01							34

COLORADO RIVER NEAR CAMEO, COLO.

LOCATION.—At diversion dam, about 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 1943. (See table on page 167.)

EXTREMES, 1942–43.—Dissolved solids: Maximum, 990 parts per million Nov. 1–10; minimum, 152 parts per million June 11–20.

EXTREMES, 1933–43.—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): 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 1942 to September 1943 are given in Water-Supply Paper 979.

Dissolved solids, in parts per million, and discharge, in second-feet, water year October 1942 to September 1943

Date of collection	Dissolved solids	Mean discharge	Date of collection	Dissolved solids	Mean discharge
1942			*1943*		
Oct. 1–10	877	1,433	Apr. 12–19	490	3,090
Oct. 11–20	886	1,556	Apr. 22–30	283	5,787
Oct. 21–26, 28–31	840	1,577	May 1–10	214	9,806
Nov. 1–10	990	1,674	May 11–20	261	6,361
Nov. 11–20	828	1,589	May 21–31	232	8,636
Nov. 21–30	922	1,485	June 1–9	184	15,690
Dec. 1–10	940	1,378	June 11–20	152	14,590
Dec. 11–20	941	1,376	June 21–30	170	16,670
Dec. 21–31	905	1,339	July 1–10	221	10,290
			July 11–20	307	5,195
1943			July 21–31	420	3,675
Jan. 1–10	955	1,262	Aug. 1–6, 8–10	520	3,221
Jan. 11–20	985	1,159	Aug. 11–20	558	3,017
Jan. 21–31	936	1,310	Aug. 21–31	530	3,140
Feb. 1–10	960	1,295	Sept. 1–10	568	2,452
Feb. 11–20	917	1,267	Sept. 11–20	674	1,732
Feb. 21–28	902	1,448	Sept. 21–30	766	1,716
Mar. 1, 3–10	938	1,320			
Mar. 11–20	892	1,389	Average	655	3,985
Mar. 21–31	878	1,605	Weighted average	391	
Apr. 1–8, 10	540	3,077			

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 1943. (See table on page 167.)
Sediment records: May 1929 to September 1943.

EXTREMES, 1942–43.—Dissolved solids: Maximum, 1,828 parts per million Oct. 11–20; minimum, 270 parts per million June 11–20.
Sediment loads: Maximum, 288,000 tons per day Aug. 20; minimum, less than 1,000 tons per day on several days.

EXTREMES, 1928–43.—Dissolved solids: Maximum, 2,670 parts per million Aug. 11–20, 1940; minimum, 202 parts per million June 11–20, 1935.
Total hardness (1928–35): 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 1942 to September 1943 are given in Water-Supply Paper 979.

Dissolved solids, in parts per million, and discharge, in second-feet, water year October 1942 to September 1943

Date of collection	Dissolved solids	Mean discharge	Date of collection	Dissolved solids	Mean discharge
1942			*1943*		
Oct. 1–10	1,770	2,267	May 1–10	299	22,980
Oct. 11–20	1,828	2,745	May 11–20	450	12,400
Oct. 21–31	1,600	2,853	May 21–31	309	13,470
Nov. 1–10	1,482	3,298	June 1–10	280	24,500
Nov. 11–20	1,451	3,121	June 11–20	270	21,680
Nov. 21–25, 27–30	1,449	2,956	June 21–30	277	22,620
Dec. 1–10	1,422	2,778	July 1–10	373	14,020
Dec. 11–15, 17–20	1,483	2,622	July 11–16	503	7,140
Dec. 21–31	1,419	2,616	July 17–20	842	5,760
			July 21–31	1,089	4,277
1943			Aug. 1–10	963	4,498
Jan. 1–10	1,512	2,368	Aug. 11, 13–20	829	6,124
Jan. 11–12, 21	1,510	2,077	Aug. 21–31	982	7,195
Jan. 28	1,178	2,660	Sept. 1–10	1,218	5,475
Feb. 1, 8, 18, 27	1,333	2,582	Sept. 11, 13–20	1,518	2,590
Mar. 4, 9, 17, 22, 29	1,270	2,644	Sept. 21–25	1,481	2,630
Apr. 8, 12, 20	470	10,980			
Apr. 21–30	308	17,640	Average	1,036	7,094

COLORADO RIVER NEAR CISCO, UTAH—Continued

Suspended sediment, water year October 1942 to September 1943

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	2,400	0.02	1,300				2,940	0.01	794
2				3,450	0.02	1,860			
3	2,250	.02	1,220				2,960	.00	00
4				3,230	.02	1,740			
5	2,200	.01	594				2,900	.01	783
6				3,640	.03	2,950			
7	2,230	.01	602	3,120	.05	4,210	2,800	.01	756
8									
9	2,270	.00	.00	3,280	.02	1,770	2,570	.01	694
10									
11	2,280	.00	.00	3,250	.02	1,760	2,610	.01	705
12									
13	2,440	.15	9,880	3,030	.01	818	2,690	.01	726
14									
15	2,980	.02	1,610	2,960	.00	0	2,590	.01	699
16									
17	3,010	.03	2,440	3,100	.00	0	2,540	.01	686
18									
19				3,260	.01	880	2,540	.01	686
20	2,890	.03	2,340						
21	2,900	.02	1,570	3,170	.01	856	2,540	.01	686
22									
23	2,870	.02	1,550	3,030	.02	1,640	2,440	.01	659
24									
25	2,810	.02	1,520	2,710	.01	732	2,690	.01	726
26									
27	2,690	.02	1,450	2,990	.02	1,610	2,780	.01	751
28									
29	2,800	.02	1,510	2,870	.01	775	2,590	.01	699
30									
31	3,030	.02	1,640				2,610	.01	705

Day	January			February			March		
1				2,610	0.01	705			
2									
3	2,610	0.02	1,410						
4	2,470	.01	667				2,450	0.02	1,320
5									
6									
7	2,170	.01	586						
8				2,400	.01	648			
9	2,200	.01	594				2,540	.01	686
10									
11	2,200	.01	594						
12	2,230	.01	602						
13									
14									
15									
16									
17							2,710	.04	2,930
18				2,450	.02	1,320			
19									
20									
21	1,800	.01	486						
22							2,560	.02	1,380
23									
24									
25									
26									
27				2,870	.04	3,100			
28	2,660	.02	1,440						
29							2,960	.04	3,200
30									
31									

COLORADO RIVER NEAR CISCO, UTAH—Continued

Suspended sediment, water year October 1942 to September 1943—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							26,700	0.12	86,500
2				23,300	0.28	176,000	25,800	.16	111,000
3				22,700	.12	73,500	32,100	.24	208,000
4				24,100	.18	117,000	32,700	.24	212,000
5							25,700	.10	69,400
6				28,000	.16	121,000			
7							19,200	.04	20,700
8	13,300	0.27	97,000	22,400	.07	42,300			
9							19,900	.04	21,500
10				17,400	.06	28,200			
11							25,500	.06	41,300
12	7,030	.08	15,200	14,500	.05	19,600			
13									
14				14,200	.04	15,300	23,300	.03	18,900
15									
16							19,300	.02	10,400
17				11,300	.03	9,150	18,600	.03	15,100
18									
19	11,700	.14	44,200	9,450	.02	5,100	19,300	.04	20,800
20	12,600	.13	44,200						
21				8,300	.02	4,480	20,700	.03	16,800
22	15,300	.24	99,100						
23				8,420	.02	4,550	23,200	.04	25,100
24				8,280	.02	4,470			
25				9,160	.02	4,950	23,600	.03	19,100
26	18,800	.20	102,000	11,300	.04	12,200			
27				14,800	.05	20,000			
28	18,700	.14	70,700						
29				17,400	.10	47,000	21,800	.03	17,700
30	19,300	.17	88,600	21,900	.10	59,100			
31									

Day	July			August			September		
1	20,000	0.02	10,800				8,720	0.65	153,000
2				4,090	0.06	6,630			
3	18,000	.01	4,860						
4				4,530	.47	57,500	5,990	.10	16,200
5	14,000	.01	3,780						
6	12,500	.02	6,750	4,510	.05	6,090	4,910	.03	3,980
7	11,300	.02	6,100						
8				4,830	.05	6,520	3,890	.06	6,300
9	9,300	.03	7,530						
10							3,230	.05	4,360
11	8,420	.02	4,550						
12	7,660	.02	4,140				2,850	.03	2,310
13	7,260	.02	3,920						
14				5,720	.23	35,500	2,590	.02	1,400
15				5,060	.07	9,560			
16							2,470	.02	1,330
17	6,570	.02	3,550	4,810	.07	9,090			
18				5,940	1.36	218,000	2,500	.02	1,350
19	5,410	.07	10,200						
20	5,020	.24	32,500	9,130	1.17	288,000	2,420	.01	653
21	4,720	.43	54,800						
22							2,320	.01	626
23	4,850	.34	44,500						
24							2,200	.01	594
25	4,600	.03	3,730	7,280	1.15	226,000	2,200	.01	594
26							2,280	.10	6,160
27	4,250	.10	11,500						
28				6,550	.15	26,500			
29	3,720	.13	13,100						
30				5,990	.66	107,000			
31	3,700	.09	8,990						

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 1943. (See table on page 167.)
Sediment records: October 1929 to December 1933, November 1942 to September 1943.

EXTREMES, 1942–43.—Dissolved solids: Maximum, 1,225 parts per million Nov. 1–10; minimum, 267 parts per million, May 1–10.
Total hardness: Maximum, 553 parts per million Nov. 1–10; minimum, 158 parts per million May 1–10, June 11–July 10.
Sediment loads: Maximum, 1,290,000 tons per day, June 7; minimum, 13,300 tons per day Jan. 12.

EXTREMES, 1928–30, 1942–43.—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, 137 parts per million June 11–20, 1929.
Sediment loads: Maximum, 9,450,000 tons per day Aug. 7, 1929; minimum, 8,980 tons per day, Dec. 28, 1928.

REMARKS.—Records of discharge for water year October 1942 to September 1943 are given in Water-Supply Paper 979.

Chemical analyses, in parts per million, water year October 1942 to September 1943

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	
Nov. 1, 4–10	6,198	173	15	0.10	126	58	196		223	584	130	0.2	5.9	0.6	1,225	1.67	20,500	553	370	44
Nov. 11–18, 20	6,136	163	18	.08	118	56	180		226	526	126	.2	6.1	.6	1,142	1.55	18,900	525	340	43
Nov. 21–28	6,239	160	18	.08	114	54	182		216	520	126	.1	7.0	1.0	1,128	1.53	19,000	506	330	44
Dec. 2–10	6,159	159	18	.05	116	54	175		233	503	122	.4	6.6	1.0	1,110	1.51	18,500	512	320	43
Dec. 11–20	5,240	163	14	.05	119	55	183		241	510	132	.1	7.6	1.0	1,139	1.55	16,100	523	326	43
Dec. 21–31	6,008	163	15	.05	121	54	181		248	499	133	.2	7.5	.8	1,133	1.54	18,400	524	320	43
Jan. 1–3, 6–10, 1943	5,354	160	19	.10	112	55	173		210	501	130	.3	5.2	.4	1,099	1.49	15,900	506	334	43
Jan. 11–16, 18–20	4,607	164	20	.08	112	55	174		218	481	142	.2	6.0	.4	1,098	1.49	13,700	506	327	43
Jan. 21–31	6,047	161	15	.10	112	52	180		220	480	143	.2	4.5	.3	1,095	1.49	17,900	494	313	44
Feb. 1–3, 6–10	5,832	155	14	.10	110	51	176		229	469	133	.2	4.5	.6	1,071	1.46	16,900	484	296	44
Feb. 11–20	5,313	155	13	.12	109	50	172		218	456	138	.2	4.2	.4	1,050	1.43	15,100	478	299	44
Feb. 21–28	7,012	149	14	.20	109	50	158		224	447	120	.2	3.9	.4	1,013	1.38	19,200	478	294	42

COLORADO RIVER AT LEES FERRY, ARIZ.—Continued

Chemical analyses, in parts per million, water year October 1942 to September 1943—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. 5–10	7,951	130	13	0.15	96	43	138		205	400	92	0.4	2.8	0.4	886	1.20	19,000	416	248	42
Mar. 11–20	8,827	134	14	.20	97	43	144		203	409	97	.4	3.1	.4	908	1.23	21,600	419	252	43
Mar. 21–31	8,412	125	13	.10	91	41	134		202	376	89	.4	3.2	.4	847	1.15	19,200	396	230	42
Apr. 5–9	17,430	105	22	.08	80	35	102		181	299	69	.3	7.6	.3	704	.96	33,100	344	195	39
Apr. 14–19	20,840	70.6	22	.08	58	24	60		154	185	35	.3	5.4	.3	466	.63	26,200	243	117	35
Apr. 21–30	34,820	55.4	16	.10	50	21	37		140	134	25	.2	4.0	.4	356	.48	33,500	212	97	28
May 3, 6–10	49,510	41.3	16	.12	40	14	27		115	94	15	.2	3.6	.3	267	.36	35,700	158	64	27
May 11–20	33,570	49.3	24	.04	46	15	38		132	114	20	.3	3.7	.4	326	.44	29,500	176	68	32
May 21–23, 25, 27–31	23,400	59.5	18	.06	52	18	50		135	150	30	.3	3.6	.4	388	.53	24,500	204	94	35
June 1–10	51,840	47.2	22	.04	43	15	36		121	114	18	.3	3.2	.4	311	.42	43,500	169	70	31
June 11–17, 19–20	43,430	45.9	19	.03	40	14	35		118	105	18	.2	3.1	.2	292	.40	34,200	158	61	33
June 22–24, 26–30	42,330	44.0	17	.03	40	14	30		114	97	18	.2	3.1	.2	276	.38	31,500	158	64	29
July 1, 6–10	38,310	44.4	12	.03	40	14	31		115	98	19	.2	2.6	.2	274	.37	28,300	158	64	30
July 11–16, 18–20	19,500	56.1	13	.04	48	16	46		127	130	31	.2	2.6	.2	349	.47	18,400	186	82	35
July 22–24, 26–31	12,930	82.3	14	.04	67	23	75		150	213	53	.2	5.6	.3	525	.71	18,300	262	138	38
Aug. 1, 4–7, 10	11,090	99.4	------	.05	80	30	93		166	291	56	.2	7.3	.6	639	.87	19,100	323	187	38
Aug. 11–19	13,050	124	18	.05	105	35	121		188	403	64	.4	6.2	.6	845	1.15	29,800	406	252	39
Aug. 21–31	14,390	123	19	.03	114	35	115		178	426	56	.5	9.0	.3	862	1.17	33,500	428	282	37
Sept. 1, 6–10	11,210	115	17	.04	104	32	106		168	379	57	.5	9.3	.3	788	1.07	23,900	391	254	37
Sept. 11–12, 14–20	6,020	119	16	.02	98	36	112		182	365	71	.5	8.0	.4	796	1.08	12,900	392	244	38
Sept. 21–28, 30	5,322	140	14	.04	110	43	144		189	453	92	.5	7.5	.3	957	1.30	13,800	452	296	41
Weighted average [1]	16,470	77.7	17	0.06	64	25	71		150	217	46	0.3	4.4	0.4	518	0.70	23,000	262	140	37

[1] For 11 months.

Chemical analyses, in equivalents per million, water year October 1942 to September 1943

Nov. 1, 4–10	6,198				6.29	4.77	8.54	3.66	12.16	3.67	0.01	0.10						44
Nov. 11–18, 20	6,136				5.89	4.61	7.81	3.70	10.95	3.55	.01	.10						43
Nov. 21–28	6,239				5.69	4.44	7.91	3.54	10.83	3.55	.01	.11						44
Dec. 2–10	6,159				5.79	4.44	7.63	3.82	10.47	3.44	.02	.11						43
Dec. 11–20	5,240				5.94	4.52	7.96	3.95	10.62	3.72	.01	.12						43
Dec. 21–31	6,008				6.04	4.44	7.86	4.07	10.39	3.75	.01	.12						43
Jan. 1–3, 6–10, 1943	5,354				5.59	4.52	7.53	3.44	10.43	3.67	.02	.08						43
Jan. 11–16, 18–20	4,607				5.59	4.52	7.58	3.57	10.01	4.00	.01	.10						43
Jan. 21–31	6,047				5.59	4.28	7.84	3.61	9.99	4.03	.01	.07						44
Feb. 1–3, 6–10	5,832				5.49	4.19	7.66	3.75	9.76	3.75	.01	.07						44
Feb. 11–20	5,313				5.44	4.11	7.48	3.57	9.49	3.89	.01	.07						44
Feb. 21–28	7,012				5.44	4.11	6.88	3.67	9.31	3.38	.01	.06						42
Mar. 5–10	7,951				4.79	3.54	6.02	3.36	8.33	2.59	.02	.05						42
Mar. 11–20	8,827				4.84	3.54	6.28	3.33	8.52	2.74	.02	.05						43
Mar. 21–31	8,412				4.54	3.37	5.81	3.31	7.83	2.51	.02	.05						42
Apr. 5–9	17,430				3.99	2.88	4.42	2.97	6.23	1.95	.02	.12						39
Apr. 14–19	20,840				2.89	1.97	2.61	2.52	3.85	.99	.02	.09						35
Apr. 21–30	34,820				2.50	1.73	1.63	2.29	2.79	.71	.01	.06						28
May 3, 6–10	49,510				2.00	1.15	1.18	1.88	1.96	.42	.01	.06						27
May 11–20	33,570				2.30	1.23	1.64	2.16	2.37	.56	.02	.06						32
May 21–23, 25, 27–31	23,400				2.60	1.48	2.18	2.21	3.12	.85	.02	.06						35
June 1–10	51,840				2.15	1.23	1.55	1.98	2.37	.51	.02	.05						31
June 11–17, 19–20	43,430				2.00	1.15	1.54	1.93	2.19	.51	.01	.05						33
June 22–24, 26–30	42,330				2.00	1.15	1.31	1.87	2.02	.51	.01	.05						29
July 1, 6–10	38,310				2.00	1.15	1.36	1.88	2.04	.54	.01	.04						30
July 11–16, 18–20	19,500				2.40	1.32	1.99	2.08	2.71	.87	.01	.04						35
July 22–24, 26–31	12,930				3.34	1.89	3.25	2.46	4.43	1.49	.01	.09						38
Aug. 1, 4–7, 10	11,090				3.99	2.47	4.03	2.72	6.06	1.58	.01	.12						38
Aug. 11–19	13,050				5.24	2.88	5.28	3.08	8.39	1.81	.02	.10						39
Aug. 21–31	14,390				5.69	2.88	4.98	2.92	8.87	1.58	.03	.15						37
Sept. 1, 6–10	11,210				5.19	2.63	4.61	2.75	7.89	1.61	.03	.15						37
Sept. 11–12, 14–20	6,020				4.89	2.96	4.89	2.98	7.60	2.00	.03	.13						38
Sept. 21–28, 30	5,322				5.49	3.54	6.24	3.10	9.43	2.59	.03	.12						41
Weighted average [1]	16,470				3.19	2.06	3.09	2.46	4.52	1.30	0.02	0.07						37

[1] For 11 months.

COLORADO RIVER AT LEES FERRY, ARIZ.—Continued

Suspended sediment, water year October 1942 to September 1943

Day	October			November			December		
	Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment	
		Mean percent	Tons per day		Mean percent	Tons per day		Mean percent	Tons per day
1									
2							6,060	0.10	16,400
3									
4							5,870	.10	15,800
5									
6							6,210	.11	18,400
7									
8							6,470	.13	22,700
9									
10				6,700	0.13	23,500	6,370	.12	20,600
11				6,630	.14	25,100			
12				6,150	.12	19,900	5,580	.14	21,100
13									
14				6,240	.12	20,200	4,670	.59	74,400
15									
16				6,150	.13	21,600	4,870	10	13,100
17							5,160	.21	29,300
18				6,060	.13	21,300			
19							5,470	.84	50,200
20				5,810	.10	15,700			
21							5,670	.12	18,400
22				6,180	.13	21,700			
23							5,580	.11	16,600
24				6,530	.09	15,900			
25							5,610	.12	18,200
26				6,310	.13	22,100			
27							6,530	.12	21,200
28				6,210	.13	21,800			
29							6,530	.12	21,200
30									
31							6,120	.17	28,100

Day	Jannary			February			March		
1				6,120	0.13	21,500			
2	5,810	0.13	20,400	6,210	.14	23,500			
3									
4									
5									
6	5,380	.15	21,800	5,720	.14	21,600	7,990	0.24	51,800
7									
8	5,220	.13	18,300	5,580	.79	119,000	7,740	.24	50,200
9									
10	4,280	.13	15,000	5,230	.15	21,200	7,350	.32	63,500
11									
12	4,090	.12	13,300	4,990	.11	14,800	7,420	.20	40,100
13									
14	4,300	.28	32,500	5,180	.13	18,200	9,760	.54	142,000
15									
16	4,450	.23	28,200	5,400	.22	32,100	9,040	.71	173,000
17									
18	5,030	.14	19,000	5,430	.66	96,800	9,080	.56	137,000
19									
20	5,470	.16	23,600	5,690	.13	20,000	9,240	.64	160,000
21									
22	4,640	.11	13,800	6,280	.16	27,100	9,400	1.18	299,000
23									
24	4,440	.27	32,400	6,870	.22	40,800	8,890	1.17	281,000
25									
26	6,910	.19	35,400	7,810	.91	192,000	7,880	2.23	474,000
27									
28	7,630	.34	70,000	7,630	.22	45,300			
29							7,660	.33	74,500
30	6,670	.22	39,600				8,130	.49	87,800
31							8,470	.32	73,200

COLORADO RIVER AT LEES FERRY, ARIZ.—Continued

Suspended sediment, water year October 1942 to September 1943—Continued

Day	April			May			June		
	Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment		Mean discharge (second-feet)	Suspended sediment	
		Mean percent	Tons per day		Mean percent	Tons per day		Mean percent	Tons per day
1							38,700	0.33	345,000
2							49,200	.54	717,000
3									
4									
5	16,900	1.86	849,000				63,400	.69	1,180,000
6				52,200	0.45	634,000	64,400	.74	1,290,000
7	19,700	.62	330,000						
8				56,600	.62	947,000	56,300	.53	790,000
9	23,400	.64	404,000						
10							43,000	.79	917,000
11				47,200	.46	586,000			
12							45,400	.38	466,000
13				37,900	.43	440,000			
14	20,600	.37	206,000				49,200	.51	677,000
15	19,100	.33	170,000				47,800	.41	529,000
16				31,700	.26	223,000			
17	17,000	.33	151,000				41,100	.40	440,000
18				28,400	.23	176,000			
19	21,000	.30	170,000				38,200	.33	340,000
20				25,200	.21	143,000			
21	22,500	.24	146,000						
22				22,700	.18	110,000	39,500	.31	331,000
23	28,000	.34	257,000						
24				20,900	.17	95,900	40,300	.37	403,000
25	35,000	.45	425,000						
26				20,300	.14	76,700	42,700	.38	438,000
27	41,800	.43	485,000						
28				21,700	15	87,900			
29	42,000	.54	612,000				46,100	.30	373,000
30				28,900	.26	203,000			
31									

Day	July			August			September		
1	45,200	0.28	342,000	10,400	0.16	44,900	11,400	0.51	157,000
2									
3									
4				9,900	18	48,100			
5									
6	38,600	.27	281,000	10,600	.21	60,100	11,800	.59	188,000
7									
8	32,600	.20	176,000						
9							8,930	.33	79,600
10	27,600	.16	119,000	13,300	.21	75,400			
11							7,740	20	41,800
12	23,500	.12	76,100						
13									
14	20,800	.09	50,500	12,200	1.15	379,000	6,080	.20	32,800
15									
16	18,300	.08	39,500						
17				14,700	.92	365,000	5,430	.10	14,700
18	16,200	.08	35,000	15,000	1.19	482,000			
19									
20	16,000	.08	34,600				5,150	.12	16,700
21				13,300	1.23	442,000	5,020	.12	16,300
22	15,000	.11	44,600						
23							4,740	.11	14,100
24	13,500	.12	43,700						
25				14,900	.93	374,000	4,590	.11	13,600
26	12,500	.16	54,000	14,200	.82	314,000	5,150	.19	26,400
27									
28	11,800	.15	47,800	13,000	.76	267,000	6,310	.77	131,000
29									
30	11,100	.09	27,000	12,300	.67	223,000	6,120	.80	132,000
31									

COLORADO RIVER AT BRIGHT ANGEL CREEK 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. 18–30, 1943. (See table on page 167.)
Water temperatures: October 1941 to September 1942.
Sediment records: Oct. 1, 1925 to Oct. 31, 1942, Sept. 18–30, 1943.

EXTREMES, 1942–43 (Oct. 1–Nov. 15, 1942, and Sept. 18–30, 1943).—Dissolved solids: Maximum, 1,255 parts per million, Oct. 1–10; minimum, 971 parts per million Sept. 18–30.
Total hardness: Maximum, 576 parts per million Nov. 1–10; minimum, 439 parts per million Sept. 18–30.
Sediment loads: Maximum, 722,000 tons per day Sept. 29; minimum, 2,530 tons per day Oct. 10.

EXTREMES, 1925–43.—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 1942 to September 1943 are given in Water-Supply Paper 979.

Chemical analyses, in parts per million, Oct. 1–Nov. 15, 1942, and Sept. 18–30, 1943

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. 1–10, 1942	4,869	182	13	0.15	121	64	199	10	200	566	178	0.7	5.0	1.2	1,255	1.71	16,500	565	401	44
Oct. 11–20	5,874	174	11	.11	124	57	179	10	200	548	156	.7	3.0	1.2	1,187	1.61	18,800	544	355	42
Oct. 21–31	6,559	179	10	.11	122	62	197	7.2	206	577	156	.7	4.0	1.2	1,238	1.68	21,900	560	390	44
Nov. 1–10	6,401	182	15	.07	130	61	193		227	551	162	------	7.2	1.0	1,231	1.67	21,300	576	390	42
Sept. 18–30, 1943	6,078	147	12	.05	110	40	157	7.0	217	395	138	.4	5.0	.7	971	1.32	15,900	439	261	44

Chemical analyses, in equivalents per million, Oct. 1–Nov. 15, 1942, and Sept. 18–30, 1943

Oct. 1–10, 1942	4,869	--------	------	------	6.04	5.26	8.65	0.26	3.28	11.78	5.02	0.04	0.08	--------	-------	------	------	-------	-------	44
Oct. 11–20	5,874	--------	------	------	6.19	4.69	7.78	.26	3.78	11.41	4.40	.04	.05	--------	-------	------	------	-------	-------	42
Oct. 21–31	6,559	--------	------	------	6.09	5.10	8.57	.18	3.38	12.01	4.40	.04	.06	--------	-------	------	------	-------	-------	44
Nov. 1–10	6,401	--------	------	------	6.49	5.02		8.37	3.72	11.47	4 57	------	.12	--------	-------	------	------	-------	-------	42
Sept. 18–30, 1943	6,078	--------	------	------	5.49	3.29	6.81	.18	3.56	8.22	3.89	.02	.08	--------	-------	------	------	-------	-------	44

COLORADO RIVER AT BRIGHT ANGEL CREEK, NEAR GRAND CANYON, ARIZ.—Continued

Suspended sediment, water year October 1942 to September 1943

Day	October 1942			November 1942			September 1943		
	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	4,930	0.03	3,990	6,270	0.08	13,500			
2	4,980	.03	4,030	6,150	.09	14,900			
3	5,000	.03	4,050	6,270	.06	10,200			
4	4,970	.03	4,030	6,270	.05	8,460			
5	4,930	.03	3,990	6,300	.05	8,500			
6	4,860	.02	2,620	6,500	.05	8,780			
7	4,820	.02	2,600	6,640	.07	12,500			
8	4,800	.02	2,590	6,590	.06	10,700			
9	4,710	.02	2,540	6,500	.07	12,300			
10	4,690	.02	2,530	6,520	.05	8,800			
11	5,060	.03	4,100	6,990	.05	9,440			
12	5,650	.03	4,580	6,850	.05	9,250			
13	6,010	.57	92,500	6,520	.05	8,800			
14	5,560	.12	18,000	6,580	.05	8,880			
15	5,300	.45	64,400	6,520	.04	7,040			
16	6,570	.26	46,100						
17	5,970	.14	22,600						
18	6,190	.13	21,700				5,860	0.10	15,800
19	6,330	.35	59,800				5,690	.07	10,800
20	6,100	.44	72,500				5,530	.06	8,960
21	6,710	.22	39,900				5,440	.06	8,810
22	6,780	.16	29,300				5,340	.06	8,650
23	7,080	.15	28,700				5,220	.04	5,640
24	6,900	.15	27,900				5,240	.04	5,660
25	6,520	.13	22,900				5,210	.04	5,630
26	6,300	.11	18,700				5,410	.05	7,300
27	6,240	.09	15,200				6,230	.19	32,000
28	6,360	.07	12,000				8,440	.34	77,500
29	6,440	.06	10,400				8,820	3.03	722,000
30	6,450	.06	10,400				6,580	1.44	256,000
31	6,370	.06	10,300						
Total load (tons)			665,000						

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 1943. (See table on page 167.)
Water temperatures: October 1941 to September 1943.

EXTREMES, 1942–43.—Dissolved solids: Maximum, 704 parts per million Oct. 1–10; minimum, 621 parts per million Dec. 21–31.
Total hardness: Maximum, 376 parts per million Oct. 11–20; minimum, 322 parts per million Dec. 11–31.
Water temperatures: Maximum, 62°F. Nov. 11–Dec. 10; minimum, 55°F. Jan. 21–Feb. 10, Feb. 21–Apr. 10.

EXTREMES, 1939–43.—Dissolved solids: Maximum, 824 parts per million Mar. 1–10, 1941; minimum, that of Dec. 21–31, 1942.
Total hardness: Maximum, 426 parts per million Jan. 21–31, 1941; minimum, that of Dec. 11–31, 1942.
Water temperatures: Maximum, 65°F. Oct. 1–10, 1941; minimum, 55°F. Feb. 20–Apr. 30, 1942, and for periods given above in 1943.

REMARKS.—Records of discharge for water year October 1942 to September 1943 are given in Water-Supply Paper 979.

Chemical analyses, in parts per million, water year October 1942 to September 1943

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	
Oct. 1–3, 5–10, 1942	21,820	61	107	10	0.03	102	28	91		163	322	68	0.4	2.5	0.6	704	0.96	41,500	370	236	35
Oct. 12–17, 19–20	16,640	61	108	11	.05	101	30	85		156	316	70	.3	4.5	.6	695	.95	31,200	376	248	33
Oct. 21–24, 26–31	18,320	61	105	13	.04	102	28	89		160	317	70	.4	3.3	.6	702	.95	34,700	370	238	34
Nov. 1–7, 9–10	18,200	61	102	12	.04	99	26	88		159	305	66	.3	3.0	.6	678	.92	33,300	354	224	35
Nov. 11–14, 16–20	18,680	62	102	9.0	.07	97	29	82		157	305	64	.2	2.5	.5	666	.91	33,600	361	232	33
Nov. 21, 23–28, 30	18,320	62	95.2	15	.04	90	24	85		155	285	59	.2	2.0	.8	637	.87	31,500	323	196	36
Dec. 1–5, 7–10	19,660	62	94.9	14	.04	90	24	86		152	288	59	.2	2.0	.8	638	.87	33,900	323	198	37
Dec. 11–12, 14–19	19,050	61	94.2	12	.04	88	25	83		151	285	57	.3	1.5	.8	626	.85	32,200	322	198	36
Dec. 21–24, 26, 28–31	17,820	59	93.8	12	.04	88	25	81		151	282	56	.2	2.0	.8	621	.84	29,900	322	198	35
Jan. 1–2, 4–9, 1943	18,170	58	94.1	12	.08	90	24	85		150	287	59	.6	2.0	.6	634	.86	31,100	323	200	36
Jan. 11, 14, 16, 18–19	19,980	57	95.1	11	.12	89	26	86		149	292	61	.6	2.0	.6	641	.87	34,600	329	207	36
Jan. 23, 25–30	16,160	55	98.2	12	.04	92	26	88		153	300	62	.4	2.5	.6	658	.89	28,700	336	211	36
Feb. 1–6, 8–10	15,160	55	98.8	12	.04	92	25	86		152	295	61	.3	.5	.8	647	.88	26,500	332	208	36
Feb. 11, 15–20	14,730	56	99.9	11	.04	93	25	89		156	300	61	.3	1.8	.6	658	.89	26,200	335	207	37
Feb. 22–26	14,510	55	101	11	.35	96	25	91		159	302	65	.3	2.5	.6	671	.91	26,300	342	212	37
Mar. 1–6, 8–10	15,760	55	103	12	.04	96	25	91		159	303	65	.3	2.5	6	673	.92	28,600	342	212	37
Mar. 11–20	15,940	55	104	13	.05	95	27	97		162	316	66	.3	2.5	.4	697	.95	30,000	348	215	38
Mar. 22–31	15,660	55	101	14	.02	98	27	92		165	309	68	.3	3.2	.4	693	.94	29,300	356	220	36

Apr. 1–3, 5–10	15,540	55	99.4	13	.05	97	26	98	160	315	69	.3	4.1	.4	701	.95	29,400	349	218	38
Apr. 12–17, 19–20	15,120	56	105	16	.02	98	29	91	164	315	66	.3	4.8	.4	701	.95	28,600	364	229	35
Apr. 21, 23–24, 26–30	15,490	56	104	12	.02	98	27	94	166	314	66	.3	3.8	.4	697	.95	29,200	356	220	37
May 1, 3–8, 10	15,620	56	105	14	.02	99	27	93	160	316	67	.3	7.1	.4	702	.95	29,600	358	227	36
May 11–15, 18–20	16,740	56	103	14	.02	97	27	95	163	314	66	.3	5.1	.4	699	.95	31,600	353	220	37
May 21–22, 24–31	17,750	56	104	14	.02	93	26	95	158	305	67	.3	4.3	.4	682	.93	32,700	339	210	38
June 1–5, 7–9	16,720	56	103	14	.02	95	26	94	157	310	66	.3	3.8	.4	686	.93	31,000	344	216	37
June 11–12, 14–15, 17–19	17,070	56	103	14	.02	96	26	95	160	311	67	.3	3.3	.4	691	.94	31,800	346	216	37
June 21–26, 28–30	18,660	56	102	14	.08	97	26	92	164	305	67	.3	3.4	.6	686	.93	34,600	349	214	37
July 1–3, 7–10	18,560	57	102	15	.10	96	26	89	160	302	65	.3	2.6	.6	675	.92	33,800	346	216	36
July 12–17, 19–20	18,400	57	101	13	.05	96	25	88	160	298	64	.3	1.6	.6	665	.90	33,000	342	212	36
July 21–31	17,230	58	103	12	.04	95	26	89	159	299	65	.3	3.1	.5	668	.91	31,100	344	214	36
Aug. 1–7, 9–10	16,140	58	103	13	.04	96	26	91	159	307	65	.3	3.2	.5	680	.92	29,600	346	216	36
Aug. 11–14, 16–20	17,600	58	104	13	.02	92	27	93	159	305	65	.4	3.6	.5	677	.92	32,200	340	210	37
Aug. 21, 23–31	17,100	58	104	14	.02	95	27	91	163	304	65	.3	4.2	.5	681	.93	31,400	348	214	36
Sept. 1–4, 6–10	17,150	59	103	12	.02	95	26	90	160	303	63	.3	3.5	.5	672	.91	31,100	344	213	36
Sept. 11, 13–20	16,860	59	103	12	.05	94	26	94	162	303	65	.4	5.0	.4	679	.92	30,900	342	208	37
Sept. 21–25, 27–30	18,510	60	102	12	.04	92	26	92	158	300	64	.6	5.0	4	669	.91	33,400	336	207	37
Weighted average	17,260		101	13	0.04	95	26	90	158	303	64	0.3	3.2	0.6	673	0.92	31,400	344	214	36

Chemical analyses, in equivalents per million, water year October 1942 to September 1943

Oct. 1–3, 5–10, 1942	21,820					5.09	2.30	3.96	2.67	6.70	1.92	0.02	0.04							35
Oct. 12–17, 19–20	16,640					5.04	2.47	3.69	2.56	6.58	1.97	.02	.07							33
Oct. 21–24, 26–31	18,320					5.09	2.30	3.87	2.62	6.60	1.97	.02	.05							34
Nov. 1–7, 9–10	18,200					4.94	2.14	3.81	2.61	6.35	1.86	.02	.05							35
Nov. 11–14, 16–20	18,680					4.84	2.38	3.56	2.57	6.35	1.81	.01	.04							33
Nov. 21, 23–28, 30	18,320					4.49	1.97	3.71	2.54	5.93	1.66	.01	03							36
Dec. 1–5, 7–10	19,660					4.49	1.97	3.73	2.49	6.00	1.66	.01	.03							37
Dec. 11–12, 14–19	19,050					4.39	2.06	3.61	2.48	5.93	1.61	.02	.02							36
Dec. 21–24, 26, 28–31	17,820					4.39	2.06	3.52	2.48	5.87	1.58	.01	.03							35
Jan. 1–2, 4–9, 1943	18,170					4.49	1.97	3.70	2.46	5.98	1.66	.03	.03							36
Jan. 11, 14, 16, 18–19	19,980					4.44	2.14	3.72	2.44	6.08	1.72	.03	.03							36
Jan. 23, 25–30	16,160					4.59	2.14	3.84	2.51	6.25	1.75	.02	.04							36
Feb. 1–6, 8–10	15,160					4.59	2.06	3.73	2.49	6.14	1.72	.02	.01							36
Feb. 11, 15–20	14,730					4.64	2.06	3.88	2.53	6.25	1.72	.02	.03							37
Feb. 22–26	14,510					4.79	2.06	3.94	2.61	6.29	1.83	.02	.04							37
Mar. 1–6, 8–10	15,760					4.79	2.06	3.96	2.61	6.31	1.83	.02	.04							37
Mar. 11–20	15,940					4.74	2.22	4.20	2.66	6.58	1.86	.02	.04							38
Mar. 22–31	15,660					4.89	2.22	4.01	2.70	6.43	1.92	.02	.05							36

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

Chemical analyses, in equivalents per million, water year October 1942 to September 1943—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: 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. 1–3, 5–10	15,540	------	------	------	------	4.84	2.14	4.24		2.62	6.56	1.95	0.02	0.07	------	------	------	------	------	------	38
Apr. 12–17, 19–20	15,120	------	------	------	------	4.89	2.38	3.94		2.69	6.56	1.86	.02	.08	------	------	------	------	------	------	35
Apr. 21, 23–24, 26–30	15,490	------	------	------	------	4.89	2.22	4.09		2.72	6.54	1.86	.02	.06	------	------	------	------	------	------	37
May 1, 3–8, 10	15,620	------	------	------	------	4.94	2.22	4.06		2.62	6.58	1.89	.02	.11	------	------	------	------	------	------	36
May 11–15, 18–20	16,740	------	------	------	------	4.84	2.22	4.11		2.67	6.54	1.86	.02	.08	------	------	------	------	------	------	37
May 21–22, 24–31	17,750	------	------	------	------	4.64	2.14	4.14		2.59	6.35	1.89	.02	.07	------	------	------	------	------	------	38
June 1–5, 7–9	16,720	------	------	------	------	4.74	2.14	4.08		2.57	6.45	1.86	.02	.06	------	------	------	------	------	------	37
June 11–12, 14–15, 17–19	17,070	------	------	------	------	4.79	2.14	4.12		2.62	6.47	1.89	.02	.05	------	------	------	------	------	------	37
June 21–26, 28–30	18,660	------	------	------	------	4.84	2.14	4.02		2.69	6.35	1.89	.02	.05	------	------	------	------	------	------	37
July 1–3, 7–10	18,560	------	------	------	------	4.79	2.14	3.87		2.62	6.29	1.83	.02	.04	------	------	------	------	------	------	36
July 12–17, 19–20	18,400	------	------	------	------	4.79	2.06	3.83		2.62	6.20	1.81	.02	.03	------	------	------	------	------	------	36
July 21–31	17,230	------	------	------	------	4.74	2.14	3.86		2.61	6.23	1.83	.02	.05	------	------	------	------	------	------	36
Aug. 1–7, 9–10	16,140	------	------	------	------	4.79	2.14	3.97		2.61	6.39	1.83	.02	.05	------	------	------	------	------	------	36
Aug. 11–14, 16–20	17,600	------	------	------	------	4.59	2.22	4.06		2.61	6.35	1.83	.02	.06	------	------	------	------	------	------	37
Aug. 21, 23–31	17,100	------	------	------	------	4.74	2.22	3.96		2.67	6.33	1.83	.02	.07	------	------	------	------	------	------	36
Sept. 1–4, 6–10	17,150	------	------	------	------	4.74	2.14	3.91		2.62	6.31	1.78	.02	.06	------	------	------	------	------	------	36
Sept. 11, 13–20	16,860	------	------	------	------	4.69	2.14	4.07		2.66	6.31	1.83	.02	.08	------	------	------	------	------	------	37
Sept. 21–25, 27–30	18,510	------	------	------	------	4.59	2.14	4.02		2.59	6.25	1.80	.03	.08	------	------	------	------	------	------	37
Weighted average	17,260	------	------	------	------	4.74	2.14	3.91		2.59	6.31	1.81	0.02	0.05	------	------	------	------	------	------	36

COLORADO RIVER AT YUMA, ARIZ.

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, 1943, at gaging station on Yuma main canal below Colorado River siphon, at Yuma, on Arizona side of river, 3 miles downsteam 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 1943. (See table on page 167.)

EXTREMES, 1942–1943.—Dissolved solids: Maximum, 729 parts per million June 1–10; minimum, 669 parts per million Feb. 1–10.

Total hardness: Maximum, 374 parts per million Oct. 1–10; minimum, 324 parts per million Jan. 21–31.

EXTREMES, 1926–28, 1942–43.—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 1942 to September 1943 are given in Water-Supply Paper 979.

COOPERATION.—Analyses for period Oct. 1, 1942, to Jan. 31, 1943, were furnished by the U. S. Department of Agriculture Rubidoux Laboratory, Riverside, Calif.

Chemical analyses, in parts per million, water year October 1942 to September 1943

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, 1942	5,559	113			103	29	104		164	336	82		1.9	0.8			[1] 11,100	374	240	38
Oct. 11–20	5,334	113			103	27	103		160	334	78		1.9	.8			[1] 10,500	367	236	38
Oct. 21–31	6,520	112			102	27	101		157	332	78		2.5	.9			[1] 12,700	364	236	38
Nov. 1–10	10,840	110			102	26	100		160	328	74		1.9	.7			[1] 20,800	363	232	37
Nov. 11–20	11,640	111			101	27	98		164	327	74		2.5	.8			[1] 22,300	364	230	37
Nov. 21–30	10,210	108			99	26	97		163	319	73		1.9	.8			[1] 19,200	355	222	37
Dec. 1–10	12,970	106			96	26	92		157	310	69		1.9	.6			[1] 23,500	345	216	37
Dec. 11–20	16,250	102			94	26	89		157	298	67		1.9	.5			[1] 28,600	342	214	36
Dec. 21–31	14,280	101			93	24	88		154	294	66		1.9	.9			[1] 24,800	331	204	37
Jan. 1–10, 1943	11,200	100			93	25	88		160	290	67		1.9	1.0			[1] 19,500	334	202	36
Jan. 11–20	10,660	101			93	25	87		157	291	67		1.9	.6			[1] 18,500	334	205	36
Jan. 22, 24–31	12,670	99.6			91	24	86		157	288	66		1.9	.8			[1] 21,700	324	196	37

See footnotes at end of table.

COLORADO RIVER AT YUMA, ARIZ.—Continued

Chemical analyses, in parts per million, water year October 1942 to September 1943—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	
Feb. 1–6, 8–10	9,968	100	8.0	0.05	94	25	94		159	296	72	0.2	1.5	0.3	669	0.91	18,000	338	207	38
Feb. 11–13, 15–20	6,928	103	11	.15	99	24	97		163	308	72	.2	1.1	.4	693	.94	12,960	346	212	38
Feb. 22–27	5,902	104	12	.15	101	25	91		161	305	72	.2	1.0	.6	687	.93	10,900	355	223	36
Mar. 1–6, 8–10	7,786	101	14	.02	94	26	99		166	305	71	.3	2.3	.3	693	.94	14,600	342	206	39
Mar. 11–13, 15–20	7,006	102	14	.02	96	27	96		164	306	73	.3	2.4	.2	695	.95	13,100	350	216	37
Mar. 22–27, 29–31	7,502	103	13	.02	96	27	98		166	309	73	.3	2.6	.3	701	.95	14,200	350	214	38
Apr. 1–3, 5–10	6,717	105	12	.02	98	26	101		168	312	75	.3	2.1	.4	709	.96	12,900	352	214	38
Apr. 12–17, 19–20	7,605	105	16	.02	94	28	98		148	319	75	.2	2.4	.6	706	.96	14,500	350	228	38
Apr. 21–24, 26–30	7,368	106	16	.02	94	27	102		148	323	76	.2	2.1	.6	713	.97	14,200	346	224	39
May 1, 3–8, 10	7,588	107	14	.02	98	28	98		157	323	75	.2	2.1	.7	716	.97	14,700	360	231	37
May 11–15, 17–20	7,696	108	14	.02	100	28	100		160	326	77	.2	2.1	.6	726	.99	15,100	364	234	37
May 21–22, 24–29, 31	8,618	108	14	.02	100	29	97		157	327	77	.2	2.1	.6	724	.98	16,800	368	240	36
June 1–5, 7–10	8,746	108	14	.02	102	28	99		166	326	76	.2	2.0	.6	729	.99	17,200	370	234	37
June 11–12, 14–19	8,931	106	16	.03	95	27	102		153	323	74	.5	1.6	.7	715	.97	17,200	348	222	39
June 21–26, 28–30	9,426	107	15	.02	98	28	101		167	321	74	.5	2.0	.7	722	.98	18,400	360	222	38
July 1–3, 5–10	9,544	108	14	.04	93	27	99		149	319	73	.2	1.0	.6	700	.95	18,000	343	221	39
July 12–17, 19–20	9,532	108	12	.06	96	27	98		159	316	73	.2	1.0	.6	702	.95	18,100	350	220	38
July 21–24, 26–31	10,390	107	12	.04	95	27	97		154	314	73	.3	1.3	.8	696	.95	19,500	348	222	38
Aug. 2–7, 10	8,909	107	10	.04	94	27	97		157	311	72	.3	1.4	.8	690	.94	16,600	346	217	38
Aug. 11–13, 17–20	9,421	106	12	.04	94	27	97		156	310	73	.3	1.4	.8	692	.94	17,600	346	218	38
Aug. 21, 23–28, 30–31	9,900	107	14	.03	93	27	98		159	309	72	.4	1.5	.4	693	.94	18,500	343	212	38
Sept. 1–4, 6–10	9,511	106	13	.02	93	26	99		156	309	72	.4	2.0	.4	691	.94	17,700	339	211	39
Sept. 11, 13–18, 20	9,547	105	26	.03	89	27	101		150	312	72	.4	1.5	.4	703	.96	18,100	333	210	40
Sept. 21–30	9,660	105	14	.04	93	27	95		155	307	72	.3	1.5	.5	686	.93	17,900	343	216	38
Weighted average	9,265	105	[2]14	[2]0.04	96	26	[3]96		158	312	72	[2]0.3	1.8	0.6	[4]696	[4]0.95	[4]17,400	346	217	38

[1] Based on sum of determined constituents plus estimated value of 14p.p.m. of SiO_2.

[2] Based on analytical results for Feb. 1 to Sept. 30.

[3] Based on determined values for sodium for Oct. 1–Jan. 31 and calculated values of sodium plus potassium for the remainder of the year.

[4] Based on weighted-average values in obtaining which SiO_2 was estimated for Oct –Jan. 31.

COLORADO RIVER AT YUMA, ARIZ.—Continued

Chemical analyses, in equivalents per million, water year October 1942 to September 1943

Oct. 1–10, 1942	5,559				5.14	2.35	4.52		2.68	7.00	2.30		0.03						38
Oct. 11–20	5,334				5.12	2.22	4.46		2.62	6.96	2.20		.03						38
Oct. 21–31	6,520				5.10	2.19	4.40		2.57	6.91	2.20		.04						38
Nov. 1–10	10,840				5.10	2.16	4.34		2.63	6.82	2.10		.03						37
Nov. 11–20	11,640				5.05	2.23	4.27		2.68	6.81	2.10		.04						37
Nov. 21–30	10,210				4.94	2.16	4.20		2.67	6.64	2.05		.03						37
Dec. 1–10	12,970				4.80	2.10	4.01		2.57	6.46	1.95		.03						37
Dec. 11–20	16,250				4.70	2.15	3.86		2.58	6.21	1.90		.03						36
Dec. 21–31	14,280				4.64	1.98	3.81		2.53	6.12	1.85		.03						37
Jan. 1–10, 1943	11,200				4.63	2.04	3.82		2.62	6.03	1.90		.03						36
Jan. 11–20	10,660				4.65	2.03	3.77		2.58	6.05	1.90		.03						36
Jan. 22, 24–31	12,670				4.55	1.94	3.75		2.58	5.99	1.85		.03						37
Feb. 1–6, 8–10	9,968				4.69	2.06	4.08		2.61	6.16	2.03	0.01	.02						38
Feb. 11–13, 15–20	6,928				4.94	1.97	4.23		2.67	6.41	2.03	.01	.02						38
Feb. 22–27	5,902				5.04	2.06	3.95		2.64	6.35	2.03	.01	.02						36
Mar. 1–6, 8–10	7,786				4.69	2.14	4.30		2.72	6.35	2.00	.02	.04						39
Mar. 11–13, 15–20	7,006				4.79	2.22	4.17		2.69	6.37	2.06	.02	.04						37
Mar. 22–27, 29–31	7,502				4.79	2.22	4.26		2.72	6.43	2.06	.02	.04						38
Apr. 1–3, 5–10	6,717				4.89	2.14	4.39		2.75	6.50	2.12	.02	.03						38
Apr. 12–17, 19–20	7,605				4.69	2.30	4.25		2.43	6.64	2.12	.01	.04						38
Apr. 21–24, 26–30	7,368				4.69	2.22	4.42		2.43	6.72	2.14	.01	.03						39
May 1, 3–8, 10	7,588				4.89	2.30	4.26		2.57	6.72	2.12	.01	.03						37
May 11–15, 17–20	7,696				4.99	2.30	4.33		2.62	6.79	2.17	.01	.03						37
May 21–22, 24–29, 31	8,618				4.99	2.38	4.22		2.57	6.81	2.17	.01	.03						36
June 1–5, 7–10	8,746				5.09	2.30	4.30		2.72	6.79	2.14	.01	.03						37
June 11–12, 14–19	8,931				4.74	2.22	4.42		2.51	6.72	2.09	.03	.03						39
June 21–26, 28–30	9,426				4.89	2.30	4.38		2.74	6.68	2.09	.03	.03						38
July 1–3, 5–10	9,544				4.64	2.22	4.31		2.44	6.64	2.06	.01	.02						39
July 12–17, 19–20	9,532				4.79	2.22	4.27		2.61	6.58	2.06	.01	.02						38
July 21–24, 26–31	10,390				4.74	2.22	4.20		2.52	6.54	2.06	.02	.02						38
[redacted]																			
Aug. 2–7, 10	8,909				4.69	2.22	4.20		2.57	6.47	2.03	.02	.02						38
Aug. 11–13, 17–20	9,421				4.69	2.22	4.20		2.56	6.45	2.06	.02	.02						38
Aug. 21, 23–28, 30–31	9,900				4.64	2.22	4.25		2.61	6.43	2.03	.02	.02						38
Sept. 1–4, 6–10	9,511				4.64	2.14	4.29		2.56	6.43	2.03	.02	.03						39
Sept. 11, 13–18, 20	9,547				4.44	2.22	4.37		2.45	6.50	2.03	.02	.02						40
Sept. 21–30	9,660				4.64	2.22	4.14		2.54	6.39	2.03	.02	.02						38
Weighted average	9,265				4.79	2.14	[1]4.17		2.59	6.50	2.03	[2]0.02	0.03						38

[1] Based on determined values for sodium for Oct. 1–Jan. 31 and calculated values of sodium plus potassium for the remainder of the year.

[2] Based on analytical results for Feb. 1 to Sept. 30.

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 1943. (See table on page 167.)

EXTREMES, 1942–43.—Dissolved solids: Maximum, 2,000 parts per million Oct. 1–10; minimum, 220 parts per million Apr. 21–30.

EXTREMES, 1931–43.—Dissolved solids: Maximum, 2,980 parts per million July 21–31, 1937; minimum, that of Apr. 21–30, 1943.

Total hardness (1931–35): 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 1942 to September 1943 are given in Water-Supply Paper 979.

Dissolved solids, in parts per million, and discharge, in second-feet, water year October 1942 to September 1943

Date of collection	Dissolved solids	Mean discharge [1]	Date of collection	Dissolved solids	Mean discharge [1]
1942			*1943*		
Oct. 1–10	2,000	801	Apr. 1–10	510	2,724
Oct. 12–20	1,956	966	Apr. 11–20	418	3,253
Oct. 21–31	1,790	1,014	Apr. 21–30	220	8,016
Nov. 1–10	1,438	1,181	May 1–10	296	9,933
Nov. 11–20	1,396	1,094	May 11–20	433	4,346
Nov. 21–30	1,408	1,075	May 21–31	396	4,835
Dec. 1–5, 7–10	1,340	1,018	June 1–10	355	7,624
Dec. 11–20	1,380	927	June 11–20	341	6,222
Dec. 22–31	1,268	954	June 21–30	319	6,186
			July 1–10	530	3,255
1943			July 11–20	938	1,465
Jan. 1, 3, 5–10	1,296	873	July 21–31	1,449	897
Jan. 11–20	1,300	877	Aug. 1–10	1,406	1,586
Jan. 21–26, 30–31	1,232	1 024	Aug. 11–20	1,062	2,633
Feb. 1–10	1,211	836	Aug. 21–31	880	3,205
Feb. 11–20	1,163	847	Sept. 1–10	910	2,366
Feb. 21–28	1,157	923	Sept. 11–20	1,369	1,010
Mar. 1–10	1,161	850	Sept. 21–30	1,551	1,021
Mar. 11–20	1,118	897			
Mar. 21–31	1,154	983	Average	1,060	2,432
			Weighted average	675	

[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 1943. (See table on page 167.)
Sediment records: May 1939 to September 1943.

EXTREMES, 1942–43.—Dissolved solids, 2,010 parts per million Sept. 29; minimum, 272 parts per million May 1–10.
Sediment loads: Maximum, 598,000 tons per day Aug. 7; minimum, less than 200 tons per day Oct. 6.

EXTREMES, 1928–43.—Dissolved solids: Maximum, that of Sept. 29, 1943; minimum, 194 parts per million, June 21–30, 1933.
Total hardness (1928–35): Maximum, 488 parts per million Dec. 21–31, 1932; minimum, 128 parts per million June 21–31, 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 1942 to September 1943 are given in Water-Supply Paper 979.

Dissolved solids, in parts per million, and discharge, in second-feet, water year October 1942 to September 1943

Date of collection	Dissolved solids	Mean discharge	Date of collection	Dissolved solids	Mean discharge
1942			*1943*		
Oct. 1–10	834	1,462	Apr. 21–23, 26–30	341	13,160
Oct. 12–20	952	2,094	May 1–10	272	17,040
Oct. 21–31	864	2,158	May 11–17, 19–20	289	11,850
Nov. 1–10	874	2,028	May 21–26, 28–31	311	8,705
Nov. 11–20	880	2,086	June 2–9	318	21,890
Nov. 21–30	855	2,118	June 11–20	277	15,660
Dec. 1–3, 6–10	878	1,813	June 21–22, 25–30	285	16,600
Dec. 11–20	910	1,882	July 1–10	298	15,770
Dec. 21–31	881	1,981	July 11–17, 19–20	300	8,858
1943			July 21–24, 28–31	367	5,665
Jan. 1–10	843	1,849	Aug. 1–4, 8–10	451	5,540
Jan. 11–20	876	1,725	Aug. 6–7	1,050	6,070
Jan. 21–31	804	1,870	Aug. 11–16, 18–20	593	5,282
Feb. 2–10	764	1,897	Aug. 21–31	577	3,818
Feb. 11–20	775	2,068	Sept. 1–9	638	2,435
Feb. 21–28	728	3,220	Sept. 11–20	624	1,856
Mar. 1–10	694	3,343	Sept. 21–28	654	1,541
Mar. 11–20	656	4,193	Sept. 29	2,007	1,750
Mar. 21–31	660	3,955	Average	668	5,900
Apr. 1–10	550	7,158	Weighted average	442	
Apr. 11–20	441	8,387			

GREEN RIVER AT GREEN RIVER, UTAH—Continued

Suspended sediment, water year October 1942 to September 1943

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	1,550	0.04	1,670	2,040	0.03	1,650	2,080	0.02	1,120
2	1,520	.03	1,230	2,040	.04	2,200	2,020	.03	1,640
3	1,480	.03	1,200	2,060	.04	2,220	2,120	.02	1,140
4	1,470	.02	794	2,040	.04	2,200	2,220	.02	1,200
5	1,470	.01	397	2,000	.04	2,160	2,260	.03	1,830
6	1,430	.00	0	2,000	.04	2,160	2,120	.03	1,720
7	1,420	.01	383	2,020	.04	2,180	1,840	.02	994
8	1,420	.01	383	2,040	.03	1,650	1,260	.03	1,020
9	1,430	.01	386	2,020	.03	1,640	1,060	.03	859
10	1,430	.01	386	2,020	.03	1,640	1,150	.04	1,240
11	1,500	.04	1,620	2,100	.03	1,700	1,420	.03	1,150
12	1,900	.13	6,670	2,120	.03	1,720	1,480	.04	1,600
13	1,900	.15	7,700	2,080	.03	1,680	1,700	.03	1,380
14	2,040	.20	11,000	2,060	.02	1,110	2,100	.03	1,700
15	2,200	.20	11,900	2,020	.02	1,090	2,120	.02	1,140
16	2,340	.15	9,480	2,020	.01	545	2,080	.02	1,120
17	2,620	.19	13,400	2,040	.02	1,100	2,020	.02	1,090
18	2,300	.72	44,700	2,100	.02	1,130	2,000	.02	1,080
19	2,080	.18	10,100	2,160	.02	1,170	1,980	.02	1,070
20	2,060	.28	15,600	2,160	.02	1,170	1,920	.01	518
21	2,180	.30	17,700	2,180	.02	1,180	1,940	.02	1,050
22	2,340	.13	8,210	2,160	.02	1,170	2,000	.02	1,080
23	2,300	.08	4,970	2,220	.01	599	1,880	.02	1,020
24	2,280	.08	4,920	2,240	.02	1,210	1,980	.01	535
25	2,200	.05	2,970	2,200	.02	1,190	1,940	.02	1,050
26	2,140	.05	2,890	2,140	.02	1,160	1,940	.02	1,050
27	2,080	.11	6,180	2,080	.03	1,680	2,100	.02	1,130
28	2,080	.12	6,740	2,020	.02	1,090	2,100	.02	1,130
29	2,080	.09	5,050	1,960	.02	1,060	2,080	.02	1,120
30	2,040	.06	3,300	1,980	.03	1,600	2,020	.03	1,640
31	2,020	.05	2,730				1,810	.02	977
Total load (tons)			204,700			44,050			36,390

Day	January			February			March		
1	1,900	0.02	1,030	1,940	0.01	524	3,900	0.10	10,500
2	2,080	.02	1,120	1,900	.01	513	3,820	.08	8,250
3	2,060	.02	1,110	2,040	.02	1,100	3,760	.07	7,100
4	1,940	.02	1,050	2,040	.02	1,100	3,540	.09	8,600
5	1,940	.02	1,050	1,900	.02	1,030	3,240	.09	7,870
6	2,100	.02	1,130	1,900	.01	513	3,010	.07	5,690
7	1,810	.02	977	1,790	.01	483	2,990	.06	4,840
8	1,660	.01	448	1,710	.01	462	3,080	.06	4,990
9	1,500	.01	405	1,810	.01	489	3,100	.07	5,860
10	1,500	.02	810	1,940	.01	524	2,990	.07	5,650
11	1,640	.02	886	1,680	.01	454	3,130	.06	5,070
12	1,660	.02	896	1,920	.01	518	3,640	.12	11,800
13	1,680	.01	454	1,880	.01	508	4,060	.17	18,600
14	1,750	.02	945	1,880	.01	508	4,180	.30	33,900
15	1,880	.01	508	1,980	.02	1,070	4,060	.24	26,300
16	2,000	.02	1,080	2,100	.01	567	3,980	.24	25,800
17	1,840	.01	497	2,200	.02	1,190	4,260	.20	23,000
18	1,700	.02	918	2,280	.02	1,230	5,270	.28	39,800
19	1,600	.02	864	2,340	.02	1,260	5,000	.30	40,500
20	1,500	.01	405	2,420	.04	2,610	4,350	.30	35,200
21	1,400	.01	378	2,470	.04	2,670	4,010	.24	26,000
22	1,420	.02	767	2,570	.04	2,780	3,820	.20	20,600
23	1,460	.01	394	2,790	.04	3,010	3,680	.13	12,900
24	1,540	.01	416	3,040	.06	4,920	3,540	.12	11,500
25	1,710	.01	462	3,340	.08	7,210	3,390	.09	8,240
26	1,940	.01	524	3,610	.09	8,770	3,290	.08	7,110
27	2,100	.01	567	3,930	.12	12,700	3,340	.08	7,210
28	2,380	.01	643	4,010	.12	13,000	3,560	.09	8,650
29	2,400	.01	648				4,120	.11	12,200
30	2,160	.02	1,170				4,780	.19	24,500
31	2,060	.01	556				5,980	.42	67,800
Total load (tons)			23,110			71,710			536,000

GREEN RIVER AT GREEN RIVER, UTAH—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	7,450	0.72	145,000	13,900	0.34	128,000	14,400	0.35	136,000
2	7,140	.76	147,000	13,600	.31	114,000	18,000	.46	224,000
3	7,590	.97	199,000	14,700	.33	131,000	23,300	.51	321,000
4	7,630	.81	167,000	16,200	.32	140,000	26,600	.52	373,000
5	7,100	.71	136,000	17,600	.40	190,000	29,300	.54	427,000
6	6,360	.57	97,900	18,200	.44	216,000	28,700	.60	465,000
7	6,170	.49	81,600	19,000	.38	195,000	23,000	.40	248,000
8	6,400	.37	63,900	20,100	.41	223,000	20,200	.32	175,000
9	7,320	.36	71,200	19,400	.37	194,000	18,400	.27	134,000
10	8,420	.40	90,900	17,700	.37	177,000	17,000	.23	106,000
11	9,050	.39	95,300	15,800	.31	132,000	16,600	.22	98,600
12	9,490	.36	92,200	14,200	.28	107,000	16,200	.20	87,500
13	9,150	.28	69,200	13,000	.22	77,200	16,100	.23	100,000
14	8,520	.28	64,400	12,200	.18	59,300	15,700	.18	76,300
15	8,000	.20	43,200	11,400	.16	49,200	15,400	.20	83,200
16	7,500	.16	32,400	10,900	.15	44,100	15,300	.20	82,600
17	7,320	.14	27,700	10,700	.14	40,400	15,600	.19	80,000
18	7,410	.14	28,000	10,400	.14	39,300	15,800	.19	81,100
19	8,090	.17	37,100	10,200	.14	38,600	15,400	.16	66,500
20	9,340	.20	50,400	9,730	.12	31,500	14,500	.18	70,500
21	10,300	.29	80,600	9,290	.14	35,100	14,100	.15	57,100
22	10,800	.35	102,000	8,850	.09	21,500	13,900	.16	60,000
23	11,500	.37	115,000	8,420	.08	18,200	14,000	.11	41,600
24	12,500	.40	135,000	7,950	.08	17,200	15,000	.18	72,900
25	13,300	.45	162,000	7,540	.08	16,300	16,300	.20	88,000
26	13,700	.47	174,000	7,500	.08	16,200	17,600	.21	99,800
27	13,900	.42	158,000	7,630	.07	14,400	18,400	.21	104,000
28	14,900	.46	185,000	8,050	.09	19,600	18,800	.21	107,000
29	15,700	.47	199,000	8,900	.12	28,800	19,100	.21	108,000
30	15,000	.39	158,000	9,930	.13	34,900	18,800	.20	102,000
31				11,700	.22	69,500			
Total load (tons)			3,208,000			2,618,000			4,276,000

Day	July			August			September		
1	18,600	0.30	151,000	5,000	0.80	10,800	2,950	0.14	11,200
2	18,200	.32	157,000	4,940	.06	8,000	2,920	.24	18,900
3	17,600	.26	124,000	4,970	.05	6,710	2,750	.40	29,700
4	18,100	.19	92,900	6,170	.10	16,700	2,550	.27	18,600
5	16,800	.15	68,000	7,230	.49	95,700	2,420	.30	19,600
6	15,500	.15	62,800	5,940	3.38	542,000	2,300	.24	14,900
7	14,600	.13	51,200	6,200	3.57	598,000	2,160	.09	5,250
8	13,700	.13	48,100	5,370	.86	125,000	2,120	.06	3,430
9	12,700	.11	37,700	5,470	.55	81,200	2,120	.06	3,430
10	11,900	.10	32,100	5,170	.62	86,500	2,060	.05	2,780
11	11,100	.11	33,000	5,230	.87	123,000	2,020	.04	2,180
12	10,400	.08	22,500	5,000	.59	79,600	2,000	.04	2,160
13	9,780	.10	26,400	5,440	.48	70,500	1,960	.04	2,120
14	9,200	.08	19,900	5,860	.64	101,000	1,920	.03	1,560
15	8,760	.06	14,200	5,540	.46	68,800	1,880	.02	1,020
16	8,380	.06	13,600	5,170	.45	62,800	1,860	.02	1,000
17	8,140	.06	13,200	5,130	1.87	259,000	1,830	.02	988
18	7,860	.06	12,700	4,680	.42	53,100	1,750	.02	945
19	7,680	.12	24,900	4,720	.51	65,000	1,700	.02	918
20	7,280	.06	11,800	6,050	.94	154,000	1,640	.02	886
21	6,850	.08	14,800	5,130	1.49	206,000	1,590	.02	859
22	6,440	.05	8,690	4,840	1.44	188,000	1,550	.02	837
23	6,200	.06	10,000	4,290	.88	102,000	1,520	.02	821
24	5,900	.07	11,200	3,950	.65	69,300	1,500	.02	810
25	5,580	.09	13,600	3,710	.32	32,100	1,470	.01	397
26	5,440	.06	8,810	3,610	.16	15,600	1,450	.02	783
27	5,270	.06	8,540	3,480	.34	31,900	1,470	.01	397
28	5,270	.05	7,110	3,440	.10	9,290	1,570	.05	2,120
29	5,230	.05	7,060	3,340	.08	7,210	1,750	.87	41,100
30	5,130	.10	13,900	3,170	.22	18,800	1,750	.90	42,500
31	5,000	.08	10,800	3,040	.13	10,700			
Total load (tons)			1,132,000			3,298,000			232,200

Total load for year ..... tons 12,790,000

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 1943. (See table on page 167.)

EXTREMES, 1942–43.—Dissolved solids: Maximum, 1,481 parts per million Aug. 31; minimum, 153 parts per million May 1–10.
Total hardness: Maximum, 535 parts per million Aug. 31; minimum, 98 parts per million May 1–10.

EXTREMES, 1941–43.—Dissolved solids: Maximum, that of Aug. 31, 1943; minimum, 127 parts per million July 1–10, 1941.
Total hardness: Maximum, that of Aug. 31, 1943; minimum, 81 parts per million July 1–10, 1941.

REMARKS.—Records of discharge for water year October 1942 to September 1943 are given in Water-Supply Paper 979.

Chemical analyses, in parts per million, water year October 1942 to September 1943

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. 1, 4–8, 1942	400	101	8.0	------	103	25	88		183	342	30	------	2.5	------	689	0.94	744	360	210	35
Oct. 13–19	629	95.2	16	0.10	103	22	82		191	317	27	------	2.5	0.5	664	.90	1,130	348	191	34
Oct. 21–22, 26–30	594	95.0	13	.04	101	21	84		192	309	28	------	2.2	------	653	.89	1,050	338	181	35
Nov. 2–6, 8, 10	662	94.6	12	.05	100	21	85		193	310	28	------	2.0	.3	653	.89	1,170	336	178	36
Nov. 11, 15–20	570	97.9	15	.04	106	22	89		206	323	29	0.2	2.9	.2	689	.93	1,060	355	186	35
Nov. 23–24, 27–29	597	96.6	11	.05	106	22	85		200	321	27	.2	2.8	.4	674	.92	1,090	355	191	34
Dec. 1, 3–10	592	103	15	.07	113	24	92		206	352	29	.2	3.0	.4	730	.99	1,170	380	212	34
Dec. 11–17, 19–20	544	111	13	.05	121	26	102		218	388	32	.2	2.6	.3	792	1.08	1,160	409	230	35
Dec. 21–23, 29–31	647	105	20	.10	116	26	91		202	365	32	.5	1.8	.5	752	1.02	1,310	396	231	33
Jan. 1–6, 8, 10, 1943	558	109	20	.10	125	27	89		211	380	32	.5	1.7	.5	779	1.06	1,170	423	250	31
Jan. 11, 13–14, 18–20	559	106	22	.10	132	26	80		215	372	32	.4	2.0	.5	772	1.05	1,170	436	260	29
Jan. 21, 24, 27–28, 30–31	659	98.9	18	.20	109	23	83		191	333	30	.4	1.7	.3	692	.94	1,230	366	210	33
Feb. 1–5, 8–10	586	97.6	14	.10	104	23	87		169	349	28	.5	1.4	.3	690	.94	1,090	354	216	35
Feb. 11–20	694	93.9	14	.10	96	24	86		173	329	27	.5	1.5	.3	663	.90	1,240	338	196	36
Feb. 21–25, 28	1,126	80.3	12	.05	78	19	79		166	267	19	.4	2.9	.2	559	.76	1,700	272	136	39
Mar. 2–3, 5, 8–10	980	88.0	12	.08	92	24	79		184	300	23	.3	2.7	.2	624	.85	1,650	328	177	34
Mar. 11–12, 14–20	1,415	82.0	10	.15	85	21	67		161	277	15	.4	1.5	.2	556	.76	2,120	298	166	33
Mar. 21–25, 27, 29, 31	1,685	76.7	6.0	.15	82	24	58		169	251	19	.5	1.1	.2	525	.71	2,390	303	164	29

Apr. 1–10	3,974	38.7	12	.02	45	12	20	111	100	5.0	.3	3.0	.3	252	34	2,700	162	71	21
Apr. 11–17, 19–20	3,472	38.2	11	.02	44	11	22	113	96	6.0	.3	1.4	.2	247	.34	2,320	155	62	24
Apr. 21–30	6,802	24 9	8.8	.02	30	6.4	13	89	48	3.0	1	2.6	.2	156	.21	2,870	102	28	22
May 1–6, 8–10	7,905	24.0	9.5	.02	29	6.3	12	79	48	3.0	.3	5.1	.2	153	.21	3.270	98	34	20
May 11–20	3,034	34.1	12	.02	39	8.3	21	95	81	7.0	.3	4.2	.2	220	.30	1,800	132	54	26
May 21–31	4,107	29.8	14	.04	35	7.8	17	91	68	5.5	.3	1.0	.1	193	.26	2,140	120	45	23
June 1–10	4,722	27.3	13	.04	32	7.0	15	86	59	5.2	.3	1.0	.1	175	.24	2,230	109	38	23
June 11–20	3,691	29.1	13	.05	33	6.7	20	87	65	5.8	.3	.4	.1	187	.25	1,860	105	34	29
June 21–28	3,409	29.6	10	.04	34	6.6	18	83	71	5.8	.4	.4	.2	187	.25	1,720	112	44	26
June 29–30	3,895	81.1	------	------	70	8.6	98	138	286	9.0	------	.5	.3	540	.73	5,680	210	97	50
July 1–10	2,682	40.6	14	.02	43	9.3	28	103	102	9.0	.2	3.2	.2	259	.35	1,880	146	61	29
July 11–20	1,095	56.8	11	.02	58	12	49	132	162	15	.3	1.6	.3	374	.51	1,110	194	86	35
July 21, 23–31	850	68.0	11	.04	71	13	59	148	202	16	.3	3.3	.3	449	.61	1,030	230	109	36
July 22	1,290	111	------	------	92	13	144	196	391	20	------	2.0	------	759	1.03	2,640	283	122	53
Aug. 1–10	1,060	69.9	12	02	71	13	62	153	205	16	.4	2.9	.2	458	.62	1,310	230	105	37
Aug. 11, 13–14, 16–18, 20	1,355	67.7	15	.02	68	12	61	144	203	14	.4	2.6	.2	447	.61	1,640	219	101	38
Aug. 12, 19	2,010	118	14	.05	88	11	164	184	432	12	.8	1.7	.3	814	1.11	4,420	264	114	57
Aug. 21, 23–28, 30	1,281	62.3	12	.06	62	12	54	134	180	14	.4	2.9	.2	403	.55	1,390	204	94	36
Aug. 29	978	96.2	------	------	73	12	129	182	323	20	------	------	------	647	.88	1,710	232	82	55
Aug. 31	1,650	199	------	------	175	24	275	226	844	48	------	3.4	------	1,481	2.01	6,600	535	350	53
Sept. 1–10	1,217	60.4	12	.02	64	11	53	141	169	18	.4	1.9	.3	399	.54	1,310	204	89	36
Sept. 11–20	579	78.7	10	.02	76	17	71	149	246	24	.4	1.7	.4	520	.71	813	260	138	37
Sept. 21–24, 27–30	[1]751	86.5	12	.02	80	18	82	145	284	24	.4	3.4	.5	575	.78	1,170	274	154	39
Sept. 26	------	166	------	------	------	------	------	197	------	44	------	------	------	------	------	------	------	------	------
Weighted average	1,823	49.0	12	0.04	53	12	38	118	142	11	0.3	2.4	0.2	329	0.45	1,620	182	86	31

[1] Includes discharge for Sept. 21–30

Chemical analyses, in equivalents per million, water year October 1942 to September 1943

Oct. 1, 4–8, 1942	400	------	------	------	5.14	2.06	3.81	3.00	7.12	0.85	------	0.04	------	------	------	------	------	------	35
Oct. 13–19	629	------	------	------	5.14	1 81	3.58	3.13	6.60	.76	------	.04	------	------	------	------	------	------	34
Oct. 21–22, 26–30	594	------	------	------	5.04	1.73	3.64	3.15	6.43	.79	------	.04	------	------	------	------	------	------	35
Nov. 2–6, 8, 10	662	------	------	------	4.99	1.73	3.71	3.16	6.45	.79	------	.03	------	------	------	------	------	------	36
Nov. 11, 15–20	570	------	------	------	5.29	1.81	3.88	3.38	6.72	.82	0.01	.05	------	------	------	------	------	------	35
Nov. 23–24, 27–29	597	------	------	------	5.29	1.81	3.68	3.28	6.68	.76	.01	.05	------	------	------	------	------	------	34
Dec. 1, 3–10	592	------	------	------	5.64	1.97	3.98	3.38	7.33	.82	.01	.05	------	------	------	------	------	------	34
Dec. 11–17, 19–20	544	------	------	------	6.04	2.14	4 42	3.57	8.08	.90	.01	.04	------	------	------	------	------	------	35
Dec. 21–23, 29–31	647	------	------	------	5.79	2.14	3.94	3.31	7.60	.90	.03	.03	------	------	------	------	------	------	33
Jan. 1–6, 8, 10, 1943	558	------	------	------	6.24	2.22	3.87	3.46	7.91	.90	.03	.03	------	------	------	------	------	------	31
Jan. 11, 13–14, 18–20	559	------	------	------	6.59	2.14	3.48	3.52	7.74	.90	.02	.03	------	------	------	------	------	------	29
Jan. 21, 24, 27–28, 30–31	659	------	------	------	5.44	1.89	3.63	3.13	6.93	.85	.02	.03	------	------	------	------	------	------	33

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

Chemical analyses, in equivalents per million, water year October 1942 to September 1943—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	
Feb. 1–5, 8–10	586				5.19	1.89	3.40		2.77	7.27	0.79	0.03	0.02							35
Feb. 11–20	694				4.79	1.97	3.74		2.84	6.85	.76	.03	.02							36
Feb. 21–26, 28	1,126				3.89	1.56	3.44		2.72	5.56	.54	.02	.05							39
Mar. 2–3, 5, 8–10	980				4.59	1.97	3.42		3.02	6.25	.65	.02	.04							34
Mar. 11–12, 14–20	1,415				4.24	1.73	2.90		2.64	5.77	.42	.02	.02							33
Mar. 21–25, 27, 29, 31	1,685				4.09	1.97	2.53		2.77	5 23	.54	.03	.02							29
Apr. 1–10	3,974				2.25	.99	.87		1.82	2.08	.14	.02	.05							21
Apr. 11–17, 19–20	3,472				2.20	.90	.96		1.85	2.00	.17	.02	.02							24
Apr. 21–30	6,802				1.50	.53	.56		1.46	1.00	.08	.01	.04							22
May 1–6, 8–10	7,905				1.45	.52	.50		1.29	1.00	.08	.02	.08							20
May 11–20	3,034				1.95	.68	.91		1.56	1.69	.20	.02	.07							26
May 21–31	4,107				1.75	.64	.72		1.49	1.42	.16	.02	.02							23
June 1–10	4,722				1.60	.58	.65		1.41	1.23	.15	.02	.02							23
June 11–20	3,691				1.65	.55	.87		1.43	1.35	.16	.02	.01							29
June 21–28	3,409				1.70	.54	.79		1.36	1.48	.16	.02	.01							26
June 29–30	3,895				3.49	.71	4.27		2.26	5.95	.25		.01							50
July 1–10	2,682				2.15	.76	1.21		1.69	2.12	.25	.01	.05							29
July 11–20	1,095				2.89	.99	2.12		2.16	3.37	.42	.02	.03							35
July 21, 23–31	850				3.54	1.07	2.55		2.43	4.21	.45	.02	.05							36
July 22	1,290				4.59	1.07	6.28		3.21	8.14	.56		.03							53
Aug. 1–10	1,060				3.54	1.07	2.69		2.51	4.27	.45	.02	.05							37
Aug. 11, 13–14, 16–18, 20	1,355				3.39	.99	2.66		2.36	4.23	.39	.02	.04							38
Aug. 12, 19	2,010				4.39	.90	7.13		3.02	8.99	.34	.04	.03							57
Aug. 21, 23–28, 30	1,281				3.09	.99	2.33		2.20	3.75	.39	.02	.05							36
Aug. 29	978				3.64	.99	5.63		2.98	6.72	.56									55
Aug. 31	1,650				8.73	1.97	11.97		3.70	7.57	1.35		.05							53
Sept. 1–10	1,217				3.19	.90	2.30		2.31	3.52	.51	.02	.03							36
Sept. 11–20	[1] 579				3.79	1.40	3.10		2.44	5.12	.68	.02	.03							37
Sept. 21–24, 27–30	[1] 751				3.99	1.48	3.57		2.38	5.91	.68	.02	.05							39
Sept. 26									3.23		1.24									
Weighted average	1,823				2.65	0.99	1.65		1.93	2.96	0.31	0.02	0.04							31

[1] Includes discharge for Sept. 21–30.

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 1943. (See table on page 167.)
Sediment records: August to September 1928, July 1929 to September 1943.

EXTREMES, 1942–43.—Dissolved solids: Maximum, 981 parts per million Oct. 11–20; minimum, 248 parts per million May 1–10.
Total hardness: Maximum, 506 parts per million Dec. 11–20, Feb. 11–20; minimum, 166 parts per million June 1–10.
Sediment loads: Maximum, 613,000 tons per day, Sept. 1; minimum, 607 tons per day Oct. 11.

EXTREMES, 1929–43.—Dissolved solids: Maximum, 1,860 parts per million July 21–31, 1934; minimum, 182 parts per million June 21–31, 1935.
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 1942 to September 1943 are given in Water-Supply Paper 979.

Chemical analyses, in parts per million, water year October 1942 to September 1943

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, 1942	396	110	11	0.09	102	32	99		164	404	32	------	2.5	0.3	763	1.04	816	386	252	36
Oct. 11–20	692	134	12	.08	128	44	123		173	549	36	------	3.3	.4	981	1.33	1,830	500	358	35
Oct. 21–31	720	120	15	.10	117	40	108		190	468	31	0.3	4.8	.2	878	1.19	1,710	456	301	34
Nov. 1–10	734	127	14	.11	125	43	114		200	500	34	.4	4.8	.3	934	1.27	1,850	489	325	34
Nov. 11–20	603	126	14	.08	123	42	112		203	482	34	.4	5.9	.3	913	1.24	1,490	480	313	34
Nov. 21–30	620	125	11	.04	122	42	111		202	481	33	.3	5.0	.4	905	1.23	1,510	477	312	34
Dec. 1–10	700	126	11	.06	123	43	112		200	491	33	.4	4.8	.4	917	1.25	1,730	484	320	33
Dec. 11–20	578	130	10	.10	132	43	109		194	512	35	.4	2 4	.5	940	1.28	1,470	506	348	32
Dec. 21–29, 31	818	125	14	.10	125	41	104		191	479	33	.7	3.1	.6	894	1.22	1,970	480	324	32
Jan. 1–10, 1943	556	128	17	.10	132	41	104		200	487	35	.5	2.9	.4	918	1.25	1,380	498	334	31
Jan. 11–20	586	128	10	.10	128	40	113		206	480	41	.3	3.5	.4	917	1.25	1,450	484	315	34
Jan. 21–31	948	129	10	.15	127	43	108		196	495	35	.2	3.6	.3	919	1.25	2,350	494	334	32
Feb. 1–10	672	126	15	.20	125	42	108		200	480	36	.3	3.8	.3	909	1.24	1,650	484	320	33
Feb. 11–20	763	128	14	.20	130	44	101		197	496	31	.4	3.4	.3	917	1.25	1,890	506	344	30
Feb. 22–28	1,302	115	14	.10	111	36	105		206	427	27	------	2.6	.5	824	1.12	2,900	425	256	35
Mar. 1–10	1,101	116	14	.10	112	40	100		190	445	28	.5	1.9	.5	835	1.14	2,480	444	288	33
Mar. 11–20	1,877	113	14	.05	103	37	103		196	414	26	.4	5.0	.4	799	1.09	4,050	409	248	35
Mar. 21–31	1,648	108	16	.20	109	39	92		197	411	26	.4	5.3	.3	796	1.08	3,540	432	271	32

SAN JUAN RIVER NEAR BLUFF, UTAH—Continued

Chemical analyses, in parts per million, water year October 1942 to September 1943—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	
Apr. 1–10	4,377	61.0	9.5	.05	73	19	37		185	163	10	0.3	4.5	0.5	407	0.55	4,810	260	108	23
Apr. 11–20	3,584	58.1	14	.20	72	17	32		176	153	9.0	.3	1.8	.2	386	.52	3,740	250	106	22
Apr. 21, 23–30	6,833	44 2	12	.32	62	11	18		172	81	8.0	.3	1.7	.2	279	.38	5,150	200	58	17
May 1–10	8,494	40.0	10	.12	57	9.8	13		147	77	6 0	.3	2.0	.1	248	.34	5,690	183	62	13
May 11–20	3,684	50.6	13	.08	60	13	29		156	120	8.0	.2	1.0	.2	321	.44	3,190	203	75	24
May 21–31	4,125	51.9	12	.05	60	13	33		154	127	10	.2	2.2	.2	333	.45	3,710	203	77	26
June 1–10	5,214	41.8	11	.05	50	10	25		131	96	7.0	.2	1.8	.3	266	.36	3,740	166	58	24
June 11–14, 16–20	4,075	46.0	12	.04	56	11	27		146	106	8.5	.3	1.8	.2	295	.40	3,250	185	66	24
June 21–30	3,507	43.9	18	.06	53	10	26		128	107	8.5	.3	1.9	.2	288	.39	2,730	174	68	25
July 1–9	3,114	51.3	15	.12	58	11	37		136	133	12	.4	2.2	.4	336	.46	2,930	190	78	30
July 11–20	1,173	63.9	14	.16	65	15	54		138	191	17	.4	4.5	.4	429	.58	1,360	224	110	34
July 21–31	964	91.9	13	.08	92	22	82		174	310	21	.3	2.4	.6	628	.85	1,630	320	178	36
Aug. 1–10	1,013	99 4	14	.02	100	25	87		188	342	20	.3	4.1	.8	685	.93	1,870	352	198	35
Aug. 11–20	1,434	104	16	.05	112	24	92		241	334	23	.4	.8	.4	721	.98	2,790	378	180	35
Aug. 21, 26–29, 31	1,638	133	15	.40	146	31	119		208	526	22	.4	2.0	.4	964	1.31	4,260	492	322	35
Aug. 22–25, 30	2,324	89.9	16	.20	94	20	81		220	274	18	------	1.6	.4	613	.83	3,850	316	136	36
Sept. 2–10	1,724	83.8	12	.05	86	17	75		166	274	17	.4	3.3	.2	567	.77	2,640	284	148	37
Sept. 11–20	649	95.5	12	.02	98	24	80		169	325	24	.5	4.2	.4	651	.89	1,140	343	204	34
Sept. 21–30	767	122	10	.08	124	33	108		195	455	30	.5	4.0	.4	861	1.17	1,780	445	285	35
Weighted average	1,996	69.8	13	0.12	78	20	51		167	214	15	0.3	2.6	0.3	476	0.65	2,570	276	140	29

Chemical analyses, in equivalents per million, water year October 1942 to September 1943

Oct. 1–10, 1942	396	------	------	------	5.09	2.63	4.32		2.69	8.41	0.90	------	0.04	------	------	------	------	------	------	36
Oct. 11–20	692	------	------	------	6.39	3.62	5.33		2.84	11.43	1.02	------	.05	------	------	------	------	------	------	35
Oct. 21–31	720	------	------	------	5.84	3.29	4.69		3.11	9.74	.87	0.02	.08	------	------	------	------	------	------	34
Nov. 1–10	734	------	------	------	6.24	3.54	4.97		3 28	10.41	.96	02	.08	------	------	------	------	------	------	34
Nov. 11–20	603	------	------	------	6.14	3.45	4.85		3.33	10.03	.96	.02	.10	------	------	------	------	------	------	34
Nov. 21–30	620	------	------	------	6.09	3.45	4.81		3.31	10.01	.93	.02	.08	------	------	------	------	------	------	34

Dec. 1–10	700				6.14	3.54	4.85	3.28	10.22	.93	.02	.08							33
Dec. 11–20	578				6.59	3.54	4.76	3.18	10.66	.99	.02	.04							32
Dec. 21–29, 31	818				6.24	3.37	4.51	3.13	9.97	.93	.04	.05							32
Jan. 1–10, 1943	556				6.59	3.37	4.53	3.28	10.14	.99	.03	.05							31
Jan. 11–20	586				6.39	3.29	4.93	3.38	9.99	1.16	.02	.06							34
Jan. 21–31	948				6.34	3.54	4.70	3 21	10.31	.99	.01	.06							32
Feb. 1–10	672				6.24	3.45	4.68	3.28	9.99	1.02	.02	.06							33
Feb. 11–20	763				6.49	3.62	4.39	3.23	10.33	.87	.02	.05							30
Feb. 22–28	1,302				5.54	2.96	4.57	3.38	8.89	.76		.04							35
Mar. 1–10	1,101				5.59	3.29	4.34	3.11	9.26	.79	.03	03							33
Mar. 11–20	1,877				5.14	3.04	4.48	3.21	8.62	.73	.02	.08							35
Mar. 21–31	1,648				5.44	3.21	3.98	3.23	8.56	.73	.02	.09							32
Apr. 1–10	4,377				3.64	1.56	1.59	3.03	3.39	.28	.02	.07							23
Apr. 11–20	3,584				3.59	1.40	1.38	2.88	3.19	.25	.02	.03							22
Apr. 21, 23–30	6,833				3.09	.90	.80	2.82	1.69	.23	.02	.03							17
May 1–10	8,494				2.85	.81	.57	2.41	1.60	.17	.02	.03							13
May 11–20	3,684				2.99	1.07	1.26	2.56	2.50	.23	.01	.02							24
May 21–31	4,125				2.99	1.07	1.43	2.52	2.64	.28	.01	.04							26
June 1–10	5,214				2.50	.82	1 07	2.15	2.00	.20	01	.03							24
June 11–14, 16–20	4,075				2.80	.90	1.19	2.39	2.21	.24	.02	.03							24
June 21–30	3,507				2.65	.82	1.15	2.10	2.23	.24	.02	.03							25
July 1–9	3,114				2.89	.90	1.61	2.23	2.77	.34	.02	.04							30
July 11–20	1,173				3.24	1.23	2.34	2.26	3.98	.48	.02	.07							34
July 21–31	964				4.59	1.81	3 55	2.85	6.45	.59	.02	.04							36
Aug. 1–10	1,013				4.99	2.06	3.80	3.08	7.12	.56	.02	.07							35
Aug. 11–20	1,434				5.59	1.97	4.02	3.95	6.95	.65	.02	.01							35
Aug. 21, 26–29, 31	1,638				7.29	2.55	5.19	3.41	10 95	.62	.02	.03							35
Aug. 22–25, 30	2,324				4.69	1.64	3.52	3.61	5.70	.51		.03							36
Sept. 2–10	1,724				4.29	1.40	3.28	2.72	5.70	.48	.02	.05							37
Sept. 11–20	649				4 89	1.97	3.46	2.77	6.77	.68	.03	.07							34
Sept. 21–30	767				6.19	2.71	4.71	3.20	9.47	.85	.03	.06							35
Weighted average	1,996				3.89	1.64	2.22	2.74	2.46	0.42	0.02	0.04							29

SAN JUAN RIVER NEAR BLUFF, UTAH—Continued

Suspended sediment, water year October 1942 to September 1943

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	468	0.11	1,390	752	0.17	3,450	620	0.10	1,670
2	438	.10	1,180	700	.10	1,890	609	.13	2,140
3	424	.09	1,070	719	.13	2,520	620	.11	1,840
4	419	.16	1,810	680	.08	1,470	626	.09	1,520
5	400	.10	1,080	700	.15	2,840	852	.27	6,210
6	391	.19	2,010	738	.17	3,390	784	.23	4,870
7	373	.11	1,110	758	.13	2,660	831	.18	4,040
8	347	.14	1,310	778	.19	3,990	764	.20	4,130
9	347	.12	1,120	758	.10	2,120	680	.15	2,750
10	351	.13	1,230	752	.14	2,840	614	.14	2,320
11	321	07	607	680	.12	2,200	575	.12	1,860
12	434	.19	2,230	559	.09	1,360	553	.09	1,340
13	484	.11	1,440	586	.07	1,110	559	.09	1,360
14	680	.26	4,770	586	.13	2,060	559	.12	1,810
15	732	.40	7,910	581	.17	2,670	564	.11	1,680
16	620	.47	7,870	581	.13	2,040	586	.13	2,060
17	845	.25	5,700	609	.11	1,810	581	.15	2,350
18	936	.20	5,050	632	.15	2,560	598	.13	2,100
19	978	.21	5,550	603	.10	1,630	598	.14	2,260
20	887	.19	4,550	609	.10	1,640	603	.13	2,120
21	845	.17	3,880	644	.13	2,260	626	.18	3,160
22	797	.12	2,580	603	.12	1,950	632	.14	2,390
23	693	.15	2,810	638	.12	2,070	650	.14	2,460
24	700	.10	1,890	644	.13	2,260	609	.10	1,640
25	693	.09	1,680	644	.12	2,090	732	.13	2,570
26	680	.14	2,570	564	.08	1,220	1,310	.65	23,000
27	706	.11	2,100	603	.11	1,790	1,060	.42	12,000
28	626	.09	1,520	614	.16	2,650	1,010	.30	8,480
29	686	.10	1,850	632	.14	2,390	859	.27	6,260
30	712	.12	2,310	614	.16	2,650	810	.33	7,220
31	784	.14	2,960				700	.23	4,350
Total load (tons)			85,140			67,580			124,000

Day	January			February			March		
1	644	0.19	3,300	719	0.14	2,720	1,090	0.27	7,950
2	614	.14	2,320	732	.19	3,760	1,030	.27	7,510
3	609	.15	2,470	719	.13	2,520	1,070	.23	6,640
4	592	.16	2,560	693	.28	5,240	1,100	.20	5,940
5	575	.15	2,330	752	.21	4,260	1,160	.22	6,890
6	537	.12	1,740	650	.25	4,390	1,100	.30	8,910
7	500	.12	1,620	598	.16	2,580	1,100	.35	10,400
8	521	.13	1,830	598	.16	2,580	1,220	.27	8,890
9	438	.22	2,600	592	.13	2,080	1,080	.31	9,040
10	526	.24	3,410	668	.21	3,790	1,060	.24	6,870
11	559	.20	3,020	719	.34	6,600	1,620	.41	17,900
12	532	.22	3,160	674	.15	2,730	3,130	2.45	207,000
13	581	.19	2,980	553	.13	1,940	2,480	2.21	148,000
14	586	.27	4,270	632	.16	2,730	2,250	1.21	73,500
15	609	.21	3,450	700	.16	3,020	1,990	1.13	60,700
16	674	.28	5,100	712	.20	3,840	1,850	.72	36,000
17	644	.26	4,520	784	.24	5,080	1,650	.59	26,300
18	693	.27	5,050	778	.23	4,830	1,450	.42	16,400
19	620	.13	2,180	957	.35	9,040	1,170	.36	11,400
20	360	.09	875	1,120	.56	16,900	1,180	.33	10,500
21	248	.11	737	1,290	.46	16,000	1,310	.28	9,900
22	400	.20	2,160	1,340	.53	19,200	1,100	.33	9,800
23	1,220	.56	18,400	1,330	.52	18,700	1,120	.27	8,160
24	1,780	1.06	50,900	1,450	.62	24,300	1,060	.24	6,870
25	1,380	.72	26,800	1,450	.56	21,900	1,190	.29	9,320
26	1,010	.37	10,100	1,290	.48	16,700	1,250	.34	11,500
27	992	.33	8,840	1,170	.44	13,900	1,590	.39	16,700
28	1,010	.25	6,820	1,100	.31	9,210	1,870	.46	23,200
29	824	.18	4,000				2,050	.54	29,900
30	797	.19	4,090				2,530	.84	57,400
31	764	.17	3,510				3,060	.93	76,800
Total load (tons)			195,100			230,500			946,300

SAN JUAN RIVER NEAR BLUFF, UTAH—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	3,720	1.00	100,000	8,170	0.57	126,000	6,130	0.49	81,100
2	3,260	.86	75,700	8,850	.54	129,000	5,970	.56	90,300
3	2,950	.79	62,900	9,650	.68	177,000	6,080	.40	65,700
4	3,220	.61	53,000	9,710	.57	149,000	7,380	.70	139,000
5	4,110	.77	85,400	10,000	.49	132,000	5,720	.28	43,200
6	4,930	.80	106,000	10,400	.76	213,000	4,560	.40	49,200
7	5,290	.67	95,700	8,510	.60	138,000	3,930	.33	35,000
8	5,970	.79	127,000	7,140	.59	114,000	3,710	.29	29,000
9	5,680	.64	98,200	6,690	.59	107,000	3,960	.36	38,500
10	4,640	.66	82,700	5,820	.53	83,300	4,700	.30	38,100
11	4,380	.49	57,900	4,780	.41	52,900	5,140	.29	40,200
12	3,580	.53	51,200	4,260	.44	50,600	4,850	.36	47,100
13	2,930	.45	35,600	4,050	.42	45,900	5,120	.28	38,700
14	2,600	.43	30,200	4,140	.36	40,200	4,910	.40	53,000
15	2,450	.41	27,100	4,160	.40	44,900	4,140	.36	40,200
16	3,030	.46	37,600	3,570	.48	46,300	3,450	.46	42,800
17	3,660	.70	69,200	3,440	.46	42,700	3,240	.34	29,700
18	4,580	.57	70,500	3,110	.37	31,100	3,230	.33	28,800
19	4,340	.42	49,200	2,770	.35	26,200	3,150	.34	28,900
20	4,290	.42	48,600	2,560	.30	20,700	3,520	.35	33,300
21	4,670	.46	58,000	2,530	.22	15,000	3,640	.36	35,400
22	5,510	.50	74,400	2,590	.20	14,000	3,510	.31	29,400
23	5,770	.48	74,800	2,800	.20	15,100	3,620	.42	41,100
24	6,530	.54	95,200	2,900	.23	18,000	3,710	.34	34,100
25	7,500	.62	126,000	2,940	.22	17,500	3,720	.33	33,100
26	7,860	.73	155,000	3,450	.27	25,200	3,480	.25	23,500
27	8,010	.56	121,000	5,090	.53	72,800	3,260	.26	22,900
28	7,900	.49	105,000	5,360	.49	70,900	3,470	.36	33,700
29	7,310	.46	90,800	4,960	.35	46,900	3,260	.38	33,400
30	7,270	.52	102,000	5,700	.42	64,600	3,400	.23	21,100
31				7,060	.45	85,800			
Total load (tons)			2,366,000			2,216,000			1,300,000

Day	July			August			September		
1	5,260	0.58	82,400	686	0.37	6,850	2,780	8.17	613,000
2	5,320	.75	108,000	1,010	.24	6,540	3,340	3.82	344,000
3	4,040	.59	64,400	1,630	.94	41,400	2,250	1.93	117,000
4	3,480	.45	42,300	1,200	1.13	36,600	1,860	1.11	55,700
5	2,900	.28	21,900	1,040	.83	23,300	1,520	.57	23,400
6	2,690	.27	19,600	985	.55	14,600	1,350	.43	15,700
7	2,260	.27	16,500	922	.39	9,710	1,210	.40	13,100
8	1,970	.12	6,380	831	.20	4,490	1,040	.29	8,140
9	1,680	.08	3,630	845	.28	6,390	999	.22	5,930
10	1,540	.12	4,990	978	.30	7,920	887	.22	5,270
11	1,520	.11	4,510	1,050	.77	21,800	797	.20	4,300
12	1,280	.07	2,420	971	1.57	41,200	700	.17	3,210
13	1,350	.11	4,010	1,170	.57	18,000	706	.15	2,860
14	1,220	.05	1,650	1,690	.81	37,000	719	.16	3,110
15	1,080	.09	2,620	1,250	1 66	56,000	620	.23	3,850
16	1,080	.09	2,620	1,290	1.99	69,300	626	.20	3,380
17	950	.07	1,800	1,290	.74	25,800	586	.22	3,480
18	1,090	.08	2,350	1,290	.44	15,300	614	.15	2,490
19	1,130	.08	2,440	1,570	1.04	44,100	559	.16	2,410
20	1,030	.07	1,950	2,770	1.85	138,000	559	.14	2,110
21	957	.06	1,550	2,240	3.89	235,000	603	.20	3,260
22	1,090	.42	12,400	2,280	1.29	79,400	564	.14	2,130
23	1,290	.33	11,500	2,850	1.22	93,900	570	.11	1,690
24	1,190	.27	8,680	1,650	1.94	86,400	510	.14	1,930
25	999	.81	21,800	3,270	1.80	159,000	510	.14	1,930
26	915	.27	6,670	1,520	3.24	133,000	542	.15	2,200
27	901	.28	6,810	1,530	1.13	46,700	845	.52	11,900
28	838	.72	16,300	1,410	1.00	38,100	1,250	1.50	50,600
29	852	.14	3,220	1,140	.94	28,900	1,070	1.96	56,600
30	764	.13	2,680	1,570	.49	20,800	1,210	1.39	45,400
31	804	.10	2,170	1,990	1.98	106,000			
Total load (tons)			490,200			1,652,000			1,410,000

Total load for year ..... tons 11,080,000

SAN JUAN RIVER NEAR BLUFF, UTAH—Continued

Mechanical analyses of suspended sediment, water year October 1942 to September 1943

Date of collection	Mean discharge (second-feet)	Suspended sediment					
		Mean concentration (percent)	Tons per day	Percent finer than given size			
				0.020 mm.	0.050 mm.	0.074 mm.	0.149 mm.
Oct. 1, 1942	468	0.11	1,390	18.0	20.0	30.1	67.4
6	391	.19	2,010	2.0	2.9	13.6	52.8
8	347	.14	1,310	21.1	25.0	41.6	89.2
12	434	.19	2,230	19.0	21.3	33.1	76.0
16	620	.47	7,870	62.6	67.4	74.9	93.7
20	887	.19	4,550	30 6	33.3	40.5	81.7
24	700	.10	1,890	24.8	27.6	38.1	88.5
29	686	.10	1,850	25.1	28.9	40.3	86.9
Nov. 7	758	.13	2,660	41.8	48.1	58.8	90.0
10	752	.14	2,840	37.4	42.7	51.5	94.5
13	586	.07	1,110	18.1	20.7	28.5	77.2
17	609	.11	1,810	10.7	11.8	16.8	66.4
20	609	.10	1,640	28.8	33.4	49.6	89.2
24	644	.13	2,260	9.7	11.8	17.7	61.6
27	603	.11	1,790	19.9	24.3	33.4	77.4
Dec. 4	626	.09	1,520	20.2	25.8	38.1	84.7
8	764	.20	4,130	44.7	46.9	54.9	82.2
11	575	.12	1,860	11.7	13.5	21.6	79.0
12	553	.09	1,340	26.4	29.6	39.0	75.0
15	564	.11	1,680	16.4	17.9	22.8	60.9
23	650	.14	2,460	15.3	16.7	22.9	64.8
26	1,310	.65	23,000	76.4	84.4	89.2	97.8
26				85.0	89.9	96.2	98.6
31	700	.23	4,350	55.5	58.5	64.5	82.2
Jan. 2, 1943	614	.14	2,320	26.3	28.2	36.8	77.0
6	537	.12	1,740	8.9	11 5	19.7	71.3
9	438	.22	2,600	8.4	9.8	16.2	67.0
13	581	.19	2,980	6.1	6.6	12.2	48.9
16	674	.28	5,100	10.7	12.5	19.3	72.2
20	360	.09	875	20.5	22.7	31.7	86.8
23	1,220	.56	18,400	20.1	29.7	58.4	94.0
24	1,780	1.06	50,900	46.0	58.2	63.4	80.9
29	824	.18	4,000	48.3	55.7	66.5	94.1
31	764	.17	3,510	42.0	49.3	62.9	91.7
Feb. 3	719	.13	2,520	19.1	21.6	28.1	70.6
7	598	.16	2,580	16.0	18.7	25.0	67.0
10	668	.21	3,790	11.8	14.6	22.0	64.6
14	632	.16	2,730	18.7	22.0	29.9	77.0
17	784	.24	5,080	18.4	23.0	34.3	78.5
20	1,120	.56	16,900	12.4	19.9	28.9	73.7
21	1,290	.46	16,000	55.1	59.9	65.6	87.0
24	1,450	.62	24,300	55.8	59.9	63.7	81.1
28	1,100	.31	9,210	41.6	47.5	50.9	73.3
Mar. 3	1,070	.23	6,640	26.8	30.5	36.3	70.8
7	1,100	.35	10,400	33.9	37.9	45.0	76.0
10	1,060	.24	6,870	27.3	30.2	37.8	81.4
12	3,130	2.45	207,000	42.3	57.1	63.2	80.0
14	2,250	1.21	73,500	72.3	75.4	78.3	90.9
17	1,650	.59	26,300	39.5	50.0	58.2	79.1
21	1,310	.28	9,900	40.5	43.7	50.9	82.7
24	1,060	.24	6,870	35.5	38.8	47.2	79.6
28	1,870	.46	23,200	39.0	44.6	49.6	73.6
31	3,060	.93	76,800	2.1	21.3	32.6	70.8
Apr. 4	3,220	.61	53,000	24.9	33.2	39.6	68.0
7	5,290	.67	95,700	20.6	25.6	32.5	57.7
11	4,380	.49	57,900	15.4	19.0	25.6	50.5
14	2,600	.43	30,200	9.7	11.8	19.5	51.3
18	4,580	.57	70,500	10.2	16.0	26.7	55.2
21	4,670	.46	58,000	9.5	14.7	28.5	56.6
25	7,500	.62	126,000	15.5	21.2	33.5	57.9
28	7,900	.49	105,000	11.6	15.2	25.9	52.5

SAN JUAN RIVER NEAR BLUFF, UTAH—Continued

Mechanical analyses of suspended sediment, water year October 1942 to September 1943 —Continued

Date of collection	Mean discharge (second-feet)	Suspended sediment					
		Mean concentration (percent)	Tons per day	Percent finer than given size			
				0.020 mm.	0.050 mm.	0.074 mm.	0.149 mm.
May 1, 1943	8,170	0.57	126,000	10.9	14.7	21.5	50.5
5	10,000	.49	132,000	10.1	14.7	25.3	54.8
8	7,140	.59	114,000	7.1	11.5	25.2	54.2
12	4,260	.44	50,600	4.1	5.7	12.0	34.9
19	2,770	.35	26,200	5.1	6.9	13.5	43.3
23	2,800	.20	15,100	10.7	14.2	27.1	72.1
26	3,450	.27	25,200	9.2	12.7	31.9	71.0
30	5,700	.42	64,600	7.6	11.3	23.4	49.7
June 2	5,970	.56	90,300	5.3	7.3	15.1	37.8
6	4,560	.40	49,200	5.5	7.1	13.4	35.6
9	3,960	.36	38,500	6.9	8.6	15.8	42.4
13	5,120	.28	38,700	5.2	6.4	11.9	30.9
16	3,450	.46	42,800	3.8	5.2	11.6	44.8
20	3,520	.35	33,300	2.7	4.0	10.5	40.4
24	3,710	.34	34,100	3.0	4.4	9.5	36.9
27	3,260	.26	22,900	4.2	5.8	11.4	40.6
29	3,260	.38	33,400	11.8	18.9	39.2	62.3
30	3,400	.23	21,100	3.5	5.2	11.5	42.5
July 1	5,260	.58	82,400	5.9	9.0	25.4	55.1
4	3,480	.45	42,300	24.1	27.7	33.6	59.4
7	2,260	.27	16,500	25.9	30.7	39.2	75.7
11	1,520	.11	4,510	7.6	9.8	16.4	65.8
14	1,220	.05	1,650	12.5	18.6	29.1	86.2
18	1,090	.08	2,350	6.7	8.8	16.5	69.7
22	1,090	.42	12,400	61.9	68.2	72.8	90.2
25	999	.81	21,800	55.3	63.8	66.8	84.9
28	838	.72	16,300	67.0	80.0	83.3	93.6
Aug. 4	1,200	1.13	36,600	67.7	74.4	78.1	87.7
8	831	.20	4,490	51.4	59.4	68.7	93.5
11	1,050	.77	21,800	50.7	63.1	70.8	92.0
15	1,250	1.66	56,000	78.8	83.0	83.6	91.6
18	1,290	.44	15,300	47.5	56.8	64.3	86.3
20	2,770	1.85	138,000	67.2	74.1	77.0	89.4
22	2,280	1.29	79,400	76.1	80.7	81.7	89.3
25	3,270	1.80	159,000	73.9	82.0	84.6	91.8
25				44.7	58.5	63.4	76.4
29	1,140	.94	28,900	73.7	80.0	81.9	93.9
Sept. 1	2,780	8.17	613,000	44.5	54.8	63.3	88.5
5	1,520	.57	23,400	47.1	55.4	60.6	82.6
8	1,040	.29	8,140	38.7	45.5	51.3	81.5
12	700	.17	3,210	22.8	30.2	36.4	67.0
15	620	.23	3,850	27.7	33.4	39.2	73.5
22	564	.14	2,130	27.0	33.6	41.5	80.1
24	510	.14	1,930	12.1	15.8	19.2	48.8
26	542	.15	2,200	26.2	33.9	40.7	80.1
29	1,070	1.96	56,600	84.0	87.8	88.1	94.1

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 upstream from mouth.

DRAINAGE AREA.—1,360 square miles.

RECORDS AVAILABLE.—Chemical analyses: June 1940 to September 1943. (See table on page 167.)

EXTREMES, 1942–43.—Dissolved solids: Maximum, 614 parts per million Dec. 21–31; minimum, 161 parts per million June 21–30.
Total hardness: Maximum, 389 parts per million Dec. 11–20; minimum, 114 parts per million June 21–30.

EXTREMES, 1940–43.—Dissolved solids: Maximum, 958 parts per million Aug. 11–20, 1940; minimum, 124 parts per million July 1–10, 1941.
Total hardness: Maximum, 563 parts per million Aug. 11–20, 1940; minimum, 90 parts per million July 1–10, 1941.

REMARKS.—Records of discharge for water year October 1942 to September 1943 are given in Water-Supply Paper 979.

Chemical analyses, in parts per million, water year October 1942 to September 1943

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 $CaCO_3$		Per cent sodium
															Parts per million	Tons per acre-foot	Tons per day	Total	Non-carbonate	
Oct. 1–10, 1942	155	86.1	10	------	109	18	55		182	267	27	------	1.5	------	577	0.78	241	346	197	26
Oct. 11–20	233	86.4	13	0.02	112	18	59		193	272	28	------	1.2	0.3	598	.81	376	353	196	27
Oct. 21–31	249	85.1	13	.02	112	18	56		195	263	29	------	1.1	.3	588	.80	395	353	194	26
Nov. 1–10	232	84.7	14	.02	111	19	52		198	253	30	------	.8	.8	577	.78	361	355	192	24
Nov. 11–20	217	86.1	11	.07	114	19	56		205	263	29	------	.9	.9	594	.81	348	362	194	25
Nov. 21–30	214	86.9	12	.05	117	19	55		210	264	29	0.3	1.7	.4	601	.82	347	370	198	25
Dec. 1–10	219	88.3	11	.04	120	19	55		205	274	29	.2	2.0	.4	611	.83	361	378	210	24
Dec. 11–20	205	89.0	12	.05	123	20	51		219	267	29	.2	1.6	.3	612	.83	339	389	210	22
Dec. 21–31	235	88.3	18	.10	120	20	51		192	280	29	.4	1.2	.4	614	.84	390	382	224	22
Jan. 1–10, 1943	205	87.8	16	.10	118	20	49		191	272	29	.4	1.1	.5	600	.82	332	376	220	22
Jan. 11–20	224	86.5	18	.10	116	19	55		193	274	29	.4	1.0	.4	608	.83	368	368	210	24
Jan. 21–31	253	76.7	9.0	.05	89	19	54		130	258	28	.5	2.2	.2	524	.71	358	390	194	28
Feb. 1–10	210	78.0	12	.05	93	18	59		139	267	28	.4	2.5	.2	548	.75	311	306	192	30
Feb. 11–19	232	80.0	10	.08	101	18	56		161	262	28	.5	2.5	.2	557	.76	349	326	194	27
Feb. 20–28	322	77.4	10	.05	102	18	50		188	237	24	.5	2.2	.2	536	.73	466	328	174	25
Mar. 1–10	333	79.4	12	.05	102	21	50		183	249	26	.4	2.9	.3	553	.75	497	341	191	24
Mar. 11–20	433	75.3	12	.05	93	21	44		137	219	25	.4	4.2	.2	514	.70	608	326	172	23
Mar. 21–27	405	74.4	13	.12	97	20	45		192	217	23	.3	6.0	.2	516	.70	564	324	166	23
Mar. 28–31	726	55.8	12	.10	78	15	32		163	159	17	.4	2.9	.1	397	.54	778	256	122	22

Apr. 1, 3–10	1,178	40.8	5.6	.02	56	11	15	129	95	8.0	.2	2.6	.1	257	.35	817	185	80	15
Apr. 11–20	1,064	41.1	6.0	.02	58	10	17	132	96	9.0	.2	1.1	.3	262	.36	753	186	78	16
Apr. 21–30	2,408	26.8	4.4	.02	38	6.7	8.7	96	52	5.0	.3	1.4	0	164	.22	1,070	122	44	13
May 1–10	2,936	26.5	6.0	.02	37	6.6	9.2	95	52	4.0	.2	1.6	.2	163	.22	1,290	120	42	14
May 11–20	1,063	38.3	6.0	.02	54	8.8	16	123	88	8.0	.2	.9	.3	243	.33	697	171	70	17
May 21–31	1,945	30.3	7.8	.04	42	7.3	11	101	63	6.0	.4	1.4	.2	189	.26	993	135	52	15
June 1–10	2,133	27.6	8.0	.05	39	6.4	9.7	91	58	5.5	.4	1.1	.1	173	.24	996	124	50	14
June 11–20	1,681	30.0	6.8	.05	41	6.9	10	91	66	6.2	.4	.7	.1	183	.25	831	131	56	14
June 21–30	1,939	26.2	7.4	.08	36	5.8	8.7	75	59	6.2	.4	.9	.3	161	.22	843	114	52	14
July 1–10	1,136	37.4	7.6	.04	48	7.7	19	101	91	9.0	.4	1.1	.2	234	.32	718	152	68	21
July 11–20	571	49.2	10	.04	61	10	29	122	130	14	.3	1.5	.2	316	.43	487	193	93	25
July 21–31	418	56.9	10	.04	70	12	35	134	159	16	.3	1.4	.3	370	.50	418	224	114	25
Aug. 1–9	578	52.4	10	.02	65	10	32	134	134	13	.4	3.1	.2	334	.45	521	203	93	25
Aug. 11–20	684	48.3	8.8	.03	60	11	25	122	124	12	.4	1.6	.2	303	.41	560	194	94	22
Aug. 21–31	718	47.2	7.6	.08	61	9.7	24	120	123	12	.4	.8	.2	298	.41	578	192	94	22
Sept. 1–2	1,310	32.1			41	6.2	13	75	80	8.0		.1		185	.25	654	128	66	18
Sept. 3–10	604	48.8	9.2	.03	62	9.2	27	118	129	14	.4	.6	.1	310	.42	506	192	96	24
Sept. 11–20	309	61.7	10	.02	72	13	40	121	185	20	.4	.7	.4	401	.55	335	233	134	27
Sept. 21–30	271	72.5	10	.02	87	15	48	149	216	24	.5	1.1	.4	475	.65	348	278	156	27
Weighted average	736	42.9	8.0	0.04	57	9.9	21	118	111	11	0.3	1.5	0.2	278	0.38	552	186	86	20

Chemical analyses, in equivalents per million, water year October 1942 to September 1943

Oct. 1–10, 1942	155				5.44	1.48	2.40	2.98	5.56	0.76		0.02							26
Oct. 11–20	233				5.59	1.48	2.56	3.16	5.66	.79		.02							27
Oct. 21–31	249				5.59	1.48	2.45	3.20	5.48	.82		.02							26
Nov. 1–10	232				5.54	1.56	2.28	3.25	5.27	.85		.01							24
Nov. 11–20	217				5.69	1.56	2.42	3.36	5.48	.82		.01							25
Nov. 21–30	214				5.84	1.56	2.41	3.44	5.50	.82	0.02	.03							25
Dec. 1–10	219				5.99	1.56	2.37	3.36	5.70	.82	.01	.03							24
Dec. 11–20	205				6.14	1.64	2.23	3.59	5.56	.82	.01	.03							22
Dec. 21–31	235				5.99	1.64	2.21	3.15	5.83	.82	.02	.02							22
Jan. 1–10, 1943	205				5.89	1.64	2.12	3.13	5.66	.82	.02	.02							22
Jan. 11–20	224				5.79	1.56	2.37	3.16	5.70	.82	.02	.02							24
Jan. 21–31	253				4.44	1.56	2.36	2.13	5.37	.79	.03	.04							28
Feb. 1–10	210				4.64	1.48	2.57	2.29	5.56	.79	.02	.04							30
Feb. 11–19	232				5.04	1.48	2.43	2.64	5.45	.79	.03	.04							27
Feb. 20–28	322				5.09	1.48	2.19	3.08	4.93	.68	.03	.04							25
Mar. 1–10	333				5.09	1.73	2.16	3.00	5.18	.73	.02	.05							24
Mar. 11–20	438				4.79	1.73	1.91	3.07	4.56	.71	.02	.07							23
Mar. 21–27	405				4.84	1.64	1.96	3.15	4.52	.65	.02	.10							23
Mar. 28–31	726				3.89	1.23	1.41	2.67	3.31	.48	.02	.05							22

ANIMAS RIVER AT FARMINGTON, N. MEX.—Continued

Chemical analyses, in equivalents per million, water year October 1942 to September 1943—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, 3–10	1,178				2.80	0.90	0.67		2.11	1.98	0.23	0.01	0.04							15
Apr. 11–20	1,064				2.89	.82	.73		2.16	2.00	.25	.01	.02							16
Apr. 21–30	2,408				1.90	.55	.38		1.57	1.08	.14	.02	.02							13
May 1–10	2,936				1.85	.54	.40		1.56	1.08	.11	.01	.03							14
May 11–20	1,063				2.70	.72	.68		2.02	1.83	.23	.01	.01							17
May 21–31	1,945				2.10	.60	.48		1.66	1.31	.17	.02	.02							15
June 1–10	2,133				1.95	.53	.42		1.49	1.21	.16	.02	.02							14
June 11–20	1,681				2.05	.57	.44		1.49	1.37	.17	.02	.01							14
June 21–30	1,939				1.80	.48	.38		1.23	1.23	.17	.02	.01							14
July 1–10	1,136				2.40	.63	.81		1.66	1.89	.25	.02	.02							21
July 11–20	571				3.04	.82	1.28		2.00	2.71	.39	.02	.02							25
July 21–31	418				3.49	.99	1.52		2.20	3.31	.45	.02	.02							25
Aug. 1–9	578				3.24	.82	1.37		2.20	2.79	.37	.02	.05							25
Aug. 11–20	684				2.99	.90	1.08		2.00	2.58	.34	.02	.03							22
Aug. 21–31	718				3.04	.80	1.06		1.97	2.56	.34	.02	.01							22
Sept. 1–2	1,310				2.05	.51	.57		1.23	1.67	.23		.00							18
Sept. 3–10	604				3.09	.76	1.19		1.93	2.69	.39	.02	.01							24
Sept. 11–20	309				3.59	1.07	1.76		1.98	3.85	.56	.02	.01							27
Sept. 21–30	271				4.34	1.23	2.10		2.44	4.50	.68	.03	.02							27
Weighted average	736				2.85	0.81	0.91		1.93	2.31	0.31	0.02	0.02							20

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 1943. (See table on page 168.)

EXTREMES, 1942–43.—Dissolved solids: Maximum, 1,112 parts per million May 21–31; minimum, 258 parts per million Mar. 6–10.
Total hardness: Maximum, 308 parts per million Apr. 11–20; minimum, 111 parts per million Sept. 26–30.

EXTREMES, 1940–43.—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, 101 parts per million May 1–10, 1941.

REMARKS.—Records of discharge for water year October 1942 to September 1943 are given in Water-Supply Paper 979.

Chemical analyses, in parts per million, water year October 1942 to September 1943

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. 1–10, 1942	16.1	135	39	0.06	76	18	186		281	98	232	1.8	3.0	------	792	1.08	34	264	32	60
Oct. 11–17, 19–20	61.4	105	32	.14	54	13	157		253	95	154	1.5	2.5	------	634	.86	105	188	0	64
Oct. 21–24, 26–31	40.6	94.8	34	.07	58	15	123		241	60	148	1.6	1.0	------	559	.76	61	206	8	57
Nov. 1–10	65.1	86.3	36	.08	56	13	113		245	57	124	1.4	.5	------	522	.71	97	194	0	56
Nov. 11–20	62.9	90.9	31	.04	57	15	114		240	60	134	1.4	.5	------	531	.72	90	204	8	55
Nov. 21–28, 30	63.2	93.8	32	.10	58	15	120		244	62	142	1.0	.5	------	551	.75	94	206	6	56
Dec. 1–10	103	86.7	34	.07	56	14	107		232	57	126	1.4	.5	------	510	.69	147	198	8	54
Dec. 11–15, 18–20	131	78.1	40	.06	53	14	97		232	53	107	1 6	.5	------	480	.65	169	190	0	53
Dec. 21–23, 25–31	109	80.6	38	.08	54	14	97		232	52	110	1.6	.5	------	481	.65	146	192	2	52
Jan. 1–8, 10, 1943	156	79.5	36	.06	53	14	98		232	52	109	1.6	.5	------	478	.65	208	190	0	53
Jan. 11–20	165	82.0	37	.14	55	14	101		231	53	117	1.6	.5	------	493	.67	219	195	6	53
Jan. 21–29, 31	176	79.4	39	.07	54	13	100		230	52	112	1.4	1.0	------	486	.66	239	188	0	53
Feb. 1–10	141	83.8	38	.06	56	14	106		234	55	123	1.4	1.5	------	510	.69	194	198	6	54
Feb. 11–19	45.1	106	38	.06	66	16	144		257	78	175	1.4	2.0	------	647	.88	78	230	20	58
Feb. 20–27	37.1	128	40	.07	74	19	178		276	93	224	1.3	2.5	------	771	1.05	80	252	33	59
Mar. 1–5	[1] 87.2	108	41	.06	64	16	143		240	76	180	1.2	2.5	------	642	.87	151	226	28	58
Mar. 6–10	[1] 1,699	38.3	38	.20	36	9.2	34		141	38	31	.8	1.8	------	258	.35	1,183	128	12	37
Mar. 11–19	402	55.8	38	.10	41	11	65		173	40	71	1.2	1.5	------	354	.48	384	148	5	49
Mar. 21–22	81.5	83.8	------	------	57	15	100		219	63	124	------	------	------	467	.64	102	204	24	52
Mar. 23–27, 30–31	22.1	159	41	.08	82	21	237		301	145	284	1.9	2.5	------	964	1.31	57	291	44	64

GILA RIVER AT SAFFORD, ARIZ.—Continued

Chemical analyses, in parts per million, water year October 1942 to September 1943—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
Apr. 1–10	23.1	169	42	.06	82	22	256		301	148	314	1.7	2.0	------	1,018	1.38	63	295	48	65
Apr. 11–16, 18–20	16.2	171	42	.06	87	22	256		311	144	320	1.9	2.5	------	1,029	1.40	45	308	52	64
Apr. 21–24, 26–30	31.7	139	43	.04	74	18	199		273	100	252	1.8	2.5	------	825	1.12	70	258	34	63
May 1–8, 10	11.3	161	43	.04	82	23	235		295	125	306	1.8	2.5	------	964	1.31	29	299	56	63
May 11–14, 16–20	10.2	167	40	.06	84	22	242		289	123	322	2.0	2.5	------	980	1.33	26	300	62	64
May 21–31	[2] 2.4	189	48	.18	66	24	302		244	160	385	2.3	4.0	1.0	1,112	1.51	7	263	63	71
June 13	[2] 1	160	----	----	----	----	----		227	----	335	----	----	----	----	----	----	----	----	----
June 29–30	338	99.7	48	.16	44	9.2	168		258	121	120	2.1	1.5	1.0	641	.87	584	148	0	71
July 1–3	[3] 129	61.1	40	.17	43	10	75		194	44	72	1.4	1.5	.2	383	.52	133	148	0	52
July 4	[3] 2	105	----	----	----	----	----		212	----	175	----	----	----	----	----	----	----	----	----
July 16–20	[4] 27.6	87.6	42	.12	40	10	141		209	80	132	1.5	2.0	.6	552	.75	41	141	0	68
July 21–31	62.6	79.8	40	.11	50	11	103		205	45	124	1.2	1.5	.8	477	.65	78	170	2	57
Aug. 1–6, 10	333	107	36	.21	40	8.3	180		200	130	154	1.9	5 0	1.8	654	.89	588	134	0	75
Aug. 11–14	97.0	71.8	35	.08	32	8.1	111	6.0	185	80	86	1.5	7.8	.6	459	.62	120	114	0	68
Aug. 15–20	299	119	34	.05	43	10	195	5.8	215	149	170	1.5	5.0	.8	719	.98	580	148	0	74
Aug. 21–29	290	67.9	32	.10	36	9.7	93	5.6	182	65	82	1.0	3.0	.6	417	.57	326	130	0	62
Aug. 30–31	77.0	98.6	----	----	45	13	147		201	139	124	------	2.5	------	570	.78	110	166	1	66
Sept. 1–4, 6–7, 9–10	13.4	100	38	.08	62	16	123	5.8	242	61	162	1.3	4.3	.6	593	.81	21	220	22	55
Sept. 11–20	5.0	132	43	.11	70	20	183		272	87	238	1.6	2.0	1.0	779	1.06	11	256	33	61
Sept. 21–25	20.2	125	40	.15	60	16	185		248	83	226	2.0	4.4	.8	739	1.01	40	216	12	65
Sept. 26–30	868	42.1	25	.05	31	8.1	48		150	35	38	.9	.8	.4	261	.35	611	111	0	49
Weighted average	123	72.1	36	0.12	45	11	95		194	62	96	1.3	1.9	------	444	0.60	147	158	0	57

See footnotes at end of table.

Chemical analyses, in equivalents per million, water year October 1942 to September 1943

Oct. 1–10, 1942	16.1	------	------	------	3.79	1.48	8.07		4.61	2.04	6.54	0.09	0.05	------	------	------	------	------	------	60
Oct. 11–17, 19–20	61.4	------	------	------	2.70	1.07	6.82		4.15	1.98	4.34	.08	.04	------	------	------	------	------	------	64
Oct. 21–24, 26–31	40.6	------	------	------	2.89	1.23	5.36		3.95	1.25	4.17	.08	.02	------	------	------	------	------	------	57
Nov. 1–10	65.1	------	------	------	2.80	1.07	4.92		4.02	1.19	3.50	.07	.01	------	------	------	------	------	------	56
Nov. 11–20	62.9	------	------	------	2.85	1.23	4.96		3.93	1.25	3.78	.07	.01	------	------	------	------	------	------	55
Nov. 21–28, 30	63.2	------	------	------	2.89	1.23	5.23		4.00	1.29	4.00	.05	.01	------	------	------	------	------	------	56

Dec. 1–10	103				2.80	1.15	4.67	3.80	1.19	3.55	.07	.01							54
Dec. 11–15, 18–20	131				2.65	1.15	4.22	3.80	1.10	3.02	.08	.01							53
Dec. 21–23, 25–31	109				2.70	1.15	4.22	3.80	1.08	3.10	.08	.01							52
Jan. 1–8, 10, 1943	156				2.65	1.15	4.24	3.80	1.08	3.07	.08	.01							53
Jan. 11–20	165				2.75	1.15	4.38	3.79	1.10	3.30	.08	.01							53
Jan. 21–29, 31	176				2.70	1.07	4.33	3.77	1.08	3.16	.07	.02							53
Feb. 1–10	141				2.80	1.15	4.60	3.84	1.15	3.47	.07	.02							54
Feb. 11–19	45.1				3.29	1.32	6.27	4.21	1.62	4.94	.07	.03							58
Feb. 20–27	37.1				3.69	1.56	7.72	4.52	2.00	6.32	.08	.04							60
Mar. 1–5	[1] 87.2				3.19	1.32	6.20	3.93	1.58	5.08	.06	.04							58
Mar. 6–10	[1] 1,699				1.80	.76	1.48	2.31	.79	.87	.04	.03							37
Mar. 11–19	402				2.05	.90	2.81	2.84	.83	2.00	.06	.02							49
Mar. 21–22	81.5				2.84	1.23	4.34	3.59	1.31	3.50									52
Mar. 23–27, 30–31	22.1				4.09	1.73	10.29	4.93	3.02	8.01	.10	.04							64
Apr. 1–10	23.1				4.09	1.81	11.14	4.93	3.08	8 86	.09	.06							65
Apr. 11–16, 18–20	16.2				4.34	1.81	11.13	5.10	3.00	9.03	.10	.04							64
Apr. 21–24, 26–30	31.7				3.69	1.48	8.64	4.47	2.08	7.11	.09	.04							63
May 1–8, 10	11.3				4.09	1.89	10.23	4.84	2.60	8.63	.09	.04							63
May 11–14, 16–20	10.2				4.19	1.81	10.54	4.74	2.56	9.08	.11	.04							64
May 21–31	[2] 2.4				3.29	1.97	13.11	4.00	3.57	10.86	.12	.06							71
June 13	[2] 1							3.72		9.45									
June 29–30	338				2.20	.76	7.30	4.23	2.52	3.38	.11	.02							71
July 1–3	[3] 129				2.15	.82	3.25	3.18	.92	2.03	.07	.02							52
July 4	[3] 2							3.47		5.98									
July 16–20	[4] 27.6				2.00	.99	6.11	3.43	1.67	3.72	.08	.03							68
July 21–31	62.6				2.50	.90	4.48	3.36	.94	3.50	.06	.02							57
Aug. 1–6, 10	333				2.00	.68	7.83	3.28	2.71	4.34	.10	.08							75
Aug. 11–14	97.0				1.60	.67	4.83 | 0.15	3.03	1.67	2.43	.08	.13							68
Aug. 15–20	299				2.15	.82	8.48 | .15	3.52	3.10	4.79	.08	.08							74
Aug. 21–29	290				1.80	.80	4.04 | .14	2.98	1.35	2.31	.05	.05							62
Aug. 30–31	77.0				2.25	1.07	6.41	3.29	2.89	3.50		.04							66
Sept. 1–4, 6–7, 9–10	13.4				3.09	1.32	5.35 | .15	3.97	1.27	4.57	.07	.07							55
Sept. 11–20	5.0				3.49	1.64	7.97	4.46	1.81	6.71	.08	.03							61
Sept. 21–25	20.2				2.99	1.32	8.05	4.07	1.73	6.37	.11	.07							65
Sept. 26–30	868				1.55	.67	2.10	2.46	.73	1.07	.05	.01							49
Weighted average	123				2.25	0.90	4.13	3.18	1.29	2.71	0.07	0.03							57

[1] Discharge for 5th included in discharge reported for Mar. 6–10.

[2] Includes discharge for June 1, 12, and 13; no flow on June 2–11, 14–28.

[3] Includes discharge for July 5; no flow on July 6–12.

[4] Includes discharge for July 13–15.

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 ($K \times 10^6$ 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 $CaCO_3$
Mile 236												
1942 Oct. 27	Surface	1,200	63.0	185	132	63	202	210	607	158	1,265	588
Mile 264												
1942 Oct. 27	Surface	1,200	63.8	193	138	63	213	205	635	168	1,318	604
Mile 268.5												
1942 Oct. 27	Surface	1,200	64.4	194	139	64	211	202	642	166	1,322	610
Mile 269.5												
1942 Oct. 27	Surface	1,200	63.6	186	134	62	203	198	614	162	1,272	590
1943 Feb. 25 [1]	Surface	1,180±	53.0	142	98	45	155	219	373	140	919	430
Feb. 25 [2]	Surface	1,180±	57.0	106	88	32	95	167	299	78	674	351
Mile 270												
1942 Oct. 27	Surface	1,200	72.2	107	76	36	105	155	298	91	682	338
Mile 270.5												
1943 Aug. 25 [1]	Surface	1,200	84.6	95.9	78	28	85	136	266	71	602	310
Aug. 26 [2]	Surface	1,200	84.8	95.1	------	------	------	148	------	81	------	------
Emery Falls, mile 275.8												
1943 Aug. 26	5	1,195	83.5	88.5	65	27	86	150	231	69	552	273
	50	1,150	79.4	88.5	------	------	------	------	------	------	------	------
	100	1,100	77.5	119	------	------	------	------	------	------	------	------
	150	1,050	80.7	122	107	35	117	174	389	79	820	411
	175	1,025	81.2	124	------	------	------	------	------	------	------	------
	189	1,011	81.0	128	------	------	------	------	------	------	------	------
	191	1,009	81.0	123	------	------	------	397	------	59	------	------

See footnotes at end of table.

LAKE MEAD, ARIZ.-NEV.—Continued

Pierce Ferry Bay, mile 279

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 $CaCO_3$
1942												
Oct. 1	5	1200	------	102	74	33	105	159	285	86	661	320
Oct. 27	------	------	71.8	106	78	35	107	168	295	90	688	338
Nov. 1	5	1194	------	106	76	36	104	157	300	87	680	338
Dec. 1	5	1189	65.0	109	79	35	105	160	304	87	689	341
1943												
Jan. 1	5	1183	60.0	106	80	35	97	159	297	82	669	344
Jan. 31	5	1178	56.0	102	81	33	92	163	286	75	647	338
Feb. 28	5	1175	58.0	104	86	34	91	167	294	77	664	354
Apr. 1	5	1172	70.0	105	90	29	97	163	299	77	674	344
May 1	5	1176	------	61.6	------	------	------	144	------	------	------	------
June 1	5	1184	------	63.4	------	------	------	137	------	40	------	------
July 1	5	1194	------	46.8	------	------	------	116	102	26	------	------
Aug. 1	5	1197	84.0	72.6	------	------	------	145	------	56	------	------
Sept. 1	5	1195	------	85.4	65	26	75	130	221	65	522	269

Iceberg Canyon, mile 287.5

1943												
Aug. 26	5	1195	82.5	71.6	54	22	62	125	173	54	428	226
	50	1150	78.2	103	86	30	99	161	295	78	673	338
	100	1100	67.3	72.3	56	22	70	139	185	52	457	230
	150	1050	62.7	78.1	------	------	------	------	------	------	------	------
	200	1000	58.0	114	90	34	115	184	313	95	743	364
	250	950	56.7	117	------	------	------	------	------	------	------	------
	270	930	58.9	117	------	------	------	------	------	------	------	------
	274	926	59 5	124	106	32	132	222	356	88	831	396
	276	924	62.1	130	117	41	124	284	360	83	871	460

Virgin Canyon, mile 305.3

1943												
Aug. 25	5	1195	81.2	59.2	50	------	------	124	136	44	------	------
	50	1150	77.6	54.5	46	17	42	119	124	34	323	185
	100	1100	65.6	69.4	------	------	------	142	------	47	------	------
	150	1050	58.6	103	------	------	------	------	------	------	------	------
	200	1000	56.4	111	90	32	105	172	308	84	708	356
	250	950	55.3	114	------	------	------	------	------	------	------	------
	300	900	54.3	115	------	------	------	------	------	------	------	------
	350	850	54.3	114	------	------	------	------	------	------	------	------
	360	840	54.2	114	------	------	------	------	------	------	------	------
	365	835	54.3	115	------	------	------	------	------	------	------	------
	368	832	55.3	116	------	------	------	183	------	91	------	------
	371	829	61.4	120	------	------	------	192	------	89	------	------

Virgin River, arm of lake 22.5 miles above mouth of Virgin River

1943												
Aug. 28	5	1185	------	84.0	70	26	74	129	247	55	538	282
	50	1140	------	89.6	------	------	------	130	------	61	------	------
	100	1090	------	93.4	------	------	------	153	------	61	------	------
	139	1051	------	102	------	------	------	161	------	65	------	------
	157.5	1032	------	120	------	------	------	252	------	84	------	------

LAKE MEAD, ARIZ.-NEV.—Continued.

Virgin River Narrows, 9.3 miles above mouth of Virgin River

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 $CaCO_3$
1943												
Aug. 27	5	1195	81.6	75.2	64	23	60	125	209	45	465	254
	50	1150	79.3	75.0	------	------	------	------	------	------	------	------
	100	1100	66.6	87.8	------	------	------	147	------	54	------	------
	150	1050	58.8	101	------	------	------	160	------	70	------	------
	200	1000	55.4	107	------	------	------	------	------	------	------	------
	250	950	54.2	109	------	------	------	------	------	------	------	------
	300	900	53.6	111	------	------	------	------	------	------	------	------
	[3] 303	897	54.0	111	------	------	------	172	------	76	------	------
	[4] 303.5	896	54.0	118	------	------	------	218	------	85	------	------
Mile 324												
1943												
Aug. 28	Surface	1200	81.2	108	------	------	------	132	------	76	------	------
Boulder Canyon, mile 334.9												
1943												
Aug. 24	5	1195	82.0	75.0	54	22	55	124	171	45	409	226
	50	1150	79.6	81.6	------	------	------	------	------	------	------	------
	100	1100	65.3	88.9	------	------	------	146	------	56	------	------
	150	1050	57.4	101	94	29	83	153	301	65	652	354
	200	1000	54.5	99.4	------	------	------	------	------	------	------	------
	250	950	53.6	107	------	------	------	161	------	72	------	------
	300	900	53.4	111	------	------	------	168	------	78	------	------
	350	850	53.3	112	------	------	------	------	------	------	------	------
	400	800	53.7	113	------	------	------	------	------	------	------	------
	435	765	53.9	113	------	------	------	------	------	------	------	------
	445	755	53.9	113	------	------	------	172	------	78	------	------
	447	753	54.1	140	------	------	------	516	------	7[illegible]	------	------
Intake Towers, mile 354.7												
1942												
Oct. 1	5	1200	76.3	87.1	82	28	56	143	238	52	529	320
	50	1155	75.3	86.1	------	------	------	144	------	------	------	------
	100	1105	69.5	96.3	93	30	72	157	285	60	620	356
	150	1055	61.5	105	------	------	------	161	------	------	------	------
	200	1005	55.6	110	106	32	89	164	337	72	719	396
	250	955	53.7	110	------	------	------	170	------	------	------	------
	300	905	53.6	110	------	------	------	164	------	------	------	------
	350	855	53.5	110	------	------	------	168	------	------	------	------
	400	805	53.3	111	------	------	------	168	------	------	------	------
	450	755	53.3	111	------	------	------	178	------	------	------	------
	465	740	53.2	144	145	58	109	444	344	83	958	600
	470	735	55.5	147	------	------	------	430	------	------	------	------
	475	730	56.5	140	142	49	113	412	344	7[illegible]	928	556
Nov. 2	5	1194	69.5	88.5	86	27	60	142	260	48	554	326
	50	1149	69.5	87.8	------	------	------	148	------	------	------	------
	100	1099	69.5	87.6	------	------	------	148	------	------	------	------
	116	1083	67.5	96.3	94	28	75	156	289	58	623	350
	150	1049	61.0	101	------	------	------	156	------	------	------	------
	200	999	55.5	110	------	------	------	160	------	------	------	------
	250	949	54.8	111	------	------	------	163	------	------	------	------
	300	899	53.5	110	104	31	94	167	334	7[illegible]	722	387
	350	849	53.5	111	------	------	------	170	------	------	------	------
	400	799	53.5	111	------	------	------	171	------	------	------	------
	450	749	53.5	111	------	------	------	173	------	------	------	------
	460	739	54.8	150	153	64	112	508	347	78	1,005	645
	465	734	55.6	144	------	------	------	424	------	------	------	------

See footnotes at end of table.

LAKE MEAD, ARIZ.-NEV.—Continued

Intake Towers, mile 354.7—Continued

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 $CaCO_3$
1942												
Dec. 1	5	1189	63.0	90.1	84	25	77	153	270	52	583	312
	50	1144	63.0	89.9				150				
	100	1094	62.5	90.3				150				
	150	1044	60.6	97.3	92	28	78	153	295	57	625	344
	200	994	56.5	110				162				
	250	944	53.8	111				163				
	300	894	53.4	111	103	31	96	167	337	74	723	384
	350	844	53.3	112				167				
	400	794	53.2	111				172				
	450	744	53.5	115				201				
	455	739	54.5	151				510				
	460	734	55.4	150	152	51	129	534	313	75	983	589
	465	729	57.4	159				546				
1943												
Jan. 1	5	1183	58.0	91.8	88	27	75	150	281	55	600	330
	50	1138	58.0	91.8				148				
	100	1088	58.0	91.9				150				
	150	1038	57.5	92.2				148				
	200	988	54.8	111				163				
	250	938	53.7	110				164				
	300	888	53.5	111	102	31	94	166	335	72	716	382
	350	838	53.3	111				166				
	400	788	53.2	111				172				
	450	738	55.0	155				561				
	453	735		149	144	59	119	470	349	80	982	602
Feb. 2	5	1178	54.9	96.9	92	27	77	153	290	57	618	340
	50	1133	54.6	94.8				129				
	100	1083	54.5	96.6				162				
	150	1033	54.5	97.1				154				
	200	983	54.4	110	98	31	99	164	337	72	718	372
	250	933	53.9	111				168				
	300	883	53.9	111				166				
	350	833	53.8	111				165				
	400	783	53.7	110	102	31	97	170	337	73	724	382
	445	738	53.5	132	130	47	109	360	337	78	878	518
	449	734	55.1	144				440				
Mar. 1	5	1175	55.7	97.8	94	29	77	157	295	60	632	354
	50	1130	54.9	92 3				104		61		
	100	1080	54.1	97.7				153				
	150	1030	53.6	98.3				161				
	175	1005	53.3	102				160				
	200	980	53.9	109	102	32	90	169	331	70	708	386
	250	930	53.6	111				167				
	300	880	53.3	112				183				
	350	830	53.6	114				182				
	400	780	53.6	117				180				
	443	737	53.9	118	98	35	114	183	345	90	772	388
	445	735	55.4	155	154	57	133	538	338	82	1,029	619
Apr. 1	5	1172	59.0	98.8	98	24	82	151	300	60	640	343
	50	1127	56.6	99.0								
	100	1077	55.2	99.0								
	150	1027	54.0	107								
	200	977	53.9	113	104	29	102	166	339	78	735	378
	250	927	53.9	114								
	300	877	53.8	116								
	350	827	53.7	117								
	400	777	53.8	119								
	440	737	53.6	119	100	34	109	181	334	92	760	390
	442	735	54.5	154	154	54	130	450	379	89	1,029	606
May 3	5	1176	69.0	96.1	96	26	85	162	301	59	649	346
	50	1131	60.8	95.8				159				
	100	1081	55.5	96.4				159				
	150	1031	54.3	101				161				
	200	981	53.8	107				170				
	250	931	53.7	110	103	29	105	175	333	79	738	376
	300	881	53.6	113				180				
	400	781	53.4	114				181				
	445	736	53.4	114				184				
	449	732	54.3	114	108	35		174		70		

LAKE MEAD, ARIZ.-NEV.—Continued

Intake Towers, mile 354.7—Continued

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 $CaCO_3$
1943												
May 31	5	1184	66.6	98.9	96	26	81	150	300	61	640	346
	50	1139	66.4	99.1				151		58		
	100	1089	58.2	98.3				155		60		
	150	1039	55.5	99.1				153		61		
	200	989	54.2	104	98	27	91	156	312	69	676	356
	250	939	53.9	110				165		72		
	300	889	53.7	114				172		82		
	350	839	53.6	116				171		87		
	400	789	53.5	116				177		91		
	450	739	53.5	116	100	32	107	175	333	86	748	381
	455	734	54.0	151	156	53	121	457	366	81	1,004	608
June 30	5	1194	76.1	97.7	92	26	85	148	300	61	639	336
	50	1149	69.0	98.4								
	100	1099	64.0	98.7								
	150	1049	56.4	100								
	200	999	54.1	106	102	28	91	169	315	70	691	370
	250	949	53.9	113								
	300	899	53.9	114								
	350	849	53.9	116								
	400	799	53.9	116								
	450	749	53.6	116								
	462	737	53.9	116	103	32	105	182	334	84	750	388
	467	732	54.9	131	106	44	53	352	156	77	610	446
July 31	5	1197	83 6	96.3	83	27	91	132	306	62	635	318
	50	1152	72.8	94.9				139		59		
	100	1102	67.6	98 4				152		60		
	150	1052	57.2	99.7				155		61		
	200	1002	54.6	104	97	28	97	166	322	67	697	357
	250	952	54.3	111				168		75		
	300	902	54.2	114				172		80		
	350	852	54.2	115				174		82		
	400	802	54.1	115				176		82		
	450	752	54.1	116				178		82		
	465	737	54.0	116	100	33	115	185	346	84	774	385
	468	734	53.8	157	157	56	138	546	335	84	1,049	622
Sept. 1	5	1195	79.8	92 2	81	26	82	126	285	59	600	309
	50	1150	79.4	92 7				127		59		
	100	1100	68.1	97 5				151		60		
	150	1050	59.2	100				155		63		
	200	1000	55.2	104				159		69		
	250	950	54.3	109				166		72		
	300	900	54.3	113								
	350	850	54 2	114								
	400	800	53.9	115								
	450	750	53 9	116								
	465	735	53.9	116	99	32	110	178	340	84	755	378
	466	734	54.1	138	128	46	124	376	332	84	907	508

[1] Sample collected just above interface between clear and turbid waters.

[2] Sample collected just below interface between clear and turbid waters.

[3] Slight amount of sediment.

[4] Clear liquid decanted into the sample bottle.

MISCELLANEOUS STREAMS IN COLORADO RIVER BASIN

Chemical analyses, in parts per million

San Juan River at Pagosa Springs, Colo.

Date of collection	Discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	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		Hardness as $CaCO_3$		Percent sodium
													Parts per million	Tons per acre-foot	Total	Non-carbonate	
Nov. 5, 1942 [1]		13.2						61	19	2.0							
Nov. 5, 1942	64	22.8						73	55	4.0							
Rio Blanco near Pagosa Springs, Colo.																	
Nov. 5, 1942	22	21.0						104	21	1.0							
Navajo River at Edith, Colo.																	
Nov. 5, 1942	54	26.2						87	59	2.0							
Piedra River near Piedra, Colo.																	
Nov. 5, 1942	68	45.6						115	125	5.0							
Animas River near Cedar Hill, N. Mex.																	
Nov. 5, 1942	293	65.1			85	16	35	179	161	28			413	0.56	278		21
Paria River at Lees Ferry, Ariz.																	
Nov. 11, 1942	15	137			112	63	115	179	579	27		3.3	988	1.34	538		32

See footnotes at end of table.

MISCELLANEOUS STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	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		Hardness as $CaCO_3$		Percent sodium
													Parts per million	Tons per acre-foot	Total	Non-carbonate	
Little Colorado River near Eager, Ariz.																	
Feb. 11, 1943		24.6	28		28	11	15	162	7	4.0	0.2	0.4	174	0.24	115		22
Little Colorado River near Springerville, Ariz.																	
Feb. 10, 1943		36.7						250	7.2	5.0							
Little Colorado River above Lyman Reservoir near St. Johns, Ariz.																	
Dec. 9, 1942	4	65.9			51	29	61	371	47	18		.2	389	.53	246		35
Feb. 11, 1943	4	50.2	24		44	21	47	308	23	15	.2	.1	326	.44	196		34
Lyman Reservoir near St. Johns, Ariz.																	
Feb. 10, 1943		47.0						284		14	.4						
Little Colorado River below Lyman Reservoir near St. Johns, Ariz.																	
Dec. 9, 1942	0.1	53.0			46	20	46	273	47	17		.5	311	.42	197		34
Feb. 10, 1943	.1	53.2			48	19	52	294	44	17		.2	325	.44	198		36
Little Colorado River near St. Johns, Ariz.																	
Feb. 10, 1943 [2]		177	19		154	48	205	468	346	198	1.7	.4	1,203	1.64	582		43
Feb. 10, 1943 [3]		311	17		262	67	411	618	698	415	1.8	.3	2,177	2.96	930		49

Little Colorado River at St. Johns, Ariz.

Feb. 10, 1943		301	14		199	70	434	434	714	442	1.7	0.4	2,089	2.84	784		55

Little Colorado River above Zuni River near Hunt, Ariz.

Dec. 9, 1942	0.2	283			98	69	431	280	449	545		.5	1,730	2.35	528		64

Little Colorado River near Hunt, Ariz.

Feb. 10, 1943 [4]		284			130	38	460	264	427	580	.4	1.0	1,766	2.40	480		68
Dec. 9, 1942	.8	326			136	67	487	261	548	630		.5	1,997	2.72	615		63
Feb. 10, 1943	.3	259	11		126	37	411	258	393	522	.4	1.1	1,629	2.22	466		66

Little Colorado River near Woodruff, Ariz.

Dec. 8, 1942	4	49.5			46	23	33	218	68	22			299	.41	210		25
Feb. 9, 1943	7	51.2			46	19	46	240	59	24		.3	312	.42	193		34

Little Colorado River at Grand Falls, Ariz.

Nov. 9, 1942	4	250			56	14	462	240	185	577		.0	1,412	1.92	198		84
Feb. 6, 1943	41	189	11		46	12	352	210	160	418	.4	1.1	1,104	1.50	164		82

Spring inflow into Little Colorado River near St. Johns, Ariz.

Feb. 10, 1943 [5]		195	17		191	49	209	526	373	218	1.9	.4	1,318	1.79	678		40

Silver Creek near Woodruff, Ariz.

Dec. 8, 1942	4	49.7			42	23	32	219	59	20		.2	284	.39	200		26
Feb. 9, 1943	6	49.0	16		46	23	45	268	57	20	.1		339	.46	210		32

See footnotes at end of table.

MISCELLANEOUS STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	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		Hardness as $CaCO_3$		Percent sodium
													Parts per million	Tons per acre-foot	Total	Non-carbonate	
Puerco River near Adamana, Ariz.																	
Feb. 5, 1943	3	105	14	----	54	13	174	240	247	75	----	8.4	704	0.96	188	----	67
Chevelon Fork near Winslow, Ariz.																	
Dec. 6, 1942	4	347	----	----	69	44	594	239	165	905	----	1.5	1,896	2.58	353	----	79
Feb. 8, 1943	22	60.7	----	----	24	11	91	100	29	135	----	.2	340	.46	105	----	65
Clear Creek near Winslow, Ariz.																	
Dec. 6, 1942	----	231	----	----	54	28	397	230	49	619	----	1.0	1,261	1.71	250	----	78
Feb. 8, 1943	----	222	----	----	----	----	----	234	----	595	0.1	----	----	----	----	----	----
Zuni River at month near Hunt, Ariz.																	
Feb. 10, 1943 [6]	----	621	12	----	251	81	973	344	547	1,575	.4	2.5	3,610	4.91	960	----	69
Moenkopi Wash near Tuba, Ariz.																	
Nov. 9, 1942	2	209	----	----	110	41	317	214	757	119	----	1.0	1,450	1.97	443	----	61
Nov. 12	1	195	----	----	109	38	293	220	721	94	----	2.0	1,365	1.86	428	----	60
Verde River near Camp Verde, Ariz.																	
Nov. 30, 1942	186	64.4	----	----	50	38	41	303	85	24	----	----	387	.53	281	----	24
Feb. 7, 1943	267	55.7	22	----	47	31	37	278	62	21	1.4	----	358	.49	245	----	25

Oak Creek at Sedona, Ariz.																	
Feb. 7, 1943		22.4						146	8.2	3.0							
Oak Creek near Cornville, Ariz.																	
Nov. 30, 1942	30	36.4			42	22	8.3	240	4.5	9.0		0.2	204	0.28	195		8
Feb. 7, 1943	55	27.0	16		32	15	11	180	9	6.0		.1	179	.24	142		15
Spring flowing into Oak Creek near Cornville, Ariz.																	
Feb. 7, 1943		46.1	18		55	24	14	284	5	20		.9	277	.38	236		12
Page springs at fish hatchery near Cornville, Ariz.																	
Feb. 7, 1943		35.1	16		42	18	14	236	4	8.0		.9	219	.30	179		15
Waste from fish hatchery near Cornville, Ariz.																	
Feb. 7, 1943		36.9						246		8.0							
Williams River at Planet, Ariz.																	
Nov. 3, 1942	17	72.0			41	13	98	239	60	77		2.0	409	.56	156		58
Nov. 30	19	70.5															
Feb. 2, 1943	20	65.9			44	13	86	233	68	62		.6	388	.53	164		53
Feb. 23	16	72.5			52	25		255		71		.4			233		
Apr. 13–14	20	66.6						224									
June 15	15	64.8															
July 14	16	66.1			38	14	85	252	49	56		1.7	368	.50	152		55
Aug. 2	14	65.3															
Aug. 17	22	68.1						249		60							
Sept. 14	15	66.3						246		60							
All American Canal at reservation turnout, near Yuma, Ariz.																	
Jan. 27, 1943		98.0															

MISCELLANEOUS STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in parts per million—Continued

Date of collection	Discharge (second-feet)	Specific conductance ($K \times 10^6$ at 25° C.)	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: Parts per million	Dissolved solids: Tons per acre-foot	Hardness as $CaCO_3$: Total	Hardness as $CaCO_3$: Non-carbonate	Percent sodium
All American Canal at Station 60, near Yuma, Ariz.																	
Feb. 1, 5, 8, 1943		100	6.5		92	25	95	160	295	70	0.2	1.5	664	0.90	332		38
Mar. 1–2, 5, 8, 15, 22, 24, 28		102															
Yuma Main Canal below power plant near Yuma, Ariz.																	
Jan. 27, 1943		97.8															
Yuma Main Canal below Colorado River siphon at Yuma, Ariz.																	
Jan. 28, 1943	470	98.0															
Colorado River at gage at Yuma, Ariz.																	
Jan. 28, 1943	11,600	102															
Feb. 1–6, 8–10	9,970	102	7.5		94	25	98	164	296	76	0.2	2.0	680	.92	338		39
East Main Canal at Mexican Boundary near San Luis, Ariz.																	
Jan. 28, 1943		98.2			92	25	91	161	288	68		3.1	646	.88	332		37
Drain at boundary pumps near San Luis, Ariz.																	
Jan. 28, 1943		245			154	55	331	322	450	423		1.5	1,573	2.14	610		54

Gila River near Solomonsville, Ariz.

Date of collection	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 23, 1943	43	135			76	17	178		196	60	300							260	99	60
June 29–30	648	52.8							256		42									
July 1–4	422	62.4	42	0.22	48	11	74		182	43	90	1.4	1.5	0.2	401	0.55	457	165	16	49
July 5–9	80	101	48	.14	66	16	137		215	51	208	1.6	1.5	.6	635	.86	137	230	54	56
July 11	64	116			71	16	141		198	72	220		1.0					243	80	56
July 26–31	164	75.7	32	.10	54	11	87	4.4	204	31	122	1.0	2.0	.4	445	.61	197	180	13	52
Aug. 1–9	118	88.7	30	.08	57	13	110		212	35	156	1.2	3.2	.1	510	.69	162	196	22	55
Aug. 10	1,960	38.4			34	10	33		195	11	18		.5					126	0	36
Aug. 11–20	178	68.2	22	.10	48	12	79		192	34	102	1.2	2.5	.1	395	.54	190	170	12	50
Aug. 21–28, 30–31	238	56.9	35	.10	41	12	56	5.9	182	26	71	.8	2.0	.2	340	.46	218	152	3	46
Sept. 1, 4–10	92	91.7	42	.11	59	15	108	7.8	228	40	158	1.4	1.0	.4	545	.74	135	208	22	54
Sept. 11–20	56	107	39	.11	64	16	132	7.8	229	47	202	1.4	1.0	1.4	623	.85	94	226	38	57
Sept. 15	57	102			64	16	127		220	47	190	1.2	.5	1.0				226	45	55
Sept. 21–24	76	95.8	41	.19	54	14	115	7.8	197	46	174	1.6	.5	1.4	551	.75	113	192	31	57
Sept. 25–29	902	41.1	27	.05	34	8.6	38	5.1	146	42	33	.9	1.0	.2	262	.36	638	120	1	42

Gila River above Tidwell Canal head, near Solomonsville, Ariz.

June 23, 1943		137									300									
Sept. 15		101									188									

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

Sept. 15, 1943		105			66	17	132		232	56	192		0.5					234	44	55

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

Sept. 15, 1943		107			67	18	129		230	54	196		.5					241	52	54
Sept. 16		106			67	18	129		230	53	196		1.0					241	52	54

MISCELLANEOUS STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in parts per million—Continued

Date of collection	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 below San Simon Creek, near Solomonsville, Ariz.																				
June 23, 1943		142									255									
Sept. 16		126			83	21	158		278	82	226		5.0					294	66	54
Gila River above Graham Canal heading, at Safford, Ariz.																				
Sept. 16, 1943		124			78	20	155		268	77	222		2.0					276	57	55
Gila River at Safford, Ariz.																				
Sept. 16, 1943		122			75	20	163		273	78	222	1.6	2.0	3.0				269	46	57
Gila River at Smithville Canal heading, at Thatcher, Ariz.																				
June 23, 1943		213			64	33	414		276	185	550							295	69	75
Sept. 16		133			64	19	191		239	81	262		3.0					238	42	64
Gila River near Thatcher, Ariz.																				
June 23, 1943		226									485									
June 24		222									445									
July 5, 8, 12, 15, 19, 23, 26, 29		157			74	23	230		275	127	295		6.5					279	54	64
Aug. 2, 5, 9		162									290									
Aug. 11, 16, 19, 23, 26, 30		107			44	11	169		208	130	150		5.0					155	0	70
Sept. 2		100									162									
Sept. 6, 9, 13, 20, 23		182			71	33	270		284	151	355	1.7	5.0	5.0				312	80	65
Sept. 16		196			84	33	291		306	166	390		5.0					345	94	65
Sept. 28–30		42.0			39	11	35		147	42	36	.8	2.0	1.5				142	22	35

Gila River above Dodge-Nevada Canal heading, near Pima, Ariz.

June 24, 1943		282								545									
Sept. 16		210			72	30	342	309	188	420		5.0					303	50	71

Gila River at Pima, Ariz.

June 24, 1943		289								565									
July 5, 8, 12, 16, 19, 23, 27, 29		198			62	22	340	329	165	380		6.6					245	0	75
Aug. 2, 5, 9		178								295									
Aug. 11, 16, 19, 23		143			54	13	241	263	174	220		7.1					188	0	74
Aug. 25–26, 30		86.3								114									
Sept. 2, 6, 9, 13, 20, 23		229			47	33	410	321	205	465	2.1	8.5	4.5				253	0	78
Sept. 16		279			80	34	498	498	234	540		12					340	0	76
Sept. 17		275			98	35	474	526	231	520	1.9	11	10				388	0	73
Sept. 28–30		44.3			40	11	40	149	47	40	.8	2.1	1.0				145	23	37

Gila River above Fort Thomas consolidated canal heading, near Glenbar, Ariz.

June 24, 1943		379			96	45	686	469	401	790							424	40	78
Sept. 17		359			99	45	641	481	383	730		5.0					432	0	76

Gila River near Glenbar, Ariz.

June 24, 1943		319								660									
July 7, 9, 13, 16, 20, 23, 27, 30		275			70	28	499	382	262	555		8.3					290	0	79
Aug. 2–3, 6, 10, 13, 17, 25, 27, 31		116			41	9.2	197	210	149	168		5.0					140	0	75
Aug. 20		287								580									
Sept. 3, 7, 10, 14, 21, 24		309			58	40	577	360	323	655	1.9	4.0	4.5				309	14	80
Sept. 17		355			91	44	647	469	371	735	1.8	5.0	10				408	24	78
Sept. 28–29		41.3			38	11	36	146	51	30	.8	1.6	1.0				140	20	36

Gila River at Eden Crossing, near Eden, Ariz.

June 24, 1943		351								770									
Sept. 17		341			78	42	624	410	356	710		2.0					367	31	79

MISCELLANEOUS STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in parts per million—Continued

Date of collection	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 near Ashurst, Ariz.																				
June 24, 1943		574			174	95	1,121		302	770	1,570							824	577	75
July 7, 9, 13, 16, 20, 23, 27, 30		486			162	72	825		318	565	1,165		1.0					700	440	72
Aug. 3, 6, 10, 13, 17, 25, 27, 31		101			40	9.4	166		198	133	138							138	0	72
Aug. 20		296									600									
Sept. 3, 7, 10, 14, 21, 24		449			103	70	792		236	516	1,085	1.6	2.0	2.5				545	352	76
Sept. 17		573			196	86	990		401	672	1,390	1.9	3.0	8.0				842	514	72
Sept. 29		50.5									42									
Gila River above Colvin-Jones Canal heading, near Fort Thomas, Ariz.																				
June 24, 1943		802									2,100									
Sept. 17		731			332	119	1,137		287	825	1,910		2.0					1,318	1,083	65
Gila River at Fort Thomas, Ariz.																				
June 15, 1943		850									2,310									
June 24		862			480	148	1,276		416	970	2,290							1,806	1,466	61
July 6, 9, 13, 16, 20, 23, 27, 30		580			261	92	907		228	628	1,530		4.0					1,030	843	66
Aug. 3, 6, 11, 13, 17, 25, 28, 31		115			48	11	184		207	140	174		5.0					165	0	71
Aug. 21		471									1,135									
Sept. 1, 7, 10, 14, 21, 24		635			254	105	1,021		203	688	1,700	1.5	1.0	5.0				1,066	899	68
Sept. 17		748			374	114	1,180		338	802	2,020	1.7	2.0	5.0				1,402	1,125	65
Sept. 28–29		48.2			41	11	48		150	60	44	.8	1.9	1.5				148	24	41

Gila River near Geronimo, Ariz.

June 25, 1943		718								1,850									
July 6, 10, 13, 17, 20, 23, 28, 31		626			290	88	997	262	680	1,650		4.0					1,086	871	67
Aug. 4, 6, 10, 14, 18, 21, 25, 28		(7)								(8)									
Sept. 1		255								545									
Sept. 4, 8, 11, 15, 22, 25		653			243	98	1,083	130	727	1,770	1.3	2.0	2.5				1,010	903	70
Sept. 17		732			329	106	1,187	259	809	1,970	1.5	2.0	9.0				1,257	1,044	67
Sept. 29		55.1								41									

Gila River at Geronimo Crossing, near Geronimo, Ariz.

June 24, 1943		434			87	25	752	254	228	1,070							320	112	84
Sept. 17		516			214	72	826	224	556	1,320		2.0					830	646	68

Gila River at Black Point, Ariz.

June 24, 1943		443								1,080									
June 25		410								1,000									
July 6, 10, 13, 17, 20, 24, 28, 31		433			174	57	696	212	456	1,085		3.0					668	494	69
Aug. 3, 7, 12, 14, 18, 21, 25, 28		(9)								(10)									
Sept. 1		236								510									
Sept. 4, 8, 11, 15, 22, 25		467			158	67	772	150	495	1,210	1.4	.5	4.0				670	547	71
Sept. 17		510			217	70	815	253	551	1,290		2.0					830	622	68
Sept. 18		490			220	68	781	276	526	1,240	1.4	2.0	5.0				828	602	67
Sept. 29		50.5								40									

Gila River at Bylas, Ariz.

June 25, 1943	19	417								1,015									
June 30	59	381							232	945									
July 1–3	160	31.1	48	0.18	51	12	112	253	67	98	1.6	2.5	0.6	517	0.70	223	177	0	58
July 4–10	10	354	38	.11	165	47	499	233	254	870	1.9	2.5	2.0	2,112	2.87	57	606	414	64
July 12–15, 17–20	4.3	394	40	.13	159	52	574 | 7.2	182	348	970	1.6	2.0	1.6	2,244	3.05	26	611	462	67
July 21–26, 29–31		401	40	.11	171	50	589 | 7.2	212	354	980	1.4	1.0	1.6	2,298	3.13		632	459	67
July 27–28		232	34	.12	98	24	358	208	217	505	1.5	11	1.8	1,351	1.84		343	172	69
Aug. 1	50	404			140	54	652	99	422	1,040		2.0					572	490	71
Aug. 2–7		128	33	.05	47	11	216	219	145	208	1.7	5.8	.9	775	1.05		162	0	74
Aug. 8, 10		173	24	.05	34	13	293	213	134	333	1.3	5.4	1.9	1,093	1.49		234	20	89
Aug. 11–12		39.6			44	12	133	230	100	108		4.2					160	0	64
Aug. 14–18		173	36	.08	66	15	291	230	218	306	1.9	9.1	1.0	1,056	1.44		226	38	74
Aug. 19–20	84	302			118	35	494	255	333	675		5.3				164	438	230	71
Aug. 21–23	20	366			130	46	593	186	385	880	1.6	5.0	4.5			115	514	361	72
Aug. 24–31		112	32	.18	51	12	164 | 5.8	216	114	174	.9	4.8	2.0	665	.90		177	0	67

See footnotes at end of table.

MISCELLANEOUS STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in parts per million—Continued

Gila River at Bylas, Ariz.—Continued

Date of collection	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: 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
Sept. 1–6, 8–10, 1943	27	395	43	0.06	152	53	611	17	216	399	960	1.2	3.0	4.5	2,346	3.19	171	598	420	69
Sept. 11–18, 20	10	470	38	.03	183	63	735	16	206	496	1,180	1.6	1.0	5.0	2,820	3.84	76	716	546	69
Sept. 18	8.6	468	------	------	206	64	734		236	486	1,185	------	2.0	------	------	------	------	777	584	67
Sept. 21–25	9.6	484	38	.04	204	64	764	18	246	500	1,210	1.4	1.0	5.0	2,920	3.97	76	772	570	69
Sept. 26	------	100	------	------	40	14	148		186	94	162	------	.5	------	------	------	------	158	5	67
Sept. 27–30	------	47.5	25	.07	33	8.2	50	4.2	138	47	44	.9	1.6	.4	282	.38	------	116	3	50

Gila River at Calva, Ariz.

July 6, 10, 28, 1943	------	321	------	------	138	41	495		190	282	805	------	5.0	------	------	------	------	513	358	68
Aug. 2, 4, 7, 13, 18, 28	------	128	------	------	52	13	206		218	147	206	------	11	------	------	------	------	184	5	71
Aug. 24	------	57.1	------	------	------	------	------		------	------	58	------	------	------	------	------	------	------	------	------
Sept. 4, 8, 15, 25	------	442	------	------	156	62	721		168	430	1,150	1.6	1.5	5.0	------	------	------	644	507	71
Sept. 18	------	510	------	------	209	72	804		218	486	1,330	1.6	2.0	5.0	------	------	------	818	639	68
Sept. 29	------	45.2	------	------	------	------	------		------	------	33	------	------	------	------	------	------	------	------	------

San Francisco River at Clifton, Ariz. (Samples collected 1½ miles below gaging station)

June 15–20, 1943	24	191	42	0.09	100	16	272		199	26	505	1.0	2.5	0.4	1,063	1.45	69	316	152	65
June 21–28	22	216	44	.09	110	19	301		191	26	580	1.4	2.5	.6	1,178	1.60	70	352	196	65
June 29–30	130	83.6	------	------	59	14	94		205	13	160	------	2.0	------	------	------	------	204	36	50
July 1	288	42.5	------	------	36	11	38		189	6.6	40	------	------	------	------	------	------	135	0	38
July 2–10	41	135	51	.08	82	14	167	8.6	201	23	315	.8	2.5	.6	763	1.04	84	262	98	59
July 11–14	28	168	51	.06	94	15	223		207	22	415	.8	1.5	.4	924	1.26	70	296	126	62
July 15–20	156	72.9	45	.44	57	14	70	4.8	237	9.3	110	.6	.5	.8	428	.58	180	200	6	44
July 21–31	81	84.5	42	.11	58	13	92	8.0	197	15	164	.8	1.0	.6	491	.67	107	198	36	51
Aug. 1–10	59	97.2	44	.10	63	15	111	7.2	209	25	187	.9	4.4	.2	561	.76	89	218	47	53
Aug. 11–20	64	76.7	42	.08	52	13	84	7.2	200	17	133	.9	2.4	.2	450	.61	78	184	20	51
Aug. 21–31	112	56.7	37	.13	43	12	56		191	12	76	.6	.8	.5	332	.45	100	157	0	44
Sept 1–10	56	80.5	41	.11	53	12	98		209	16	144	.9	.8	1.0	469	.64	71	182	10	54
Sept. 11–19	30	107	44	.10	64	13	140		208	20	228	1.0	.8	1.0	613	.83	50	213	42	59

Sept. 21–23	37	109			61	13	144	195	22	236	1.0	.5	1.5				206	46	60
Sept. 24–29	258	46.2	30	.19	38	9.3	40	113	42	58	.6	1.5	.5	275	.37	192	133	40	40
Sept. 30	84	70.3								128									

Eagle Creek at Phelps-Dodge pumping plant, near Morenci, Ariz.

July 22–31, 1943		45.3	49	0.11	43	19	28	2.2	239	10	30	0.5	1.0	0.2	301	0.41	185	0	26
Aug. 1–10		40.7	47	.08	39	17	25	4.2	216	8.6	25	.4	1.0	.1	274	.37	168	0	26
Aug. 11–20		39.6	45	.12	37	16	24	4.6	213	8.8	19	.4	1.0	.1	261	.35	158	0	27
Aug. 21–31		36.5	43	.24	36	15	21	4.9	203	9.0	16	.4	1.4	.1	247	.34	152	0	26
Sept. 1–10		45.5	49	.09	42	19	30		247	8.7	25	.5	.6	.5	297	.40	183	0	27
Sept. 11–20		47.9	47	.09	43	21	31		258	8.1	28	.6	.1	.5	306	.42	194	0	26
Sept. 21–26, 28–30		41.2	45	.11	38	17	27	3.0	218	9.8	23	.5	.4	.8	271	.37	165	0	28
Sept. 28		20.2								2.0									

San Simon Creek at mouth, near Solomonsville, Ariz.

Sept. 16, 1943		121			72	16	159	239	75	222		6.0					246	50	59

Ash Creek at mouth, near Pima, Ariz.

June 24, 1943		304								585									
Sept. 16		284			85	33	516	595	221	515		32	14				348	0	76

Cottonwood Wash at Pima, Ariz.

Sept. 26, 29–30, 1943		49.0			46	12	43	185	43	41	.8	1.7	2.0				164	13	36

Matthews Wash near Glenbar, Ariz.

Aug. 7, 1943		73.2			28	11	122	239	84	66	.9	1.5	2.5				115	0	70
Sept. 26		71.8			12	9.4	138	214	68	87							68	0	81

Markham Wash at Eden, Ariz.

Sept. 26, 1943		18.0			26	14		93	14	0							122	46	

MISCELLANEOUS STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in parts per million—Continued

Date of collection	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	
Black Rock Wash at Fort Thomas, Ariz.																				
Sept. 26, 1943		51.5			28	15	66		212	33	47							132	0	52
Tidwell Canal at Solomonsville, Ariz.																				
Sept. 15, 1943		107									204									
San Jose Canal below first wasteway near Solomonsville, Ariz.																				
Sept. 15, 1943		103									190									
Graham Canal near Thatcher, Ariz.																				
July 5, 8, 10, 15, 19, 23, 26, 29		154			90	23	212	279	142	285		0.5						319	90	59
Aug. 2, 5, 9, 11, 16, 19, 23, 26, 30		126								208										
Sept. 2, 6, 13, 17, 20, 23		200			94	34	285	266	210	390	1.7	4.0	6.0					374	156	62
Sept. 16		123								222										
Sept. 27		16.8						83		4.8										
Sept. 30		50.4								63										
Smithville Canal near Thatcher, Ariz.																				
July 12, 15, 19, 23, 26, 29		121			66	13	173	270	93	190		9.2						218	0	63
Aug. 2, 5, 19, 26		109								164										
Sept. 2, 9, 23		112			62	20	147	255	70	190	1.5	4.0	3.0					236	28	58
Sept. 16		152								280										
Sept. 27		35.7								8.8										

Smithville Canal Wasteway near Thatcher, Ariz.

July 15, 22, 26, 29, 1943		107			58	15	147	251	75	165		11					206	0	61
Aug. 2, 5, 9, 11, 16, 19, 26, 30		117								180									
Sept. 2		77.7								114									
Sept. 9, 13, 20		212			66	29	352	314	186	415	1.9	7.8	7.5				284	26	73
Sept. 16		165			61	22	263	266	131	325		1.0					242	24	70

Union Canal near Thatcher, Ariz.

July 5, 8, 12, 15, 19, 23, 29		148			72	19	212	258	124	265		5.0					258	46	64
Aug. 2, 5, 9, 11, 16, 19, 23, 26, 30		125								214									
Sept. 2		76.4								119									
Sept. 6, 9, 13, 17, 23		195			58	21	337	320	178	355	2.7	11	7.5				231	0	76
Sept. 27, 30		44.6			38	11	42	165	33	42	.6	1.5	1.5				140	5	39

Union Canal Diversion along Ray Lane near Thatcher, Ariz.

July 9–10, 12, 23, 1943		173			47	14	300	237	159	325		9.8					175	0	79
Sept. 2		75.9								113									
Sept. 20		225			78	24	393	369	217	425	3.1	14	5.0				293	0	74
Sept. 30		46.8								48									

Curtis Canal near Glenbar, Ariz.

July 7–8, 13, 16, 20, 24, 27, 30		277			90	33	483	363	326	545		5.0					360	62	74
Aug. 3, 6, 10, 13, 17, 20, 24, 27, 31		93.1								110									
Sept. 3, 7		195			56	27	328	316	168	370	1.7	4.0	4.0				251	0	74
Sept. 10, 14, 21, 24		376			68	49	701	326	484	790	2.0	5.0	10				371	104	80
Sept. 17		366								725									
Sept. 27		42.6								19									

Fort Thomas Consolidated Canal near Glenbar, Ariz.

July 7, 9, 13, 16, 20, 23, 27, 30, 1943		279			84	33	259	380	290	560		5.0					345	34	40
Aug. 6, 11, 13, 17, 20, 24, 31		132								206									
Sept. 3, 7, 10, 14, 21, 24		311			36	40	590	281	346	665	2.0	4.0	10				254	24	83
Sept. 17		357								755									
Sept. 29		46.5								36									

MISCELLANEOUS STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in parts per million—Continued

Date of collection	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 at Fort Thomas, Ariz.																				
July 6, 9, 16, 21, 23, 27, 1943		236			75	24	406		309	223	480		6.0					286	32	76
Aug. 6, 10, 13, 17, 21, 27, 31		148									244									
Sept. 4, 10, 14, 21, 24		308			54	34	578		299	305	680	2.3	4.5	6.0				275	30	82
Sept. 17		384									880									
Dodge-Nevada Canal at recorder near Pima, Ariz.																				
Sept. 16, 1943		235									460									
Dodge-Nevada Canal near Glenbar, Ariz.																				
July 7, 9, 16, 20, 23, 27, 30		235			74	16	416		275	173	525		9.7					250	25	78
Aug. 11, 13, 17, 20, 27, 31		204									444									
Sept. 3, 7, 14, 24		266			66	25	476		266	209	605	2.3	9.6	7.5				268	50	79
Sept. 17		339									795									
Sept. 28		109									218									
Dodge-Nevada wasteway near Pima, Ariz.																				
Sept. 16, 1943		249									490									
Central Wash above Dodge-Nevada wasteway near Pima, Ariz.																				
June 24, 1943		310									610									
Sept. 16		310			103	44	548		590	267	590		45	18				438	0	73

Colvin-Jones Cana /near Fort Thomas, Ariz.

July 16–17, 23, 27, 1943		318			140	42	489	228	341	735		6.9					522	335	67
Aug. 10		93.1								110									

[1] Sample collected at highway bridge about 1 mile above the springs.
[2] At Cippoletti weir about ⅓ mile below Lyman Dam.
[3] Below Salado Springs.
[4] 300 yards above gaging station.
[5] About 400 yards below Lyman Dam.
[6] Ice broken to get sample.
[7] Specific conductance, K × 10⁵, ranged from 78.9 to 480.
[8] Chloride ranged from 102 to 1,170 parts per million.
[9] Specific conductance, K × 10⁵, ranged from 84.5 to 355.
[10] Chloride ranged from 106 to 815 parts per million.

MISCELLANEOUS STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in equivalents per million

Date of collection	Discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	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		Hardness as $CaCO_3$		Percent sodium
													Parts per million	Tons per acre-foot	Total	Non-carbonate	
San Juan River at Pagosa Springs, Colo.																	
Nov. 5, 1942 [1]								1.00	0.40	0.06							
Nov. 5, 1942	64							1.20	1.15	.11							
Rio Blanco near Pagosa Springs, Colo.																	
Nov. 5, 1942	22							1.70	.44	.03							
Navajo River at Edith, Colo.																	
Nov. 5, 1942	54							1.43	1.23	.06							
Piedra River near Piedra, Colo.																	
Nov. 5, 1942	68							1.88	2.60	.14							
Animas River near Cedar Hill, N. Mex.																	
Nov. 5, 1942	293				4.24	1.32	1.51	2.93	3.35	.79							21
Paria River at Lees Ferry, Ariz.																	
Nov. 11, 1942	15				5.59	5.18	5.02	2.93	12.05	.76		0.05					32

Little Colorado River near Eager, Ariz.																	
Feb. 11, 1943					1.40	0.90	0.64	2.66	0.15	0.11	0.01	0.01					22
Little Colorado River near Springerville, Ariz.																	
Feb. 10, 1943								4.10	.15	.14							
Little Colorado River above Lyman Reservoir near St. Johns, Ariz.																	
Dec. 9, 1942	4				2.55	2.38	2.64	6.08	.98	.51		.00					35
Feb. 11, 1943	4				2.20	1.73	2.03	5.05	.48	.42	.01	.00					34
Lyman Reservoir near St. Johns, Ariz.																	
Feb. 10, 1943								4.66		.39	.02						
Little Colorado River below Lyman Reservoir near St. Johns, Ariz.																	
Dec. 9, 1942	0.1				2.30	1.64	2.00	4.47	.98	.48		.01					34
Feb. 10, 1943	.1				2.40	1.56	2.26	4.82	.92	.48		.00					36
Little Colorado River near St. Johns, Ariz.																	
Feb. 10, 1943 [2]					7.69	3.95	8.91	7.67	7.20	5.58	.09	.01					43
Feb. 10, 1943 [3]					13.08	5.51	17.86	10.13	14.53	11.70	.09	.00					49
Little Colorado River at St. Johns, Ariz.																	
Feb. 10, 1943					9.93	5.76	18.86	7.11	14.87	12.47	0.09	0.01					55
Little Colorado River above Zuni River near Hunt, Ariz.																	
Dec. 9, 1942	0.2				4.89	5.67	18.76	4.59	9.35	15.37		.01					64

See footnotes at end of table.

MISCELLANEOUS STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	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: Parts per million	Dissolved solids: Tons per acre-foot	Hardness as $CaCO_3$: Total	Hardness as $CaCO_3$: Non-carbonate	Percent sodium
Little Colorado River near Hunt, Ariz.																	
Feb. 10, 1943 [4]					6.49	3.12	20.01	4.33	8.89	16.36	0.02	0.02					68
Dec. 9, 1942	0.8				6.79	5.51	21.17	4.28	11.41	17.77		.01					63
Feb. 10, 1943	.3				6.29	3.04	17.84	4.23	8.18	14.72	.02	.02					66
Little Colorado River near Woodruff, Ariz.																	
Dec. 8, 1942	4				2.30	1.89	1.42	3.57	1.42	0.62							25
Feb. 9, 1943	7				2.30	1.56	1.98	3.93	1.23	.68		.00					34
Little Colorado River at Grand Falls, Ariz.																	
Nov. 9, 1942	4				2.80	1.15	20.10	3.93	3.85	16.27		.00					84
Feb. 6, 1943	41				2.30	.99	15.31	3.44	3.33	11.79	.02	.02					82
Spring inflow into Little Colorado River near St. Johns, Ariz.																	
Feb. 10, 1943 [5]					9.53	4.03	9.09	8.62	7.77	6.15	.10	.01					40
Silver Creek near Woodruff, Ariz.																	
Dec. 8, 1942	4				2.10	1.89	1.39	3.59	1.23	.56		.00					26
Feb. 9, 1943	6				2.30	1.89	1.96	4.39	1.19	.56	.01						32
Puerco River near Adamana, Ariz.																	
Feb. 5, 1943	3				2.70	1.07	7.56	3.93	5.14	2.12		0.14					67

Chevelon Fork near Winslow, Ariz.																	
Dec. 6, 1942	4				3.44	3.62	25.84	3.92	3.44	25.52		0.02					79
Feb. 8, 1943	22				1.20	.90	3.95	1.64	.60	3.81		.00					65
Clear Creek near Winslow, Ariz.																	
Dec. 6, 1942					2.70	2.30	17.27	3.77	1.02	17.46		.02					78
Feb. 8, 1943								3.84		16.78	0.01						
Zuni River at mouth near Hunt, Ariz.																	
Feb. 10, 1943[a]					12.53	6.66	42.32	5.64	11.39	44.42	.02	.04					69
Moenkopi Wash near Tuba, Ariz.																	
Nov. 9, 1942	2				5.49	3.37	13.79	3.51	15.76	3.36		.02					61
Nov. 12	1				5.44	3.12	12.74	3.61	15.01	2.65		.03					60
Verde River near Camp Verde, Ariz.																	
Nov. 30, 1942	186				2.50	3.12	1.80	4.97	1.77	.68							24
Feb. 7, 1943	267				2.35	2.55	1.61	4.56	1.29	.59	.07						25
Oak Creek at Sedona, Ariz.																	
Feb. 7, 1943								2.39	.17	.08							
Oak Creek near Cornville, Ariz.																	
Nov. 30, 1942	30				2.10	1.81	.36	3.93	.09	.25		.00					8
Feb. 7, 1943	55				1.60	1.23	.48	2.95	.19	.17		.00					15
Spring flowing into Oak Creek near Cornville, Ariz.																	
Feb. 7, 1943					2.75	1.97	0.61	4.66	0.10	0.56		0.01					12

See footnotes at end of table.

MISCELLANEOUS STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	Discharge (second-feet)	Specific conductance ($K \times 10^5$ at 25° C.)	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		Hardness as $CaCO_3$		Percent sodium
													Parts per million	Tons per acre-foot	Total	Non-carbonate	
Page springs at fish hatchery near Cornville, Ariz.																	
Feb. 7, 1943					2.10	1.48	0.61	3.87	0.08	0.23		0.01					15
Waste from fish hatchery near Cornville, Ariz.																	
Feb. 7, 1943								4.03		.23							
Williams River at Planet, Ariz.																	
Nov. 3, 1942	17				2.05	1.07	4.25	3.92	1.25	2.17		.03					58
Nov. 30	19																
Feb. 2, 1943	20				2.20	1.07	3.73	3.82	1.42	1.75		.01					53
Feb. 23	16				2.60	2.06		4.18		2.00		.01					
Apr. 13–14	20							3.67									
June 15	15																
July 14	16				1.90	1.15	3.71	4.13	1.02	1.58		.03					55
Aug. 2	14																
Aug. 17	22							4.08		1.69							
Sept. 14	15							4.03		1.69							
All American Canal at reservation turnout, near Yuma, Ariz.																	
Jan. 27, 1943																	
All American Canal at Station 60, near Yuma, Ariz.																	
Feb. 1, 5, 8, 1943					4.59	2.06	4.11	2.62	6.14	1.97	0.01	.02					38
Mar. 1–2, 5, 8, 15, 22, 24, 28										0.01							

Yuma Main Canal below power plant near Yuma, Ariz.

Jan. 27, 1943																	

Yuma Main Canal below Colorado River siphon at Yuma, Ariz.

Jan. 28, 1943	470																

Colorado River at gage at Yuma, Ariz.

Jan. 28, 1943	11,600																
Feb. 1–6, 8–10	9,970				4.69	2.06	4.28	2.69	6.16	2.14	0.01	0.03				*	39

East Main Canal at Mexican Boundary near San Luis, Ariz.

Jan. 28, 1943					4.59	2.06	3.96	2.64	6.00	1.92		.05					37

Drain at boundary pumps near San Luis, Ariz.

Jan. 28, 1943					7.69	4.52	14.39	5.28	9.37	11.93		.02					54

MISCELLANEOUS STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	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 near Solomonsville, Ariz.																				
June 23, 1943	43				3.79	1.40	7.74		3.21	1.25	8.46									60
June 29–30	648								4.20		1.18									
July 1–4	422				2.40	.90	3.21		2.98	.90	2.54	0 07	0.02							49
July 5–9	80				3.29	1.32	5.96		3.52	1.06	5.87	.08	.02							56
July 11	64				3.54	1.32	6.11		3.25	1.50	6.20		.02							56
July 26–31	164				2.70	.90	3.78	0.11	3.34	.65	3.44	.05	.03							52
Aug. 1–9	118				2.85	1.07	4.79		3.47	.73	4.40	.06	.05							55
Aug. 10	1,960				1.70	.82	1.43		3.20	.23	.51		.01							36
Aug. 11–20	178				2.40	.99	3.45		3.15	.71	2.88	.06	.04							50
Aug. 21–28, 30–31	238				2.05	.99	2.44	.15	2.98	.54	2.00	.04	.03							46
Sept. 1, 4–10	92				2.94	1.23	4.70	.20	3.74	.83	4.46	.07	.02							54
Sept. 11–20	56				3.19	1.32	5.74	.20	3.75	.98	5.70	.07	.02							57
Sept. 15	57				3.19	1.32	5.52		3.61	.98	5.36	.06	.01							55
Sept. 21–24	76				2.70	1.15	5.00	.20	3.23	.96	4.91	.08	.01							57
Sept. 25–29	902				1.70	.71	1.65	.13	2.39	.87	.93	.05	.02							42
Gila River above Tidwell Canal head, near Solomonsville, Ariz.																				
June 23, 1943											8.46									
Sept. 15											5.30									
Gila River above San Jose Wash, near Solomonsville, Ariz.																				
Sept. 15, 1943					3.29	1.40	5.72		3.80	1.17	5.42		.01							55
Gila River above Union Canal heading, near Solomonsville, Ariz.																				
Sept. 15, 1943					3.34	1.48	5.63		3.77	1.12	5.53		.01							54
Sept. 16					3.34	1.48	5.62		3.77	1.10	5.53		.02							54

Gila River below San Simon Creek, near Solomonsville, Ariz.

June 23, 1943										7.19									
Sept. 16					4.14	1.73	6.86	4.56	1.71	6.37		0.08							54

Gila River above Graham Canal heading, at Safford, Ariz.

Sept. 16, 1943					3.89	1.64	6.76	4.39	1.60	6.26		.03							55

Gila River at Safford, Ariz.

Sept. 16, 1943					3.74	1.64	7.10	4.47	1.62	6.26	.08	.03							57

Gila River at Smithville Canal heading, at Thatcher, Ariz.

June 23, 1943					3.19	2.71	17.99	4.52	3.85	15.51									75
Sept. 16					3.19	1.56	8.30	3.92	1.69	7.39		.05							64

Gila River near Thatcher, Ariz.

June 23, 1943										13.68									
June 24										12.55									
July 5, 8, 12, 15, 19, 23					3.69	1.89	10.00	4.51	2.64	8.32		.10							64
Aug. 2, 5, 9										8.18									
Aug. 11, 16, 19, 23, 26, 30					2.20	.90	7.33	3.41	2.71	4.23		.08							70
Sept. 2										4.57									
Sept. 6, 9, 13, 20, 23					3.54	2.71	11.73	4.66	3.14	10.01	.09	.08							65
Sept. 16					4.19	2.71	12.65	5.02	3.46	11.00		.08							65
Sept. 28–30					1.95	.90	1.52	2.41	.87	1.02	.04	.03							35

Gila River above Dodge-Nevada Canal heading, near Pima, Ariz.

June 24, 1943										15.37									
Sept. 16					3.59	2.47	14.85	5.06	3.91	11.85		.08							71

MISCELLANEOUS STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	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 Pima, Ariz.																				
June 24, 1943											15.93									
July 5, 8, 12, 16, 19, 23, 27, 29					3.09	1.81	14.78		5.39	3.44	10.72		0.11							75
Aug. 2, 5, 9											8.32									
Aug. 11, 16, 19, 23					2.70	1.07	10.47		4.31	3.62	6.20		.11							74
Aug. 25–26, 30											3 22									
Sept. 2, 6, 9, 13, 20, 23					2.35	2.71	17.84		5.26	4.27	13.11	0.11	.14							78
Sept. 16					3.99	2.80	21.66		8.16	4.87	15.23		.19							76
Sept. 17					4.89	2.88	20.61		8.62	4.81	14.67	.10	.18							73
Sept. 28–30					2.00	.90	1.72		2.44	.98	1.13	.04	.03							37
Gila River above Fort Thomas consolidated canal heading, near Glenbar, Ariz.																				
June 24, 1943					4.79	3.70	29.83		7.69	8.35	22.28									78
Sept. 17					4.94	3.70	27.88		7.88	7.97	20.59		.08							76
Gila River near Glenbar, Ariz.																				
June 24, 1943											18.61									
July 7, 9, 13, 16, 20, 23, 27, 30					3.49	2.30	21.71		6.26	5.45	15.65		.13							79
Aug. 2–3, 6, 10, 13, 17, 25, 27, 31					2.05	.76	8.55		3.44	3.10	4.74		.08							75
Aug. 20											16.36									
Sept. 3, 7, 10, 14, 21, 24					2.89	3.29	25.07		5.90	6.72	18.47	.10	.06							80
Sept. 17					4.54	3.62	28.15		7.69	7.72	20.73	.09	.08							78
Sept. 28–29					1.90	.90	1.57		2.39	1.06	.85	.04	.03							36
Gila River at Eden Crossing, near Eden, Ariz.																				
June 24, 1943											21.72									
Sept. 17					3.89	3.45	27.14		6.72	7.41	20.31		.03							79

Gila River near Ashurst, Ariz.

June 24, 1943					8.68	7.81	48.75	4.95	16.03	44.28									75
July 7, 9, 13, 16, 20, 23, 27, 30					8.09	5.92	35.85	5.21	11.76	32.86		0.02							72
Aug. 3, 6, 10, 13, 17, 25, 27, 31					2.00	.77	7.21	3.25	2.77	3.89		.07							72
Aug. 20										16.92									
Sept. 3, 7, 10, 14, 21, 24					5.14	5.76	34.42	3.87	10.74	30.60	0.08	.03							76
Sept. 17					9.78	7.07	43.06	6.57	13.99	39.20	.10	.05							72
Sept. 29										1.18									

Gila River above Colvin-Jones Canal heading, near Fort Thomas, Ariz.

June 24, 1943										59.23									
Sept. 17					16.57	9.79	49.42	4.70	17.18	53.87		.03							65

Gila River at Fort Thomas, Ariz.

June 15, 1943										65.15									
June 24					23.96	12.17	55.47	6.82	20.20	64.58									61
July 6, 9, 13, 16, 20, 23, 27, 30					13.03	7.57	39.42	3.74	13.07	43.15		.06							66
Aug. 3, 6, 11, 13, 17, 25, 28, 31					2.40	.90	7.99	3.39	2.91	4.91		.08							71
Aug. 21										32.01									
Sept. 1, 7, 10, 14, 21, 24					12.68	8.63	44.39	3.33	14.32	47.95	.08	.01							68
Sept. 17					18.67	9.37	51.29	5.54	16.70	56.97	.09	.03							65
Sept. 28–29					2.05	.90	2.07	2.46	1.25	1.24	.04	.03							41

Gila River near Geronimo, Ariz.

June 25, 1943										52.18									
July 6, 10, 13, 17, 20, 23, 28, 31					14.47	7.24	43.34	4.29	14.16	46.54		0.06							67
Aug. 4, 6, 10, 14, 18, 21, 25, 28																			
Sept. 1										15.37									
Sept. 4, 8, 11, 15, 22, 25					12.13	8.06	47.10	2.13	15.14	49.92	.07	.03							70
Sept. 17					16.42	8.72	51.62	4.25	16.84	55.56	.08	.03							67
Sept. 29										1.16									

Gila River at Geronimo Crossing, near Geronimo, Ariz.

June 24, 1943					4.34	2.06	32.71	4.16	4.75	30.18									84
Sept. 17					10.68	5.92	35.91	3.67	11.58	37.23		.03							68

MISCELLANEOUS STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	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.																				
June 24, 1943											30.46									
June 25											28.20									
July 6, 10, 13, 17, 20, 24, 28, 31					8.68	4.69	30.25		3.48	9.49	30.60		0.05							69
Aug. 3, 7, 12, 14, 18, 21, 25, 28																				
Sept. 1											14.38									
Sept. 4, 8, 11, 15, 22, 25					7.89	5.51	33.58		2.46	10.31	34.13	0.07	.01							71
Sept. 17					10.83	5.76	35.44		4.15	11.47	36.38		.03							68
Sept. 18					10.98	5.59	33.97		4.52	10.95	34.97	.07	.03							67
Sept. 29											1.13									
Gila River at Bylas, Ariz.																				
June 25, 1943	19										28.63									
June 30	59								3.80		26.65									
July 1–3	160				2.55	.99	4.88		4.15	1.39	2.76	.08	.04							58
July 4–10	10				8.24	3.87	21.69		3.82	5.29	24.54	.10	.04							64
July 12–15, 17–20	4.3				7.94	4.28	24.96	0.18	2.98	7.25	27.36	.08	.03							67
July 21–26, 29–31					8.54	4.11	25.61	.18	3.47	7.37	27.64	.07	.02							67
July 27–28					4.89	1.97	15.58		3.41	4.52	14.24	.08	.18							69
Aug. 1	50				6.99	4.44	28.36		1.62	8.79	29.33		.03							71
Aug. 2–7					2.35	.90	9.41		3.59	3.02	5.87	.09	.09							74
Aug. 8, 10					4.19	1.48	12.72		4.07	3.83	10 32	.08	.09							69
Aug. 11–12					2.20	.99	5.78		3.77	2.08	3.05		.07							64
Aug. 14–18					3.29	1.23	12.67		3.77	4.54	8.63	.10	.15							74
Aug. 19–20	34				5.89	2.88	21.49		4.18	6.93	19.04		.09							71
Aug. 21–23	20				6.49	3.78	25.78		3.05	8.02	24.82	.08	.08							72
Aug. 24–31					2.55	.99	7.13	.15	3.54	2.37	4.91	.05	.08							67
Sept. 1–6, 8–10	27				7.59	4.36	26.57	.43	3.54	8.31	27.08	.06	.05							69
Sept. 11–18, 20	10				9.13	5.18	31.96	.41	3.38	10 33	33.28	.08	.02							69
Sept. 18	8.6				10.28	5.26	31.91		3.87	10.12	33.42		.03							67
Sept 21–25	9.6				10.18	5.26	33.22	.46	4.03	10.41	34.13	.07	.02							69
Sept. 26					2.00	1.15	6.44		3.05	1.96	4.57		.01							67
Sept. 27–30					1.65	.67	2.17	.11	2.26	.98	1.24	.05	.03							50

Gila River at Calva, Ariz.

July 6, 10, 28, 1943					6.89	3.37	21.51		3.11	5.87	22.70		0.08						68
Aug. 2, 4, 7, 13, 18, 28					2.60	1.07	8.96		3.57	3.06	5.81		.18						71
Aug. 24											1.64								
Sept. 4, 8, 15, 25					7.79	5.10	31.34		2.75	8.95	32.43	0.08	.02						71
Sept. 18					10.43	5.92	34.96		3.57	10.12	37.51	.08	.03						68
Sept. 29											.93								

San Francisco River at Clifton, Ariz. (Samples collected 1½ miles below gaging station)

June 15–20, 1943	24				4.99	1.32	11.83		3.26	.54	14.24	.05	.04						65
June 21–28	22				5.49	1.56	13.10		3.13	.54	16.36	.07	.04						65
June 29–30	130				2.94	1.15	4.08		3.36	.27	4.51		.03						50
July 1	288				1.80	.90	1.67		3.10	.14	1.13								38
July 2–10	41				4.09	1.15	7.26	0.22	3.29	.48	8.88	.04	.04						59
July 11–14	28				4.69	1.23	9.71		3.39	.46	11.70	.04	.02						62
July 15–20	156				2.85	1.15	3.04	.12	3.88	.19	3.10	.03	.01						44
July 21–31	81				2.89	1.07	4.00	.20	3.23	.31	4.63	.04	.02						51
Aug. 1–10	59				3.14	1.23	4.83	.18	3.43	.52	5.27	.05	.07						53
Aug. 11–20	64				2.60	1.07	3.65	.18	3.28	.35	3.76	.05	.04						51
Aug. 21–31	112				2.15	.99	2.42		3.13	.25	2.14	.03	.01						44
Sept. 1–10	56				2.65	.99	4.24		3.43	.33	4.06	.05	.01						54
Sept. 11–19	30				3.19	1.07	6.07		3.41	.42	6.43	.05	.01						59
Sept. 21–23	37				3.04	1.07	6.26		3.20	.46	6.66	.05	.01						60
Sept. 24–29	258				1.90	.76	1.75		1.85	.87	1.64	.03	.02						40
Sept. 30	84										3.61								

Eagle Creek at Phelps-Dodge pumping plant, near Morenci, Ariz.

July 22–31, 1943					2.15	1.56	1.22	.06	3.92	0.21	0.85	.03	.02						26
Aug. 1–10					1.95	1.40	1.09	.11	3.54	.18	.71	.02	.02						26
Aug. 11–20					1.85	1.32	1.04	.12	3.49	18	.54	.02	.02						27
Aug. 21–31					1.80	1.23	.91	.13	3.33	.19	.45	.02	.02						26
Sept. 1–10					2.10	1.56	1.32		4.05	.18	.71	.03	.01						27
Sept. 11–20					2.15	1.73	1.36		4.23	.17	.79	.03	.00						26
Sept. 21–26, 28–30					1.90	1.40	1.17	.08	3.57	.20	.65	.03	.01						28
Sept. 23											.35								

San Simon Creek at mouth, near Solomonsville, Ariz.

Sept. 16, 1943					3.59	1.32	6.93		3.92	1.56	6.26		.10						59

MISCELLANEOUS STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	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	
Ash Creek at mouth, near Pima, Ariz.																				
June 24, 1943					4.24	2.71	22.44		9.75	4.60	16.50		0.52							
Sept. 16											14.52									76
Cottonwood Wash at Pima, Ariz.																				
Sept. 26, 29-30, 1943					2.30	.99	1.87		3.03	0.90	1.16	0.04	.03							36
Matthews Wash near Glenbar, Ariz.																				
Aug. 7, 1943					1.40	.90	5.30		3.92	1.75	1.86	.05	.02							70
Sept. 26					.60	.77	6.01		3.51	1.42	2.45									81
Markham Wash at Eden, Ariz.																				
Sept. 26, 1943					1.30	1.15			1.52	0.29	0.00									
Black Rock Wash at Fort Thomas, Ariz.																				
Sept. 26, 1943					1.40	1.23	2.86		3.47	.69	1.33									52
Tidwell Canal at Solomonsville, Ariz.																				
Sept. 15, 1943											5.75									

San Jose Canal below first wasteway near Solomonsville, Ariz.

Sept. 15, 1943										5.36									

Graham Canal near Thatcher, Ariz.

July 5, 8, 10, 15, 19, 23, 26, 29					4.49	1.89	9.21	4.57	2.96	8.04		0.01							59
Aug. 2, 5, 9, 11, 16, 19, 23, 26, 30										5.87									
Sept. 2, 6, 13, 17, 20, 23					4.69	2.80	12.39	4.36	4.37	11.00	0.09	.06							62
Sept. 16										6.26									
Sept. 27								1.36		.14									
Sept. 30										1.78									

Smithville Canal near Thatcher, Ariz.

July 12, 15, 19, 23, 26, 29					3.29	1.07	7.52	4.43	1.94	5.36		.15							63
Aug. 2, 5, 19, 26										4.63									
Sept. 2, 9, 23					3.09	1.64	6.41	4.18	1.46	5.36	.08	.06							58
Sept. 16										7.90									
Sept. 27										.25									

Smithville Canal Wasteway near Thatcher, Ariz.

July 15, 22, 26, 29, 1943					2.89	1.23	6.39	4.11	1.56	4.65		0.18							61
Aug. 2, 5, 9, 11, 16, 19, 26, 30										5.08									
Sept. 2										3.22									
Sept. 9, 13, 20					3.29	2.38	15.29	5.15	3.87	11.70	.10	.13							73
Sept. 16					3.04	1.81	11.43	4.36	2.73	9.17		.02							70

Union Canal near Thatcher, Ariz.

July 5, 8, 12, 15, 19, 23, 29					3.59	1.56	9.22	4.23	2.58	7.47		.08							64
Aug. 2, 5, 9, 11, 16, 19, 23, 26, 30										6.04									
Sept. 2										3.36									
Sept. 6, 9, 13, 17, 23					2.89	1.73	14.66	5.25	3.71	10.01	.14	.18							76
Sept. 27, 30					1.90	.90	1.82	2.70	.69	1.18	.03	.02							39

MISCELLANEOUS STREAMS IN COLORADO RIVER BASIN—Continued

Chemical analyses, in equivalents per million—Continued

Date of collection	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	
Union Canal Diversion along Ray Lane near Thatcher, Ariz.																				
July 9–10, 12, 23, 1943					2.35	1.15	13.03		3.88	3.31	9.17		.16							79
Sept. 2											3.19									
Sept. 20					3.89	1.97	17.10		6.05	4.52	11.99	.16	.23							74
Sept. 30											1.35									
Curtis Canal near Glenbar, Ariz.																				
July 7–8, 13, 16, 20, 24, 27, 30					4.49	2.71	21.00		5.95	6.79	15.37		.08							74
Aug. 3, 6, 10, 13, 17, 20, 24, 27, 31											3.10									
Sept. 3, 7					2.80	2.22	14.26		5.18	3.50	10.44	.09	.06							74
Sept. 10, 14, 21, 24					3.39	4.03	30.48		5.34	10.08	22.28	.11	.08							80
Sept. 17											20.45									
Sept. 27											.54									
Fort Thomas Consolidated Canal near Glenbar, Ariz.																				
July 7, 9, 13, 16, 20, 23, 27, 30, 1943					4.19	2.71	11.25		6.23	6.04	15.79		0.08							40
Aug. 6, 11, 13, 17, 20, 24, 31											5.81									
Sept. 3, 7, 10, 14, 21, 24					1.80	3.29	25.65		4.61	7.20	18.76	0.11	.06							83
Sept. 17											21.29									
Sept. 29											1.02									
Fort Thomas Consolidated Canal at Fort Thomas, Ariz.																				
July 6, 9, 16, 21, 23, 27, 1943					3.74	1.97	17.65		5.06	4.64	13.54		.10							76
Aug. 6, 10, 13, 17, 21, 27, 31											6.88									
Sept. 4, 10, 14, 21, 24					2.70	2.80	25.12		4.90	6.35	19.18	.12	.07							82
Sept. 17											24.82									

Dodge-Nevada Canal at recorder near Pima, Ariz.

Sept. 16, 1943										12.97									

Dodge-Nevada Canal near Glenbar, Ariz.

July 7, 9, 16, 20, 23, 27, 30					3.69	1.32	18.08	4.51	3.60	14.81		0.16							78
Aug. 11, 13, 17, 20, 27, 31										12.52									
Sept. 3, 7, 14, 24					3.29	2.06	20.70	4.36	4.35	17.06	0.12	.15							79
Sept. 17										22.42									
Sept. 28										6.15									

Dodge-Nevada wasteway near Pima, Ariz.

Sept. 16, 1943										13.82									

Central Wash above Dodge-Nevada Wasteway near Pima, Ariz.

June 24, 1943										17.20									
Sept. 16					5.14	3.62	23.83	9.67	5.56	16.64		.73							73

Colvin-Jones Canal near Fort Thomas, Ariz.

July 16–17, 23, 27, 1943					6.99	3.45	21.25	3.74	7.10	20.73		.11							67
Aug. 10										3.10									

[1] Sample collected at highway bridge about a mile above the springs.
[2] At Cippoletti weir about ½ mile below Lyman Dam.
[3] Below Salado Springs.
[4] 300 yards above gaging station.
[5] About 400 yards below Lyman Dam.
[6] Ice broken to get sample

SUMMARY OF ANALYSES OF STREAMS IN COLORADO RIVER, PECOS RIVER, AND RIO GRANDE BASINS, 1925 TO 1943

The Geological Survey has made regular series of chemical analyses of water samples collected from different parts of the Colorado River Basin continuously from 1925 to 1943. Some stations were operated for only a few years; others were operated for almost the entire period. In the Pecos River Basin comprehensive series of analyses were made for several streams from 1937 to 1943, and in the Rio Grande Basin for one or two stations from 1937 to 1943.

In order that the most commonly needed information obtained from these analyses may be made readily available, several tables of analyses are given in summarized form on the following pages. They include tables of weighted-average analyses and tables that give the maximum and minimum of dissolved solids and total hardness for annual periods.

In addition to the summarized analytical data are tables of references to published records of regular series of analyses collected by the Geological Survey for streams in the three basins. Included also is a table of references to suspended-sediment records obtained for streams in the Colorado River Basin from 1925 to 1943.

COLORADO RIVER BASIN

Weighted-average analyses, water years 1926 to 1943

[Parts per million]

Colorado River near Glenwood Springs, Colo.

Year ended September 30	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	
1942	2,688	38.8	11	0.09	39	8.1	28	2.0	98	56	38	0.3	0.6	0.1	232	0.32	1,690	131	50	31
1943	2,455	41.5	11	.06	40	9.0	33	2.2	99	63	43	.2	.7	.2	251	.34	1,660	137	56	34
Colorado River near Cameo, Colo.																				
1934	2,568		12	0.11	61	16	98	3.6	138	120	134		1.1		513	0.70	3,560	218	105	49
1935	3,952		12	.11	48	11	55	3.0	122	78	74	0.2	.8	0.1	343	.47	3,660	165	65	41
1936	5,010														324	.44	4,380			
1937	3,505														443	.60	4,190			
1938	5,610														354	.48	5,360			
1939	3,736														412	.56	4,160			
1940	2,753														469	.64	3,490			
1941	4,089														398	.54	4,390			
1942	4,986														391	.53	5,260			
1943	3,985														391	.53	4,210			
Colorado River near Cisco, Utah																				
1929	11,800		16	0.25	66	25	62	5.3	142	216	39		4.6		503	0.68	16,300	268	151	33
1930	8,420		14	.14	73	28	80	4.4	156	254	55		6.1		593	.81	13,500	297	169	36
1931	3,960		13	.07	102	43	147	4.4	182	426	107		18		950	1.29	10,100	432	282	42
1932	9,210		13	.09	69	25	72	3.5	152	228	48		6.0		540	.73	13,400	275	150	36
1933	8,400		12	.11	75	29	86	3.8	144	273	59		6.6		616	.84	10,600	306	188	38
1934	3,066		14	.07	105	48	154	5.4	172	474	109		11		1,010	1.37	8,310	460	318	42
1935	6,466		14	.10	75	28	81	3.8	148	256	60	0.2	5.5	0.2	596	.81	10,400	302	180	36
1936	7,942														568	.77	12,200			
1937	6,383														690	.94	11,900			
1938	10,250														546	.74	15,100			

Weighted-average analyses, water years 1926 to 1943—Continued

[Parts per million]

Colorado River Near Cisco, Utah—Continued

Year ended September 30	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	
1939	5,873														734	1.00	11,600			
1940	4,771														836	1.14	10,800			
1941	9,084														610	.83	15,000			
1942	10,640														551	.75	15,800			
Colorado River at Lees Ferry, Ariz.																				
1929	26,500		17	0.36	72	23	62	6.5	160	222	35		2 2		518	0.70	37,000	274	143	32
1930	18,000		15	.17	76	25	74	4.3	167	247	44		2.5		571	.78	27,800	292	156	35
1943 [1]	15,530	77.7	17	.06	64	25	71		150	217	46	0.3	4.4	0.4	518	.70	21,700	262	140	37
Colorado River at Bright Angel Creek, near Grand Canyon, Ariz.																				
1926	19,900		19	0.31	66	21	75	5.7	159	201	56		1.6		523	0.71	28,100	251	121	39
1927	23,800		17	.24	77	22	77	5.5	162	235	53		2.4		569	.77	36,600	283	150	37
1928	21,500		17	.15	66	22	65	4.3	162	187	48		2.4		491	.67	28,500	255	122	35
1929	26,800		18	.23	74	23	73	6.2	164	229	48		2.5		555	.75	40,100	279	144	36
1930	18,500		16	.11	81	26	85	5.0	184	252	62		3.4		622	.85	31,100	309	158	37
1931	9,280		13	.08	93	34	131	4.7	201	325	107		7.5		813	1.11	20,400	372	208	43
1932	22,000		13	.13	73	21	74	4.1	176	202	54		3.3		531	.72	31,500	268	124	37
1933	13,800		13	.10	82	26	93	4.9	181	249	74		4.0		635	.86	23,660	312	163	39
1934	6,431		15	.12	105	39	159	6.1	206	392	136		5.1		960	1.31	16,700	422	254	45
1935	14,110		14	.07	74	22	81	3.9	177	204	69	0.3	3.5	0.3	559	.76	21,360	275	130	39
1936	16,970		16	.18	83	23	79	6.0	186	228	61	.3	2.4	.3	591	.80	27,100	302	149	36
1937	17,140		12	.17	83	25	85	6.1	193	238	64		1.9		610	.83	28,190	310	152	37
1938	21,500		14	.06	76	22	73	4.6	189	199	53		1.9		538	.73	31,300	280	125	36
1939	13,290		17	.13	85	28	96	5.3	198	254	77	.4	2.7	.6	662	.90	23,700	327	164	38
1940	10,240	113	15	.02	92	31	115	4.6	200	296	95	.4	2.5	.4	750	1.02	20,740	357	193	41
1941	23,400	85.6	15	.09	79	22	76	5.1	193	214	53	.3	1.6	.3	561	.76	35,400	288	130	36
1942	23,840	79.9	13	.07	69	23	69	5.3	160	212	50	.4	2.2	.3	523	.71	33,700	266	136	35

Colorado River below Boulder Dam, Ariz.-Nev.

1940	10,600	114	13	0.06	110	28	98	5.2	159	348	77	0.3	3.0	0.4	761	1.03	21,780	390	259	35
1941	16,200	114	11	.05	110	28	98	6.4	153	355	79	.3	3.0	.3	766	1.04	33,500	390	264	35
1942	24,960	108	12	.05	103	27	98		156	329	72	.4	2.6	.5	719	.98	48,500	367	239	37
1943	17,260	101	13	.04	95	26	90		158	303	64	.3	3.2	.6	673	.92	31,400	344	214	36

Colorado River near Willow Beach, Ariz.

1935	7,674		13	0.06	82	29	108	5.8	169	268	101		3.3	0.4	693	0.94	14,300	324	185	41
1936	8,653		13	.09	78	24	85	5.7	152	242	72	0.3	2.7	.3	596	.81	13,900	293	168	38
1937	8,048		9.7	.08	102	25	93	5.4	157	314	74		3.1		703	.96	15,300	358	229	36
1938	8,519		11	.04	103	25	90	5.7	153	314	69		2.8		696	.95	16,000	360	234	35
1939	11,700		13	.05	102	26	93	6.1	158	321	72	.3	3.2	.5	712	.97	22,500	362	232	35

Colorado River near Topock, Ariz.

1926	19,700		16	0.25	72	22	81		165	214	59		1.7		546	0.74	29,400	270	135	39
1927	23,500		19	.24	83	23	82	5.9	172	249	58		2.3		608	.83	38,600	302	160	37
1934	6,727		15	.08	110	40	155	6.7	204	402	137	0.3	5.4		972	1.32	17,700	439	272	43

Colorado River at Yuma, Ariz.

1927	22,100		19	0.21	79	24	89	5.4	169	238	73		1.7		612	0.83	36,900	296	157	39
1928	19,100		14	.24	68	22	72	4.0	163	195	55		2.3		513	.70	26,100	260	127	37
1943 [2]	9,265	105	14	.04	96	26	96		158	312	72	0.3	1.8	0.6	696	.95	17,400	346	217	38

Gunnison River near Grand Junction, Colo.

1932	No discharge records available																			
1933	do.																			
1934	do.																			
1935	1,916		17	0.04	90	32	67	3.9	154	341	11	0.3	6.0	0.2	644	0.88	3,330	356	230	29
1936	2,415														627	.85	4,090			
1937	2,066														716	.97	3,990			
1938	3,389														600	.82	5,490			
1939	1,938														787	1.07	4,120			
1940	1,450														1,010	1.37	3,950			
1941	3,170														618	.84	5,290			
1942	4,000														566	.77	6,110			
1943	2,432														675	.92	4,430			

See footnotes at end of table.

Weighted-average analyses, water years 1926 to 1943—Continued

[Parts per million]

Green River at Green River, Utah

Year ended September 30	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
1929	8,930		16	0.24	55	21	49	4.8	169	154	22		1.4		406	0.55	9,740	224	86	32
1930	6,290		14	.13	59	23	56	3.8	179	177	26		1.2		448	.61	7,630	242	95	33
1931	3,300		11	.09	62	25	70	3.0	185	199	35		2.6		499	.68	4,440	258	106	37
1932	6,640		11	.11	55	19	47	3.3	177	134	21		1.9		378	.51	6,910	216	70	32
1933	4,870		12	.10	55	21	54	2.7	172	156	25		1.5		412	.56	5,420	224	83	34
1934	1,805		12	.08	63	29	86	4.9	193	234	44		1.1		568	.77	2,790	276	118	40
1935	3,936		13	.06	54	19	45	3.6	169	129	24	0.3	1.0	0.3	371	.50	3,950	213	74	31
1936	5,713														416	.57	6,420			
1937	5,709														517	.70	7,970			
1938	6,557														467	.64	8,270			
1939	4,724														505	.69	6,440			
1940	3,273														508	.69	4,490			
1941	5,860														505	.69	7,990			
1942	6,893														480	.65	8,930			
1943	5,900														442	.60	7,040			

San Juan River at Ship Rock, N. Mex.

1942	3,855	44.0	14		53	11	25	2.5	136	105	6.8	0.3	1.2		281	0.38	2,920	178	66	23
1943	1,823	49.0	12	0.04	53	12	38		118	142	11	.3	2.4	0.2	329	.45	1,620	182	86	31

San Juan River near Bluff, Utah

1930	2,390		15	0.10	75	17	50	3.5	159	214	11		1.7		466	0.63	2,990	257	126	29
1931	1,230		13	.09	85	20	68	3.4	163	274	15		4.8		563	.77	1,870	294	160	33
1932	4,060		13	.12	64	13	41	3.4	144	167	8.6		2.1		383	.52	4,180	213	95	29
1933	1,710		13	.11	77	18	58	3.9	147	240	13		2.3		498	.68	2,310	266	146	32
1934	914		15	.14	96	22	81	4.5	167	332	18		2.9		655	.89	1,620	330	193	34
1935	3,016		15	.05	60	11	38	3.4	140	145	8.4	0.4	1.9	0.1	353	.48	2,870	194	80	29
1936	2,246		16	.15	74	16	46	5.1	161	196	10	.3	1.9	.2	445	.61	2,700	250	118	28

1937	3,227	-------	18	.12	69	15	44	4.1	160	181	9.3	------	1.9	------	422	.57	3,670	234	102	29
1938	3,407	-------	15	.05	65	14	43	3.8	149	170	8.5	------	1.4	------	393	.53	3,620	220	98	29
1939	1,712	-------	16	.05	73	16	46	4.7	161	195	12	.3	2.2	.4	446	.61	2,060	248	116	28
1940	1,372	-------	16	.18	82	18	64	4.5	160	258	15	.5	1.6	.3	539	.73	2,000	278	148	33
1941	5,859	60.3	15	.07	68	14	41	4.8	160	154	8.8	.4	1.7	.3	387	.53	6,120	227	96	28
1942	4,252	59.7	14	.06	66	16	39	3.9	157	168	9.4	.3	1.6	.2	395	.54	4,530	230	102	27
1943	1,996	69.8	13	.12	78	20	51		167	214	15	.3	2.6	.3	476	.65	2,570	276	140	29
Animas River at Farmington, N. Mex.																				
1941	1,699	36.7	8.4	0.06	50	7.7	14	2.6	120	76	6.2	0.4	1.3	0.2	226	0.31	1,040	156	58	16
1942	1,301	39.1	8.0	.12	55	9.6	13	3.0	126	86	7.7	.3	1.3	.2	245	.33	861	177	74	14
1943	736	42.9	8.0	.04	57	9.9	21		118	111	11	.3	1.5	.2	278	.38	552	186	86	20
Gila River at Safford, Ariz.																				
1941	1,117	39.1	------	0.27	35	9.5	36		137	35	39	0.8	1.4	------	224	0.31	676	126	14	38
1942	358	62.8	37	.15	49	12	69		194	47	78	1.2	1.5	------	357	.49	345	172	13	47
1943	123	72.1	36	.12	45	11	95		194	62	96	1.3	1.9	------	444	.60	147	158	0	57
Williams River at Planet Ariz.																				
Average [3]	----------	-------	34	0.11	44	13	63	6.7	245	42	43	1.1	1.8	0.5	369	0.50	-------	165	0	43

[1] For 11 months.

[2] Incomplete analytical records, Oct. 1, 1942, to Jan. 31, 1943. (See table on page 129.)

[3] Average of 11 analyses of spot samples collected on Oct. 10, Nov. 8, and Dec. 10, 1934, and Jan. 12, Feb. 8, Mar. 4, May 23, June 27, July 24, Aug. 28, and Sept. 27, 1935.

Maximum and minimum dissolved solids and total hardness, water years 1926 to 1943

Colorado River near Glenwood Springs, Colo.

Year ended September 30	Dissolved solids				Total hardness as $CaCO_3$			
	Maximum		Minimum		Maximum		Minimum	
	Parts per million	Sampling period	Parts per million	Sampling period	Parts per million	Sampling period	Parts per million	Sampling period
1942	584	Jan. 1–10	105	June 1–10.	285	Sept. 11–20	72	June 1–20.
1943	661	Jan. 11–20	119	June 21–30.	292	Dec. 1–10	78	June 21–30.

Colorado River near Cameo, Colo.

1934	950	Jan. 11–20	178	May 11–20.	399	July 21–31	101	May 21–31.
1935	996	Dec. 1–10	143	June 11–20.	374	Dec. 1–10	98	June 21–30.
1936	976	Dec. 21–31	153	May 21–31.				
1937	1,010	Jan. 21–31	210	May 21–31.				
1938	908	Jan. 1–10	186	June 21–30.				
1939	872	Aug. 21–31	175	June 1–10.				
1940	1,050	Dec. 21–31	191	June 1–10.				
1941	974	Jan. 1–10	183	June 21–30.				
1942	1,040	Jan. 1–10	168	June 11–20.				
1943	990	Nov. 1–10	152	June 11–20.				

Colorado River near Cisco, Utah

1929	1,540	Oct. 1–10	219	June 11–20.	710	Oct. 11–20	140	June 21–30.
1930	1,490	Sept. 21–30	254	June 11–20.	674	Sept. 21–30	152	June 11–20.
1931	2,390	Sept. 1–10	330	June 1–10.	1,020	Sept. 11–20	182	June 1–10.
1932	1,820	Sept. 21–30	242	May 21–31.	832	Sept. 21–30	150	June 11–20.
1933	1,940	Sept. 1–10	205	June 11–20.	876	Sept. 1–10	132	June 11–20.
1934	2,500	Sept. 1–10	325	May 11–20.	1,090	Sept. 1–10	175	May 11–20.
1935	2,110	Nov. 1–10	202	June 11–20.	915	Nov. 1–10	138	June 11–20.
1936	1,540	Dec. 21–31	224	May 21–31.				
1937	1,900	Aug. 21–31	279	May 11–20.				
1938	1,670	Oct. 1–10	236	June 1–10.				
1939	2,350	Aug. 21–31	291	May 21–31.				
1940	2,670	Aug. 11–20	324	May 11–20.				
1941	1,830	Sept. 1–10	279	May 11–20.				
1942	1,980	Sept. 1–10	264	June 1–10.				
1943	1,830	Oct. 11–20	270	June 11–20.				

Colorado River at Lees Ferry, Ariz.

1929	1,410	Oct. 11–20	209	June 11–20.	720	Oct. 11–20	137	June 11–20.
1930	1,120	Jan. 21–31	256	June 11–20.	538	Aug. 11–20	152	June 11–20.
1943	1,230	Nov. 1–10	267	May 1–10.	553	Nov. 1–10	158	May 1–10, June 11–30, July 1–10.

Colorado River at Bright Angel Creek, near Grand Canyon, Ariz.

1926	1,250	Sept. 24–30	237	June 11–17.	580	Oct. 9–15	127	June 11–17.
1927	1,450	Jan. 1–10	238	May 21–31.	636	Jan. 1–10	144	May 21–31.
1928	1,180	Sept. 21–30	233	June 1–10.	527	Sept. 1–10	145	June 1–10.
1929	1,520	Oct. 11–20	226	June 11–20.	750	Oct. 11–20	140	June 11–20.
1930	1,180	Jan. 1–10	291	June 11–20.	563	Sept. 11–20	170	June 11–20.
1931	1,590	Sept. 11–20	362	June 11–20.	641	Sept. 21–30	194	June 11–20.
1932	1,300	Dec. 21–31	263	May 21–31, June 21–30.	579	Sept. 1–10	157	June 21–30.
1933	1,500	Jan. 1–10	237	June 11–20.	652	Jan. 1–10	151	June 11–20.
1934	1,890	Sept. 21–30	437	May 21–31.	764	Sept. 21–30	222	May 11–20.
1935	1,600	Oct. 1–10	242	June 21–30.	670	Oct. 1–10	148	June 21–30.
1936	1,330	Jan. 1–10	258	May 21–31.	666	July 11–20	162	June 1–10.
1937	1,380	Sept. 1–10	267	May 21–31.	680	Sept. 1–10	172	May 21–31.
1938	1,300	Oct. 11–20	260	June 11–20.	574	Oct. 11–20	168	June 21–30.
1939	1,440	Sept. 11–20	296	May 21–31.	722	Sept. 11–20	174	May 21–31.
1940	1,720	Sept. 1–10	334	June 1–10.	792	Sept. 1–10	200	June 1–10.
1941	1,110	Nov. 1–10	304	June 1–10.	511	Nov. 1–10	188	June 1–10.
1942	1,350	Sept. 21–30	225	June 11–20.	574	Sept. 21–30	130	June 11–20.

Maximum and minimum dissolved solids and total hardness, water years 1926 to 1943 —Continued

Colorado River below Boulder Dam, Ariz.-Nev.

Year ended September 30	Dissolved solids				Total hardness as $CaCO_3$			
	Maximum		Minimum		Maximum		Minimum	
	Parts per million	Sampling period	Parts per million	Sampling period	Parts per million	Sampling period	Parts per million	Sampling period
1940	788	Apr. 1–10	735	Nov. 11–20.	403	Sept. 1–10	373	Oct. 11–31.
1941	824	Mar. 1–10	684	Sept. 1–10.	426	Jan. 21–31	337	Sept. 21–30.
1942	748	June 11–20	683	Nov. 11–30.	380	Jan. 11–31	343	Oct. 1–10, Nov. 21–Dec. 10.
1943	704	Oct. 1–10	621	Dec. 21–31.	376	Oct. 11–20	322	Dec. 11–31.

Colorado River near Willow Beach, Ariz.

1935	1,710	Oct. 1–10	276	Aug. 21–31.	688	Oct. 1–10	160	July 21–31, Aug. 1–10, Aug. 21–31.
1936	897	Feb. 1–10	393	Aug. 21–31, Sept. 21–30.	417	Feb. 1–10	204	Aug. 21–31
1937	781	May 11–20, June 11–30	398	Oct. 1–10.	397	May 21–31	211	Oct. 1–10.
1938	742	May 21–31	626	Dec. 21–31.	384	June 1–10	325	Dec. 21–31.
1939	756	July 11–20	578	Nov. 11–30.	382	July 21–31	302	Nov. 11–30.

Colorado River near Topock, Ariz.

1926	1,190	Sept. 21–30	253	June 11–20.	558	Oct. 16–22	143	June 11–20.
1927	1,350	Jan. 11–20	279	June 1–10.	594	Jan. 11–20	157	June 1–10.
1934	1,740	Sept. 1–10	421	May 21–31.	762	Sept. 1–10	222	May 21–31.

Colorado River at Yuma, Ariz.

1927	1,300	Jan. 11–20	287	June 1–10.	567	Oct. 21–31	166	June 11–20.
1928	1,180	Sept. 11–20	285	June 11–20.	560	Sept. 11–20	163	June 11–20.
1943	729	June 1–10	669	Feb. 1–10.	374	Oct. 1–10	324	Jan. 21–31.

Gunnison River near Grand Junction, Colo.

1932	2,340	Sept. 11–20	243	May 11–31.	1,200	Sept. 11–30	159	May 21–31.
1933	2,700	Sept. 1–10	233	June 1–10.	1,340	Sept. 1–10	143	June 1–10.
1934	2,820	Sept. 11–20	438	May 11–20.	1,370	Sept. 1–20	249	May 11–20.
1935	2,720	Oct. 1–20	250	June 11–20.	1,330	Oct. 1–10, 21–31	160	June 11–20.
1936	2,160	Sept. 21–30	243	May 11–20.	------	------	------	------
1937	2,980	July 21–31	236	May 11–20.	------	------	------	------
1938	2,160	Oct. 1–10	246	June 1–10.	------	------	------	------
1939	2,330	Aug. 21–31	303	May 1–10.	------	------	------	------
1940	2,610	Aug. 11–20	368	May 11–20.	------	------	------	------
1941	1,880	Sept. 1–10	248	May 11–20.	------	------	------	------
1942	1,980	Aug. 21–31	246	June 1–10.	------	------	------	------
1943	2,000	Oct. 1–10	220	Apr. 21–30.	------	------	------	------

Green River at Green River, Utah

1929	876	Dec. 21–31	206	June 11–20.	448	Dec. 21–31	138	June 11–20.
1930	835	Aug. 1–10	237	June 1–10.	446	Aug. 1–10	146	June 1–10.
1931	1,010	Aug. 1–10	249	June 1–10.	460	Aug. 1–10	150	June 11–20.
1932	909	Aug. 21–31	230	July 1–10.	460	Aug. 21–31	150	June 21–July 10.
1933	937	Dec. 21–31	194	June 21–30.	488	Dec. 21–31	128	June 21–30.
1934	905	Dec. 21–31	245	May 21–31.	436	Dec. 21–31	135	May 21–31.
1935	803	Dec. 11–20	205	June 21–30.	408	Dec. 11–20	140	July 1–10.
1936	939	Dec. 21–31	226	May 21–31.	------	------	------	------
1937	952	Dec. 11–20	295	May 21–31.	------	------	------	------
1938	1,040	Sept. 1–10	265	June 11–20.	------	------	------	------

Maximum and minimum dissolved solids and total hardness, water years 1926 to 1943 —Continued

Green River at Green River, Utah—Continued

Year ended September 30	Dissolved solids				Total hardness as $CaCO_3$			
	Maximum		Minimum		Maximum		Minimum	
	Parts per million	Sampling period	Parts per million	Sampling period	Parts per million	Sampling period	Parts per million	Sampling period
1939	883	Sept. 11-20	286	May 21-31.				
1940	1,090	Sept. 21-30	226	June 21-30.				
1941	933	Aug. 11-20	298	June 1-6.				
1942	837	Sept. 11-20	260	June 11-20.				
1943	2,010	Sept. 29	272	May 1-10.				

San Juan River at Ship Rock, N. Mex.

1942	597	Sept. 21-30	134	June 11-20.	314	Jan. 1-10	91	June 11-20.
1943	1,480	Aug. 31	153	May 1-10.	535	Aug. 31	98	May 1-10.

San Juan River near Bluff, Utah

1930	1,130	July 11-20	200	June 11-20.	606	July 11-20	128	June 11-20.
1931	1,340	Sept. 1—10	244	June 11-20.	682	Dec. 21-31	138	June 11-20.
1932	790	Nov. 21-30, Sept. 21-30	193	June 11-20.	413	Jan. 21-31	117	June 11-20.
1933	1,040	Dec. 21-31	208	June 1-10.	556	Dec. 21-31	132	June 11-20.
1934	1,860	July 21-31	277	May 11-20.	874	July 21-31	161	May 11-20.
1935	1,050	Dec. 1-10	182	June 21-30.	518	Dec. 1-10	109	July 1-10.
1936	939	Aug. 1-10	185	May 21-31.	466	Aug. 1-10	118	May 21-31.
1937	1,070	Sept. 1-10	213	May 11-20.	486	Sept. 1-10	136	May 11-20.
1938	929	Dec. 11-20, Sept. 1-10	204	June 1-10.	490	Dec. 11-20	136	June 11-20.
1939	1,550	Aug. 21-31	232	May 11-20.	753	Aug. 21-31	149	May 11-20.
1940	1,340	Aug. 11-20	233	May 11-20.	565	Aug. 11-20	146	May 11-20, June 1-10.
1941	809	Feb. 11-19	193	June 21-30.	383	Sept. 11-20	132	July 11-20.
1942	756	Sept. 11-20	188	June 11-20.	431	Jan. 1-10	127	June 21-30.
1943	981	Oct. 11-20	248	May 1-10.	506	Dec. 11-20, Feb. 11-20	166	June 1-10.

Animas River at Farmington, N. Mex.

1941	581	Feb. 1-10	124	July 1-10.	355	Feb. 1-10	90	July 1-10.
1942	555	Sept. 1-10	125	June 11-20.	354	Jan. 1-10	102	June 11-20.
1943	614	Dec. 21-31	161	June 21-30.	389	Dec. 11-20	114	June 21-30.

Gila River at Safford, Ariz.

1941	1,190	June 23-25	156	Mar. 15-20, May 1-10.	322	July 11-16	101	May 1-10.
1942	1,290	June 11-20	256	Oct. 1-10.	404	Aug. 31	117	Sept. 12-20.
1943	1,110	May 21-31	258	Mar. 6-10.	308	Apr. 11-20	111	Sept. 26-30.

Publications containing chemical analyses of water from streams in Colorado River Basin for the years 1925 to 1943 in reports of the Geological Survey

Station	Period of record		Type of analysis [1]	Geol. Survey Water-Supply Paper No.
	From	To		
Colorado River near Glenwood Springs, Colo.	Oct. 1941	Sept. 1942	A	[2]950
Do	Oct. 1942	Sept. 1943	A	(2) (3)
Colorado River near Cameo, Colo.	Oct. 1933	Sept. 1935	A	(2)
Do	Oct. 1935	Sept. 1940	C	(2)
Do	Oct. 1940	Sept. 1941	C	[2] 942
Do	Oct. 1941	Sept. 1942	C	[2] 950
Do	Oct. 1942	Sept. 1943	C	(2) (3)
Colorado River at Grand Junction, Colo.	Oct. 1940	Sept. 1941	C	942
Colorado River near Cisco, Utah	Oct. 1928	Sept. 1929	A	(2)
Do	Oct. 1929	Sept. 1930	A	[2] 638-D
Do	Oct. 1930	Sept. 1935	A	(2)
Do	Oct. 1935	Sept. 1940	C	(2)
Do	Oct. 1940	Sept. 1941	C	[2] 942
Do	Oct. 1941	Sept. 1942	C	[2] 950
Do	Oct. 1942	Sept. 1943	C	(2) (3)
Colorado River at Lees Ferry, Ariz.	Jan. 1926	July 1926	A	596-B
Do	Oct. 1926	June 1927	A	636-A
Do	Oct. 1928	Sept. 1929	A	(2)
Do	Oct. 1929	Sept. 1930	A	638-D
Do	Nov. 1942	Sept. 1943	A	(2) (3)
Colorado River at Bright Angel Creek near Grand Canyon, Ariz.	Aug. 1925	Sept. 1926	A	[2] 596-B
Do	Oct. 1926	Sept. 1928	A	[2] 636-A
Do	Oct. 1928	Sept. 1930	A	[2] 638-D
Do	Oct. 1930	Sept. 1940	A	(2)
Do	Oct. 1940	Sept. 1941	A	[2] 942
Do	Oct. 1941	Sept. 1942	A	[2] 950
Do	Oct. 1942	Sept. 1943	A	(4)
Colorado River below Boulder Dam, Ariz.-Nev.	Oct. 1939	Sept. 1940	A	(2)
Do	Oct. 1940	Sept. 1941	A	[2] 942
Do	Oct. 1941	Sept. 1942	A	[2] 950
Do	Oct. 1942	Sept. 1943	A	(2) (3)
Colorado River at Willow Beach, Ariz.	Oct. 1934	Sept. 1939	A	(2)
Colorado River at Topock, Ariz.	Aug. 1925	Sept. 1926	A	[2] 596-B
Do	Oct. 1926	Sept. 1927	A	[2] 636-A
Do	Oct. 1933	Sept. 1934	A	(2)
Colorado River at Yuma, Ariz.	Sept. 1926		A	596-B
Do	Oct. 1926	Sept. 1928	A	[2] 636-A
Do	Oct. 1942	Sept. 1943	A	(2) (3)
Gunnison River near Grand Junction, Colo.	Oct. 1934	Sept. 1935	A	(2)
Do	Oct. 1935	Sept. 1940	C	(2)
Do	Oct. 1940	Sept. 1941	C	[2] 942
Do	Oct. 1941	Sept. 1942	C	[2] 950
Do	Oct. 1942	Sept. 1943	C	(2) (3)
Green River at Green River, Utah	Oct. 1928	Sept. 1929	A	(2)
Do	Oct. 1929	Sept. 1930	A	[2] 638-D
Do	Oct. 1930	Sept. 1935	A	(2)
Do	Oct. 1935	Sept. 1940	C	(2)
Do	Oct. 1940	Sept. 1941	C	[2] 942
Do	Oct. 1941	Sept. 1942	C	[2] 950
Do	Oct. 1942	Sept. 1943	C	(2) (3)
San Juan River at Ship Rock, N. Mex.	Feb. 1941	Sept. 1941	A	942
Do	Oct. 1941	Sept. 1942	A	[2] 950
Do	Oct. 1942	Sept. 1943	A	(2) (3)
San Juan River near Bluff, Utah	Mar. 1926		A	[5] 596-B
Do	Feb. 1927	June 1927	A	[5] 636-A
Do	Oct. 1929	Sept. 1930	A	[2] 638-D
Do	Oct. 1930	Sept. 1940	A	(2)
Do	Oct. 1940	Sept. 1941	A	[2] 942
Do	Oct. 1941	Sept. 1942	A	[2] 950
Do	Oct. 1942	Sept. 1943	A	(2) (3)
Animas River at Farmington, N. Mex.	June 1940	Sept. 1940	A	942
Do	Oct. 1940	Sept. 1941	A	[2] 942
Do	Oct. 1941	Sept. 1942	A	[2] 950
Do	Oct. 1942	Sept. 1943	A	(2) (4)

See footnotes at end of table.

Publications containing chemical analyses of water from streams in Colorado River Basin for the years 1925 to 1943 in reports of the Geological Survey—Continued

Station	Period of record		Type of analysis [1]	Geol. Survey Water-Supply Paper No.
	From	To		
Little Colorado River at Grand Falls, Ariz.	Dec. 1925	May 1926	A	596-B
Do	Oct. 1926	Apr. 1927	A	636-A
Williams River at Planet, Ariz.	Oct. 1929	Sept. 1930	A	[6] 638-D
Do	Oct. 1934	Sept. 1935	A	[7]
Gila River at Safford, Ariz.	Aug. 1940	Sept. 1941	A	942
Do	Oct. 1941	Sept. 1942	A	[2] 950
Do	Oct. 1942	Sept. 1943	A	[2] [3]
Gila River at Fort Thomas, Ariz.	Aug. 1940	July 1941	B	942
Gila River near Florence, Ariz.	Jan. 1941	Sept. 1941	A	942
Gila River at Gillespie Dam, Ariz.	Feb. 1926	Apr. 1926	A	[8] 596-B
Do	Dec. 1926	June 1927	A	[9] 636-A
Miscellaneous streams in Colorado River Basin	Nov. 1942	Sept. 1943	A, B	[10]

[1] A, Complete analysis; B, partial analysis; C, dissolved solids.

[2] Weighted averages, maximum and minimum dissolved solids, and total hardness given in this report.

[3] Analytical data for composite samples for year ended September 30, 1943, given in this report.

[4] Samples collected only from October 1 to November 15, 1942, and from September 18 to 30, 1943; for those periods five analyses given in this report.

[5] Published as San Juan River at Goodridge, Utah.

[6] Analyses of single samples collected at irregular intervals.

[7] Average of 11 analyses of single samples given in this report.

[8] 2 analyses.

[9] 3 analyses.

[10] Analyses given in this report.

Publications containing data on suspended sediment in streams in Colorado River Basin for the years 1925 to 1943

Station	Period of record		Geol. Survey Water-Supply Paper No.
	From	To	
Colorado River near Cisco, Utah	May 1929	Sept. 1941	[1]
Do	Oct. 1941	Sept. 1942	950
Do	Oct. 1942	Sept. 1943	[2]
Colorado River at Lees Ferry, Ariz.	Oct. 1929	Dec. 1933	[1]
Do	Nov. 1942	Sept. 1943	[2]
Colorado River at Bright Angel Creek, near Grand Canyon, Ariz.	Oct. 1925	Sept. 1928	636-B
Do	Oct. 1928	Sept. 1941	[1]
Do	Oct. 1941	Sept. 1942	950
Do	Oct. 1942	Sept. 1943	[2]
Colorado River at Willow Beach, Ariz.	Oct. 1934	Sept. 1939	[1]
Colorado River near Topock, Ariz.	Oct. 1925	Sept. 1928	636-B
Do	Oct. 1928	Mar. 1939	[1]
Green River near Green River, Utah	May 1929	Sept. 1941	[1]
Do	Oct. 1941	Sept. 1942	950
Do	Oct. 1942	Sept. 1943	[2]
San Juan River near Bluff, Utah	Aug. 1928	Sept. 1928	[1]
Do	July 1929	Sept. 1941	[1]
Do	Oct. 1941	Sept. 1942	950
Do	Oct. 1942	Sept. 1943	[2]
Little Colorado River at Grand Falls, Ariz.	July 1931	Sept. 1931	[1]

[1] Unpublished records in files of the Geological Survey.

[2] Sediment data given in present report.

[3] Samples collected only from October 1 to November 15, 1942, and from September 18 to 30, 1943; sediment data for those periods given in this report.

PECOS RIVER BASIN

Weighted-average analyses, water years 1938 to 1943

[Parts per million]

Pecos River near Anton Chico, N. Mex.

Year ended September 30	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 $CaCO_3$: Noncarbonate	Percent sodium
1941	489	20.3	16	0.07	32	3.7	5.9		111	14	1.2	0.3	1.1	------	129	0.18	234	95	4	12

Pecos River near Puerto de Luna, N. Mex.

1940	159	196	18	0.06	366	52	60	3 7	119	993	86	0.4	1 7	0.2	1,640	2.23	705	1,130	1,030	10
1941	798	77.6	17	.07	130	16	25		121	295	24	------	2.3	------	568	.77	1,670	390	292	12

Pecos River near Guadalupe, N. Mex.

1938	148	180	16	0.06	326	47	61	4 6	102	901	79	------	2.3	------	1,590	2.03	555	1,010	924	12
1939	190	148	14	.07	253	38	49		111	680	58	------	1.9	0.5	1,150	1.56	588	788	696	12
1940	246	177	18	.05	309	46	57	3.7	109	855	72	0.4	1.6	.2	1,420	1.93	941	960	870	11
1941	710	83.7	13	.06	138	18	25	3.2	99	340	25	.2	1.5	------	613	.83	1,180	418	338	11
1942	568	93.7	13	.06	153	21	27	4 3	108	385	27	.4	1 0	------	684	.93	1,050	468	380	11
1943	311	153	13	.05	266	39	48	3.2	102	733	59	.4	.7	.4	1,210	1.65	1,020	824	741	11

Pecos River near Acme, N. Mex.

1938	138	241	13	0.10	387	61	142	5.1	111	1,100	199	------	2.2	------	1,940	2.64	726	1,220	1,130	20
1939	201	226	14	.07	357	59	149		111	1,010	216	------	2.3	0.6	1,860	2.53	1,010	1,130	1,040	22
1940	175	239	19	.06	391	61	117	5.5	108	1,1 0	164	0.5	2.4	.4	1,930	2.63	915	1,230	1,1 0	17
1941	964	180	16	------	288	38	90		102	764	126	------	1.8	------	1,370	1.87	3,570	874	791	18
1942	712	190	16	------	274	45	108		121	757	151	------	1.9	------	1,410	1.92	2,720	869	770	21
1943	255	235	14	------	357	62	131		112	1,020	197	------	1.9	------	1,840	2.50	1,260	1,150	1,050	20

PECOS RIVER BASIN—Continued

Weighted-average analyses, water years 1938 to 1943—Continued

(Parts per million]

Pecos River near Artesia, N. Mex.

Year ended September 30	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	
1938	233	452	18	0 05	439	126	489	8.9	140	1,420	772	------	2.6	0.6	3,340	4.54	2,100	1,640	1,500	40
1939	283	418	15	.07	437	115	425	9.2	133	1,380	663	------	3.1	.8	3,110	4.23	2,380	1,560	1,450	37
1940	249	383	19	.05	436	114	354	7.7	128	1,360	544	0.7	2.9	.4	2,910	3.96	1,960	1,560	1,450	33
1941	1,378	272	15	.06	353	64	207	7.3	114	1,030	310	.4	2.6	------	2,040	2.78	7,600	1,140	1,050	28
1942	1,071	343	19	.05	400	93	297	6.8	145	1,210	459	.5	2.1	------	2,560	3.48	7,400	1,380	1,260	32
1943	365	388	17	.04	424	112	369	8.1	133	1,340	570	.6	2.6	.7	2,910	3.96	2,870	1,520	1,410	34

Carlsbad project main canal at Avalon Dam, near Carlsbad, N. Mex.

1940	174	445	15	0.05	533	127	400	7.5	104	1,690	626	------	1.5	------	3,440	4.68	1,630	1,850	1,770	32

Pecos River at Carlsbad, N. Mex.

1938	118	346	18	0.05	388	111	303	6.2	139	1,240	482	------	1.8	------	2,610	3.55	804	1,420	1,310	32
1939	89.6	404	18	.06	434	135	361	7.0	167	1,400	587	0.7	2.5	0.7	3,030	4.12	733	1,640	1,500	32
1940	71.9	404	19	.06	420	143	357	5.9	144	1,420	584	.8	3.0	.4	3,020	4.11	586	1,640	1,520	32
1941	1,364	253	15	.06	320	65	190		105	953	282	------	1.5	------	1,880	2.55	6,910	1,070	980	28
1942	974	335	17	------	407	94	283		138	1,260	419	------	1.8	------	2,550	3.47	6,700	1,400	1,290	31
1943	243	360	18	------	430	115	292		144	1,360	458	------	1.7	------	2,750	3.74	1,800	1,550	1,430	29

Pecos River near Malaga, N. Mex.

1938	164	468	17	0.06	448	146	494	11	143	1,490	801	------	2.2	------	3,470	4.72	1,540	1,720	1,600	38
1939	130	542	18	.06	539	175	576	13	152	1,710	944	------	3.4	0.7	4,020	5.47	1,410	1,990	1,870	38
1940	124	550	19	.06	488	179	597	13	141	1,690	976	0.7	3.7	.6	4,030	5.48	1,350	1,950	1,840	40
1941	1,652	242	15	.06	285	64	191	7.5	111	856	291	.4	2.8	------	1,770	2.40	7,880	974	884	30
1942	1,098	370	18	------	425	105	332		144	1,330	504	------	2.3	------	2,790	3.79	8,270	1,490	1,370	33
1943	326	438	19	------	469	141	410		150	1,540	649	------	3.0	------	3,300	4.49	2,900	1,750	1,630	34

Pecos River at Pierce Canyon Crossing, near Malaga, N. Mex.

1939	143	689	------	------	510	184	880	20	149	1,760	1,430	------	3.1	------	4,860	6.61	1,880	2,030	1,910	48
1940	130	720	19	0.06	497	192	944	21	138	1,760	1,530	0.7	3.3	0.6	5,030	6.84	1,770	2,030	1,920	50
1941	1,694	266	13	.04	290	68	239	9.0	110	879	367	------	2.2	------	1,920	2.61	8,780	1,000	914	34

Pecos River at Red Bluff, N. Mex.

1938	182	668	17	0.06	457	160	907	21	138	1,570	1,450	------	2.1	------	4,650	6.32	2,280	1,800	1,690	52
1939	148	714	17	.07	509	186	940	24	134	1,780	1,510	------	2.7	0.8	5,030	6.84	2,020	2,030	1,930	50
1940	135	734	18	.06	496	190	982	22	131	1,770	1,580	0.7	2.8	.5	5,120	6.96	1,880	2,020	1,910	51
1941	1,655	270	17	.06	297	68	267		103	911	397	------	1.9	------	2,010	2.73	8,970	1,020	936	36
1942	1,102	423	18	.03	424	109	443	11	140	1,360	681	.5	1.8	.7	3,110	4.23	9,250	1,510	1,390	39
1943	327	516	18	.03	463	143	631	19	131	1,580	980	.7	2.1	.9	3,900	5.30	3,440	1,740	1,640	44

Pecos River at Orla, Tex.

1938	301	508	15	0.06	520	116	557	16	110	1,610	868	------	1.4	------	3,760	5.00	3,060	1,770	1,680	40
1939	256	646	13	.07	583	161	773	21	109	1,890	1,240	0.7	1.7	0.7	4,740	6.45	3,280	2,120	2,030	44
1940	152	786	15	.07	592	200	1,050	20	121	2,020	1,670	1.0	1.8	1.6	5,640	7.67	2,290	2,300	2,200	50
1941	1,284	315	18	.08	364	72	280	11	121	1,070	434	.2	3.0	------	2,310	3.14	8,000	1,200	1,100	33
1942	1,115	375	20	.05	396	96	370	12	129	1,230	570	.5	1.7	------	2,760	3.75	8,300	1,380	1,280	37
1943	428	515	19	.08	498	142	554	20	114	1,650	872	.7	1.2	1.5	3,810	5.18	4,400	1,830	1,730	39

Pecos River at Pecos, Tex.

1940	86.9	839	------	------	618	224	1,130		121	2,110	1,850	------	2.0	------	5,950	8.09	1,480	2,460	2,360	50
1941 [1]	646	320	------	------	349	71	303		103	1,040	479	------	1.8	------	2,310	3.14	4,030	1,160	1,080	36

Pecos River below Grandfalls, Tex.

1940	52.8	1,280	21	0.05	725	308	2,030	25	168	2,670	3,240	2.0	2.6	2.5	9,110	12.4	1,300	3,070	2,940	59
1941	556	489	20	.08	429	112	585	14	119	1,340	924	.6	3.4	------	3,490	4.75	5,260	1,480	1,390	45
1942 [1]	1,535	462	24	.07	429	111	519	14	143	1,340	811	------	2 3	------	3,320	4.52	13,700	1,530	1,410	42

Pecos River near Girvin, Tex.

1940	71.3	1,560	19	0.05	737	392	2,600	29	154	3,060	4,130	2.3	1.2	3.6	11,000	15.0	2,130	3,450	3,180	62
1941 [1]	490	591	------	------	444	135	814		127	1,500	1,240	------	1.6	------	4,210	5.73	5,540	1,660	1,560	52

Pecos River near Sheffield, Tex.

1940 [2]	------	1,240	------	------	576	306	2,040		145	2,380	3,210	------	1.3	------	8,580	11.7	------	2,690	2,580	62
1941 [1]	458	600	------	------	447	138	830		135	1,480	1,300	------	2.3	------	4,260	5.79	5,270	1,680	1,570	52

[1] For 9 months ended June 30.

[2] For 11 months Nov. 3, 1939, to Sept. 30, 1940.

Maximum and minimum dissolved solids and total hardness, water years 1937 to 1943

Pecos River near Anton Chico, N. Mex.

Year ended September 30	Dissolved solids				Total hardness as $CaCO_3$			
	Maximum		Minimum		Maximum		Minimum	
	Parts per million	Sampling period	Parts per million	Sampling period	Parts per million	Sampling period	Parts per million	Sampling period
1940 [1]	185	July 21–31	110	May 11–20.	144	July 11–20	81	May 11–20.
1941	176	Dec. 1–10	96	June 21–30.	140	Nov. 11–20, Dec. 1–10	72	June 11–30.

Pecos River at Santa Rosa, N. Mex.

1939 [2]	1,470	Sept. 11–14	179	Aug. 2.	1,040	Sept. 1–10	272	Sept. 15–20.
1940	1,820	Jan. 11–20	282	Aug. 6–10.	1,230	Jan. 11–20	181	Aug. 6–10.
1940 [3]	1,410	Nov. 11–20	1,000	Oct. 1–10.	1,030	Nov. 11–20, Dec. 21–30	735	Oct. 1–10.

Pecos River near Puerto de Luna, N. Mex.

1939 [4]	2,370	Sept. 1–10	800	Sept. 17–20.	1,620	Sept. 1–10	556	Sept. 17–20.
1940	2,520	Feb. 21–29	620	Aug. 6–10.	1,750	Dec. 11–20	429	Aug. 6–10.
1941	2,430	Feb. 11–20	287	May 11–20.	1,720	Feb. 11–20	200	May 11–20.

Pecos River near Guadalupe, N. Mex.

1937 [5]	2,510	Aug. 21–31	905	Sept. 16–10.	1,580	Aug. 21–31	555	Sept. 16–20.
1938	2,590	Apr. 21–30	531	June 17–20.	1,640	Apr. 11–30	344	June 17–20.
1939	1,430	Feb. 20–28	680	Oct. 18–20.	943	Feb. 20–28	469	Oct. 18–20
1940	1,800	Mar. 9–10	886	Sept. 1–10.	1,190	Mar. 9–10	603	Sept. 1–10.
1941	2,200	Mar. 11–20	457	Sept. 21–30.	1,490	Mar. 11–20	306	Sept. 21–30.
1942	995	June 3	435	Oct. 1–8.	683	June 3	294	Oct. 1–8, 12–20.
1943	1,600	Sept. 21–30	735	Oct. 1–10.	1,070	Sept. 21–30	503	Oct. 1–10.

Pecos River near Acme, N. Mex.

1937 [6]	7,230	Sept. 1–9	1,220	July 21–31.	2,590	Sept. 1–9	773	July 21–31.
1938	22,300	Aug. 21–24	995	Sept. 1–10.	5,320	May 23–June 2.	622	Sept. 1–10.
1939	23,100	June 11–20	1,170	July 14–20.	6,110	June 11–20	763	July 14–20.
1940	20,000	June 11–12	1,250	Sept. 4–10.	5,580	June 11–20	819	Sept. 4–10.
1941	15,800	Feb. 16–20	806	May 24.	4,150	Feb. 16–20	528	May 24.
1942	8,840	June 29	954	May 21–27.	2,240	June 29	620	June 11–20.
1943	6,980	Mar. 21–27	1,290	Nov. 1–10.	2,740	Mar. 21–27	759	July 4–7

Pecos River near Artesia, N. Mex.

1937 [6]	5,320	Aug. 11–20, Sept. 1–10	2,330	July 21–31.	2,210	Aug. 11–20, Sept. 1–10	1,220	July 21–30.
1938	7,690	Aug. 21–25	681	Sept. 6.	2,940	Aug. 21–25	404	Sept. 6.
1939	6,080	June 11–20	1,820	July 16–20.	2,530	June 11–20	966	Aug. 16–20.
1940	10,800	Sept. 4–5	901	May 23–24.	3,250	Sept. 4–5	467	May 23–24.
1941	5,100	Mar. 1–10	845	Sept. 22–23.	2,220	Mar. 1–10	462	Sept. 22–23.
1942	5,710	Mar. 11–20	994	Aug. 31.	2,480	Mar. 11–20	538	Aug. 31.
1943	6,820	Aug. 11–18	976	July 1–2.	2,550	May 1–10, Aug. 11–18	506	July 1–2.

Pecos River at dam site 3, near Carlsbad, N. Mex.

1941 [7]	3,660	Apr. 21–30	1,690	Sept. 23–30.	2,040	Apr. 16–17	1,020	Sept. 23–30.

See footnotes at end of table.

Maximum and minimum dissolved solids and total hardness, water years 1937 to 1943—Continued

Carlsbad project main canal near Carlsbad, N. Mex.

Year ended September 30	Dissolved solids				Total hardness as $CaCO_3$			
	Maximum		Minimum		Maximum		Minimum	
	Parts per million	Sampling period	Parts per million	Sampling period	Parts per million	Sampling period	Parts per million	Sampling period
1939 [8]	3,990	Apr. 1–10	3,040	Sept. 1–10.	2,050	Apr. 11–20, May 1–10	1,610	Sept. 1–10
1940	4,000	Apr. 21–30	2,370	June 27–30.	2,020	Apr. 21–30, May 21	1,260	June 27–30.
1941	3,730	Oct. 1–10	568	Oct. 16–18.	2,080	Feb. 21–28	324	Oct. 16–18.
1942	4,070	Apr. 11–20	2,370	May 21–31.	1,960	Apr. 11–20	1,360	May 21–31.
1943	4,260	June 11–20	2,780	Oct. 1–10.	2,230	June 11–20	1,600	Oct. 1–10.

Pecos River at Carlsbad, N. Mex.

1937 [9]	3,180	July 21–31	2,300	Aug. 21–31.	1,750	July 11–20	1,230	Aug. 21–31.
1938	3,270	Mar. 1–10	825	June 27–30.	1,770	Feb. 11–28	485	June 27–30.
1939	3,370	Nov. 21–30	2,530	June 21–30.	1,800	Nov. 21–30, Jan. 1–10	1,360	June 21–30.
1940	3,260	Nov. 21–31	2,780	May 21–31.	1,860	Nov. 13–20	1,480	May 21–31.
1941	3,590	May 1	360	May 22.	1,970	May 1	290	May 22.
1942	3,440	Jan. 9–10	2,000	Oct. 1–10.	1,730	Jan. 9–10	1,190	Oct. 1–10.
1943	3,030	Dec. 1–10	2,390	June 21–30.	1,730	Nov. 21–30	1,290	June 11–20.

Pecos River near Malaga, N. Mex.

1937 [6]	4,550	Aug. 1–10	2,490	Aug. 21–31.	2,140	Aug. 1–10	1,210	Aug. 21–31.
1938	4,830	Aug. 11–20	1,010	June 28–30.	2,100	June 11–20, Aug. 11–20	536	June 28–30.
1939	4,520	Sept. 1–10	3,740	Feb. 1–10.	2,170	Apr. 21–30	1,840	July 11–20, Aug. 11–20.
1940	4,630	Aug. 1–10	929	May 22.	2,130	Aug. 1–10	631	May 22.
1941	4,530	Oct. 1–10	384	Sept. 21–22.	2,080	Oct. 1–10	254	Sept. 21–22.
1942	4,010	Aug. 21–31	1,990	Oct. 1–10.	1,960	Aug. 21–31	1,190	Oct. 1–10.
1943	4,230	Aug. 11–20	2,820	Nov. 11–20, July 1–10.	2,030	Aug. 1–10	1,480	July 1–10.

Pecos River at Pierce Canyon Crossing, near Malaga, N. Mex.

1938 [10]	7,150	Aug. 11–20	1,360	June 28–30.	2,250	Aug. 21–30	631	June 28–30.
1939	6,240	Sept. 1–10	4,270	Feb. 1–10.	2,230	Sept. 1–10	1,900	Aug. 11–20,
1940	6,260	Aug. 1–10	2,820	May 9–10.	2,250	Aug. 1–10	1,280	May 9–10.
1941	5,910	Apr. 12–20	280	Sept. 21.	2,150	Apr. 12–20	202	Sept. 21.

Pecos River at Red Bluff, N. Mex.

1937 [6]	8,140	July 1–10	3,580	Aug. 21–31.	2,310	July 1–10	1,260	Aug. 21–31.
1938	7,770	Aug. 11–18	1,890	June 28–30.	2,290	Aug. 21–31	791	June 28–30.
1939	6,450	Sept. 1–10	4,400	Jan. 1–10.	2,250	Sept. 1–10	1,820	Aug. 11–20.
1940	6,460	Aug. 1–10	842	June 20.	2,240	May 1–9, Aug. 1–10	416	June 20.
1941	6,320	Apr. 11–20	541	May 23.	2,200	Apr. 11–20	302	May 23.
1942	6,430	Apr. 21–24	2,080	Oct. 1–10.	2,080	Apr. 21–24	1,210	Oct. 1–10.
1943	6,350	Aug. 11–20	2,950	Nov. 11–20.	2,130	Aug. 11–20	1,370	July 1–10.

Pecos River at Orla, Tex.

1937 [6]	3,870	Aug. 21–31	2,810	July 1–10.	1,730	Aug. 21–31	1,420	July 1–10.
1938	4,290	Sept. 11–20	3,300	Oct. 1–10.	1,890	July 1–10	1,630	Oct. 1–10.
1939	5,250	Sept. 21–30	2,300	June 21–22.	2,300	Sept. 21–30	1,170	June 21–22.
1940	7,000	Feb. 21–29	2,030	Aug. 18–21.	2,710	Feb. 21–29	1,040	July 1–3.
1941	7,980	Mar. 11–20	1,780	May 26–31.	2,970	Mar. 11–20	930	Oct. 13–15.
1942	7,330	Mar. 1–2	2,450	Nov. 1–10.	2,780	Feb. 28	1,300	Nov. 1–10.
1943	4,570	Sept. 21–30	3,540	Dec. 1–10, 21–31.	2,050	Sept. 21–30	1,720	Oct. 1–10.

See footnotes at end of table.

Maximum and minimum dissolved solids and total hardness, water years 1937 to 1943—Continued

Pecos River at Pecos, Tex.

Year ended September 30	Dissolved solids				Total hardness as $CaCO_3$			
	Maximum		Minimum		Maximum		Minimum	
	Parts per million	Sampling period	Parts per million	Sampling period	Parts per million	Sampling period	Parts per million	Sampling period
1939 [11]	5,620	Sept. 21–30	4,570	Apr. 1–10.	2,500	Aug. 11–20	2,100	Apr. 1–10.
1940	8,360	Mar. 11–20	3,900	July 1–10.	3,270	Mar. 11–20	1,600	July 1–10.
1941 [12]	8,560	Apr. 1–4	423	May 25.	3,280	Feb. 1–10	273	May 25.

Pecos River below Grandfalls, Tex.

1939 [11]	8,690	Sept. 1–10	7,260	July 1–10.	3,320	June 11–20	2,560	July 11–20.
1940	11,200	Mar. 21–31	3,010	Aug. 10.	3,530	Aug. 9	1,560	Aug. 10.
1941	12,000	Feb. 1–10	798	May 27.	3,550	Feb. 1–10	430	May 27.
1942 [13]	9,970	Apr. 11–20	2,340	Oct. 1–10.	3,320	Apr. 11–20	1,210	Oct. 1–10.

Pecos River near Girvin, Tex.

1940	13,600	Apr. 21–30	4,450	Aug. 12–15.	4,060	Apr. 21–30	1,920	Aug. 12–15.
1941 [12]	13,800	Apr. 11–20	1,060	May 29.	3,910	Apr. 11–20	849	May 30.

Pecos River near Sheffield, Tex.

1940 [14]	10,800	Mar. 21–31	3,410	June 23, 25, 28–29.	3,210	Mar. 21–31	1,110	June 23, 25, 28–29.
1941 [12]	12,000	Apr. 11–14	1,590	June 10.	3,460	Apr. 11–14	855	June 10.

[1] Apr. 1 to Sept. 30, 1940.
[2] July 22 to Sept. 30, 1939.
[3] Oct. 1 to Dec. 30, 1940
[4] July 1 to Sept. 30, 1939.
[5] June 26 to Sept. 30, 1937.
[6] July 1 to Sept. 30, 1937.
[7] Dec. 16, 1940 to Sept. 30, 1941.
[8] Feb. 11 to Sept. 30, 1939.
[9] May 30 to Sept. 30, 1937.
[10] Mar. 3 to Sept. 30, 1938.
[11] Apr. 1 to Sept. 30, 1939.
[12] Oct. 1, 1940 to June 30, 1941.
[13] Oct. 1, 1941 to June 30, 1942.
[14] Nov. 3, 1939 to Sept. 30, 1940.

Publications containing chemical analyses of water from streams in Pecos River Basin for the years 1922 to 1943, in reports of the Geological Survey

Station	Period of record		Type of analysis [1]	Geol. Survey Water-Supply Paper No.
	From	To		
Pecos River near Anton Chico, N. Mex.	Apr. 1940	Sept. 1940	A	(2)
Do	Oct. 1940	Sept. 1941	A	2 3 942
Pecos River at Santa Rosa, N. Mex.	July 1939	Sept. 1939	B	(2)
Do	Oct. 1939	Sept. 1940	B	(2)
Do	Oct. 1940	Dec. 1940	B	2 942
Pecos River near Puerto de Luna, N. Mex.	July 1939	Sept. 1939	A	(2)
Do	Oct. 1939	Sept. 1940	A	(2) (3)
Do	Oct. 1940	Sept. 1941	A	2 3 942
Pecos River near Guadalupe, N. Mex.	July 1937	Sept. 1937	A	(2)
Do	Oct. 1937	Sept. 1940	A	(2) (3)
Do	Oct. 1940	Sept. 1941	A	2 3 942
Do	Oct. 1941	Sept. 1942	A	2 3 950
Do	Oct. 1942	Sept. 1943	A	(4)
Pecos River near Acme, N. Mex.	July 1937	Sept. 1937	A	(2)
Do	Oct. 1937	Sept. 1940	A	(2) (3)
Do	Oct. 1940	Sept. 1941	A	2 3 942
Do	Oct. 1941	Sept. 1942	A	2 3 950
Do	Oct. 1942	Sept. 1943	A	(4)

Publications containing chemical analyses of water from streams in Pecos River Basin for the years 1922 to 1943, in reports of the Geological Survey—Continued

Station	Period of record		Type of analysis [1]	Geol. Survey Water-Supply Paper No.
	From	To		
Pecos River near Artesia, N. Mex.	July 1937	Sept. 1937	A	(2)
Do	Oct. 1937	Sept. 1940	A	(2) (3)
Do	Oct. 1940	Sept. 1941	A	2 3 942
Do	Oct. 1941	Sept. 1942	A	2 3 950
Do	Oct. 1942	Sept. 1943	A	(4)
Pecos River at McMillan Dam, near Lakewood, N. Mex.	Oct. 1939	Sept. 1941	A	(5)
Pecos River at dam site 3, near Carlsbad, N. Mex.	Oct. 1939	Sept. 1940	B	(5)
Do	Oct. 1940	Sept. 1941	B	2 942
Carlsbad project main canal, near Carlsbad, N. Mex.	Feb. 1939	Sept. 1939	A	(2)
Do	Oct. 1939	Sept. 1940	A	(2)
Do	Oct. 1940	Sept. 1941	A	2 942
Do	Oct. 1941	Sept. 1942	A	2 950
Do	Oct. 1942	Sept. 1943	A	(4)
Pecos River at Carlsbad, N. Mex.	June 1937	Sept. 1937	A	(2)
Do	Oct. 1937	Sept. 1940	A	(2) (3)
Do	Oct. 1940	Sept. 1941	A	2 3 942
Do	Oct. 1941	Sept. 1942	A	2 3 950
Do	Oct. 1942	Sept. 1943	A	(4)
Pecos River as represented by Refinery Intake Canal, near Loving, N. Mex.	Mar. 1938	Dec. 1940	B	(5)
Pecos River above Black River, near Malaga, N. Mex.	Mar. 1938	Sept. 1939	B	(5)
Pecos River near Malaga, N. Mex.	July 1937	Sept. 1937	A	(2)
Do	Oct. 1937	Sept. 1940	A	(2) (3)
Do	Oct. 1940	Sept. 1941	A	2 3 942
Do	Oct. 1941	Sept. 1942	A	2 3 950
Do	Oct. 1942	Sept. 1943	A	(4)
Pecos River at Pierce Canyon Crossing, near Malaga, N. Mex.	Mar. 1938	Sept. 1938	B	(2)
Do	Oct. 1938	Sept. 1940	B	(2) (3)
Do	Oct. 1940	Sept. 1941	A	2 3 942
Pecos River at Red Bluff, N. Mex.	July 1937	Sept. 1937	A	(2)
Do	Oct. 1937	Sept. 1940	A	(2) (3)
Do	Oct. 1940	Sept. 1941	A	2 3 942
Do	Oct. 1941	Sept. 1942	A	2 3 950
Do	Oct. 1942	Sept. 1943	A	(4)
Pecos River at Angeles, Tex.	Mar. 1922	Jan. 1925	B	596-D
Pecos River at Orla, Tex.	July 1937	Sept. 1937	A	(2)
Do	Oct. 1937	Sept. 1940	A	(2) (3)
Do	Oct. 1940	Sept. 1941	A	2 3 942
Do	Oct. 1941	Sept. 1942	A	2 3 950
Do	Oct. 1942	Sept. 1943	A	(4)
Pecos River near Porterville, Tex.	Mar. 1922	Jan. 1925	B	596-D
Pecos River above Barstow, Tex.	Mar. 1922	Jan. 1925	B	596-D
Pecos River at Pecos, Tex.	Apr. 1939	Sept. 1939	B	(2)
Do	Oct. 1939	Sept. 1940	B	(2) (3)
Do	Oct. 1940	June 1941	B	2 3 942
Pecos River near Grandfalls, Tex.	Apr. 1922	Jan. 1925	B	596-D
Pecos River near Buenavista, Tex.	Apr. 1922	Jan. 1925	B	596-D
Pecos River below Grandfalls, Tex.	Apr. 1939	June 1939	B	(2)
Do	July 1939	Sept. 1939	A	(2)
Do	Oct. 1939	Sept. 1940	A	(2) (3)
Do	Oct. 1940	Sept. 1941	A	2 3 942
Do	Oct. 1941	June 1942	A	2 3 950
Pecos River near Girvin, Tex.	Sept. 1939		B	(5)
Do	Oct. 1939	Sept. 1940	A	(2) (3)
Do	Oct. 1940	Dec. 1940	A	2 3 942
Do	Jan. 1941	June 1941	B	2 3 942
Pecos River near Sheffield, Tex.	Apr. 1922	Jan. 1925	B	596-D
Do	Nov. 1939	Sept. 1940	B	(2) (3)
Do	Oct. 1940	June 1941	B	2 3 942
Black River at Malaga, N. Mex.	Oct. 1939	Sept. 1940	B	(5)
Salt Draw near Pecos, Tex.	Oct. 1939	Sept. 1940	B	(5)
Toyah Creek near Pecos, Tex.	Oct. 1939	Sept. 1940	B	(5)
Toyah Creek below Toyah Lake, near Pecos, Tex.	June 1940	Aug. 1940	B	(5)
Do	Oct. 1940	May 1941	B	942

[1] A, complete analysis; B, partial analysis.

[2] Maximum and minimum dissolved solids and total hardness given in this report.

[3] Weighted averages only given in this report.

[4] Analytical data for composite samples for year ended September 30, 1943, given in this report.

[5] Unpublished records in files of Geological Survey.

RIO GRANDE BASIN

[Parts per million]

Weighted-average analyses, water years 1941 to 1943

Rio Grande at San Acacia, N. Mex.

Year ended September 30	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)
1940	492	92.8	29	0.10	85	17	97	7.8	211	242
1941	3,354	55.1	23	.03	56	10	45	3.8	148	126
1942	3,255	43.5	23	.05	45	9.1	34	3.7	129	93
1943	613	78.3	28	.06	73	16	78	4.4	191	203

Year ended September 30	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: Total	Hardness as CaCO: Non-carbonate	Percent sodium
1940	50	0.5	0.6	----	633	0.86	841	282	109	42
1941	20	.5	.8	----	359	.49	3,250	181	60	35
1942	16	.4	1.8	0.3	289	.39	2,540	150	44	32
1943	36	.5	1.8	.5	535	.73	885	248	92	40

Maximum and minimum dissolved solids and total hardness, water years 1937 to 1943

Rio Grande at San Acacia, N. Mex.

Year ended ber 30	Dissolved solids: Maximum: Parts per million	Dissolved solids: Maximum: Sampling period	Dissolved solids: Minimum: Parts per million	Dissolved solids: Minimum: Sampling period	Total hardness as CaCO: Maximum: Parts per million	Total hardness as CaCO: Maximum: Sampling period	Total hardness as CaCO: Minimum: Parts per million	Total hardness as CaCO: Minimum: Sampling period
1937 [1]	728	Aug. 1–10	443	Sept. 11–20.	335	Aug. 1–10	222	Sept. 11–20.
1939 [2]	1,230	Aug. 1–10	335	May 1–10.	583	Aug. 1–10	164	May 1–10.
1940	1,060	Aug. 21–31	464	Mar. 11–20.	478	Aug. 21–31	212	Mar. 11–20.
1941	774	Sept. 21–30	236	July 1–10.	352	Sept. 21–30	134	June 1–10, July 1–10.
1942	1,560	Aug. 25	183	June 1–10.	672	Aug. 25	101	June 11–20.
1943	1,630	June 29–30	347	May 1–10.	686	June 29–30	168	May 1–10.

Rio Grande at Bernardo, N. Mex.

1937 [1]	533	Nov. 1–10	318	July 1–10.	272	Nov. 1–10	169	July 1–10.
1938 [3]	648	Sept. 1–10	206	June 1–10.	323	Sept. 1–10	120	June 1–10.

[1] July 1 to Dec. 31, 1937. [2] Mar. 1 to Sept. 30, 1939. [3] Jan. 2 to Nov. 30, 1938.

Publications containing chemical analyses of water from streams in Rio Grande Basin for the years 1937 to 1943, in reports of the Geological Survey

Station	Period of record: From	Period of record: To	Type of analysis [1]	Geol. Survey Water-Supply Paper No.
Rio Grande at San Acacia, N. Mex.	Feb. 1937	Dec. 1937	B	(2)
Do	Mar. 1939	Sept. 1940	A	(3)
Do	Oct. 1940	Sept. 1941	A	[3] 942
Do	Oct. 1941	Sept. 1942	A	[3] 950
Do	Oct. 1942	Sept. 1943	A	(4)
Rio Grande at Bernardo, N. Mex.	July 1937	Nov. 1938	A	(2)

[1] A, Complete analysis; B, partial analysis.
[2] Unpublished records in files of Geological Survey.
[3] Weighted averages only given in this report.
[4] Analytical data for composite samples for year ended September 30, 1943, given in this report.

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