

Compilation of Records of Surface Waters of the United States through

September 1950

Part 9. Colorado River Basin

Water Branch

Prepared under the direction of J. V. B. WELLS, Chief, Surface W

ER 1313

GEOLOGICAL SURVEY WATER-SUPPLY PAP



ION : 1954

UNITED STATES GOVERNMENT PRINTING OFFICE, WASHINGTON

784. Verde River above Bartlett Reservoir, near Cave Creek, Ariz.

Location.--Lat 33°57', long. 111°41', in SE 1/4 sec. 13, T. 7 N., R. 6 E., unsurveyed, 4.5 miles downstream from Horseshoe Dam, 16 miles upstream from Bartlett Dam, and 17 miles northeast of Cave Creek.

Gage.--Water-stage recorder at present site since Jan. 1, 1942. Datum of gage is 1,572.34 ft above mean sea level, datum of 1929.

Average discharge.--62 years (1888-1950), 726 cfs (revised), adjusted for storage in Bartlett and Horseshoe Reservoirs.

Extreme.--1935-45. Maximum discharge 43,800 cfs Mar. 14, 1941 (gage height 17.85 ft); minimum 4.9 cfs Nov. 23, 1942 (gage height 2.3 ft). Regulation at Horseshoe Dam. Maximum discharge since 1924 100,300 cfs Mar. 13, 1938 (gage height 25.0 ft).

Remarks.--Diversion for irrigation above station of about 12,500 acres in 1947; about 5,000 acres of which were supplied by pumping from ground water. Regulation at Horseshoe Dam began Nov. 15, 1945, although there was slight regulation prior to that during construction.

Monthly and yearly mean discharge, in second-feet

| Water year | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | The year |
|------------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|----------|
| 1939 | 267 | 205 | 375 | 291 | 336 | 861 | 322 | 124 | 89.4 | 89.0 | 309 | 1,391 | 379 |
| 1940 | 207 | 232 | 253 | 333 | 930 | 386 | 267 | 152 | 133 | 106 | 356 | 321 | 304 |
| 1941 | 735 | 1130 | 2167 | 1372 | 3387 | 4,873 | 4,671 | 665 | 207 | 239 | 268 | 328 | 1,599 |
| 1942 | 106 | 210 | 370 | 450 | 550 | 990 | 1,654 | 2,321 | 3,321 | 4,119 | 4,310 | 4,310 | 1,599 |
| 1943 | 106 | 210 | 370 | 450 | 550 | 990 | 1,654 | 2,321 | 3,321 | 4,119 | 4,310 | 4,310 | 1,599 |
| 1944 | 106 | 210 | 370 | 450 | 550 | 990 | 1,654 | 2,321 | 3,321 | 4,119 | 4,310 | 4,310 | 1,599 |
| 1945 | 106 | 210 | 370 | 450 | 550 | 990 | 1,654 | 2,321 | 3,321 | 4,119 | 4,310 | 4,310 | 1,599 |
| 1946 | 106 | 210 | 370 | 450 | 550 | 990 | 1,654 | 2,321 | 3,321 | 4,119 | 4,310 | 4,310 | 1,599 |

Monthly and yearly runoff, in acre-feet

| Water year | Oct. | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | The year |
|------------|--------|--------|--------|--------|--------|---------|---------|--------|--------|--------|--------|--------|-----------|
| 1939 | 10,250 | 12,190 | 23,050 | 17,920 | 18,640 | 28,970 | 19,380 | 7,620 | 5,320 | 5,470 | 12,970 | 62,770 | 274,400 |
| 1940 | 12,720 | 13,800 | 15,560 | 20,460 | 33,470 | 23,720 | 15,890 | 9,330 | 7,910 | 6,500 | 21,860 | 19,410 | 220,300 |
| 1941 | 45,200 | 25,560 | 13,200 | 81,340 | 88,100 | 295,600 | 277,900 | 40,880 | 12,310 | 11,670 | 16,460 | 15,530 | 1,036,000 |
| 1942 | 32,290 | 23,330 | 26,370 | 33,210 | 20,630 | 60,890 | 38,900 | 15,150 | 7,360 | 8,090 | 10,660 | 8,820 | 285,700 |
| 1943 | 11,450 | 13,670 | 16,860 | 26,380 | 35,500 | 108,000 | 18,070 | 8,370 | 6,130 | 6,010 | 26,440 | 11,700 | 285,600 |
| 1944 | 14,140 | 12,630 | 18,960 | 18,340 | 44,490 | 161,000 | 102,200 | 21,310 | 7,500 | 3,500 | 8,640 | 11,370 | 428,800 |
| 1945 | 13,270 | 16,340 | 47,380 | 49,350 | 30,300 | 132,200 | 103,200 | 14,690 | 6,970 | 9,250 | 22,260 | 7,690 | 392,900 |
| 1946 | 13,570 | 10,160 | 18,890 | - | - | - | - | - | - | - | - | - | - |

Yearly discharge, in second-feet

| Year | W.S.P. no. | Water year ending Sept. '30 | | | | Calendar year | | |
|------|------------|-----------------------------|----------------|-------------|-------|---------------------|-------|---------------------|
| | | Momentary maximum | | Minimum day | Mean | Runoff in acre-feet | Mean | Runoff in acre-feet |
| | | Discharge | Date | | | | | |
| 1939 | 879 | 17,700 | Sept. 14, 1939 | 61 | 379 | 274,400 | 374 | 270,900 |
| 1940 | 899 | 5,020 | Feb. 27, 1940 | 68 | 304 | 220,300 | 527 | 382,200 |
| 1941 | 929 | 43,800 | Mar. 14, 1941 | 131 | 1,599 | 1,158,000 | 1,431 | 1,036,000 |
| 1942 | 959 | 3,510 | Oct. 14, 1941 | 98 | 395 | 285,700 | 339 | 245,700 |
| 1943 | 979 | 16,600 | Aug. 14, 1943 | 77 | 395 | 285,600 | 400 | 289,400 |
| 1944 | 1009 | 7,530 | Mar. 14, 1944 | 85 | 591 | 428,800 | 592 | 430,000 |
| 1945 | 1039 | 9,710 | Mar. 16, 1945 | 91 | 543 | 392,900 | 537 | 386,500 |
| 1946 | 1059 | - | - | - | - | - | - | - |

785. Verde River below Bartlett Dam, Ariz. 1/

Location.--Lat 33°48'30", long. 111°40'00", in NE 1/4 sec. 6, T. 5 N., R. 7 E., 2 1/2 miles downstream from Bartlett Dam and 3 1/2 miles upstream from Camp Creek.

Drainage area.--6,160 sq mi, approximately, at site used since January 1942; 6,180 sq mi, approximately, at sites used February 1925 to December 1941; 6,620 sq mi, approximately, at sites used prior to February 1925.

Gage.--Water-stage recorder at present site since Jan. 1, 1942. Datum of gage is 1,572.34 ft above mean sea level, datum of 1929. Prior to Feb. 17, 1925, staff gages at several sites about 20 miles downstream and from 0.7 to 1.4 miles above mouth, at different datums. Feb. 17, 1925, to Dec. 31, 1941, water-stage recorder about 3 1/2 miles downstream, at two sites, 500 feet and half a mile, respectively, above Camp Creek, at different datums.

Average discharge.--62 years (1888-1950), 726 cfs (revised), adjusted for storage in Bartlett and Horseshoe Reservoirs.

1. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 2. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 3. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 4. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 5. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 6. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 7. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 8. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 9. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 10. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 11. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 12. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 13. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 14. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 15. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 16. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 17. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 18. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 19. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 20. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 21. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 22. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 23. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 24. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 25. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 26. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 27. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 28. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 29. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 30. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 31. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 32. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 33. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 34. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 35. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 36. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 37. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 38. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 39. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 40. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 41. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 42. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 43. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 44. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 45. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 46. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 47. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 48. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 49. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 50. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 51. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 52. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 53. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 54. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 55. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 56. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 57. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 58. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 59. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 60. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 61. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 62. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 63. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 64. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 65. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 66. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 67. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 68. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 69. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 70. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 71. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 72. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 73. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 74. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 75. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 76. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 77. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 78. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 79. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 80. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 81. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 82. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 83. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 84. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 85. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 86. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 87. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 88. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 89. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 90. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 91. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 92. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 93. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 94. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 95. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 96. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 97. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 98. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 99. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925. 100. 19th Annual Report, p. 107, above Sal. River, Bartlett Res. 1925.

Extremes.--1888-1939: Maximum discharge not determined but probably exceeded 150,000 cfs Feb. 24, 1891 (date corrected); minimum daily, 29 cfs July 11, 13, 1901.
 1939-50: Maximum discharge, 45,800 cfs Mar. 15, 1941 (gage height, 17.5 ft, present site and datum, from floodmarks); no flow at Bartlett Dam at times in several years when gates were closed.

Remarks.--Diversions for irrigation above station of about 12,500 acres (in 1950), some of which is by pumping from ground water. Flow completely regulated by Bartlett Dam since Feb. 5, 1939, and by Horseshoe Dam (see Reservoir system on Verde River elsewhere in this report) since Nov. 15, 1945, except during periods of spill. Records at other used gages and other 1925 are unimpaired; difference in flow is probably well under 5 percent, as the intervening area contains no large runoff except during infrequent storms.

Comments.--Records of monthly discharge for Salt River at Arizona Dam, used in computing estimates for Verde River for 1888-94 and 1900, furnished by Arizona Canal Company. Records of monthly discharge for 1895-96 furnished by Hudson Reservoir Company, and for 1906-12 by Bureau of Reclamation. Records of daily discharge for 1907-50 and 1953-57 furnished by Bureau of Reclamation and for 1939 to April 1939 by Salt River Valley Water Users' Association.

Monthly and yearly mean discharge, in second-feet, of Verde River below Bartlett Dam, Ariz.

| Year | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | June | July | Aug | Sept | Total |
|------|-----|------|------|-------|------|------|------|------|------|------|------|-------|-------|
| 1888 | 168 | 162 | 199 | 249 | 1173 | 3711 | 795 | 197 | 143 | 206 | 17 | 168 | 1074 |
| 1889 | 220 | 286 | 281 | 209 | 1500 | 2500 | 368 | 171 | 153 | 220 | 190 | 123 | 1435 |
| 1892 | 381 | 359 | 300 | 143 | 1747 | 1928 | 571 | 153 | 109 | 131 | 278 | 395 | 2700 |
| 1893 | 258 | 259 | 326 | 286 | 192 | 160 | 87.6 | 90 | 52 | 152 | 190 | 151 | 188 |
| 1894 | 227 | 257 | 282 | 231 | 572 | 1190 | 240 | 450 | 160 | 225 | 802 | 530 | 1700 |
| 1895 | 378 | 296 | 315 | 201 | 253 | 930 | 171 | 168 | 179 | 119 | 437 | 292 | 266 |
| 1896 | 242 | 230 | 312 | 407 | 1668 | 1720 | 750 | 258 | 157 | 115 | 332 | 176 | 1092 |
| 1897 | 475 | 461 | 391 | 325 | 107 | 283 | 220 | 172 | 117 | 862 | 849 | 557 | 1600 |
| 1898 | 452 | 492 | 352 | 238 | 87 | 150 | 189 | 269 | 150 | 130 | 139 | 99 | 708 |
| 1899 | 305 | 262 | 267 | 293 | 494 | 639 | 312 | 181 | 231 | 132 | 100 | 338 | 324 |
| 1899 | 169 | 195 | 303 | 350 | 311 | 260 | 200 | 192 | 152 | 365 | 431 | 171 | 274 |
| 1900 | 549 | 222 | 217 | 189 | 198 | 160 | 87.6 | 91.2 | 52.2 | 51.6 | 150 | 121 | 175 |
| 1901 | 187 | 410 | 226 | 351 | 1858 | 899 | 189 | 110 | 102 | 210 | 427 | 92.7 | 433 |
| 1902 | 131 | 218 | 268 | 226 | 249 | 248 | 220 | 181 | 174 | 86 | 478 | 105.7 | 292 |
| 1903 | 144 | 208 | 412 | 250 | 362 | 1175 | 749 | 111 | 196 | 232 | 329 | 513 | 580 |
| 1904 | 318 | 207 | 227 | 237 | 226 | 181 | 119 | 126 | 62.9 | 72.9 | 621 | 482 | 361 |
| 1905 | 188 | 210 | 271 | 111.9 | 7708 | 8780 | 227 | 832 | 281 | 245 | 567 | 771 | 2163 |
| 1906 | 511 | 432 | 875 | 812 | 1202 | 5161 | 629 | 277 | 150 | 231 | 713 | 211 | 1276 |
| 1907 | 187 | 312 | 260 | 249 | 2619 | 3767 | 838 | 257 | 209 | 217 | 430 | 404 | 1788 |
| 1908 | 614 | 375 | 323 | 306 | 1973 | 1739 | 301 | 143 | 146 | 162 | 380 | 356 | 628 |
| 1909 | 266 | 281 | 329 | 260 | 1459 | 2029 | 250 | 200 | 135 | 379 | 1255 | 475 | 1057 |
| 1910 | 160 | 221 | 358 | 356 | 513 | 1788 | 839 | 110 | 61.6 | 125 | 313 | 221 | 658 |
| 1911 | 179 | 327 | 301 | 290 | 2511 | 3372 | 430 | 180 | 281 | 444 | 245 | 552 | 918 |
| 1912 | 681 | 510 | 590 | 300.8 | 300 | 1465 | 1116 | 261 | 229 | 311 | 487 | 209 | 621 |
| 1913 | 608 | 456 | 286 | 229 | 682 | 1781 | 114 | 115 | 131 | 151 | 220 | 361 | 520 |
| 1914 | 201 | 339 | 306 | 952 | 3048 | 717 | 251 | 151 | 111 | 204 | 231 | 230 | 516 |
| 1915 | 207 | 270 | 652 | 124 | 2440 | 3591 | 280 | 266 | 207 | 332 | 342 | 173 | 1202 |
| 1916 | 172 | 248 | 393 | 623 | 2376 | 5181 | 596 | 232 | 159 | 201 | 508 | 1296 | 1253 |
| 1917 | 726 | 324 | 340 | 122 | 2496 | 1760 | 605 | 125 | 231 | 117 | 727 | 389 | 1231 |
| 1918 | 247 | 227 | 266 | 391 | 901 | 4613 | 355 | 160 | 137 | 191 | 515 | 190 | 690 |
| 1919 | 193 | 346 | 458 | 345 | 973 | 1560 | 730 | 173 | 148 | 212 | 906 | 471 | 749 |
| 1920 | 712 | 2850 | 2330 | 2235 | 7895 | 1883 | 804 | 305 | 209 | 180 | 456 | 228 | 1774 |
| 1921 | 411 | 453 | 342 | 315 | 319 | 522 | 236 | 167 | 126 | 296 | 1695 | 367 | 428 |
| 1922 | 242 | 286 | 447 | 259 | 2749 | 3279 | 670 | 256 | 163 | 209 | 333 | 240 | 1082 |
| 1923 | 185 | 283 | 229 | 317 | 222 | 2707 | 291 | 193 | 116 | 189 | 254 | 929 | 212 |
| 1924 | 223 | 248 | 250 | 94 | 338 | 230 | 658 | 338 | 172 | 197 | 299 | 208 | 751 |
| 1925 | 228 | 228 | 413 | 298 | 329 | 153 | 152 | 204 | 129 | 204 | 356 | 218 | 161 |
| 1926 | 373 | 311 | 365 | 298 | 293 | 720 | 127 | 108 | 143 | 228 | 141 | 367 | 708 |
| 1927 | 212 | 215 | 432 | 321 | 1080 | 329 | 865 | 197 | 202 | 232 | 171 | 824 | 1010 |
| 1928 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 |
| 1929 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 |
| 1930 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 |
| 1931 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 |
| 1932 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 |
| 1933 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 |
| 1934 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 |
| 1935 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 |
| 1936 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 |
| 1937 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 |
| 1938 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 |
| 1939 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 |
| 1940 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 |
| 1941 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 |
| 1942 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 |
| 1943 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 |
| 1944 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 |
| 1945 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 |
| 1946 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 |
| 1947 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 |
| 1948 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 |
| 1949 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 |
| 1950 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 | 221 |

* Revised.

Will Supplement This Page

Yearly discharge, in second-feet, of Verde River below Bartlett Dam, Ariz.--Continued

| Year | W.S.P. no. | Water year ending Sept. 30 | | | | Calendar year | | |
|------|------------|----------------------------|----------------|-------------|--------|---------------------|--------|---------------------|
| | | Momentary maximum | | Minimum day | Mean | Runoff in acre-feet | Mean | Runoff in acre-feet |
| | | Discharge | Date | | | | | |
| 1901 | 73,75 | - | - | 29 | 433 | 313,200 | 417 | 301,800 |
| 1902 | 73,1049 | - | - | - | 292 | 211,100 | 304 | 220,200 |
| 1903 | 100,1049 | - | - | - | 580 | 419,900 | 576 | 417,400 |
| 1904 | 133 | - | - | 32 | 381 | 276,700 | 371 | 269,700 |
| 1905 | 175 | - | - | 119 | 2,167 | 1,569,000 | 2,516 | 1,821,000 |
| 1906 | 211 | 96,000 | Nov. 27, 1905 | 105 | 1,246 | 901,700 | 1,108 | 802,300 |
| 1907 | 249 | - | - | 144 | 1,188 | 860,000 | 1,033 | 748,000 |
| 1908 | 249 | - | - | 98 | 628 | 455,700 | 828 | 601,200 |
| 1909 | 269 | - | - | 116 | 1,054 | 763,400 | 805 | 582,700 |
| 1910 | 289 | - | - | - | 655 | 474,100 | 662 | 479,300 |
| 1911 | 309 | - | - | - | 918 | 664,400 | 999 | 724,200 |
| 1912 | 329 | - | - | - | 621 | 452,200 | 572 | 445,100 |
| 1913 | 359,1049 | - | - | 46 | 523 | 378,800 | 494 | 357,700 |
| 1914 | 389 | - | - | 78 | 546 | 395,400 | 580 | 420,100 |
| 1915 | 409,1213 | - | - | 95 | *1,202 | *870,400 | *1,166 | *844,000 |
| 1916 | (b) | - | - | 115 | *1,759 | *1,277,000 | *1,808 | *1,312,000 |
| 1917 | 459,1049 | - | - | 128 | 1,234 | 893,200 | 1,180 | 854,200 |
| 1918 | 479,1049 | - | - | 112 | 690 | 499,800 | 711 | 514,400 |
| 1919 | 509 | - | - | 80 | 749 | 542,100 | 1,152 | 833,800 |
| 1920 | 509 | - | - | 117 | 1,744 | 1,266,000 | 1,346 | 977,400 |
| 1921 | 529 | - | - | 80 | 428 | 309,600 | 523 | 378,900 |
| 1922 | 549 | - | - | 120 | 1,082 | 783,200 | 1,042 | 754,300 |
| 1923 | 569 | - | - | 88 | 742 | 537,300 | 999 | 722,900 |
| 1924 | 589 | - | - | 72 | 754 | 547,500 | 429 | 311,400 |
| 1925 | 609,1049 | 120,000 | Sept. 17, 1925 | 111 | 364 | 263,500 | 416 | 301,000 |
| 1926 | 629,1049 | 132,000 | Apr. 6, 1926 | 96 | 708 | 512,700 | 658 | 476,400 |
| 1927 | 649,1049 | 170,000 | Feb. 17, 1927 | 108 | 1,130 | 818,200 | 1,139 | 824,500 |
| 1928 | 669 | 114,000 | Feb. 5, 1928 | 85 | 432 | 313,900 | 419 | 304,100 |
| 1929 | 689,1049 | 126,000 | Apr. 5, 1929 | 88 | 539 | 390,400 | 521 | 377,300 |
| 1930 | 704 | 18,100 | Aug. 9, 1930 | 60 | 396 | 286,600 | 435 | 314,800 |
| 1931 | 719 | 134,000 | Feb. 14, 1931 | 77 | 557 | 403,400 | 614 | 444,200 |
| 1932 | 734 | 153,000 | Feb. 9, 1932 | 100 | 1,150 | 835,000 | 1,070 | 776,400 |
| 1933 | 749 | 11,660 | Mar. 13, 1933 | 74 | 303 | 219,700 | 295 | 213,400 |
| 1934 | 764 | 3,300 | Aug. 25, 1934 | 69 | 227 | 164,200 | 232 | 167,600 |
| 1935 | 789 | 14,300 | Feb. 7, 1935 | 79 | 698 | 505,500 | 699 | 506,400 |
| 1936 | 809 | 12,000 | Feb. 24, 1936 | 64 | 396 | 287,400 | 400 | 290,400 |
| 1937 | 829 | 63,000 | Feb. 7, 1937 | 92 | 1,131 | 819,200 | 1,121 | 811,300 |
| 1938 | 859 | 95,000 | Mar. 4, 1938 | 84 | 602 | 436,000 | 608 | 440,500 |
| 1939 | 879 | 2,120 | Sept. 11, 1939 | 58 | 345 | 250,100 | 373 | 279,300 |
| 1940 | 899 | 2,120 | Mar. 9, 1940 | 3 | 329 | 238,900 | 345 | 250,500 |
| 1941 | 929 | 45,800 | Mar. 15, 1941 | 5 | 1,588 | 1,150,000 | 1,529 | 1,107,000 |
| 1942 | 959 | 1,920 | Apr. 3, 1942 | 2 | 406 | 293,900 | 402 | 291,300 |
| 1943 | 979 | 1,780 | Mar. 17, 1943 | 0 | 391 | 282,800 | 392 | 284,000 |
| 1944 | 1009 | 2,940 | Mar. 29, 1944 | 4 | 604 | 438,500 | 614 | 445,400 |
| 1945 | 1039 | 1,860 | Sept. 10, 1945 | .4 | 547 | 395,900 | 543 | 393,100 |
| 1946 | 1059 | 1,990 | Dec. 29, 1945 | 2 | 263 | 190,400 | 269 | 194,700 |
| 1947 | 1089 | 1,050 | Mar. 15, 1947 | 6 | 265 | 191,700 | 292 | 211,500 |
| 1948 | 1119 | 2,200 | Dec. 28, 1947 | 2 | 328 | 237,800 | 284 | 206,200 |
| 1949 | 1149 | 2,910 | Mar. 24, 1949 | 3 | 711 | 515,100 | 719 | 520,700 |
| 1950 | 1179 | 1,640 | Feb. 23, 1950 | 7 | 330 | 239,000 | - | - |

* Revised.

† Not previously published.

b Water-Supply Papers 439,1049,1213.

786. Diversion for city of Phoenix from Verde River, at McDowell, Ariz.

Location.--Lat 33°33', long. 111°40', in SE¼ sec. 6, T. 2 N., R. 7 E., near mouth of Verde River, 1 mile downstream from pump on river, 6 miles downstream from infiltration galleries, and 6.1 miles south of McDowell.

Determination of discharge.--Computed from records of Sparling meter on pipeline since May 1950.

February 1922 to December 1928 and April to May 1929, computed on basis of records of water consumption and pumpage.

January 1929 to May 1950, except for April and May 1929, computed on basis of water-stage recorder and weir 2 miles upstream.

Remarks.--Water is pumped from infiltration galleries and shallow wells, and since May 1950 also directly from Verde River. Infiltration galleries and shallow wells are on right bank in SE¼ sec. 6, T. 3 N., R. 7 E., three-quarters of a mile downstream from McDowell and 6¼ miles upstream from mouth of river; pump taking water directly from river is located in SE¼ sec. 31, T. 3 N., R. 7 E., 6 miles downstream from McDowell and 1 mile upstream from mouth. Water is carried 29 miles by pipe line for municipal supply of Phoenix. Waste below point of measurement is negligible.

Cooperation.--Records collected by city of Phoenix and furnished by Salt River Valley Water Users' Association.