09510000 VERDE RIVER BELOW BARTLETT DAM, AZ

LOCATION.--Lat 33°48'30", long 111°39'46", in NW1/4 sec. 5, T.5 N., R.7 E. (unsurveyed), Maricopa County, Hydrologic Unit 15060203, in Tonto National Forest, on right bank 2.1 mi downstream from Bartlett Dam, 4.0 mi upstream from Camp Creek, and 16 mi east of town of Cave Creek.

DRAINAGE AREA.--6,161 mi^2, of which 365 mi^2 is noncontributing, including 357 mi^2 in Aubrey Valley Playa, a closed basin.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Aug. 1888 to current year. (Monthly discharge only Aug. 1888 to Dec. 1903, and Jan. 1910 to Sept. 1913. For some periods prior to Dec. 1903 gage heights, discharge measurements, and daily discharge hydrographs are published in reports of the Geological Survey.) Prior to Oct. 1941, published under different names as follows: "near Fort McDowell," "at mouth," "above Salt River," "at McDowell," "at McDowell near Lehi," "near McDowell," and "above Camp Creek, near McDowell."

REVISED RECORDS.--WSP 1049: 1893, 1913–14, 1917–18, 1926–27, 1929. WSP 1213: 1915–16. WDR AZ–89–1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,570.34 ft above sea level. Gage at present site and datum 2.00 ft higher Jan. 1, 1942, to Sept. 30, 1961, Dec. 30, 1965, to Mar. 10, 1971, and Oct. 1, 1978, to Jan. 4, 1993; Mar. 2 to Sept. 30, 1978, used as supplementary gage, and Feb. 18, 1975, to Feb. 28, 1978, supplementary water-stage recorder at site 30 ft upstream at same datum. Oct. 1, 1961, to Dec. 29, 1965, and Mar. 11, 1971, to Sept. 30, 1973, water-stage recorder at site 1.9 mi upstream at datum 1,600 ft, from topographic map; at same site at datum 4.00 ft higher, Oct. 1, 1973, to Mar. 3, 1975, and 5.00 ft higher, Oct. 1, 1961, to Dec. 29, 1965, and Mar. 11, 1971, to Sept. 30, 1973. Feb. 17, 1925, to Dec. 31, 1941, water-stage recorder at two sites within 0.5 mi upstream from Camp Creek, at various datums. Prior to Feb. 17, 1925, nonrecording gages at several sites about 20 mi downstream from present location at various datums.

REMARKS.--Records good, except for estimated daily discharges, which are poor. About 12,500 acres above station are irrigated by surface water and ground water. Flow completely regulated by Bartlett Reservoir since Feb. 5, 1939, and Horseshoe Reservoir since Nov. 15, 1945, except during periods of spill. Water diverted downstream for municipal supply for the city of Phoenix, and for irrigation in Fort McDowell Indian Reservation. Remainder (except during infrequent periods of extreme flooding) is diverted at Granite Reef Dam on Salt River 27 mi downstream for irrigation in Salt River Valley, and for municipal use by the city of Phoenix.

AVERAGE DISCHARGE (adjusted for storage in Bartlett and Horseshoe Reservoirs).--117 years, 666 ft^3/s, 482,500 acre-ft/yr; median of yearly mean discharge, 520 ft^3/s, 377,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--1888–1939: Maximum discharge not determined, probably over 150,000 ft^3/s Feb. 24, 1891; minimum daily, 29 ft^3/s July 11 and 13, 1901. Floods of Nov. 27, 1905 and Mar. 4, 1938, reached maximum discharges of 96,000 ft^3/s and 95,000 ft^3/s, respectively.
1939–2005: Maximum discharge, 110,000 ft^3/s Jan. 8, 1993; no flow at Bartlett Dam at times when gates in dam were closed.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 25,100 ft^3/s Feb. 13. Minimum daily discharge, 93 ft^3/s Nov. 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125	623	379	15100	2670	2120	1220	790	1050	782	927	e290
2	155	622	369	17300	2270	1800	860	326	1040	780	927	e290
3	156	518	483	16100	1890	1300	735	351	1080	779	935	e295
4	157	469	497	17500	1660	2150	575	402	1110	779	929	e295
5	160	327	413	6810	1360	2730	537	402	1110	778	828	e295
6	162	325	344	5630	1360	2320	544	359	1100	790	772	e295
7	162	279	327	6880	1360	2170	536	400	1060	810	783	e290
8	162	243	567	7840	1660	2500	542	422	955	846	628	e290
9	161	263	616	4230	2270	1470	548	466	855	863	603	e290
10	264	339	551	3090	5470	1280	547	641	840	879	627	e285
11	382	331	492	4190	11300	1820	372	734	829	894	643	e285
12	351	278	507	10500	24300	1830	173	786	820	907	639	e285
13	368	233	551	7530	25100	1110	110	858	813	925	634	e280
14	376	211	576	3950	20000	1430	108	964	805	942	629	e280
15	369	308	553	2130	17500	1370	144	1010	804	959	624	e280
16	312	357	411	1570	14600	1150	195	1080	803	974	624	e280
17	268	224	459	1570	14700	1020	260	1110	799	991	719	e280
18	269	109	581	1570	9550	1060	320	1130	798	1000	793	e275
19	270	157	671	1570	5280	1260	225	1150	797	1010	793	e275
20	225	219	711	1570	7970	1880	102	1150	797	1000	794	e275
21	205	222	783	2140	10500	2400	102	1150	794	1000	794	e275
22	181	183	862	2660	10800	2540	122	1140	792	1010	794	e275
23	99	111	761	2680	9430	1360	700	1120	791	1010	e300	e275
24	97	94	509	2680	5410	1380	841	e990	789	1010	e300	e275
25	97	93	439	3840	2760	1570	894	e975	788	1010	e300	e275
26	112	116	479	8010	1970	1580	933	e960	785	1010	e300	e275
27	185	181	528	10400	2250	1230	795	e945	785	985	e295	e275
28	243	205	546	8290	3250	1220	622	e935	785	929	e295	e275
29	201	204	558	4520	---	1220	736	e915	783	929	e295	e275
30	232	332	11100	4580	---	1210	794	e900	783	928	e295	e275
31	454	---	13100	3560	---	1320	---	930	---	926	e290	---
TOTAL	6960	8176	39723	189990	218640	50800	15192	25491	26140	28435	19109	8460
MEAN	225	273	1281	6129	7809	1639	506	822	871	917	616	282
MAX	454	623	13100	17500	25100	2730	1220	1150	1110	1010	935	295
MIN	97	93	327	1570	1360	1020	102	326	783	778	290	275
AC-FT	13810	16220	78790	376800	433700	100800	30130	50560	51850	56400	37900	16780

CAL YR 2004 TOTAL 95712 MEAN 262 MAX 13100 MIN 80 AC-FT 189800
WTR YR 2005 TOTAL 637116 MEAN 1746 MAX 25100 MIN 93 AC-FT 1264000

e Estimated

09510000 VERDE RIVER BELOW BARTLETT DAM, AZ—CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Dec. 1950 to Aug. 1992, June 1999 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Oct. 1964 to Dec. 1981, Mar. 1982 to Sept. 1982, Apr. 1983 to Sept. 1990.

WATER TEMPERATURE: Dec. 1950 to Dec. 1981, Mar. 1982 to Sept. 1982, Apr. 1983 to Sept. 1990.

REMARKS.--Unpublished daily specific conductance measurements for period Dec. 1950 to Sept. 1964 available from Arizona Water Science Center in Tucson, AZ.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Time	Instan-taneous dis-charge, cfs (00061)	Turbdty white light, det ang 90+/-30 corrctd NTRU (63676)	Baro-metric pres-sure, mm Hg (00025)	Dis-solved oxygen, mg/L (00300)	Dis-solved oxygen, percent of sat-uration (00301)	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, air, deg C (00020)	Temper-ature, water, deg C (00010)	Hard-ness, water, mg/L as CaCO3 (00900)	Noncarb hard-ness, wat flt field, mg/L as CaCO3 (00904)	Calcium water, fltrd, mg/L (00915)
NOV													
30...	1000	374	28	733	9.9	99	8.2	569	8.5	13.5	200	6	38.9r
JAN													
04...	1230	25900	240	719	12.5	117	8.1	272	10.0	9.7	120	2	26.4
MAY													
04...	1225	430	51	719	10.1	103	7.9	226	29.0	13.5	99	.0	25.6
JUL													
20...	1115	1200	13	720	9.4	107	8.0	344	41.5	19.0	160	12	37.8

Date	Calcium water unfltrd recover -able, mg/L (00916)	Magnes-ium, water, fltrd, mg/L (00925)	Magnes-ium, water, unfltrd recover -able, mg/L (00927)	Potas-sium, water, fltrd, mg/L (00935)	Sodium adsorp-tion ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alka-linity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicar-bonate, wat flt incrm. titr., field, mg/L (00453)	Carbon-ate, wat flt incrm. titr., field, mg/L (00452)	Chlor-ide, water, fltrd, mg/L (00940)	Fluor-ide, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of consti-tuents mg/L (70301)
NOV													
30...	41.1c	25.4r	25.0c	3.69	.9	28.8	195	224	7	18.3	.3	42.7	276
JAN													
04...	33.0	13.1	16.3	2.70	.5	13.6	118	142	1	8.14	.2	19.9	156
MAY													
04...	29.0	8.47	9.11	1.76	.3	7.07	98	120	<1	4.09	.1	7.4	115
JUL													
20...	37.6	15.2	14.4	1.95	.4	12.2	145	177	<1	7.62	.2	16.2	178

Date	Residue water, fltrd, tons/ acre-ft (70303)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Organic nitro-gen, water, unfltrd mg/L (00605)	Phos-phorus, water, unfltrd mg/L (00665)	Total nitro-gen, water, unfltrd mg/L (00600)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Anti-mony, water, fltrd, ug/L (01095)	Anti-mony, water, unfltrd ug/L (01097)	Arsenic water, fltrd, ug/L (01000)
NOV													
30...	.39	288	16	.48	E.03n	.23	--	.10	.70	E62k	E.14n	E.1n	13.3
JAN													
04...	.25	184	133d	.89	.04	.37	.85	.35	1.3	<3k	E.13n	E.1n	8.3
MAY													
04...	.21	152	23	.33	<.04	.29	--	.13	.62	E10k	<.20	<.2	5.4
JUL													
20...	.27	197	<10	.24	<.04	E.04n	--	.06	--	E15k	E.10n	<.2	8.1

Date	Arsenic water unfltrd ug/L (01002)	Barium, water, unfltrd recover -able, ug/L (01007)	Beryll-ium, water, fltrd, ug/L (01010)	Beryll-ium, water, unfltrd recover -able, ug/L (01012)	Boron, water, unfltrd recover -able, ug/L (01022)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	Chrom-ium, water, unfltrd recover -able, ug/L (01034)	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover -able, ug/L (01042)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover -able, ug/L (01051)	Mangan-ese, water, unfltrd recover -able, ug/L (01055)
NOV													
30...	14	59	<.06	E.03n	131	<.04	E.04n	1.4	1.3	3.2	<.08	.89	65
JAN													
04...	10	110	<.06	.32	67	<.04	.21	7.1	2.5	11.0	E.05n	6.38	145
MAY													
04...	6	52	<.06	.07	26	<.04	.05	1.9	2.3	4.7	.14	1.48	55
JUL													
20...	8	49	<.06	<.06	55	<.04	<.04	E.5n	1.9	1.7	<.08	.38	68

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Date	Mercury water, fltrd, ug/L (71890)	Mercury water, unfltrd recover -able, ug/L (71900)	Selen-ium, water, unfltrd ug/L (01147)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover -able, ug/L (01092)	Sus-pended sedi-ment concen-tration mg/L (80154)	Sus-pended sedi-ment dis-charge, tons/d (80155)
NOV							
30...	<.01	<.01	.7	.7	3	27	27
JAN							
04...	<.01	.01	.7	E.5n	20	262	18300
MAY							
04...	<.01	<.01	.7	3.0	6	40	46
JUL							
20...	<.01	<.01	.6	1.2	E1n	11	36

Remark codes used in this table:
< -- Less than.
E -- Estimated.

Value qualifier codes used in this table:
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the LRL and above the LT-MDL
r -- Value verified by rerun, same method

09510000 VERDE RIVER BELOW BARTLETT DAM, AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2004 TO SEPTEMBER 2005

Water-quality measurements in the following table were made as part of the ADEQ fixed-station Network Program. The following analyses are quality-assurance samples processed during the 2005 sampling period and are defined in the introductory text section titled "Water-Quality Control Data."

Date	Time	Sample type	pH, water, unfltrd field, std units (00400)	Specif. conduc-tance, wat unf uS/cm 25 degC (00095)	Temper-ature, air, deg C (00020)	Temper-ature, water, deg C (00010)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate water fltrd, mg/L as N (00631)	Phos-phorus, water, unfltrd mg/L (00665)	Beryll-ium, water, fltrd, ug/L (01010)	Cadmium water, fltrd, ug/L (01025)	Copper, water, fltrd, ug/L (01040)
MAY													
04...	1030	2	5.3	1	29.0	26.0	<.10	<.04	<.06	<.02	<.06	<.04	<.4

Date	Lead, water, fltrd, ug/L (01049)	Mercury water, fltrd, ug/L (71890)	Zinc, water, fltrd, ug/L (01090)
MAY			
04...	<.08	<.01	E.5nc

Remark codes used in this table:
< -- Less than.
E -- Estimated.

Value qualifier codes used in this table:
c -- See laboratory comment
n -- Below the LRL and above the LT-MDL