09448500 GILA RIVER AT HEAD OF SAFFORD VALLEY, NEAR SOLOMON, AZ

LOCATION.--Lat 32°52'06", long 109°30'38", in SE1/4NE1/4 sec. 31, T.6 S., R.28 E., Graham County, Hydrologic Unit 15040005, on left bank 0.6 mi downstream from intake of Brown Canal, 8 mi northeast of Solomon, and 17 mi downstream from San Francisco River. Records include flow of Brown Canal, which is measured 2,000 ft downstream from intake.

DRAINAGE AREA.--7,896 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Apr. 1914 to current year. Monthly discharge only for some periods, published in WSP 1313. Prior to Oct. 1932 and Oct. 1940 to Sept. 1949 published as "near Solomonsville" and Oct. 1932 to Oct. 1933 and May 1935 to Sept. 1940 as "below Bonita Creek near Solomonsville."

REVISED RECORDS.--WSP 1059: 1914, 1916–17, 1923(M), 1924–25, 1927, 1929–31(M). WSP 1179: 1915, 1918–19(M). WSP 1313: 1934. WSP 1733: 1923.

GAGE.--Water-stage recorder. Datum of gage is 3,059.92 ft above sea level. Prior to July 8, 1980, at datum 4.96 ft higher. See WSP 1733 for history of changes prior to Jan. 1, 1941. Supplementary water-stage recorder and Parshall flume on Brown Canal.

REMARKS.-- Records good, except estimated daily discharges, which are poor. Records show water reaching head of Safford Valley and include water diverted to Brown Canal. Diversions above station for mining, municipal use, and for irrigation of about 17,500 acres, much of it by pumping from ground water.

COOPERATION.--Record for Brown Canal furnished by Gila Water Commissioner.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 132,000 ft^3/s Oct. 2, 1983, gage height, 20.8 ft, from rating curve extended above 52,000 ft^3/s on basis of slope-area measurements at 14.40 ft and 20.8 ft; minimum, 11 ft^3/s June 25, 1956.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft^3/s and (or) maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 4	1745	12,600	13.56	Feb. 20.....	2300	10,800	13.00
Feb. 13	1400	*39,000	*18.44				

Minimum daily discharge, 49 ft^3/s July 17.

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	175	180	242	1030	1050	2940	655	565	280	67	147	78
2	156	175	241	874	906	2620	641	537	244	66	118	77
3	146	175	237	799	798	2330	631	513	211	66	96	76
4	134	176	229	5920	723	2100	623	488	188	65	83	113
5	126	171	232	8180	684	1940	618	458	176	66	83	129
6	116	167	242	6260	649	1850	610	409	164	67	75	147
7	104	165	270	5640	632	1910	600	407	153	63	82	252
8	102	164	276	3460	636	1870	604	407	145	57	92	230
9	101	161	260	2350	648	1870	617	399	136	54	96	269
10	98	158	254	1830	647	1840	645	389	131	55	124	208
11	95	155	249	1490	1500	1790	658	373	120	56	188	196
12	95	155	245	1310	22200	1730	656	360	110	54	181	179
13	92	162	243	1200	31000	1710	640	354	107	54	254	157
14	97	193	238	1060	17300	1700	619	336	104	59	265	136
15	106	188	235	935	9190	1670	612	320	99	71	258	122
16	107	188	233	835	6020	1610	614	307	97	52	360	113
17	108	187	230	760	4450	1550	638	300	91	49	308	108
18	107	189	230	690	3770	1480	662	299	90	52	237	98
19	109	186	231	640	5280	1360	698	296	87	75	206	90
20	105	183	232	609	7950	1260	708	290	86	81	178	82
21	102	184	233	584	9670	1190	689	281	81	72	174	81
22	103	189	232	566	e7630	1120	662	268	74	65	203	79
23	100	353	229	548	5690	1040	628	259	72	61	307	76
24	99	359	230	537	4710	986	623	248	78	58	219	72
25	99	308	230	526	4270	927	665	227	79	61	203	72
26	105	284	227	529	4010	856	687	210	77	88	165	73
27	290	268	227	574	3700	808	672	210	75	72	139	73
28	224	258	227	1100	3290	777	649	210	74	128	121	73
29	221	250	233	1260	---	731	613	296	69	203	106	75
30	193	244	537	1330	---	695	588	261	66	139	95	77
31	186	---	1440	1230	---	670	---	283	---	119	85	---
TOTAL	4001	6175	8894	54656	159003	46930	19225	10560	3564	2295	5248	3611
MEAN	129	206	287	1763	5679	1514	641	341	119	74.0	169	120
MAX	290	359	1440	8180	31000	2940	708	565	280	203	360	269
MIN	92	155	227	526	632	670	588	210	66	49	75	72
MED	106	185	233	1030	3890	1610	639	307	98	65	165	94
AC-FT	7940	12250	17640	108400	315400	93090	38130	20950	7070	4550	10410	7160
CFSM	0.02	0.03	0.04	0.22	0.72	0.19	0.08	0.04	0.02	0.01	0.02	0.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 2005, BY WATER YEAR (WY)

MEAN	378	275	507	703	793	856	579	299	107	200	488	383
MAX	7447	2230	5798	13990	5679	3629	2775	2038	716	736	2499	2081
(WY)	1984	1979	1979	1993	2005	1991	1973	1973	1992	1921	1923	1975
MIN	39.9	48.6	60.1	92.8	102	82.3	63.8	37.8	19.7	43.2	62.2	35.9
(WY)	1957	1957	1957	1954	1954	1971	1971	1956	1956	2003	2003	1956

SUMMARY STATISTICS	FOR 2004 CALENDAR YEAR		FOR 2005 WATER YEAR		WATER YEARS 1921 - 2005	
ANNUAL TOTAL	88304		324162			
ANNUAL MEAN	241		888		463	
HIGHEST ANNUAL MEAN					2229	1993
LOWEST ANNUAL MEAN					101	1951
HIGHEST DAILY MEAN	1480	Apr 14	31000	Feb 13	90000	Oct 2 1983
LOWEST DAILY MEAN	34	Jul 22	49	Jul 17	13	Jun 25 1956
ANNUAL SEVEN-DAY MINIMUM	40	Jul 18	56	Jul 8	15	Jun 22 1956
ANNUAL RUNOFF (AC-FT)	175200		643000		335700	
ANNUAL RUNOFF (CFSM)	0.031		0.112		0.059	
10 PERCENT EXCEEDS	553		1720		968	
50 PERCENT EXCEEDS	176		233		176	
90 PERCENT EXCEEDS	51		75		64	

e Estimated

09448500 GILA RIVER AT HEAD OF SAFFORD VALLEY, NEAR SOLOMON, AZ—CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Jan. 1976 to Oct. 1981, Oct. 1988 to current year.

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

Date	Time	Instantaneous discharge, cfs (00061)	Turbdty white light, det ang 90+/-30 corrctd NTRU (63676)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specif. conductance, wat unf uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Noncarb hardness, wat flt field, mg/L as CaCO3 (00904)	Calcium water, fltrd, mg/L (00915)
DEC													
08...	1110	278	76	690	10.2	98	8.4	827	11.5	9.1	170	12	50.7
MAR													
31...	1305	646	40	686	9.8	108	8.4	568	19.5	14.8	160	12	45.5
JUN													
08...	1245	141	36	682	7.6	103	8.5	980	28.5	24.6	210	47	64.1c
AUG													
17...	1125	298	2750d	683	6.9	96	8.2	643	31.0	25.9	150	13	45.0

Date	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., field, mg/L (00453)	Carbonate, wat flt incrm. titr., field, mg/L (00452)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue water, fltrd, sum of constituents mg/L (70301)
DEC													
08...	57.5	11.6	12.6	4.58	2	75.1	162	192	3	101	1.2	45.2	388
MAR													
31...	54.7	10.4	11.4	3.44	2	54.7	145	172	2	60.8	1.0	42.9	307
JUN													
08...	73.6	12.9c	15.1	6.59c	3	104c	167	186	8	154	1.4	74.8	518
AUG													
17...	134d	8.83	37.2d	5.37	2	65.0	136	161	2	86.6	1.2	39.3	335

Date	Residue water, fltrd, tons/acre-ft (70303)	Residue on evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, suspended, 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)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	E coli, m-TEC MF, water, col/100 mL (31633)	Antimony, water, fltrd, ug/L (01095)	Antimony, water, unfltrd ug/L (01097)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)
DEC													
08...	.60	440	122	.32	<.04	.20	.21	.52	E14k	<.20	<.2	2.6	3
MAR													
31...	.48	351	84	.26	<.04	.32	.19	.57	<1k	<.20	<.2	2.1	E1n
JUN													
08...	.80	587	47	.24	<.04	.26	.13	.50	E15k	<.20	E.1n	3.2	4
AUG													
17...	.53	386	2890c	4.2	<.04	.48	3.06d	4.7	3000	E.14n	E.1n	3.9	7

Date	Barium, water, unfltrd recoverable, ug/L (01007)	Beryllium, water, fltrd, ug/L (01010)	Beryllium, water, unfltrd recoverable, ug/L (01012)	Boron, water, unfltrd recoverable, ug/L (01022)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	Chromium, water, unfltrd recoverable, ug/L (01034)	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recoverable, ug/L (01042)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recoverable, ug/L (01051)	Manganese, water, unfltrd recoverable, ug/L (01055)	Mercury water, fltrd, ug/L (71890)
DEC													
08...	63	<.06	.20	65	<.04	.08	3.2	1.6	24.6	<.08	3.17	99	<.01
MAR													
31...	58	<.06	.14	67	<.04	.06	2.1	2.0	10.9	<.08	2.34	77	<.01
JUN													
08...	64	<.06	.11	119	<.04	.04	1.5	2.3	8.2	.15	1.15	62	<.01
AUG													
17...	516	<.06	4.98	82	E.02n	.98	30.1d	3.2	94.1	.23	54.6	2480	<.01

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

Date	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)
DEC						
08...	<.01	.6	E.5n	12	145	109
MAR						
31...	E.01n	.5	1.3	9	115	201
JUN						
08...	<.01	.8	2.2	6	60	23
AUG						
17...	.09	.6p	2.1	127	3740	3010

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
p -- Value reported is preferred

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)
JUN													
08...	1000	2	5.7	1	30.0	27.3	<.10	<.04	<.06	<.02	<.06	<.04	E.3n

Date	Lead, water, fltrd, ug/L (01049)	Mercury water, fltrd, ug/L (71890)	Zinc, water, fltrd, ug/L (01090)
JUN			
08...	<.08	<.01	E.3n

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

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