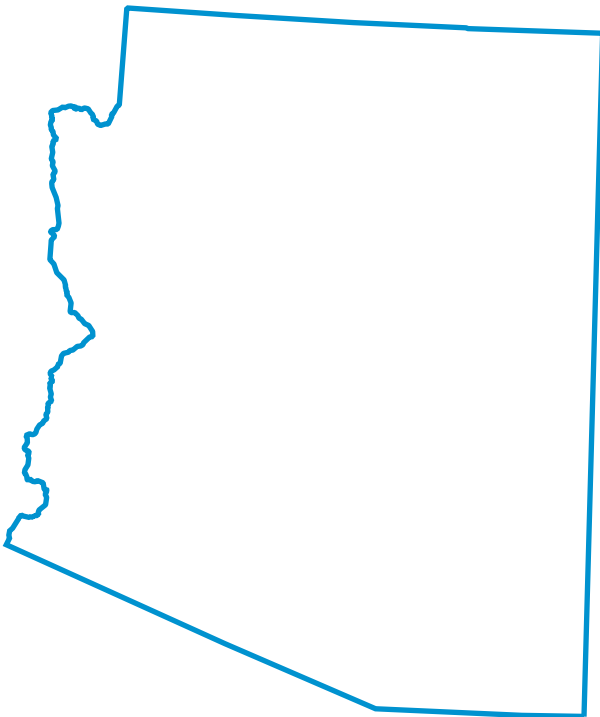


Water Resources Data Arizona Water Year 2003

Water-Data Report AZ-03-1



U.S. Department of the Interior
U.S. Geological Survey



Prepared in cooperation with the
State of Arizona
and with other agencies

CALENDAR FOR WATER YEAR 2003

2002

OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
		1	2	3	4	5						1	2	1	2	3	4	5	7	7
6	7	8	9	10	11	12	3	4	5	6	7	8	9	8	9	10	11	12	13	14
13	14	15	16	17	18	19	10	11	12	13	14	15	16	15	16	17	18	19	20	21
20	21	22	23	24	25	26	17	18	19	20	21	22	23	22	23	24	25	26	27	28
27	28	29	30	31			24	25	26	27	28	29	30	29	30	31				

2003

JANUARY							FEBRUARY							MARCH						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
			1	2	3	4						1							1	
5	6	7	8	9	10	11	2	3	4	5	6	7	8	2	3	4	5	6	7	8
12	13	14	15	16	17	18	9	10	11	12	13	14	15	9	10	11	12	13	14	15
19	20	21	22	23	24	25	16	17	18	19	20	21	22	16	17	18	19	20	21	22
26	27	28	29	30	31		23	24	25	26	27	28		23	24	25	26	27	28	29
														30	31					

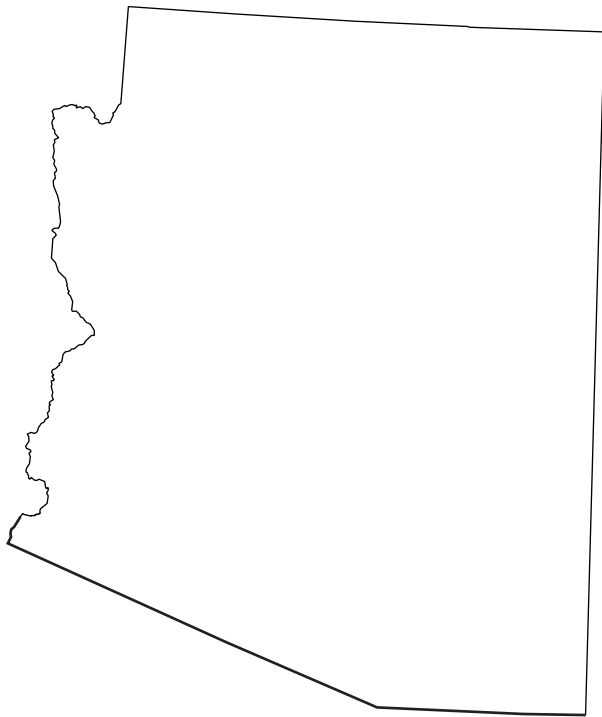
APRIL							MAY							JUNE							
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
			1	2	3	4	5					1	2	3	1	2	3	4	5	6	7
6	7	8	9	10	11	12	4	5	6	7	8	9	10	8	9	10	11	12	13	14	
13	14	15	16	17	18	19	11	12	13	14	15	16	17	15	16	17	18	19	20	21	
20	21	22	23	24	25	26	18	19	20	21	22	23	24	22	23	24	25	26	27	28	
27	28	29	30				25	26	27	28	29	30	31	29	30						

JULY							AUGUST							SEPTEMBER							
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	
			1	2	3	4	5						1	2		1	2	3	4	5	6
6	7	8	9	10	11	12	3	4	5	6	7	8	9	7	8	9	10	11	12	13	
13	14	15	16	17	18	19	10	11	12	13	14	15	16	14	15	16	17	18	19	20	
20	21	22	23	24	25	26	17	18	19	20	21	22	23	21	22	23	24	25	26	27	
27	28	29	30	31			24	25	26	27	28	29	30	28	29	30					

Water Resources Data Arizona Water Year 2003

By G. G. Fisk, N. R. Duet, D. W. Evans, C. E. Angeroth,
N. K. Castillo, and S. A. Longworth

Water-Data Report AZ-03-1



Prepared in cooperation with the
State of Arizona and with other agencies

U.S. Department of the Interior
U.S. Geological Survey



U.S. Department of the Interior

Gale A. Norton, Secretary

U.S. Geological Survey

Charles G. Groat, Director

2004

U.S. Geological Survey

520 North Park Avenue, Suite 221

Tucson, Arizona 85719-5035

(520) 670-6671

Information about the USGS, Arizona District is available on the Internet at <http://az.water.usgs.gov/>.

Information about all USGS reports and products is available by calling 1-888-ASK-USGS or on the Internet via the World Wide Web at <http://www.usgs.gov/>.

Additional earth science information is available by accessing the USGS home page at <http://www.usgs.gov/>.

PREFACE

This volume of the annual hydrologic data report of Arizona is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by State, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources.

This report is the culmination of a concerted effort by dedicated personnel of the Survey who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. The authors had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Survey policy and established guidelines. The following individuals contributed significantly to the collection, processing, and tabulation of the data:

Fletcher C. Brinkerhoff	Robert A. Fritzinger	Christie M. O'Day	Ryan M. Scott
Tony D. Carson	Chance C. Fulk	James M. Parent	Kent M. Sherman
Curtis W. Crouch	John W. Heaton	Cheryl K. Partin	James S. Tunnell
Michael J. Dai	Robert J. Hemauer	Arthur D. Rees	
Hugh L. Darling	Frank S. Johnson	Mike L. Sanders	
Kenneth D. Fossum	Frank G. Laguna	Henry W. Sanger	
Shirley D. Francisco	Jennifer L. Menefee	Frank W. Schaffner	

This report was prepared in cooperation with the State of Arizona and with other agencies, under the general supervision of Christopher F. Smith, Data Chief, Arizona.

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY <i>(Leave blank)</i>	2. REPORT DATE April 2004	3. REPORT TYPE AND DATES COVERED Annual--Oct 1, 2002 - Sept 30, 2003
---	-------------------------------------	--

4. TITLE AND SUBTITLE Water Resources Data for Arizona, Water Year 2003	5. FUNDING NUMBERS
---	--------------------

6. AUTHOR(S) G.G. Fisk, N.R. Duet, D.W. Evans, C.E. Angeroth, N.K. Castillo, and S.A. Longworth	
---	--

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Geological Survey, WRD 520 North Park Avenue, Suite 221 Tucson, Arizona 85719	8. PERFORMING ORGANIZATION REPORT NUMBER USGS-WDR-AZ-03-1
---	---

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Geological Survey, WRD 520 North Park Avenue, Suite 221 Tucson, Arizona 85719	10. SPONSORING / MONITORING AGENCY REPORT NUMBER USGS-WDR-AZ-03-1
--	---

11. SUPPLEMENTARY NOTES Prepared in cooperation with the State of Arizona and with other agencies.
--

12a. DISTRIBUTION / AVAILABILITY STATEMENT This report may be purchased from: U.S. Department of Commerce, National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161	12b. DISTRIBUTION CODE No restrictions on distribution
--	--

13. ABSTRACT <i>(Maximum 200 words)</i> The Arizona District water data report includes records on both surface water and ground water in the State for water year 2003. Specifically, it contains: (1) discharge records for 203 streamflow-gaging stations, for 29 crest-stage, partial-record streamflow stations, and 50 miscellaneous sites; (2) stage and (or) content only records for 9 lakes and reservoirs; (3) water-quality records for 29 streamflow-gaging stations; (4) ground-water levels and compaction values for 14 stations; and (5) water levels for 19 wells.
--

14. SUBJECT TERMS *Arizona, *Hydrologic data, *Surface water, *Ground water, *Water quality, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediment, Water Temperatures, Sampling sites, Water levels, Water analyses.	15. NUMBER OF PAGES 326 pages
	16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT UNCLASSIFIED	20. LIMITATION OF ABSTRACT UNCLASSIFIED
--	---	--	---

CONTENTS

	Page
Preface	iii
Report documentation page	iv
List of surface-water stations, in downstream order, by which records are published	vii
List of discontinued surface-water-discharge stations	xiii
List of discontinued surface-water-quality stations	xix
Introduction	1
Cooperation	2
Summary of hydrologic conditions	3
Downstream order and station number	3
Numbering system for wells and miscellaneous sites	5
Special networks and programs	7
Explanation of stage- and water-discharge records	9
Data collection and computation	9
Data presentation	10
Station manuscript	10
Peak discharge greater than base discharge	11
Data table of daily mean values	11
Statistics of monthly mean data	12
Summary statistics	12
Identifying estimated daily discharge	14
Accuracy of field data and computed results	14
Other data records available	14
Explanation of precipitation records	15
Data collection and computation	15
Data presentation	15
Explanation of water-quality records	15
Collection and examination of data	15
Water analyses	16
Surface-water-quality records	16
Classification of records	16
Accuracy of the records	17
Arrangement of records	17
Onsite measurements and sample collection	17
Water temperature	17
Sediment	18
Laboratory measurements	18
Data presentation	18
Remark codes	20
Water-quality control data	20
Blank samples	20
Reference samples	21
Replicate samples	21
Spike samples	22

CONTENTS

	Page
Ground-water levels and compaction values	22
Explanation of ground-water-level records.....	22
Site identification numbers	22
Data collection and computation	22
Data presentation	23
Water-level tables.....	24
Hydrographs	24
Access to USGS water data	24
Definition of terms	25
Publications on Techniques of Water-Resources Investigations	42
Hydrologic-data station records	49
Peak-discharge and stage at continuous-record discharge stations.....	294
Maximum discharge at crest-stage partial-record stations.....	294
Discharge measurements at miscellaneous sites.....	297
Ground-water levels and compaction values	301
Ground-water areas and abbreviations.....	316
Water levels in selected wells in ground-water areas in Arizona	317
Index	320

ILLUSTRATIONS

Figure 1.	1. Graphs showing mean monthly discharge for the 2003 water year compared with median of mean monthly discharge for period 1950–2003 at four representative gaging stations for which long-term records are available	4
	2. Diagram showing system for numbering wells and miscellaneous sites.....	5
	3. Diagram showing well-numbering and naming system	6
	4. Map showing locations of streamflow-gaging stations, water year 2003	47
	5. Map showing locations of surface-water-quality stations, water year 2003	48
	6. Schematic diagram showing streamflow-gaging stations and water-quality stations on streams, diversions, and return flows between Imperial Dam and the southerly international boundary	267
	7. Map showing locations of partial-record streamflow-gaging stations, water year 2003	293
	8. Index map of Arizona Department of Water Resources ground-water basins, Active Management Areas, and Irrigation Non-Expansion Areas	299
	9. Map showing locations of wells and extensometer sites, south-central Arizona ...	300
	10. Index map of U.S. Geological Survey ground-water areas in Arizona	315

TABLES

Calendar for water year 2003	inside front cover
Factors for converting inch-pound units to International (SI) units	inside back cover

SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, BY WHICH RECORDS ARE PUBLISHED

[Letters after station name designate type of data: (c) chemical; (d) discharge; (e) elevation; (g) gage height; (m) microbiological (bacteria); (n) turbidity; (p) pesticide; (q) specific conductance (daily); (r) radiochemical; (s) suspended sediment; (t) water temperature (daily); (v) contents]

Station name	Station No.	Page
<u>COLORADO RIVER BASIN</u>		
SAN JUAN RIVER BASIN		
Colorado River:		
Chinle Creek at Chinle (d)	09379025	49
Lukachukai Creek near Lukachukai (d)	09379050	50
Laguna Creek at Dennehotso (d)	09379180	51
San Juan River:		
Chinle Creek near Mexican Water (d)	09379200	52
Lake Powell at Glen Canyon Dam (v)	09379900	53
Colorado River below Glen Canyon Dam (d).....	09379910	54
Colorado River at Lees Ferry (c, d, m, n, q, s, t)	09380000	55
PARIA RIVER BASIN		
Paria River at Lees Ferry (d, s)	09382000	61
Colorado River at Compact Point, near Lees Ferry (d)	09383000	62
LITTLE COLORADO RIVER BASIN		
Little Colorado River above Lyman Lake, near St. Johns (d)	09384000	63
Little Colorado River below Salado Springs, near St. Johns (d)	09385700	64
Carrizo Wash near St. Johns (d)	09386020	65
Little Colorado River above Zion Reservoir, near St. Johns (d).....	09386030	66
Little Colorado River below Zion Reservoir, near St. Johns (d, s).....	09386100	67
Silver Creek:		
Show Low Creek near Lakeside (d)	09390500	68
Show Low Lake near Show Low (v).....	09391000	69
Show Low Creek below Jacques Dam, near Show Low (d)	09392000	70
Little Colorado River at Woodruff (d)	09394500	71
Puerco River near Chambers (d)	09396100	72
Little Colorado River near Joseph City (d, s)	09397300	73
Chevelon Creek below Wildcat Canyon near Winslow (d)	09397500	74
East Clear Creek (head of Clear Creek):		
Blue Ridge Reservoir near Pine (v)	09398300	75
Little Colorado River near Winslow (d)	09400350	76
Oraibi Wash near Tolani Lake (d)	09400562	77
Polacca Wash near Second Mesa (d)	09400568	78
Jeddito Wash near Jeddito (d)	09400583	79
Dinnebito Wash near Sand Springs (d)	09401110	80
Moenkopi Wash at Moenkopi (d)	09401260	81
Little Colorado River near Cameron (d, s)	09402000	82
Little Colorado River above the mouth near Desert View (d).....	09402300	83
Cottonwood Creek:		
Colorado River near Grand Canyon (d, q, t)	09402500	84

SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, BY WHICH RECORDS ARE PUBLISHED

--Continued

[Letters after station name designate type of data: (c) chemical; (d) discharge; (e) elevation; (g) gage height; (m) microbiological (bacteria); (n) turbidity; (p) pesticide; (q) specific conductance (daily); (r) radiochemical; (s) suspended sediment; (t) water temperature (daily); (v) contents]

Station name	Station No.	Page
COLORADO RIVER BASIN —Continued		
KANAB CREEK BASIN		
Kanab Creek near Kanab, UT (d)	09403600	88
HAVASU CREEK BASIN		
Havasu Creek at Supai (d)	09404110	89
Havasu Creek above the mouth, near Supai (d)	09404115	90
Colorado River above Diamond Creek near Peach Springs (c, d, n, r, s)	09404200	91
Diamond Creek near Peach Springs (d)	09404208	96
Spencer Creek near Peach Springs (d)	09404222	97
Truxton Wash near Valentine (d)	09404343	98
VIRGIN RIVER BASIN		
LAS VEGAS VALLEY		
Lake Mohave at Davis Dam, AZ-NV (v)	09422500	99
Colorado River below Davis Dam, AZ-NV (d)	09423000	100
Colorado River at Needles, CA (e)	09423500	101
DIVERSIONS AND RETURN FLOWS BETWEEN DAVIS DAM AND PARKER DAM		
Topock Marsh Inlet near Needles, CA (d)	09423550	102
Lake Havasu:		
DIVERSIONS FROM LAKE HAVASU		
Colorado River aqueduct near Parker Dam, AZ-CA (d)	09424150	103
BILL WILLIAMS RIVER BASIN		
Big Sandy River (head of Bill Williams River):		
Big Sandy River near Wikieup (d)	09424450	104
Santa Maria River near Bagdad (d)	09424900	105
Bill Williams River below Alamo Dam (d)	09426000	106
Bill Williams River at Mineral Wash, near Planet (c, d, m, n)	09426600	107
Bill Williams River near Parker (d)	09426620	109
Central Arizona Project Canal at Havasu Pumping Plant, near Parker (d)	09426650	110
Lake Havasu near Parker Dam, AZ-CA (e,v)	09427500	111
Colorado River below Parker Dam, AZ-CA (c, d, m, n)	09427520	113
DIVERSIONS AND RETURN FLOWS BETWEEN PARKER DAM AND PALO VERDE DAM		
Colorado River Indian Reservation Main Canal near Parker (d)	09428500	117
Palo Verde Canal near Blythe, CA (d)	09429000	118
Colorado River below Palo Verde Dam, AZ-CA (d)	09429100	119
Colorado River above Imperial Dam, AZ-CA (d)	09429490	120
Colorado River below Imperial Dam, AZ-CA (d)	09429500	124
Colorado River below Laguna Dam, AZ-CA (d)	09429600	125
GILA RIVER BASIN		
Gila River below Blue Creek, near Virden, NM (c, d, m, n, s)	09432000	126
Gila River at Duncan (d)	09439000	127
Gila River near Clifton (d)	09442000	128
Blue River near Clifton (d)	09444200	129

SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, BY WHICH RECORDS ARE PUBLISHED

--Continued

[Letters after station name designate type of data: (c) chemical; (d) discharge; (e) elevation; (g) gage height; (m) microbiological (bacteria); (n) turbidity; (p) pesticide; (q) specific conductance (daily); (r) radiochemical; (s) suspended sediment; (t) water temperature (daily); (v) contents]

Station name	Station No.	Page
COLORADO RIVER BASIN—Continued		
GILA RIVER BASIN—Continued		
Gila River—Continued		
San Francisco River at Clifton (d).....	09444500	130
Eagle Creek:		
Willow Creek:		
Eagle Creek above pumping plant, near Morenci (d)	09447000	131
Bonita Creek near Morenci (d)	09447800	132
Gila River at head of Safford Valley, near Solomon (c, d, m, n, s).....	09448500	133
Frye Creek near Thatcher (d).....	09460150	136
Gila River at Calva (c, d, m, n, s)	09466500	137
San Carlos River near Peridot (d)	09468500	140
San Carlos Reservoir at Coolidge Dam (v)	09469000	141
Gila River below Coolidge Dam (d)	09469500	142
San Pedro River at Palominas (d).....	09470500	143
Greenbush Draw near Palominas (d)	09470520	144
Banning Creek near Bisbee (d).....	09470700	145
Ramsey Canyon near Sierra Vista (d).....	09470750	146
Garden Canyon near Fort Huachuca (d)	09470800	147
San Pedro River at Charleston (c, d, p, s)	09471000	148
Huachuca Canyon near Fort Huachuca (d).....	09471310	153
Upper Babocomari River near Huachuca City (d).....	09471380	154
Babocomari River near Tombstone (d).....	09471400	155
San Pedro River near Tombstone (d)	09471550	156
San Pedro River at Redington Bridge near Redington (d)	09472050	157
Aravaipa Creek near Mammoth (d)	09473000	158
Gila River at Kelvin (d)	09474000	159
Florence-Casa Grande Canal near Florence (d)	09475500	162
Gila River at Attaway Road, Florence (d).....	09477570	163
Queen Creek below Whitlow Dam near Superior (d).....	09478500	164
Gila River near Maricopa (d).....	09479350	165
Santa Cruz River near Lochiel (d)	09480000	166
Santa Cruz River near Nogales (d)	09480500	167
Santa Cruz River at Continental (d)	09482000	168
Santa Cruz River at Tucson (d)	09482500	169
Tanque Verde Creek (head of Rillito Creek):		
Sabino Creek near Tucson (d)	09484000	170
Tanque Verde Creek at Tucson (d).....	09484500	173
Cienega Creek near Sonoita (d)	09484550	174
Pantano Wash near Vail (d)	09484600	175
Rincon Creek near Tucson (d)	09485000	176
Pantano Wash at Broadway Boulevard, at Tucson (d)	09485450	177

SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, BY WHICH RECORDS ARE PUBLISHED

--Continued

[Letters after station name designate type of data: (c) chemical; (d) discharge; (e) elevation; (g) gage height; (m) microbiological (bacteria); (n) turbidity; (p) pesticide; (q) specific conductance (daily); (r) radiochemical; (s) suspended sediment; (t) water temperature (daily); (v) contents]

Station name	Station No.	Page
COLORADO RIVER BASIN—Continued		
GILA RIVER BASIN—Continued		
Rillito Creek at Dodge Boulevard, at Tucson (d)	09485700	178
Rillito Creek at La Cholla Boulevard, near Tucson (d)	09486055	179
Canada del Oro below Ina Road, near Tucson (d)	09486350	180
Santa Cruz River at Cortaro (d)	09486500	181
Santa Cruz River at Trico Road, near Marana (d)	09486520	182
Arivaca Creek near Arivaca (d)	09486590	183
Altar Wash near Three Points (d)	09486800	184
Brawley Wash near Three Points (d)	09487000	185
Santa Cruz River near Laveen (d)	09489000	186
Black River (head of Salt River):		
Black River below pumping plant, near Point of Pines (d)	09489500	187
Black River near Fort Apache (d)	09490500	188
North Fork White River (head of White River):		
East Fork White River near Fort Apache (d)	09492400	189
White River near Fort Apache (d)	09494000	190
Salt River:		
Carrizo Creek:		
Corduroy Creek:		
Forestdale Creek:		
Forestdale Creek diversion from Show Low Creek, near Show Low (d)....	09495000	191
Carrizo Creek near Show Low (d)	09496500	192
Salt River near Chrysotile (d)	09497500	193
Cibecue Creek near Chrysotile (d)	09497800	194
Cherry Creek near Globe (d)	09497980	195
Pinal Creek at Inspiration Dam, near Globe (c, d, m, n, s)	09498400	196
Salt River near Roosevelt (c, d, m, n, s)	09498500	199
Pinto Creek below Haunted Canyon near Miami (d)	09498501	205
Pinto Creek near Miami (d)	09498502	206
South Fork Parker Creek near Roosevelt (d)	09498503	209
Tonto Creek above Gun Creek, near Roosevelt (d)	09499000	208
Reservoir system on Salt River at and below Roosevelt Dam (v)	09501000	209
Salt River below Stewart Mountain Dam (c, d, m, n, s)	09502000	210
Williamson Valley Wash near Paulden (d)	09502800	213
Del Rio Springs near Chino Valley (d)	09502900	214
Granite Creek at Prescott (c, d, m, p, s)	09502960	215
Granite Creek near Prescott (d)	09503000	218
Granite Creek below Watson Lake near Prescott (d)	09503300	219
Verde River near Paulden (d)	09503700	220
Verde River near Clarkdale (c, d, m, n, s)	09504000	221
Oak Creek near Sedona (d)	09504420	224
Oak Creek near Cornville (d)	09504500	225
Wet Beaver Creek (head of Beaver Creek) near Rimrock (d)	09505200	226

SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, BY WHICH RECORDS ARE PUBLISHED

--Continued

[Letters after station name designate type of data: (c) chemical; (d) discharge; (e) elevation; (g) gage height; (m) microbiological (bacteria); (n) turbidity; (p) pesticide; (q) specific conductance (daily); (r) radiochemical; (s) suspended sediment; (t) water temperature (daily); (v) contents]

Station name	Station No.	Page
COLORADO RIVER BASIN —Continued		
GILA RIVER BASIN —Continued		
Salt River—Continued		
Verde River—Continued		
Dry Beaver Creek near Rimrock (d)	09505350	227
West Clear Creek near Camp Verde (c, d, p, s).....	09505800	228
Verde River near Camp Verde (d).....	09506000	231
Fossil Creek:		
Fossil Creek diversions to Childs powerplant, near Camp Verde (d)	09507500	232
East Verde River:		
East Verde River diversion from East Clear Creek, near Pine (d)	09507580	233
East Verde River near Childs (c, d, m, n, s).....	09507980	234
Wet Bottom Creek near Childs (d)	09508300	237
Verde River below Tangle Creek, above Horseshoe Dam (c, d, m, n, s).....	09508500	238
Reservoir system on Verde River at and below Horseshoe Dam (v)	09509500	241
Verde River below Bartlett Dam (c, d, m, n, s)	09510000	242
Sycamore Creek near Fort McDowell (d)	09510200	245
Verde River near Scottsdale (d)	09511300	246
Indian Bend Wash at Curry Road, Tempe (d)	09512162	247
Salt River at Priest Drive near Phoenix (d)	09512165	248
Agua Fria River:		
Cave Creek below Cottonwood Creek, near Cave Creek (d)	09512280	249
Salt River at 51st Avenue, Phoenix (d)	09512406	250
Agua Fria River near Humboldt (d)	09512450	251
Agua Fria River near Mayer (d)	09512500	252
Agua Fria River near Rock Springs (d)	09512800	253
New River near Rock Springs (d).....	09513780	254
Skunk Creek near Phoenix (d)	09513860	255
Gila River at Estrella Parkway, near Goodyear (d).....	09514100	256
Hassayampa River near Morristown (d).....	09516500	257
Hassayampa River near Arlington (d).....	09517000	258
Centennial Wash at Southern Pacific Railroad bridge, near Arlington (d).....	09517490	259
Gila River above diversions, at Gillespie Dam (c, d, m, n, s).....	09518000	260
Gila River below Painted Rock Dam (d)	09519800	263
Gila River near Dateland (d)	09520280	264
Gila River near Dome (d)	09520500	265
Colorado River below Yuma Main Canal wasteway, at Yuma (d).....	09521100	266
Colorado River at northerly international boundary, above Morelos Dam, near Andrade, CA (c, d, m, n, p, r, s).....	09522000	268

SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, BY WHICH RECORDS ARE PUBLISHED

--Continued

[Letters after station name designate type of data: (c) chemical; (d) discharge; (e) elevation; (g) gage height; (m) microbiological (bacteria); (n) turbidity; (p) pesticide; (q) specific conductance (daily); (r) radiochemical; (s) suspended sediment; (t) water temperature (daily); (v) contents]

Station name	Station No.	Page
DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM		
Diversions at and below Imperial Dam, AZ-CA (d)		275
Gila Gravity Main Canal at Imperial Dam, AZ-CA (d)	09522500	278
All-American Canal near Imperial Dam, AZ-CA (d)	09523000	279
Yuma Main Canal at siphon-drop powerplant, near Yuma (d).....	09524000	280
Yuma Main Canal wasteway at Yuma (d)	09525000	281
Yuma Main Canal below Colorado River siphon, at Yuma (d)	09525500	282
Return surface flows below Imperial Dam, AZ-CA (d)		283
Pilot Knob powerplant and wasteway near Pilot Knob, CA (d)	09527000	287
All-American Canal below Pilot Knob wasteway, CA (d).....	09527500	288
RIO SONOYTA BASIN		
SAN SIMON WASH BASIN		
San Simon Wash near Pisinimo (d)	09535100	289
Vamori Wash at Kom Vo (d)	09535300	290
SULPHUR SPRING VALLEY		
WHITEWATER DRAW BASIN		
Leslie Creek near McNeal (d)	09537200	291
Whitewater Draw near Douglas (d).....	09537500	292
Peak-discharge and stage at continuous-record discharge stations		294
Maximum discharge at crest-stage partial-record stations		294
Discharge measurements at miscellaneous sites		297

DISCONTINUED SURFACE-WATER-DISCHARGE OR STAGE-ONLY STATIONS

The following continuous-record streamflow stations in Arizona have been discontinued or converted to partial-record stations. Daily streamflow records were collected and published for the period of record shown for each station.

Station name	Station No.	Drainage area, in square miles	Period of record (water years)
Lee Valley Creek above Lee Valley Reservoir, near Greer, AZ.....	09383200	¹ 1.3	1966–72
Lee Valley tributary near Greer, AZ.....	09383220	¹ 5	1966–72
Lee Valley Creek below Lee Valley Reservoir, near Greer, AZ.....	09383250	¹ 1.9	1966–72
Filler ditch at Greer, AZ.....	09383300	---	1960–77
Little Colorado River at Greer, AZ.....	09383400	29.1	1960–82
Nutrioso Creek above Nelson Reservoir, near Springerville, AZ.....	09383500	83.3	1967–82
Nutrioso Creek below Nelson Reservoir, near Springerville, AZ.....	09383550	86.7	1967–82
Lyman Reservoir near St. Johns, AZ.....	09384500	² 811	1940–78
Lyman Canal below Lyman Reservoir, near St. Johns, AZ.....	09385000	---	1950–80
Little Colorado River below Lyman Reservoir, near St. Johns, AZ.....	09385500	² 811	1941–80
Little Colorado River at St. Johns, AZ.....	09386000	² 964	1906–07, 1909, 1929–33, 1935–40
Little Colorado River above Zuni River, near Hunt, AZ.....	09386500	² 3,741	1940–72
Colorado River above Little Colorado River near Desert View, AZ.....	09383100	114,272	1983, 1985–86, 1989–2001
Little Colorado River near Hunt, AZ.....	09388000	² 6,383	1929–33, 1940–72
Silver Creek near Shumway, AZ.....	09390000	² 172	1942–55
Show Low Creek at Show Low, AZ.....	09392500	90.2	1944–55
Silver Creek at Snowflake, AZ.....	09393000	² 488	1906
Cottonwood Wash at Snowflake, AZ.....	09393400	262	1981–84
Silver Creek near Snowflake, AZ.....	09393500	925	1950–95
Silver Creek near Woodruff, AZ.....	09394000	² 966	1929–33, 1935–52
Puerco River near Church Rock, NM.....	09395350	205	1977–82, 1989–91
Puerco River near Lupton, AZ.....	09395650	¹ 1,050	1971–72
Black Creek near Lupton, AZ.....	09395900	494	1964–72, 1974–82
Black Creek below West Fork Black Creek, near Houck, AZ.....	09395990	628	1989–91
Puerco River near Adamana, AZ.....	09396500	² 2,654	1940–49
Little Colorado River at Holbrook, AZ.....	09397000	² 11,462	1905–07, 1949–73
Chevelon Creek near Winslow, AZ.....	09398000	² 785	1905–06, 1915–19, 1929–72
Clear Creek below Willow Creek, near Winslow, AZ.....	09398500	317	1947–91
Clear Creek near Winslow, AZ.....	09399000	621	1906, 1929–82
Jacks Canyon Creek near Winslow, AZ.....	09399400	295	1969–72

See footnotes at end of table.

DISCONTINUED SURFACE-WATER-DISCHARGE OR STAGE-ONLY STATIONS—Continued

Station name	Station number	Drainage area, in square miles	Period of record (water years)
Salt Creek near Winslow, AZ.....	09399500	287	1939–41
Little Colorado River near Winslow, AZ.....	09400000	¹ 16,100	1954–56
Rio de Flag at Flagstaff, AZ.....	09400600	51.0	1955–60
Little Colorado River at Grand Falls, AZ.....	09401000	² 21,068	1925–60, 1989–94
Coal Mine Wash tributary near Kayenta, AZ.....	09401226	.62	1977–81
Coal Mine Wash tributary No. 2 near Kayenta, AZ.....	09401229	.06	1977–79
Coal Mine Wash at mouth, near Shonto, AZ.....	09401239	137	1978–82
Moenkopi Wash near Moenkopi, AZ.....	09401250	¹ 1,650	1973–76
Moenkopi Wash near Tuba City, AZ.....	09401280	1,904	1926–41
Moenkopi Wash near Tuba City, AZ.....	09401400	2,492	1941–53, 1965–78
Moenkopi Wash near Cameron, AZ.....	09401500	2,662	1953–65
Little Colorado above mouth near Desert View, AZ.....	09402300	---	1990–93
Cottonwood Spring above confluence with Cottonwood Creek near Grand Canyon, AZ	09402450	.54	1994–2001
Bright Angel Creek near Grand Canyon, AZ.....	09403000	101	1923–74
Pipe Springs above Tonto Trail near Grand Canyon, AZ.....	09403010	1.70	1994–96
Sediment Tank at Indian Garden near Grand Canyon, AZ.....	09403012	---	1994–06
Pump House Wash Spring near Grand Canyon, AZ.....	09403013	less than .05	1995–2001
Garden Creek below Indian Garden near Grand Canyon, AZ.....	09403015	---	1994–96
Hermit Creek above Tonto Trail near Grand Canyon, AZ	09403043	10.5	1994–2001
Kanab Creek near Fredonia, AZ.....	09403780	1,085	1963–80
Kanab Creek above mouth near Supai, AZ.....	09403850	---	1990–93
Dogtown Wash above Dogtown Reservoir near Williams, AZ.....	09403990	4.69	1964–66
Dogtown Wash above Kaibab Reservoir, near Williams, AZ.....	09404020	15.4	1964–66
Cataract Creek near Williams, AZ.....	09404040	46.4	1965–72
Havasas Creek above Havasu Falls near Supai, AZ.....	09404112	2,898	1995–2000
Havasas Creek above mouth near Supai, AZ.....	09404115	---	1990–97
Colorado River above National Canyon near Supai, AZ.....	09404120	147,931	1983–96
Beaver Dam Wash at Beaver Dam, AZ.....	09414900	579	1993–98
Colorado River near Topock, AZ.....	09424000	^{1,2} 176,300	1917–82
Cottonwood Wash No. 1 near Kingman, AZ.....	09424200	143	1964–78
Francis Creek near Bagdad, AZ.....	09424432	134	1985–93
Burro Creek at old U.S. 93 bridge near Bagdad, AZ.....	09424447	² 611	1980–93
Kirkland Creek near Kirkland, AZ.....	09424470	109	1973–83
Date Creek near Congress, AZ.....	09425000	127	1939–43
Santa Maria River near Alamo, AZ.....	09425500	1,439	1939–66
Bill Williams River at Planet, AZ.....	09426500	5,054	1913–15, 1928–46
Tyson Wash at Quartzsite, AZ.....	09428900	421	1973–74
Colorado River at Palo Verde Dam, AZ–CA.....	09429010	^{1,2} 186,200	1969–88
Cibola Lake inlet near Cibola, AZ.....	09429280	---	1975–89
Cibola Lake outlet near Cibola, AZ.....	09429290	---	1975–89
Colorado River below Cibola Valley, AZ.....	09429300	^{1,2} 187,800	1956–88
Gila River at New Mexico–Arizona State Line, near Virden, NM.....	09438000	3,349	1939–49
Blue River near Clifton, AZ.....	09444200	506	1967–91
Willow Creek diversion from Black River, near Morenci, AZ	09445000	---	1945–2002
Willow Creek near Point of Pines, near Morenci, AZ.....	09445500	102	1944–67

See footnotes at end of table.

DISCONTINUED SURFACE-WATER-DISCHARGE OR STAGE-ONLY STATIONS—Continued

Station name	Station number	Drainage area, in square miles	Period of record (water years)
Willow Creek near Double Circle Ranch, near Morenci, AZ.....	09446000	149	1944-67
Eagle Creek near Double Circle Ranch, near Morenci, AZ.....	09446500	377	1944-67
Brown Canal St. Head of Safford Valley, near Solomon, AZ.....	09449500	---	1920-32
Gila River near Solomon, AZ.....	09451000	7,896	1914-32, 1940-50
Cave Creek near Paradise, AZ.....	09454500	¹ 39	1919-25
Cave Creek Canal near Paradise, AZ.....	09455000	---	1919-25
East Turkey Creek at Paradise, AZ.....	09455500	¹ 8.2	1919-25
San Simon River near San Simon, AZ.....	09456000	814	1919-25, 1931-33, 1935-41
San Simon River below Fandrop detention dam, near Bowie, AZ.....	09456200	1,400	1955-59
Gold Gulch below Creighton detention dam, near Bowie, AZ.....	09456600	104	1956-59
Gold Gulch below H-X detention dam, near Bowie, AZ.....	09456700	144	1956-59
San Simon River at Tanque, AZ.....	09456800	1,953	1957-59
Goat Well Wash below drop structure, near Solomon, AZ.....	09456900	77.2	1956-59
San Simon River near Solomon, AZ.....	09457000	2,192	1931-32, 1935-82
Marijilda Wash near Safford, AZ.....	09458050	10.9	1971-78
Deadman Creek near Safford, AZ.....	09458200	4.78	1989-93
Gila River at Safford, AZ.....	09458500	10,459	1940-49, 1956-65
Frye Creek at Thatcher, AZ.....	09460200	24.3	1963-74
Gila River at Black Point, near Geronimo, AZ.....	09466000	11,329	1943-45
Gila River near Bylas, AZ.....	09466300	11,380	1965-70
Gila River near Calva, AZ.....	09467100	11,550	1965-70
Gila River at Winkelman, AZ.....	09470000	13,268	1917-18, 1941-80, 1984-94
Huachuca Canyon near Fort Huachuca, AZ.....	09471300	3.24	1961-64
San Pedro River at Fairbank, AZ.....	09471500	1,672	1926-28
St. David ditch near St. David, AZ.....	09471560	---	1967-72
Pomerene Canal near St. David, AZ.....	09471590	---	1967-72
San Pedro River near Benson, AZ.....	09471800	2,490	1966-76
San Pedro River near Redington, AZ.....	09472000	2,927	1943-47, 1950-98
Peck Canyon tributary near Redington, AZ.....	09472100	8.02	1967-72
San Pedro River near Mammoth, AZ.....	09472500	3,583	1931-41
Aravaipa Creek near Feldman, AZ.....	09473020	557	1919-21
San Pedro River below Aravaipa Creek, near Mammoth, AZ.....	09473100	4,343	1979-83
San Pedro River near Winkelman, AZ.....	09473400	4,430	1962-65
San Pedro River at Winkelman, AZ.....	09473500	4,453	1966-78
Gila River at the Buttes, AZ.....	09474500	¹ 18,300	1898-99
Gila River near Sacaton, AZ.....	09478350	---	1995-98
Queen Creek at Whitlow Dam site (Whitlow's Ranch), near Superior, AZ.....	09478500	144	1948-59
Queen Creek near Florence Junction, AZ.....	09479000	192	1939-41
Queen Creek tributary at Apache Junction, AZ.....	09479200	.51	1961-68

See footnotes at end of table.

DISCONTINUED SURFACE-WATER-DISCHARGE OR STAGE-ONLY STATIONS—Continued

Station name	Station number	Drainage area, in square miles	Period of record (water years)
Gila River near Laveen, AZ	09479500	20,615	1940–95
Nogales Wash at Nogales, AZ.....	09481000	¹ 37	1932–34
Sonoita Creek near Patagonia, AZ.....	09481500	209	1930–33, 1935–72
Airport Wash at Tucson, AZ	09482400	23.0	1965–81
Railroad Wash at Tucson, AZ	09482950	2.3	1975–83
Tucson Arroyo at Vine Avenue, Tucson, AZ	09483000	8.2	1944–81
High School Wash at Tucson, AZ.....	09483010	.95	1973–83
Tanque Verde Creek near Tucson, AZ	09483100	43.0	1959–74
Sabino Creek near Mount Lemmon, AZ.....	09483300	3.19	1951–59
Bear Creek near Tucson, AZ.....	09484200	16.3	1959–74
Cienega Creek near Pantano, AZ.....	09484560	289	1968–75
Davidson Canyon Wash near Vail, AZ.....	09484590	50.5	1968–75
Atterbury West tributary at Tucson, AZ.....	09485390	4.97	1975–83
Pantano Wash at (near) Tucson, AZ.....	09485500	602	1940–41
Arcadia Wash at Tucson, AZ	09485550	2.72	1975–83
Rillito Creek near Tucson, AZ	09485850	892	1913–75
Cañada del Oro near Oracle Junction, AZ.....	09486100	42.3	1985–91
Cañada del Oro near Tucson, AZ.....	09486300	250	1965–78
Santa Cruz River at Ina Road, near Tucson, AZ.....	09486490	3,489	1991–93
Arivaca Creek at Arivaca, AZ.....	09486580	56.8	1996–2002
Santa Cruz River near Rillito, AZ.....	09486510	3,559	1991
Arivaca Wash near Arivaca, AZ.....	09486600	78.4	1967–72
Santa Rosa Wash at Gu Komelik, near Sells, AZ	09487500	629	1954–59
Kohatk Wash near Chiapuk, near Sells, AZ.....	09488000	185	1954–59
Santa Rosa Wash near Vaiva Vo, near Sells, AZ.....	09488500	1,782	1954–80
Vekol Wash near Stanfield, AZ	09488650	150	1991–99
North Fork of East Fork Black River near Alpine, AZ.....	09489070	38.1	1965–78
Forest Service Gage, East For Weir, AZ.....	09489075	---	1973–80
North Fork Thomas Creek near Alpine, AZ	09489082	0.73	1986–91
Black River near Maverick, AZ	09489100	315	1962–82
Wacheta Creek at Maverick, AZ	09489200	14.8	1957–80
Big Bonito Creek near Fort Apache, AZ	09489700	119	1957–81
Turkey Creek near Fort Apache, AZ.....	09490000	12.7	1955–60
North Fork White River near Greer, AZ	09490800	¹ 39	1965–78
North Fork White River near McNary, AZ.....	09491000	¹ 66	1945–54, 1957–85
North Fork White River at Whiteriver, AZ	09492000	357	1916–22
Rock Creek near Fort Apache, AZ.....	09492500	20.3	1955–60
East Fork White River at Fort Apache, AZ.....	09493000	135	1912–20
White River at Fort Apache, AZ	09493500	499	1912–19, 1921–22
White River near Fort Apache, AZ	09494000	632	1917–98
Carrizo Creek above Corduroy Creek, near Show Low, AZ.....	09494300	225	1953–67
Corduroy Creek above Forestdale Creek, near Show Low, AZ	09494500	57.0	1952–61
Forestdale Creek near Show Low, AZ	09495500	33.4	1952–61
Corduroy Creek near Mouth, near Show Low, AZ.....	09496000	203	1951–75

See footnotes at end of table.

DISCONTINUED SURFACE-WATER-DISCHARGE OR STAGE-ONLY STATIONS—Continued

Station name	Station number	Drainage area, in square miles	Period of record (water years)
Cibecue No. 1 tributary to Carrizo Creek, near Show Low, AZ	09496600	0.099	1958–71
Cibecue No. 2 tributary to Carrizo Creek, near Show Low, AZ	09496700	.065	1958–71
Canyon Creek near Globe, AZ	09497850	316	1975–81
Cherry Creek near Young, AZ	09497900	62.1	1963–77
Tonto Creek near Gisela, AZ	09498800	430	1964–75
Rye Creek near Gisela, AZ	09498870	122	1965–85
Tonto Creek near Roosevelt, AZ	09499500	838	1913–40
Salt River at Roosevelt (at reservoir site) (near Livingstone), AZ	09500500	5,824	1904–07
Salt River at McDowell, AZ	09502500	6,268	1904–09
Williamson Valley Wash near Paulden, AZ	09502800	255	1965–85
Willow Creek near Prescott, AZ	09503500	25.2	1932–37
Hell Canyon near Williams, AZ	09503720	14.9	1965–72
Volunteer Wash near Bellemont, AZ	09503800	² 130	1965–72
Oak Creek at Sedona, AZ	09504430	233	1981–95
Verde River at Camp Verde, AZ	09505000	² 4,215	1913–20
Rocky Gulch near Rimrock, AZ	09505220	1.4	1985–92
Red Tank Draw near Rimrock, AZ	09505250	49.4	1957–78
Montezuma Well Outlet near Rimrock, AZ	09505260	---	1977–92
Rattlesnake Canyon near Rimrock, AZ	09505300	24.6	1957–80
Beaver Creek at Camp Verde, AZ	09505500	433	1912–20
Verde River below Camp Verde, AZ	09505550	² 4,653	1971–78
Verde River at Childs, near Camp Verde, AZ	09506500	² 5,098	1913
East Verde River near Pine, AZ	09507600	6.34	1961–71
Webber Creek above West Fork Webber Creek, near Pine, AZ	09507700	4.79	1959–74
West Fork Webber Creek near Pine, AZ	09507800	4.07	1959–65
Webber Creek below West Fork Webber Creek, near Pine, AZ	09507900	9.63	1959–65
East Verde River near Payson, AZ	09507950	272	1961–65
Verde River below East Verde River, near Pine, AZ	09508000	² 5,606	1934–41
Verde River above Bartlett Reservoir, near Cave Creek, AZ	09509000	² 6,036	1938–45
West Fork Sycamore Creek above McFarland Canyon, near Sunflower, AZ	09510070	4.62	1965–74, 1982–86
West Fork Sycamore (Adler) Creek near Sunflower, AZ	09510080	9.82	1961–74
East Fork Sycamore Creek near Sunflower, AZ	09510100	4.52	1961–86
Sycamore Creek near Sunflower, AZ	09510150	52.3	1961–76
Camp Creek near Sunflower, AZ	09510170	2.6	1963–66
Rock Creek near Sunflower, AZ	09510180	15.2	1963–72
Salt River at Alma School Road, near Mesa, AZ	09512060	12,995	1981–86, 1992–93
Indian Bend Wash near Scottsdale, AZ	09512100	62	1961–84
Salt River at Jointhead Dam, near Phoenix, AZ	09512170	13,225	1977–80
Salt River tributary No. 2 at Phoenix, AZ	09512180	¹ .035	1963–65
Salt River at 24th Street at Phoenix, AZ	09512190	13,391	1989–92
Salt River tributary in South Mountain Park, Phoenix, AZ	09512200	1.75	1960–98
Cave Creek near Cave Creek, AZ	09512300	121	1958–67
Cave Creek at Phoenix, AZ	09512400	252	1958–90
Perry Canal near Mayer, AZ	09512495	588	1940–59
Sycamore Dam site total	09512501	588	1940–81
Turkey Creek near Cleator, AZ	09512600	89.4	1979–92

See footnotes at end of table.

DISCONTINUED SURFACE-WATER-DISCHARGE OR STAGE-ONLY STATIONS—Continued

Station name	Station number	Drainage area, in square miles	Period of record (water years)
Boulder Creek near Rock Springs, AZ	09512830	37.8	1983–93
Humbug Creek near Castle Hot Springs, AZ.....	09512860	59.9	1983–94
Cottonwood Creek near Waddell Dam, AZ	09512970	9.28	1983–93
Agua Fria River at Waddell Dam, AZ.....	09513000	1,433	1911–24, 1933–91
Lake Pleasant at Waddell Dam, AZ	09513500	1,433	1928–91
Agua Fria at El Mirage, AZ	09513650	1,628	1962–98
Agua Fria River tributary at Youngtown, AZ.....	09513700	.13	1961–68
New River at New River (near Black Canyon), AZ.....	09513800	84.6	1960–82
New River at Bell Road, near Peoria, AZ	09513835	185	1968–84, 1990–93
New River near Glendale, AZ.....	09513910	323	1964–98
Agua Fria River at Avondale, AZ.....	09513970	2,066	1967–82
Buckeye Canal near Avondale, AZ.....	09514000	---	1953–71, 1996–2000
Gila River at U.S. Highway 85, near Buckeye, AZ	09514300	46,345	1979, 1989–92
Hassayampa River near Wagoner, AZ	09514500	77.9	1940–46
Hassayampa River at Walnut Grove, near Wagoner, AZ	09515000	106	1912–15, 1917–18, 1980–83
Hassayampa River at Box damsite, near Wickenburg, AZ.....	09515500	417	1938, 1946–82
Centennial Wash near Arlington, AZ.....	09517500	1,870	1961–79
Sauceda Wash near Gila Bend, AZ.....	09519760	126	1989–94
Gila River near Sentinel, AZ.....	09520000	51,610	1913–14
Rio Cornez near Ajo, AZ	09520170	243	1967–78
Gila River near Mohawk, AZ.....	09520360	55,430	1966, 1973–93
Gila River at mouth, near Yuma, AZ	09520700	57,950	1975–83
Gila River at mouth (flow past gage only).....	09520701	---	1975–83
Colorado River at Yuma, AZ.....	09521000	^{1,2} 246,500	1902–64
Colorado River and Pilot Knob wasteway (Colorado River) at Rockwood Gate, CA	09521500	^{1,2} 246,600	1945–50
Colorado River at southerly international boundary, near San Luis, AZ	09522200	^{1,2} 246,700	1960–85
Mittry Lake Outlet Channel near Yuma, AZ.....	09527900	---	1975–83 1985–89
Yuma Canal at Laguna Dam, AZ–CA.....	09528000	---	1910–48
Laguna Canal wasteway, AZ.....	09528600	---	1960–97
North Gila Drain No. 3 near Yuma, AZ.....	09529050	---	1962–89
Fortuna wasteway near Yuma, AZ	09529100	---	1961–89
Bruce Church Drain, AZ.....	09529200	---	1962–97
Wellton-Mohawk Main Outlet Drain above Gila River, AZ.....	09529350	---	1966–74
South Gila Drain No. 2 near Yuma, AZ.....	09529400	---	1961–89
Vamori Wash at International Boundary near Sells, AZ.....	09535295	250	1995–2000
Quitobaquito Spring near Lukeville.....	09535900	---	1982–89, 1991–92
West Turkey Creek near Light, AZ.....	09536500	¹ 19	1919–25
Whitewater Draw near Rucker, AZ.....	09537000	38.7	1919–25
Whitewater Draw (White, White Water River) near Douglas, AZ	09537500	1,023	1912–13, 1918–19, 1930–33, 1935–82

¹ Approximately.² Includes area that is probably noncontributing.

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

The following surface-water-quality stations in Arizona have been discontinued or converted to partial-record stations. Water-quality data (daily or periodic samples with collection frequency not less than quarterly) were collected and published for the period of record shown for each station. Discontinued project stations with less than 3 years of record are not included. Information regarding these stations may be obtained from the district Chief at the address given on the back of the title page of this report.

[Type of record: (C) chemical, (S) sediment, (T) temperature]

Station name	Station No.	Drainage area, in square miles	Type of record	Period of record
Paria River at Lees Ferry, AZ.....	09382000	1,410	C,S,T	1942, 1947-76, 1978-79
Little Colorado River at Greer, AZ.....	09383400	29.1	C,S,T	1972-73, 1976-79, 1981-84, 1987-88
Little Colorado River above Lyman Lake, near St. Johns, AZ.....	09384000	^a 706	C,S,T	1976-83
Little Colorado River above Zion Reservoir, near St. Johns, AZ..	09386030	1,007	C,T	1975-94
Zuni River above Black Rock Reservoir, NM.....	09386950	848	C	1978-92, 1993
Show Low Creek near Lakeside, AZ.....	09390500	68.6	C,S,T	1976-79
Cottonwood Creek at Snowflake, AZ.....	09393400	262	C,S,T	1982-84
Little Colorado River at Woodruff, AZ.....	09394500	^a 8,072	C,S,T	1905-06, 1950-57
Puerco River near Church Rock, NM.....	09395350	205	C,S,T	1979, 1988-91
Little Colorado River near Joseph City, AZ.....	09397300	12,384	C,S,T	1979-94
Little Colorado River at Grand Falls, AZ.....	09401000	^a 21,068	C,S,T	1991-94
Little Colorado River at Cameron, AZ.....	09401200	^a 23,119	C,S,T	1948-70, 1975-86, 1995
Moenkopi Wash near Moenkopi, AZ.....	09401250	---	C,T	1973-76
Moenkopi Wash at Moenkopi, AZ.....	09401260	1,629	C,S,T	1974-81
Little Colorado River near Cameron, AZ.....	09402000	26,459	C,S	1970-72; 1990-91
Colorado River near Grand Canyon, AZ.....	09402500	^{ab} 141,600	C,S,T	1925-88
Bright Angel Creek near Grand Canyon, AZ.....	09403000	101	C,T	1944-49, 1952-58, 1962-74
Kanab Creek near Fredonia, AZ.....	09403780	1,085	C,S,T	1964-73
Havasu Creek above the mouth, near Supai, AZ.....	09404115	3,020	C,T	1990-97
Las Vegas Wash near Henderson, NV.....	09419700	^a 2,125	C,T	1957-92

See footnotes at end of table.

DISCONTINUED SURFACE-WATER-QUALITY STATIONS—Continued

Station name	Station number	Drainage area, in square miles	Type of record	Period of record
Las Vegas Wash above Three Kids Wash below Henderson, NV	09419753	^b 2,180	C,T	1988–92
Lake Mead at Hoover Dam, AZ	09421000	^{ab} 171,700	C,T	1941–62, 1964–85
Colorado River below Davis Dam, AZ	09423000	^{ab} 173,300	C,T	1969–87
Topock Marsh Outlet near Needles, CA.....	09423640	---	C,T	1980–81, 1983
Topock Marsh Outlet near Topock, AZ.....	09423650	---	C,T	1975–77
Colorado River near Topock, AZ	09424000	^{ab} 176,300	C,T	1925–27, 1952–62, 1969–82
Central Arizona Project Canal at MP 7.98 near Parker.....	09426700	---	C,M,P	1985–95
Central Arizona Project Canal at MP 162.3 at Phoenix	09427100	---	C,M,P,S	1985–95
Central Arizona Project Canal at MP 252 near Coolidge	09427300	---	C,M,P	1987–95
Colorado River Indian Reservation Main Canal near Parker, AZ.....	09428500	---	C,T	1970–83
Colorado River Indian Reservation Poston Canal wasteway near Parker, AZ.....	09428510	---	C,T	1969–83
Palo Verde Canal near Blythe, CA	09429000	---	C,T	1970–85
Palo Verde Drain near Parker, AZ	09429030	---	C,T	*1962–68, 1969–83
Colorado River Indian Reservation Lower Main Drain near Parker, AZ.....	09429060	---	C,T	*1962–68, 1969–83
Colorado River below Palo Verde Dam, AZ	09429100	^{ab} 186,200	T	1956–66
Palo Verde Irrigation District Olive Lake Drain near Blythe, CA.....	09429130	---	C,T	*1963–65, 1969–81
Colorado River at Taylor Ferry, near Blythe, CA.....	09429188	^{ab} 187,700	C,T	1970–83
Palo Verde Irrigation District Outfall Drain near Palo Verde, CA	09429220	---	C,T	*1962–65, *1967–68, 1969–83
Palo Verde Irrigation District Anderson Drain near Palo Verde, CA	09429225	---	C,T	1969–81
Colorado River below Cibola Valley, AZ.....	09429300	^{ab} 187,800	C,T	1956–66, 1969–83
Colorado River below Laguna Dam, AZ.....	09429600	^{ab} 188,600	C,T	1972–83

See footnotes at end of table.

DISCONTINUED SURFACE-WATER-QUALITY STATIONS—Continued

Station name	Station number	Drainage area, in square miles	Type of record	Period of record
Colorado River above Gila River, near Yuma, AZ.....	09429690	^{ab} 188,700	C,T	*1961–68, 1969–79
Gila River below Blue Creek, near Virden, NM	09432000	3,203	C,T	2002
Gila River near Clifton, AZ.....	09442000	4,010	C,S,T	1976–79
Blue River near Clifton, AZ.....	09444200	506	C	1990–93
San Francisco River at Clifton, AZ.....	09444500	^a 2,766	C,S,T	1943–44, 1964–67
San Francisco River near Clifton, AZ.....	09444600	^a 2,770	C	1976–79, 1981–84, 1987–88, 1990–93
Gila River at Safford, AZ.....	09458500	10,459	C,T	1941–44
Gila River at Fort Thomas, AZ.....	---	---	C,T	1940–41, 1943–44
Gila River at Calva, AZ.....	09466500	11,470	C,T	1943–44; 1974–94
San Carlos River near Peridot, AZ.....	09468500	1,026	C	1990–91
Gila River at Winkelman, AZ.....	09470000	^a 13,268	C,S,T	1976–84
Garden Canyon near Fort Huachuca, AZ.....	09470800	8.38	C,S,T	1962–64
San Pedro River near Benson, AZ.....	09471800	2,500	S	1966–74
San Pedro River near Winkelman, AZ.....	09473400	4,449	C,S,T	1962–66
San Pedro River at Winkelman, AZ.....	09473500	4,471	C,S,T	1966–80
Mineral Wash at Kelvin, AZ.....	09473900	97.9	C,T	1956–58, 1962–64
Santa Cruz River near Nogales, AZ.....	09480500	533	S,T	1966–74
Santa Cruz River at Rio Rico, AZ.....	09481710	1,004	C,T	1976–78
Santa Cruz River near Laveen, AZ.....	09489000	8,581	C,S,T	1976, 1978–79
Black River near Fort Apache, AZ.....	09490500	1,232	C,S,T	1976–79
White River near Fort Apache, AZ.....	09494000	632	C,S,T	1976–79
Tonto Creek above Gun Creek, near Roosevelt, AZ.....	09499000	675	C,S,T	1976–79, 1983
Salt River below Stewart Mountain Dam, AZ.....	09502000	6,232	C,S,T	1950–92
Oak Creek at Red Rock Crossing near Sedona, AZ.....	09504440	252	C,T	1978–83; 1986–94

See footnotes at end of table.

DISCONTINUED SURFACE-WATER-QUALITY STATIONS—Continued

Station name	Station number	Drainage area, in square miles	Type of record	Period of record
Oak Creek near Cornville, AZ.....	09504500	357	C,T	1954–64, 1976–78
Verde River near Camp Verde, AZ.....	09506000	^a 5,009	C,S,T	1977, 1979–84
Verde River below Bartlett Dam, AZ.....	09510000	^a 6,161	C,S,T	1950–92
Turkey Creek near Cleator, AZ	09512600	89.4	C,T	1980–82
Agua Fria River below Waddell Dam, AZ	09513600	1,459	C,T	1950–58; 1975; 1982–89; 1991–94
Gila River near Dome.....	09520500	^b 57,850	C,S,T	1973, 1979, 1984–92
Gila River near mouth, near Yuma	09520700	^b 57,950	C,S,T	*1961–68, 1969–84
Colorado River at Yuma	09521000	^{ab} 246,500	C,S,T	1905, 1926–28, 1943–44, 1947–63
Colorado River below Yuma Main Canal wasteway, at Yuma, AZ	09521100	^{ab} 246,500	C,T	1976, 1987–88
Colorado River at southerly international boundary, near San Luis, AZ.....	09522200	^{ab} 246,700	C,T	*1962–66, 1969–79
Gila Gravity Main Canal at Imperial Dam, AZ.....	09522500	---	C,T	1956–81
Yuma Main Canal below Colorado River Siphon, at Yuma, AZ	09525500	---	C,T	*1926–28, 1943–70
Mittry Lake Outlet Channel near Yuma, AZ.....	09527900	---	C,T	1974–83
North Gila Drain No. 1, near Yuma, AZ	09529000	---	C,T	*1966–68, 1969–81
North Gila Drain No. 3, near Yuma, AZ	09529050	---	C,T	*1966–68, 1969–81
South Gila Pump Outlet Channel No. 3, near Yuma, AZ.....	09529160	---	C,T	1969–83
Bruce Church Drain near Yuma, AZ	09529200	---	C,T	*1966, 1969–81
South Gila Pump Outlet Channel No. 2, near Yuma, AZ.....	09529240	---	C,T	*1968, 1969–83
Wellton-Mohawk Main Outlet Drain near Yuma, AZ.....	09529300	---	C,T	*1961–68, 1969–83

See footnotes at end of table.

DISCONTINUED SURFACE-WATER-QUALITY STATIONS—Continued

Station name	Station number	Drainage area, in square miles	Type of record	Period of record
South Gila Pump Outlet Channel No. 1 near Yuma, AZ.....	09529360	---	C,T	*1968, 1969-83
South Gila Pump Outlet Channel No. 4 near Yuma, AZ.....	09529440	---	C,T	1969-82
Reservation Main Drain No. 4 at Yuma, AZ.....	09530000	---	C,T	*1964-68, 1969-81
Yuma Mesa Outlet Drain near Yuma, AZ	09530200	---	C,T	1972-83, 1987-88
Drain 8-B near Yuma, AZ	09530500	---	C,T	1970-81, 1987-88
Wellton-Mohawk Main Outlet Drain near Yuma, AZ.....	09531700	---	C,T	1969-74, 1983-85
Main Outlet Drain Extension below Morelos Dam, AZ	09531900	---	C	1972-76
Main Drain at southerly international boundary, near San Luis, AZ.....	09534000	---	C,T	*1962-68, 1969-83
West Main Canal wasteway at Arizona-Sonora boundary, AZ.....	09534300	---	C,T	1971-79
East Main Canal wasteway at Arizona-Sonora boundary, AZ.....	09534500	---	C,T	*1965-68, 1969-79
Vamori Wash at Kom Vo, AZ.....	09535300	1,250	C,S,T	1978-86
Whitewater Draw near Douglas, AZ	09537500	1,023	C,T	1978-81

* Unpublished data.

^a Includes area that is probably noncontributing.

^b Approximately.

This page is intentionally blank.

WATER RESOURCES DATA FOR ARIZONA, WATER YEAR 2003

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey (USGS), in cooperation with State agencies, obtains a large amount of data on the water resources of Arizona each water year. These data, accumulated during many water years, constitute a valuable database for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the USGS, the data are published annually in a report series entitled "Water Resources Data for Arizona."

This report includes records on both surface water and ground water in the State. Specifically, it contains: (1) Discharge records for 203 streamflow-gaging stations, for 29 crest-stage, partial-record streamflow stations, and 50 miscellaneous sites; (2) stage and (or) content records for 9 lakes and reservoirs; (3) water-quality records for 29 streamflow-gaging stations; and (4) ground-water levels and compaction values for 14 stations; and (5) water levels for 19 wells.

This series of annual reports for Arizona began with the 1961 water year with a report that contained only data relating to surface water. For the 1964 water year, a similar report was introduced that contained only data on water quality. Beginning with the 1975 water year, the report format was changed to present, in one volume, data on quantities of surface water, quality of surface water and ground water, and ground-water levels.

Before introduction of this series and for several water years concurrent with it, water-resources data for Arizona were published in the USGS Water-Supply Paper series. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States, Part 9." For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States," and water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." The above mentioned Water-Supply Papers may be consulted in the libraries of the University of Arizona, Arizona State University, and the State of Arizona in Phoenix; principal cities in the United States; or may be purchased from the Branch of Information Services, USGS, Box 25286, Denver Federal Center, Denver, CO 80225-0046.

Publications similar to this report are published annually by the USGS for all States. These official USGS reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "USGS Water-Data Report AZ-03-1." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA, 22161. Information for ordering specific reports and data retrievals may be obtained from the District Chief at the address given on the back of the title page or by telephone (520) 670-6671.

COOPERATION

The USGS and organizations of the State of Arizona have had cooperative agreements for the systematic collection of surface-water records since 1912, for ground-water levels since 1939, and for water-quality records since 1969. Organizations that assisted in collecting data through funding agreements with the Survey are:

Arizona Department of Environmental Quality	The Hopi Tribe
Arizona Department of Water Resources	The Hualapai Tribe
Bureau of Indian Affairs	Metropolitan Water District of Southern California
Bureau of Land Management	National Park Service
Bureau of Reclamation	The Navajo Nation
Central Arizona Water Conservation District	Phelps Dodge Corporation
City of Flagstaff	Pima County Flood Control District
City of Nogales	Salt River Valley Water Users' Association
City of Safford	Show Low Irrigation Company
City of Tucson	The Tohono O'odham Nation
Cochise County	U.S. Army Corps of Engineers
Flood Control District of Maricopa County	U.S. Army Fort Huachuca
Forest Service	U.S. Fish and Wildlife Service
Gila Valley Irrigation District	The White Mountain Apache Tribe
Gila Water Commissioner	The Yavapai-Prescott Indian Tribe
The Havasupai Tribe	The Zuni Pueblo

Assistance in the form of services was given by the International Boundary and Water Commission, the National Weather Service, and the Arizona Public Service Co. Organizations that supplied data are acknowledged in station descriptions.

SUMMARY OF HYDROLOGIC CONDITIONS

As is common in Arizona, streamflow varied greatly in the 2003 water year—from month to month throughout the year and from place to place in the State. The variations are related to differences in precipitation, temperature, topography, and geology. The yearly discharge at five key streamflow-gaging stations ranged from 32 to 102 percent of the median of yearly discharges. The median of the yearly discharges is defined as the middle value of discharge when arranged in order of size. For these index stations, the median is computed from the yearly discharges for the 1950–2003 period of record.

The yearly discharge for the 2003 water year was within the normal range at two stations, and was deficient at three stations. Excessive discharge is defined as a discharge greater than the 75-percent quartile, that is, greater than 75-percent of the values arranged in order of magnitude; deficient discharge is less than the 25-percent quartile. The yearly discharge for the 2003 water year and the relation to the median of yearly discharges for the period 1950–2003 for the five index gaging stations are given below.

Station	Discharge (acre-feet)	Percent of median
Little Colorado River near Cameron	40,910	32
Gila River at head of Safford Valley, near Solomon	124,300	57
San Pedro River at Charleston	7,040	28
Salt River near Roosevelt	446,100	102
Verde River below Tangle Creek, above Horseshoe Dam	280,800	91

Figure 1 shows the mean monthly discharge for the 2003 water year compared with the median of mean monthly discharge for the period 1950–2003 at four representative gaging stations for which long-term records are available.

DOWNSTREAM ORDER AND STATION NUMBER

Since October 1, 1950, hydrologic-station records in USGS reports have been listed in order of downstream direction along the main stream. All stations on a tributary entering upstream from a main-stream station are listed before that station. A station on a tributary entering between two main-stream stations is listed between those stations. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is located with respect to the stream to which it is immediately tributary is indicated by an indentation in that list of stations in the front of this report. Each indentation represents one rank. This downstream order and system of indentation indicates which stations are on tributaries between any two stations and the rank of the tributary on which each station is located.

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These station numbers are in the same downstream order used in this report. In assigning a station number, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list composed of both types of stations. Gaps are consecutive. The complete 8-digit (or 10-digit) number for each station such as 09004100, which appears just to the left of the station name, includes a 2-digit part number “09” plus the 6-digit (or 8-digit) downstream order number “004100.” In areas of high station density, an additional two digits may be added to the station identification number to yield a 10-digit number. The stations are numbered in downstream order as described above between stations of consecutive 8-digit numbers.

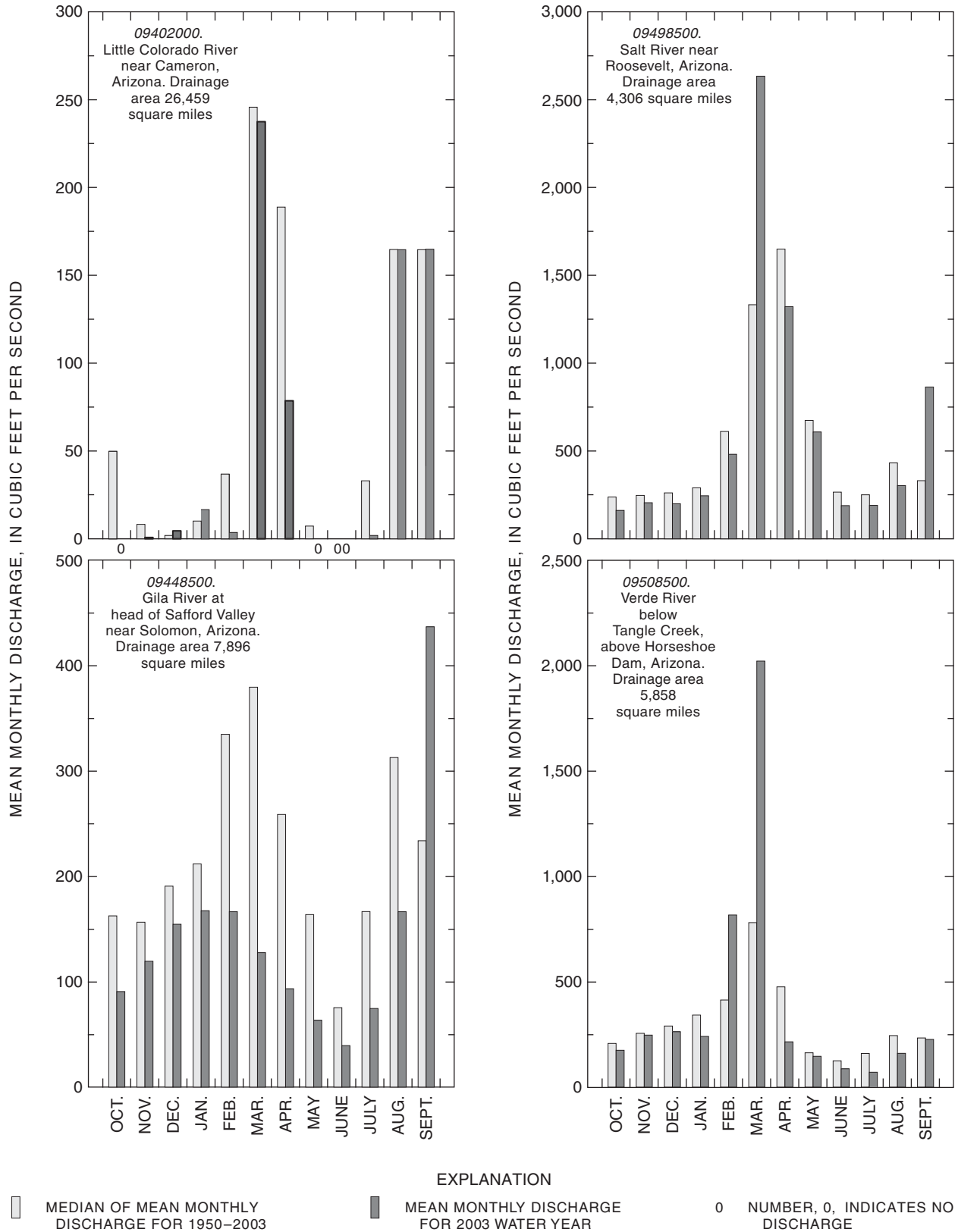


Figure 1. Mean monthly discharge for the 2003 water year compared with median of mean monthly discharge for period 1950-2003 at four representative gaging stations for which long-term records are available.

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

The USGS well and miscellaneous site-numbering system is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, and the next 7 digits denote degrees, minutes, and seconds of longitude; the last 2 digits are a sequential number for wells within a 1-second grid. In the event that the latitude-longitude coordinates for a well and miscellaneous site are the same, a sequential number such as "01," "02," and so forth, would be assigned as one would for wells (see [fig. 2](#)). The 8-digit, downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken.

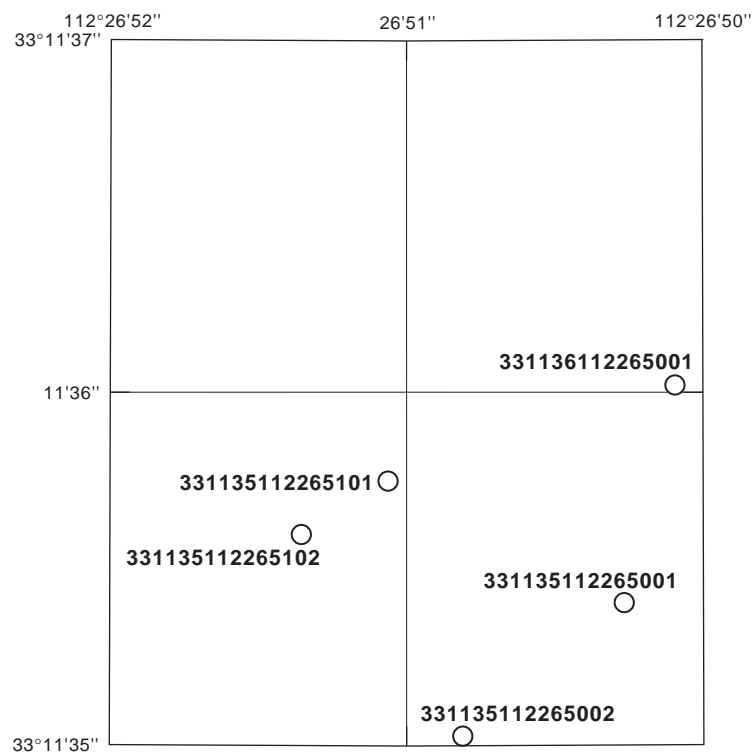
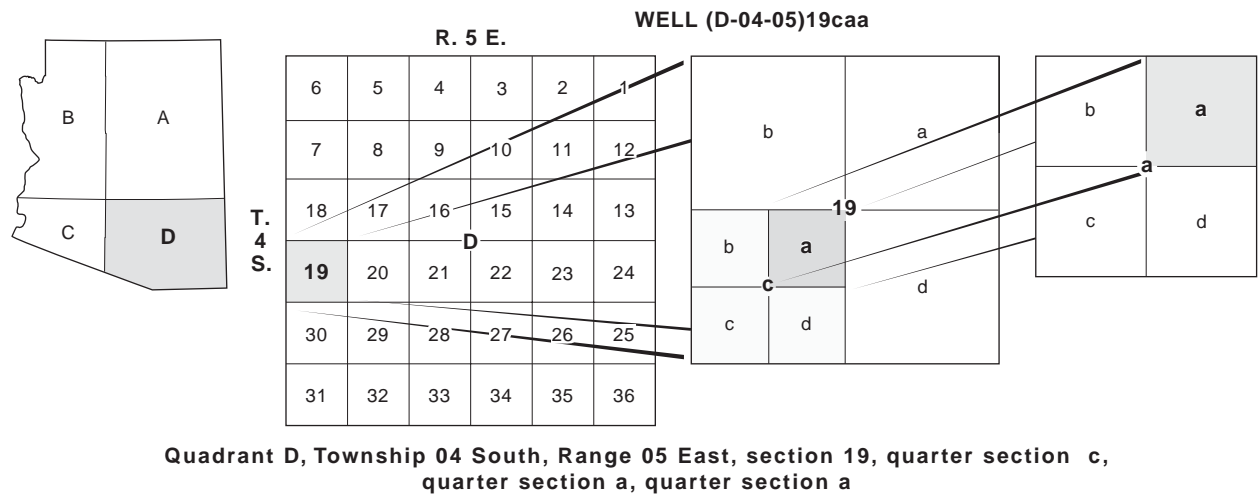


Figure 2. System for numbering wells and miscellaneous sites (latitude and longitude).

A local well number is assigned to each ground-water site on the basis of the Gila and Salt River meridian and base line ([fig. 3](#)). A different numbering system is used on the Navajo and Hopi Indian Reservations. The Navajo Indian Reservation is divided into 17 administrative districts, numbered 1 to 5 and 7 to 18, and the Hopi Indian Reservation comprises district 6. The area is further divided into 15-minute quadrangles arbitrarily numbered from 1 to 151 starting in the northeast corner of the area and numbered consecutively in rows from east to west. Within the 15-minute quadrangle, the well is located in miles south and west from the northeast corner of the quadrangle. The first two numbers in the well number represent the district, the next three numbers are the quadrangle, the decimal numbers are miles west by (X) miles south of the northeast corner of the quadrangle. Thus, the number 02 021-05.28X10.68 states that the well is in district 2, quadrangle 21, and is 5.28 miles west by 10.68 miles south of the northeast corner of the quadrangle.

The well numbers used by the USGS in Arizona are in accordance with the Bureau of Land Management's system of land subdivision. The land survey in Arizona is based on the Gila and Salt River meridian and base line, which divide the State into four quadrants. These quadrants are designated counterclockwise by the capital letters A, B, C, and D. All land north and east of the point of origin is in A quadrant, that north and west in B quadrant, that south and west in C quadrant, and that south and east in D quadrant. The first digit of a well number indicates the township, the second the range, and the third the section in which the well is situated. The lowercase letters a, b, c, and d after the section number indicate the well location within the section. The first letter denotes a particular 160-acre tract, the second the 40-acre tract, and the third the 10-acre tract. These letters also are assigned in a counterclockwise direction, beginning in the northeast quarter. If the location is known within the 10-acre tract, three lowercase letters are shown in the well number. In the example shown, well number (D-04-05)19caa designates the well as being in the NE1/4NE1/4SW1/4 sec. 19, T. 4 S., R. 5 E. Where more than one well is within a 10-acre tract, consecutive numbers beginning with 1 are added as suffixes.

WELL-NUMBERING AND NAMING SYSTEM



Quadrant D, Township 04 South, Range 05 East, section 19, quarter section c, quarter section a, quarter section a

Figure 3. Well-numbering and naming system.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Benchmark Network is a network of 61 sites in small drainage basins in 39 States that was established in 1963 to provide consistent streamflow data representative of undeveloped watersheds nationwide, and from which data could be analyzed on a continuing basis for use in comparison and contrast with conditions observed in basins more obviously affected by human activities. At selected sites, water-quality information is being gathered on major ions and nutrients, primarily to assess the effects of acid deposition on stream chemistry. Additional information on the Hydrologic Benchmark Program may be accessed from <http://water.usgs.gov/hbn/>.

National Stream-Quality Accounting Network (NASQAN) is a network of sites used to monitor the water quality of large rivers within the Nation's largest river basins. From 1995 through 1999, a network of approximately 40 stations was operated in the Mississippi, Columbia, Colorado, and Rio Grande River basins. For the period 2000 through 2004, sampling was reduced to a few index stations on the Colorado and Columbia Rivers so that a network of 5 stations could be implemented on the Yukon River. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment (NAWQA) Program; (3) to characterize processes unique to large-river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals. Additional information about the NASQAN Program may be accessed from <http://water.usgs.gov/nasqan/>.

The National Atmospheric Deposition Program/National Trends Network (NADP/NTN) is a network of monitoring sites that provide continuous measurement and assessment of the chemical constituents in precipitation throughout the United States. As the lead Federal agency, the USGS works together with over 100 organizations to provide a long-term, spatial and temporal record of atmospheric deposition generated from this network of 250 precipitation-chemistry monitoring sites. The USGS supports 74 of these 250 sites. This long-term, nationally consistent monitoring program, coupled with ecosystem research, provides critical information toward a national scorecard to evaluate the effectiveness of ongoing and future regulations intended to reduce atmospheric emissions and subsequent impacts to the Nation's land and water resources. Reports and other information on the NADP/NTN Program, as well as data from the individual sites, may be accessed from <http://bqs.usgs.gov/acidrain/>.

The USGS National Water-Quality Assessment (NAWQA) Program is a long-term program with goals to describe the status and trends of water-quality conditions for a large, representative part of the Nation's ground- and surface-water resources; to provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and to provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 42 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents is measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for water-resources managers to use in making decisions and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Communication and coordination between USGS personnel and other local, State, and Federal interests are critical components of the NAWQA Program. Each study unit has a local liaison committee consisting of representatives from key Federal, State, and local water-resources agencies, Indian nations, and universities in the study unit. Liaison committees typically meet semiannually to discuss their information needs, monitoring plans and progress, desired information products, and opportunities to collaborate efforts among the agencies. Additional information about the NAWQA Program may be accessed from <http://water.usgs.gov/nawqa/>.

The USGS National Streamflow Information Program (NSIP) is a long-term program with goals to provide framework streamflow data across the Nation. Included in the program are creation of a permanent Federally funded streamflow network, research on the nature of streamflow, regional assessments of streamflow data and databases, and upgrades in the streamflow information delivery systems. Additional information about NSIP may be accessed from <http://water.usgs.gov/nsip/>.

The Central Arizona Basins (CAZB) NAWQA, which includes much of the Gila River above Gillespie Dam and the Phoenix and Tucson areas, began in 1994. Data on physical, chemical, and biological properties of ground-water and surface-water resources in the CAZB study unit will be combined with data from as many as 53 other study units to represent water-quality conditions of resources that provide more than 60 percent of the Nation's public supplies.

Arizona Fixed Station Network is part of the State quality monitoring program and includes a network of water-quality sites at established surface-water stations, except for Verde River above West Clear Creek. Some sites are sampled in conjunction with the NASQAN and NAWQA. This network provides essential data for State water-quality assessment programs including the biennial report required by the Federal Clean Water Act.

Station name	Station No.	NASQAN	Arizona Fixed Station Network
Colorado River at Lees Ferry	09380000		X
Colorado River above Diamond Creek	09404200	X	
Colorado River below Parker Dam	09427520		X
Gila River at the head of Safford Valley near Solomon	09448500		X
Gila River at Calva	09466500		X
Gila River at Kelvin	09474000		X
Pinal Creek at Inspiration Dam, near Globe	09498400		X
Salt River near Roosevelt	09498500		X
Salt River below Stewart Mountain Dam	09502000		X
Verde River near Clarkdale	09504000		X
East Verde River near Childs	09507980		X
Verde River below Tangle Creek above Horseshoe Dam	09508500		X
Verde River below Bartlett Dam	09510000		X
Gila River above diversions at Gillespie Dam	09518000		X
Colorado River at northerly international boundary, above Morelos Dam near Andrade, CA	09522000	X	X

EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS

Data Collection and Computation

The base data collected at gaging stations (*fig. 4*) consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and volume of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from a water-stage recorder that is either downloaded electronically in the field to a laptop computer or similar device or is transmitted using telemetry such as GOES satellite, land-line or cellular-phone modems, or by radio transmission. Measurements of discharge are made with a current meter or acoustic Doppler current profiler, using the general methods adopted by the USGS. These methods are described in standard textbooks, USGS Water-Supply Paper 2175, and the Techniques of Water-Resources Investigations of the United States Geological Survey (TWRI), Book 3, Chapters A1 through A19 and Book 8, Chapters A2 and B2. The methods are consistent with the American Society for Testing and Materials (ASTM) standards and generally follow the standards of the International Organization for Standards (ISO).

For stream-gaging stations, discharge-rating tables for any stage are prepared from stage-discharge curves. If extensions to the rating curves are necessary to express discharge greater than measured, the extensions are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, or computation of flow over dams and weirs), step-backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, then the monthly and yearly mean discharges are computed from the daily values. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features of the stream channel, the daily mean discharge is computed by the shifting-control method in which correction factors based on individual discharge measurements and notes by engineers and observers are used when applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the controlling section, the daily mean discharge is computed by the shifting-control method.

The stage-discharge relation at some stream-gaging stations is affected by backwater from reservoirs, tributary streams, or other sources. Such an occurrence necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage at some distance from the base gage.

An index velocity is measured using ultrasonic or acoustic instruments at some stream-gaging stations and this index velocity is used to calculate an average velocity for the flow in the stream. This average velocity along with a stage-area relation is then used to calculate average discharge.

At some stations, stage-discharge relation is affected by changing stage. At these stations, the rate of change in stage is used as a factor in computing discharge.

At some stream-gaging stations in the northern United States, the stage-discharge relation is affected by ice in the winter; therefore, computation of the discharge in the usual manner is impossible. Discharge for periods of ice effect is computed on the basis of gage-height record and occasional winter-discharge measurements. Consideration is given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge from other stations in the same or nearby basins.

For a lake or reservoir station, capacity tables giving the volume or contents for any stage are prepared from stage-area relation curves defined by surveys. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly changes are computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period

between reservoir surveys, the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some stream-gaging stations, periods of time occur when no gage-height record is obtained or the recorded gage height is faulty and cannot be used to compute daily discharge or contents. Such a situation can happen when the recorder stops or otherwise fails to operate properly, the intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated on the basis of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records from other stations in the same or nearby basins. Likewise, lake or reservoir volumes may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

Data Presentation

The records published for each continuous-record surface-water discharge station (stream-gaging station) consist of five parts: (1) the station manuscript or description; (2) the data table of daily mean values of discharge for the current water year with summary data; (3) a tabular statistical summary of monthly mean flow data for a designated period, by water year; (4) a summary statistics table that includes statistical data of annual, daily, and instantaneous flows as well as data pertaining to annual runoff, 7-day low-flow minimums, and flow duration; and (5) a hydrograph of discharge.

Station Manuscript

The manuscript provides, under various headings, descriptive information, such as station location; period of record; historical extremes outside the period of record; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments follow that clarify information presented under the various headings of the station description.

LOCATION.—Location information is obtained from the most accurate maps available. The location of the gaging station with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileages, given for only a few stations, were determined by methods given in "River Mileage Measurement," Bulletin 14, Revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

DRAINAGE AREA.—Drainage areas are measured using the most accurate maps available. Because the type of maps available varies from one drainage basin to another, the accuracy of drainage areas likewise varies. Drainage areas are updated as better maps become available.

PERIOD OF RECORD.—This term indicates the time period for which records have been published for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not and whose location was such that its flow reasonably can be considered equivalent to flow at the present station.

REVISED RECORDS.—If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

GAGE.—The type of gage in current use, the datum of the current gage referred to a standard datum, and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.—All periods of estimated daily discharge either will be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily discharge table. (See section titled Identifying Estimated Daily Discharge.) Information is presented relative to the accuracy of the records, to special methods of computation, and to conditions that affect natural flow at the station. In addition, information may be presented pertaining to average discharge data for the period of record; to extremes data for the period of record and the current year; and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, the outlet works and spillway, and the purpose and use of the reservoir.

COOPERATION.—Records provided by a cooperating organization or obtained for the USGS by a cooperating organization are identified here.

EXTREMES OUTSIDE PERIOD OF RECORD.—Information here documents major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the USGS.

REVISIONS.—Records are revised if errors in published records are discovered. Appropriate updates are made in the USGS distributed data system, NWIS, and subsequently to its Web-based National data system, NWISWeb (<http://water.usgs.gov/nwis/nwis>). Users are encouraged to obtain all required data from NWIS or NWISWeb to ensure that they have the most recent data updates. Updates to NWISWeb are made on an annual basis.

Although rare, occasionally the records of a discontinued gaging station may need revision. Because no current or, possibly, future station manuscript would be published for these stations to document the revision in a REVISED RECORDS entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the District Office (address given on the back of the title page of this report) to determine if the published records were revised after the station was discontinued. If, however, the data for a discontinued station were obtained by computer retrieval, the data would be current. Any published revision of data is always accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the REMARKS and in the inclusion of a stage-capacity table when daily volumes are given.

Peak Discharge Greater than Base Discharge

Tables of peak discharge above base discharge are included for some stations where secondary instantaneous peak discharge data are used in flood-frequency studies of highway and bridge design, flood-control structures, and other flood-related projects. The base discharge value is selected so an average of three peaks a year will be reported. This base discharge value has a recurrence interval of approximately 1.1 years or a 91-percent chance of exceedence in any 1 year.

Data Table of Daily Mean Values

The daily table of discharge records for stream-gaging stations gives mean discharge for each day of the water year. In the monthly summary for the table, the line headed TOTAL gives the sum of the daily figures for each month; the line headed MEAN gives the arithmetic average flow in cubic feet per second for the month; and the lines headed MAX and MIN give the maximum and minimum daily mean discharges, respectively, for each month. Discharge for the month is expressed in cubic feet per second per square mile (line headed CFSM); or in inches (line headed IN); or in acre-feet (line headed AC-FT). Values for cubic feet per second per square mile and runoff in inches or in acre-feet may be omitted if extensive

regulation or diversion is in effect or if the drainage area includes large noncontributing areas. At some stations, monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversion data or reservoir volumes are given. These values are identified by a symbol and a corresponding footnote.

Statistics of Monthly Mean Data

A tabular summary of the mean (line headed MEAN), maximum (MAX), and minimum (MIN) of monthly mean flows for each month for a designated period is provided below the mean values table. The water years of the first occurrence of the maximum and minimum monthly flows are provided immediately below those values. The designated period will be expressed as FOR WATER YEARS __-__, BY WATER YEAR (WY), and will list the first and last water years of the range of years selected from the PERIOD OF RECORD paragraph in the station manuscript. The designated period will consist of all of the station record within the specified water years, including complete months of record for partial water years, and may coincide with the period of record for the station. The water years for which the statistics are computed are consecutive, unless a break in the station record is indicated in the manuscript.

Summary Statistics

A table titled SUMMARY STATISTICS follows the statistics of monthly mean data tabulation. This table consists of four columns with the first column containing the line headings of the statistics being reported. The table provides a statistical summary of yearly, daily, and instantaneous flows, not only for the current water year but also for the previous calendar year and for a designated period, as appropriate. The designated period selected, WATER YEARS __-__, will consist of all of the station records within the specified water years, including complete months of record for partial water years, and may coincide with the period of record for the station. The water years for which the statistics are computed are consecutive, unless a break in the station record is indicated in the manuscript. All of the calculations for the statistical characteristics designated ANNUAL (see line headings below), except for the ANNUAL 7-DAY MINIMUM statistic, are calculated for the designated period using complete water years. The other statistical characteristics may be calculated using partial water years.

The date or water year, as appropriate, of the first occurrence of each statistic reporting extreme values of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the REMARKS paragraph of the manuscript or in footnotes. Because the designated period may not be the same as the station period of record published in the manuscript, occasionally the dates of occurrence listed for the daily and instantaneous extremes in the designated-period column may not be within the selected water years listed in the heading. When the dates of occurrence do not fall within the selected water years listed in the heading, it will be noted in the REMARKS paragraph or in footnotes. Selected streamflow duration-curve statistics and runoff data also are given. Runoff data may be omitted if extensive regulation or diversion of flow is in effect in the drainage basin.

The following summary statistics data are provided with each continuous record of discharge. Comments that follow clarify information presented under the various line headings of the SUMMARY STATISTICS table.

ANNUAL TOTAL.—The sum of the daily mean values of discharge for the year.

ANNUAL MEAN.—The arithmetic mean for the individual daily mean discharges for the year noted or for the designated period.

HIGHEST ANNUAL MEAN.—The maximum annual mean discharge occurring for the designated period.

LOWEST ANNUAL MEAN.—The minimum annual mean discharge occurring for the designated period.

HIGHEST DAILY MEAN.—The maximum daily mean discharge for the year or for the designated period.

LOWEST DAILY MEAN.—The minimum daily mean discharge for the year or for the designated period.

ANNUAL 7-DAY MINIMUM.—The lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1-March 31). The date shown in the summary statistics table is the initial date of the 7-day period. This value should not be confused with the 7-day 10-year low-flow statistic.

MAXIMUM PEAK FLOW.—The maximum instantaneous peak discharge occurring for the water year or designated period. Occasionally the maximum flow for a year may occur at midnight at the beginning or end of the year, on a recession from or rise toward a higher peak in the adjoining year. In this case, the maximum peak flow is given in the table and the maximum flow may be reported in a footnote or in the REMARKS paragraph in the manuscript.

MAXIMUM PEAK STAGE.—The maximum instantaneous peak stage occurring for the water year or designated period. Occasionally the maximum stage for a year may occur at midnight at the beginning or end of the year, on a recession from or rise toward a higher peak in the adjoining year. In this case, the maximum peak stage is given in the table and the maximum stage may be reported in the REMARKS paragraph in the manuscript or in a footnote. If the dates of occurrence of the maximum peak stage and maximum peak flow are different, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

INSTANTANEOUS LOW FLOW.—The minimum instantaneous discharge occurring for the water year or for the designated period.

ANNUAL RUNOFF.—Indicates the total quantity of water in runoff for a drainage area for the year. Data reports may use any of the following units of measurement in presenting annual runoff data:

Acre-foot (AC-FT) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Cubic feet per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area.

Inches (INCHES) indicate the depth to which the drainage area would be covered if all of the runoff for a given time period were uniformly distributed on it.

10 PERCENT EXCEEDS.—The discharge that has been exceeded 10 percent of the time for the designated period.

50 PERCENT EXCEEDS.—The discharge that has been exceeded 50 percent of the time for the designated period.

90 PERCENT EXCEEDS.—The discharge that has been exceeded 90 percent of the time for the designated period.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first table lists annual maximum stage and discharge at crest-stage stations, and the second table lists discharge measurements at low-flow partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are often made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for a special reason are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified. This identification is shown either by flagging individual daily values with the letter "e" and noting in a table footnote, "e-Estimated," or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of Field Data and Computed Results

The accuracy of streamflow data depends primarily on (1) the stability of the stage-discharge relation or, if the control is unstable, the frequency of discharge measurements, and (2) the accuracy of observations of stage, measurements of discharge, and interpretations of records.

The degree of accuracy of the records is stated in the REMARKS in the station description. "Excellent" indicates that about 95 percent of the daily discharges are within 5 percent of the true value; "good" within 10 percent; and "fair," within 15 percent. "Poor" indicates that daily discharges have less than "fair" accuracy. Different accuracies may be attributed to different parts of a given record.

Values of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 ft³/s; to the nearest tenths between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures above 1,000 ft³/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharge values listed for partial-record stations.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or to other factors. For such stations, values of cubic feet per second per square mile and of runoff in inches are not published unless satisfactory adjustments can be made for diversions, for changes in contents of reservoirs, or for other changes incident to use and control. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other Data Records Available

Information of a more detailed nature than that published for most of the stream-gaging stations such as discharge measurements, gage-height records, and rating tables is available from the District office. Also, most stream-gaging station records are available in computer-usable form and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the District office (see address that is shown on the back of the title page of this report).

EXPLANATION OF PRECIPITATION RECORDS

Data Collection and Computation

Rainfall data generally are collected using electronic data loggers that measure the rainfall in 0.01-inch increments every 15 minutes using either a tipping-bucket rain gage or a collection well gage. Twenty-four hour rainfall totals are tabulated and presented. A 24-hour period extends from just past midnight of the previous day to midnight of the current day. Snowfall-affected data can result during cold weather when snow fills the rain-gage funnel and then melts as temperatures rise. Snowfall-affected data are subject to errors. Missing values are indicated by this symbol “---” in the table.

Data Presentation

Precipitation records collected at surface-water gaging stations are identified with the same station number and name as the stream-gaging station. Where a surface-water daily-record station is not available, the precipitation record is published with its own name and latitude-longitude identification number.

Information pertinent to the history of a precipitation station is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, period of record, and general remarks.

The following information is provided with each precipitation station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.—See Data Presentation in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

PERIOD OF RECORD.—See Data Presentation in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

INSTRUMENTATION.—Information on the type of rainfall collection system is given.

REMARKS.—Remarks provide added information pertinent to the collection, analysis, or computation of records.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and Examination of Data

Surface-water samples for analysis usually are collected at or near stream-gaging stations. The quality-of-water records are given immediately following the discharge records at these stations.

The descriptive heading for water-quality records gives the period of record for all water-quality data; the period of daily record for parameters that are measured on a daily basis (specific conductance, water temperature, sediment discharge, and so forth); extremes for the current year; and general remarks.

For ground-water records, no descriptive statements are given; however, the well number, depth of well, sampling date, or other pertinent data are given in the table containing the chemical analyses of the ground water.

Water Analysis

Most of the methods used for collecting and analyzing water samples are described in the TWRIIs. A list of TWRIIs is provided in this report.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross-section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled at several verticals to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum and minimum values (and sometimes mean or median values) for each constituent measured, and are based on 15-minute or 1-hour intervals of recorded data beginning at 0000 hours and ending at 2400 hours for the day of record.

SURFACE-WATER-QUALITY RECORDS

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because discharge data is useful in the interpretation of surface-water quality. Records of surface-water quality in this report involve a variety of types of data and measurement frequencies.

Classification of Records

Water-quality data for surface-water sites are grouped into one of three classifications. A *continuous-record station* is a site where data are collected on a regularly scheduled basis. Frequency may be one or more times daily, weekly, monthly, or quarterly. A *partial-record station* is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A *miscellaneous sampling site* is a location other than a continuous- or partial-record station, where samples are collected to give better areal coverage to define water-quality conditions in the river basin.

A careful distinction needs to be made between *continuous records* as used in this report and *continuous recordings* that refer to a continuous graph or a series of discrete values recorded at short intervals. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in [figure 5](#) and [figure 6](#).

Accuracy of the Records

One of four accuracy classifications is applied for measured physical properties at continuous-record stations on a scale ranging from poor to excellent. The accuracy rating is based on data values recorded before any shifts or corrections are made. Additional consideration also is given to the amount of publishable record and to the amount of data that have been corrected or shifted.

Rating classifications for continuous water-quality records

[\leq , less than or equal to; \pm , plus or minus value shown; $^{\circ}\text{C}$, degree Celsius; $>$, greater than; %, percent; mg/L, milligram per liter; pH unit, standard pH unit]

Measured physical property	Rating			
	Excellent	Good	Fair	Poor
Water temperature	$\leq \pm 0.2^{\circ}\text{C}$	$> \pm 0.2$ to 0.5°C	$> \pm 0.5$ to 0.8°C	$> \pm 0.8^{\circ}\text{C}$
Specific conductance	$\leq \pm 3\%$	$> \pm 3$ to 10%	$> \pm 10$ to 15%	$> \pm 15\%$
Dissolved oxygen	$\leq \pm 0.3$ mg/L	$> \pm 0.3$ to 0.5 mg/L	$> \pm 0.5$ to 0.8 mg/L	$> \pm 0.8$ mg/L
pH	$\leq \pm 0.2$ unit	$> \pm 0.2$ to 0.5 unit	$> \pm 0.5$ to 0.8 unit	$> \pm 0.8$ unit
Turbidity	$\leq \pm 5\%$	$> \pm 5$ to 10%	$> \pm 10$ to 15%	$> \pm 15\%$

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

On-Site Measurements and Sample Collection

In obtaining water-quality data, a major concern is assuring that the data obtained represent the naturally occurring quality of the water. To ensure this, certain measurements, such as water temperature, pH, and dissolved oxygen, must be made on site when the samples are taken. To assure that measurements made in the laboratory also represent the naturally occurring water, carefully prescribed procedures must be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in TWRIs Book 1, Chapter D2; Book 3, Chapters A1, A3, and A4; and Book 9, Chapters A1-A9. These TWRIs are listed in this report. Also, detailed information on collecting, treating, and shipping samples can be obtained from the USGS District office (see address that is shown on the back of title page in this report).

Water Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at the time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diurnal temperature change; shallow streams may have a daily

range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the District office.

Sediment

Suspended-sediment concentrations are determined from samples collected by using depth-integrating samplers. Samples usually are obtained at several verticals in the cross section, or a single sample may be obtained at a fixed point and a coefficient applied to determine the mean concentration in the cross section.

During periods of rapidly changing flow or rapidly changing concentration, samples may be collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

At other stations, suspended-sediment samples are collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observation, such data are useful in establishing seasonal relations between quality and streamflow and in predicting long-term sediment-discharge characteristics of the stream.

In addition to the records of suspended-sediment discharge, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included for some stations.

Laboratory Measurements

Samples for biochemical oxygen demand (BOD) and indicator bacteria are analyzed locally. All other samples are analyzed in the USGS laboratory in Lakewood, Colorado, unless otherwise noted. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chapter C1. Methods used by the USGS laboratories are given in the TWRI, Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4. These methods are consistent with ASTM standards and generally follow ISO standards.

Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, and so forth, obtained at a frequency less than daily are presented first. Tables of "daily values" of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment then follow in sequence.

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information is provided with each continuous-record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.—See Data Presentation information in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

DRAINAGE AREA.—See Data Presentation information in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

PERIOD OF RECORD.—This indicates the time periods for which published water-quality records for the station are available. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

INSTRUMENTATION.—Information on instrumentation is given only if a water-quality monitor temperature record, sediment pumping sampler, or other sampling device is in operation at a station.

REMARKS.—Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.—Records provided by a cooperating organization or obtained for the USGS by a cooperating organization are identified here.

EXTREMES.—Maximums and minimums are given only for parameters measured daily or more frequently. For parameters measured weekly or less frequently, true maximums or minimums may not have been obtained. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.—Records are revised if errors in published water-quality records are discovered. Appropriate updates are made in the USGS distributed data system, NWIS, and subsequently to its Web-based National data system, NWISWeb (<http://waterdata.usgs.gov/nwis>). Users of USGS water-quality data are encouraged to obtain all required data from NWIS or NWISWeb to ensure that they have the most recent updates. Updates to the NWISWeb are made on an annual basis.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Remark Codes

The following remark codes may appear with the water-quality data in this section:

Printed Output	Remark
E or e	Estimated value.
>	Actual value is known to be greater than the value shown.
<	Actual value is known to be less than the value shown.
K	Results based on colony count outside the acceptance range (non-ideal colony count).
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted).
D	Biological organism count equal to or greater than 15 percent (dominant).
V	Analyte was detected in both the environmental sample and the associated blanks.
&	Biological organism estimated as dominant.

Water-Quality Control Data

The USGS National Water Quality Laboratory collects quality-control data on a continuing basis to evaluate selected analytical methods to determine long-term method detection levels (LT-MDLs) and laboratory reporting levels (LRLs). These values are re-evaluated each year on the basis of the most recent quality-control data and, consequently, may change from year to year.

This reporting procedure limits the occurrence of false positive error. Falsely reporting a concentration greater than the LT-MDL for a sample in which the analyte is not present is 1 percent or less. Application of the LRL limits the occurrence of false negative error. The chance of falsely reporting a non-detection for a sample in which the analyte is present at a concentration equal to or greater than the LRL is 1 percent or less.

Accordingly, concentrations are reported as less than LRL for samples in which the analyte was either not detected or did not pass identification. Analytes detected at concentrations between the LT-MDL and the LRL and that pass identification criteria are estimated. Estimated concentrations will be noted with a remark code of "E." These data should be used with the understanding that their uncertainty is greater than that of data reported without the E remark code.

Data generated from quality-control (QC) samples are a requisite for evaluating the quality of the sampling and processing techniques as well as data from the actual samples themselves. Without QC data, environmental sample data cannot be adequately interpreted because the errors associated with the sample data are unknown. The various types of QC samples collected by this District office are described in the following section. Procedures have been established for the storage of water-quality-control data within the USGS. These procedures allow for storage of all derived QC data and are identified so that they can be related to corresponding environmental samples. These data are not presented in this report but are available from the District office.

Blank Samples

Blank samples are collected and analyzed to ensure that environmental samples have not been contaminated in the overall data-collection process. The blank solution used to develop specific types of blank samples is a solution that is free of the analytes of interest. Any measured value signal in a blank sample for an analyte (a specific component measured in a chemical analysis) that was absent in the blank solution is believed to be due to contamination. Many types of blank samples are possible; each is designed

to segregate a different part of the overall data-collection process. The types of blank samples collected in this district are:

Field blank—A blank solution that is subjected to all aspects of sample collection, field processing preservation, transportation, and laboratory handling as an environmental sample.

Trip blank—A blank solution that is put in the same type of bottle used for an environmental sample and kept with the set of sample bottles before and after sample collection.

Equipment blank—A blank solution that is processed through all equipment used for collecting and processing an environmental sample (similar to a field blank but normally done in the more controlled conditions of the office).

Sampler blank—A blank solution that is poured or pumped through the same field sampler used for collecting an environmental sample.

Filter blank—A blank solution that is filtered in the same manner and through the same filter apparatus used for an environmental sample.

Splitter blank—A blank solution that is mixed and separated using a field splitter in the same manner and through the same apparatus used for an environmental sample.

Preservation blank—A blank solution that is treated with the sampler preservatives used for an environmental sample.

Reference Samples

Reference material is a solution or material prepared by a laboratory. The reference material composition is certified for one or more properties so that it can be used to assess a measurement method. Samples of reference material are submitted for analysis to ensure that an analytical method is accurate for the known properties of the reference material. Generally, the selected reference material properties are similar to the environmental sample properties.

Replicate Samples

Replicate samples are a set of environmental samples collected in a manner such that the samples are thought to be essentially identical in composition. Replicate is the general case for which a duplicate is the special case consisting of two samples. Replicate samples are collected and analyzed to establish the amount of variability in the data contributed by some part of the collection and analytical process. Many types of replicate samples are possible, each of which may yield slightly different results in a dynamic hydrologic setting, such as a flowing stream. The types of replicate samples collected in this district are:

Concurrent samples—A type of replicate sample in which the samples are collected simultaneously with two or more samplers or by using one sampler and alternating the collection of samples into two or more compositing containers.

Sequential samples—A type of replicate sample in which the samples are collected one after the other, typically over a short time.

Split sample—A type of replicate sample in which a sample is split into subsamples, each subsample contemporaneous in time and space.

Spike Samples

Spike samples are samples to which known quantities of a solution with one or more well-established analyte concentrations have been added. These samples are analyzed to determine the extent of matrix interference or degradation on the analyte concentration during sample processing and analysis.

GROUND-WATER LEVELS AND COMPACTION VALUES

Since the 1940s, declines of several feet per year in ground-water levels have resulted in aquifer compaction in Picacho Basin, Avra Valley, and Tucson Basin. The USGS, in cooperation with the city of Tucson and the Arizona Department of Water Resources, has been collecting aquifer-compaction data with the use of vertical pipe extensometers in southern Arizona since 1979. Water-level and compaction data for 14 sites in the 2003 water year are summarized in this report. The 14 sites are shown in figure 9, and the water-level and compaction data are listed on page 302. Historical data are available from the District Office in Tucson, Arizona

Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude and (2) a local number that is produced for local needs.

Water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land surface datum is a datum plane that is approximately at land surface at each well. Water levels in wells equipped with recording gages are recorded continuously. Water levels are reported to a tenth or a hundredth of a foot. Compaction of sediment data are reported to a thousandth of a foot.

EXPLANATION OF GROUND-WATER-LEVEL RECORDS

Generally, only ground-water-level data from selected wells with continuous recorders from a basic network of observation wells are published in this report. This basic network contains observation wells located so that the most significant data are obtained from the fewest wells in the most important aquifers.

Site Identification Numbers

Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude and (2) a local number that is produced for local needs. (See NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES in this report for a detailed explanation).

Data Collection and Computation

Measurements are made in many types of wells, under varying conditions of access and at different temperatures; hence, neither the method of measurement nor the equipment can be standardized. At each observation well, however, the equipment and techniques used are those that will ensure that measurements at each well are consistent.

Most methods for collecting and analyzing water samples are described in the TWRIs referred to in the On-site Measurements and Sample Collection and the Laboratory Measurements sections in this report. In addition, TWRI Book 1, Chapter D2, describes guidelines for the collection and field analysis of ground-water samples for selected unstable constituents. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in TWRIs Book 1, Chapter D2; Book 3, Chapters A1,

A3, and A4; and Book 9, Chapters A1 through A9. The values in this report represent water-quality conditions at the time of sampling, as much as possible, and that are consistent with available sampling techniques and methods of analysis. These methods are consistent with ASTM standards and generally follow ISO standards. Trained personnel collected all samples. The wells sampled were pumped long enough to ensure that the water collected came directly from the aquifer and had not stood for a long time in the well casing where it would have been exposed to the atmosphere and to the material, possibly metal, comprising the casings.

Water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the elevation of the land-surface datum above sea level is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (EOM).

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth of water of several hundred feet, the error in determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given only to a tenth of a foot or a larger unit.

Data Presentation

Water-level data are presented in alphabetical order by county. The primary identification number for a given well is the 15-digit site identification number that appears in the upper left corner of the table. The secondary identification number is the local or county well number. Well locations are shown in [figures 2](#) and [3](#); each well is identified on the map by its local well or county well number.

Each well record consists of three parts: the well description, the data table of water levels observed during the water year, and, for most wells, a hydrograph following the data table. Well descriptions are presented in the headings preceding the tabular data.

The following comments clarify information presented in these various headings.

LOCATION.—This paragraph follows the well-identification number and reports the hydrologic-unit number and a geographic point of reference. Latitudes and longitudes used in this report are reported as North American Datum of 1927 unless otherwise specified.

AQUIFER.—This entry designates by name and geologic age the aquifer that the well taps.

WELL CHARACTERISTICS.—This entry describes the well in terms of depth, casing diameter and depth or screened interval, method of construction, use, and changes since construction.

INSTRUMENTATION.—This paragraph provides information on both the frequency of measurement and the collection method used, allowing the user to better evaluate the reported water-level extremes by knowing whether they are based on continuous, monthly, or some other frequency of measurement.

DATUM.—This entry describes both the measuring point and the land-surface elevation at the well. The altitude of the land-surface datum is described in feet above the altitude datum; it is reported with a precision depending on the method of determination. The measuring point is described physically (such as top of casing, top of instrument shelf, and so forth), and in relation to land surface (such as 1.3 ft above land-surface datum). The elevation of the land-surface datum is described in feet above National Geodetic

Vertical Datum of 1929 (NGVD 29); it is reported with a precision depending on the method of determination.

REMARKS.—This entry describes factors that may influence the water level in a well or the measurement of the water level, when various methods of measurement were begun, and the network (climatic, terrane, local, or areal effects) or the special project to which the well belongs.

PERIOD OF RECORD.—This entry indicates the time period for which records are published for the well, the month and year at the start of publication of water-level records by the USGS, and the words “to current year” if the records are to be continued into the following year. Time periods for which water-level records are available, but are not published by the USGS, may be noted.

EXTREMES FOR PERIOD OF RECORD.—This entry contains the highest and lowest instantaneously recorded or measured water levels of the period of published record, with respect to land-surface datum or sea level, and the dates of occurrence.

Water-Level Tables

A table of water levels follows the well description for each well. Water-level measurements in this report are given in feet with reference to either sea level or land-surface datum (lsd). Missing records are indicated by dashes in place of the water-level value.

For wells not equipped with recorders, water-level measurements were obtained periodically by steel or electric tape. Tables of periodic water-level measurements in these wells show the date of measurement and the measured water-level value.

Hydrographs

Hydrographs are a graphic display of water-level fluctuations over a period of time. In this report, current water year and, when appropriate, period-of-record hydrographs are shown. Hydrographs that display periodic water-level measurements show points that may be connected with a dashed line from one measurement to the next. Hydrographs that display recorder data show a solid line representing the mean water level recorded for each day. Missing data are indicated by a blank space or break in a hydrograph. Missing data may occur as a result of recorder malfunctions, battery failures, or mechanical problems related to the response of the recorder's float mechanism to water-level fluctuations in a well.

ACCESS TO USGS WATER DATA

The USGS provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily-mean and peak-flow discharge data for most current or discontinued gaging stations through the World Wide Web (WWW). These data may be accessed from <http://water.usgs.gov>.

Water-quality data and ground-water data also are available through the WWW. In addition, data can be provided in various machine-readable formats on various media. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each Water Discipline District Office (See address that is shown on the back of the title page of this report.).

DEFINITION OF TERMS

Specialized technical terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. Terms such as algae, water level, and precipitation are used in their common everyday meanings, definitions of which are given in standard dictionaries. Not all terms defined in this alphabetical list apply to every State. See also table for converting English units to International System (SI) Units. Other glossaries that also define water-related terms are accessible from <http://water.usgs.gov/glossaries.html>.

Acid neutralizing capacity (ANC) is the equivalent sum of all bases or base-producing materials, solutes plus particulates, in an aqueous system that can be titrated with acid to an equivalence point. This term designates titration of an “unfiltered” sample (formerly reported as alkalinity).

Acre-foot (AC-FT, acre-ft) is a unit of volume, commonly used to measure quantities of water used or stored, equivalent to the volume of water required to cover 1 acre to a depth of 1 foot and equivalent to 43,560 cubic feet, 325,851 gallons, or 1,233 cubic meters. (See also “Annual runoff”).

Adenosine triphosphate (ATP) is an organic, phosphate-rich compound important in the transfer of energy in organisms. Its central role in living cells makes ATP an excellent indicator of the presence of living material in water. A measurement of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter.

Adjusted discharge is discharge data that have been mathematically adjusted (for example, to remove the effects of a daily tide cycle or reservoir storage).

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample. (See also “Biomass” and “Dry weight”)

Alkalinity is the capacity of solutes in an aqueous system to neutralize acid. This term designates titration of a “filtered” sample.

Annual runoff is the total quantity of water that is discharged (“runs off”) from a drainage basin in a year. Data reports may present annual runoff data as volumes in acre-feet, as discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches.

Annual 7-day minimum is the lowest mean value for any 7-consecutive-day period in a year. Annual 7-day minimum values are reported herein for the calendar year and the water year (October 1 through September 30). Most low-flow frequency analyses use a climatic year (April 1-March 31), which tends to prevent the low-flow period from being artificially split between adjacent years. The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day, 10-year low-flow statistic.).

Aroclor is the registered trademark for a group of poly-chlorinated biphenyls that were manufactured by the Monsanto Company prior to 1976. Aroclors are assigned specific 4-digit reference numbers dependent upon molecular type and degree of substitution of the biphenyl ring hydrogen atoms by chlorine atoms. The first two digits of a numbered aroclor represent the molecular type, and the last two digits represent the percentage weight of the hydrogen-substituted chlorine.

Artificial substrate is a device that purposely is placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is collected. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection. (See also “Substrate”)

Ash mass is the mass or amount of residue present after the residue from a dry-mass determination has been ashed in a muffle furnace at a temperature of 500 °C for 1 hour. Ash mass of zooplankton and phytoplankton is expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2). (See also “Biomass” and “Dry mass”)

Aspect is the direction toward which a slope faces with respect to the compass.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, whereas others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Bankfull stage, as used in this report, is the stage at which a stream first overflows its natural banks formed by floods with 1- to 3-year recurrence intervals.

Base discharge (for peak discharge) is a discharge value, determined for selected stations, above which peak discharge data are published. The base discharge at each station is selected so that an average of about three peak flows per year will be published. (See also "Peak flow")

Base flow is sustained flow of a stream in the absence of direct runoff. It includes natural and human-induced streamflows. Natural base flow is sustained largely by ground-water discharge.

Bed material is the sediment mixture of which a stream-bed, lake, pond, reservoir, or estuary bottom is composed. (See also "Bedload" and "Sediment")

Bedload is material in transport that primarily is supported by the streambed. In this report, bedload is considered to consist of particles in transit from the bed to the top of the bedload sampler nozzle (an elevation ranging from 0.25 to 0.5 foot). These particles are retained in the bedload sampler. A sample collected with a pressure-differential bedload sampler also may contain a component of the suspended load.

Bedload discharge (tons per day) is the rate of sediment moving as bedload, reported as dry weight, that passes through a cross section in a given time. NOTE: Bedload discharge values in this report may include a component of the suspended-sediment discharge. A correction may be necessary when computing the total sediment discharge by summing the bedload discharge and the suspended-sediment discharge. (See also "Bedload," "Dry weight," "Sediment," and "Suspended-sediment discharge")

Benthic organisms are the group of organisms inhabiting the bottom of an aquatic environment. They include a number of types of organisms, such as bacteria, fungi, insect larvae and nymphs, snails,

clams, and crayfish. They are useful as indicators of water quality.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by microorganisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as mass per unit area or volume of habitat.

Biomass pigment ratio is an indicator of the total proportion of periphyton that are autotrophic (plants). This also is called the Autotrophic Index.

Blue-green algae (*Cyanophyta*) are a group of phytoplankton and periphyton organisms with a blue pigment in addition to a green pigment called chlorophyll. Blue-green algae can cause nuisance water-quality conditions in lakes and slow-flowing rivers; however, they are found commonly in streams throughout the year. The abundance of blue-green algae in phytoplankton samples is expressed as the number of cells per milliliter (cells/mL) or biovolume in cubic micrometers per milliliter ($\mu\text{m}^3/\text{mL}$). The abundance of blue-green algae in periphyton samples is given in cells per square centimeter (cells/cm²) or biovolume per square centimeter ($\mu\text{m}^3/\text{cm}^2$). (See also "Phytoplankton" and "Periphyton")

Bottom material (See "Bed material")

Bulk electrical conductivity is the combined electrical conductivity of all material within a doughnut-shaped volume surrounding an induction probe. Bulk conductivity is affected by different physical and chemical properties of the material including the dissolved-solids content of the pore water, and the lithology and porosity of the rock.

Canadian Geodetic Vertical Datum 1928 is a geodetic datum derived from a general adjustment of Canada's first order level network in 1928.

Cell volume (biovolume) determination is one of several common methods used to estimate biomass of algae in aquatic systems. Cell members of algae are used frequently in aquatic surveys as an indicator of algal production. However, cell numbers alone cannot represent true biomass because of considerable cell-size variation among the algal species. Cell volume (μm^3) is determined by obtaining critical cell

measurements or cell dimensions (for example, length, width, height, or radius) for 20 to 50 cells of each important species to obtain an average biovolume per cell. Cells are categorized according to the correspondence of their cellular shape to the nearest geometric solid or combinations of simple solids (for example, spheres, cones, or cylinders). Representative formulae used to compute biovolume are as follows:

$$\text{sphere } \frac{4}{3} \pi r^3 \quad \text{cone } \frac{1}{3} \pi r^2 h \quad \text{cylinder } \pi r^2 h.$$

pi (π) is the ratio of the circumference to the diameter of a circle; $\pi = 3.14159\dots$

From cell volume, total algal biomass expressed as biovolume ($\mu\text{m}^3/\text{mL}$) is thus determined by multiplying the number of cells of a given species by its average cell volume and then summing these volumes for all species.

Cells/volume refers to the number of cells of any organism that is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample volume, and generally are reported as cells or units per milliliter (mL) or liter (L).

Cfs-day (See “Cubic foot per second-day”)

Channel bars, as used in this report, are the lowest prominent geomorphic features higher than the channel bed.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with BOD or with carbonaceous organic pollution from sewage or industrial wastes. [See also “Biochemical oxygen demand (BOD)”]

***Clostridium perfringens* (*C. perfringens*)** is a spore-forming bacterium that is common in the feces of human and other warmblooded animals. Clostridial spores are being used experimentally as an indicator of past fecal contamination and the presence of microorganisms that are resistant to disinfection and environmental stresses. (See also “Bacteria”)

Coliphages are viruses that infect and replicate in coliform bacteria. They are indicative of sewage contamination of water and of the survival and transport of viruses in the environment.

Color unit is produced by 1 milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Confined aquifer is a term used to describe an aquifer containing water between two relatively impermeable boundaries. The water level in a well tapping a confined aquifer stands above the top of the confined aquifer and can be higher or lower than the water table that may be present in the material above it. In some cases, the water level can rise above the ground surface, yielding a flowing well.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Continuous-record station is a site where data are collected with sufficient frequency to define daily mean values and variations within a day.

Control designates a feature in the channel that physically affects the water-surface elevation and thereby determines the stage-discharge relation at the gage. This feature may be a constriction of the channel, a bedrock outcrop, a gravel bar, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure, as used in this report, is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of saltwater.

Cubic foot per second (CFS, ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point in 1 second. It is equivalent to approximately 7.48 gallons per second or approximately 449 gallons per minute, or 0.02832 cubic meters per second. The term “second-foot” sometimes is used synonymously with “cubic foot per second” but is now obsolete.

Cubic foot per second-day (CFS-DAY, Cfs-day, [$\text{ft}^3/\text{s}/\text{d}$]) is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, 1.98347 acre-feet, 646,317 gallons, or 2,446.6 cubic meters. The daily mean discharges reported in the daily value data tables numerically are equal to the daily volumes in cfs-days, and the totals also represent volumes in cfs-days.

Cubic foot per second per square mile [CFSM, (ft³/s)/mi²] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area. (See also “Annual runoff”)

Daily mean suspended-sediment concentration is the time-weighted mean concentration of suspended sediment passing a stream cross section during a 24-hour day. (See also “Sediment” and “Suspended-sediment concentration”)

Daily record station is a site where data are collected with sufficient frequency to develop a record of one or more data values per day. The frequency of data collection can range from continuous recording to data collection on a daily or near-daily basis.

Data collection platform (DCP) is an electronic instrument that collects, processes, and stores data from various sensors, and transmits the data by satellite data relay, line-of-sight radio, and/or landline telemetry.

Data logger is a microprocessor-based data acquisition system designed specifically to acquire, process, and store data. Data usually are downloaded from onsite data loggers for entry into office data systems.

Datum is a surface or point relative to which measurements of height and/or horizontal position are reported. A vertical datum is a horizontal surface used as the zero point for measurements of gage height, stage, or elevation; a horizontal datum is a reference for positions given in terms of latitude-longitude, State Plane coordinates, or Universal Transverse Mercator (UTM) coordinates. (See also “Gage datum,” “Land-surface datum,” “National Geodetic Vertical Datum of 1929,” and “North American Vertical Datum of 1988”)

Diatoms (*Bacillariophyta*) are unicellular or colonial algae with a siliceous cell wall. The abundance of diatoms in phytoplankton samples is expressed as the number of cells per milliliter (cells/mL) or biovolume in cubic micrometers per milliliter (μm³/mL). The abundance of diatoms in periphyton samples is given in cells per square centimeter (cells/cm²) or biovolume per square centimeter (μm³/cm²). (See also “Phytoplankton” and “Periphyton”)

Diel is of or pertaining to a 24-hour period of time; a regular daily cycle.

Discharge, or **flow**, is the rate that matter passes through a cross section of a stream channel or other water body per unit of time. The term commonly refers to the volume of water (including, unless otherwise stated, any sediment or other constituents suspended or dissolved in the water) that passes a cross section in a stream channel, canal, pipeline, and so forth, within a given period of time (cubic feet per second). Discharge also can apply to the rate at which constituents, such as suspended sediment, bedload, and dissolved or suspended chemicals, pass through a cross section, in which cases the quantity is expressed as the mass of constituent that passes the cross section in a given period of time (tons per day).

Dissolved refers to that material in a representative water sample that passes through a 0.45-micrometer membrane filter. This is a convenient operational definition used by Federal and State agencies that collect water-quality data. Determinations of “dissolved” constituent concentrations are made on sample water that has been filtered.

Dissolved oxygen (DO) is the molecular oxygen (oxygen gas) dissolved in water. The concentration in water is a function of atmospheric pressure, temperature, and dissolved-solids concentration of the water. The ability of water to retain oxygen decreases with increasing temperature or dissolved-solids concentration. Photosynthesis and respiration by plants commonly cause diurnal variations in dissolved-oxygen concentration in water from some streams.

Dissolved solids concentration in water is the quantity of dissolved material in a sample of water. It is determined either analytically by the “residue-on-evaporation” method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. In the mathematical calculation, the bicarbonate value, in milligrams per liter, is multiplied by 0.4926 to convert it to carbonate. Alternatively, alkalinity concentration (as mg/L CaCO₃) can be converted to carbonate concentration by multiplying by 0.60.

Diversity index (H) (Shannon index) is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = - \sum_{i=1}^s \frac{n_i}{n} \log_2 \frac{n_i}{n},$$

where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

Drainage area of a stream at a specific location is that area upstream from the location, measured in a horizontal plane, that has a common outlet at the site for its surface runoff from precipitation that normally drains by gravity into a stream. Drainage areas given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the Earth's surface that contains a drainage system with a common outlet for its surface runoff. (See "Drainage area")

Dry mass refers to the mass of residue present after drying in an oven at 105 °C, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry-mass values are expressed in the same units as ash mass. (See also "Ash mass," "Biomass," and "Wet mass")

Dry weight refers to the weight of animal tissue after it has been dried in an oven at 65 °C until a constant weight is achieved. Dry weight represents total organic and inorganic matter in the tissue. (See also "Wet weight")

Embeddedness is the degree to which gravel-sized and larger particles are surrounded or enclosed by finer-sized particles. (See also "Substrate embeddedness class")

Enterococcus bacteria commonly are found in the feces of humans and other warmblooded animals. Although some strains are ubiquitous and not related to fecal pollution, the presence of enterococci in water is an indication of fecal pollution and the possible presence of enteric pathogens. Enterococcus bacteria are those bacteria that produce pink to red colonies

with black or reddish-brown precipitate after incubation at 41 °C on mE agar (nutrient medium for bacterial growth) and subsequent transfer to EIA medium. Enterococci include *Streptococcus faecalis*, *Streptococcus faecium*, *Streptococcus avium*, and their variants. (See also "Bacteria")

EPT Index is the total number of distinct taxa within the insect orders Ephemeroptera, Plecoptera, and Trichoptera. This index summarizes the taxa richness within the aquatic insects that generally are considered pollution sensitive; the index usually decreases with pollution.

Escherichia coli (*E. coli*) are bacteria present in the intestine and feces of warmblooded animals. *E. coli* are a member species of the fecal coliform group of indicator bacteria. In the laboratory, they are defined as those bacteria that produce yellow or yellow-brown colonies on a filter pad saturated with urea substrate broth after primary culturing for 22 to 24 hours at 44.5 °C on mTEC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "Bacteria")

Estimated (E) value of a concentration is reported when an analyte is detected and all criteria for a positive result are met. If the concentration is less than the method detection limit (MDL), an E code will be reported with the value. If the analyte is identified qualitatively as present, but the quantitative determination is substantially more uncertain, the National Water Quality Laboratory will identify the result with an E code even though the measured value is greater than the MDL. A value reported with an E code should be used with caution. When no analyte is detected in a sample, the default reporting value is the MDL preceded by a less than sign (<). For bacteriological data, concentrations are reported as estimated when results are based on non-ideal colony counts.

Euglenoids (*Euglenophyta*) are a group of algae that usually are free-swimming and rarely creeping. They have the ability to grow either photosynthetically in the light or heterotrophically in the dark. (See also "Phytoplankton")

Extractable organic halides (EOX) are organic compounds that contain halogen atoms such as chlorine. These organic compounds are semivolatile and extractable by ethyl acetate from air-dried streambed sediment. The ethyl acetate extract is

combusted, and the concentration is determined by microcoulometric determination of the halides formed. The concentration is reported as micrograms of chlorine per gram of the dry weight of the streambed sediment.

Fecal coliform bacteria are present in the intestines or feces of warmblooded animals. They often are used as indicators of the sanitary quality of the water. In the laboratory, they are defined as all organisms that produce blue colonies within 24 hours when incubated at 44.5 °C plus or minus 0.2 °C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also “Bacteria”)

Fecal streptococcal bacteria are present in the intestines of warmblooded animals and are ubiquitous in the environment. They are characterized as gram-positive, cocci bacteria that are capable of growth in brain-heart infusion broth. In the laboratory, they are defined as all the organisms that produce red or pink colonies within 48 hours at 35 °C plus or minus 1.0 °C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also “Bacteria”)

Fire algae (*Pyrrophyta*) are free-swimming unicells characterized by a red pigment spot. (See also “Phytoplankton”)

Flow-duration percentiles are values on a scale of 100 that indicate the percentage of time for which a flow is not exceeded. For example, the 90th percentile of river flow is greater than or equal to 90 percent of all recorded flow rates.

Gage datum is a horizontal surface used as a zero point for measurement of stage or gage height. This surface usually is located slightly below the lowest point of the stream bottom such that the gage height is usually slightly greater than the maximum depth of water. Because the gage datum is not an actual physical object, the datum is usually defined by specifying the elevations of permanent reference marks such as bridge abutments and survey monuments, and the gage is set to agree with the reference marks. Gage datum is a local datum that is maintained independently of any national geodetic datum. However, if the elevation of the gage datum relative to the national datum (North American Vertical Datum of 1988 or National Geodetic Vertical Datum of 1929) has been determined, then the gage readings can be converted to

elevations above the national datum by adding the elevation of the gage datum to the gage reading.

Gage height (G.H.) is the water-surface elevation, in feet above the gage datum. If the water surface is below the gage datum, the gage height is negative. Gage height often is used interchangeably with the more general term “stage,” although gage height is more appropriate when used in reference to a reading on a gage.

Gage values are values that are recorded, transmitted, and/or computed from a gaging station. Gage values typically are collected at 5-, 15-, or 30-minute intervals.

Gaging station is a site on a stream, canal, lake, or reservoir where systematic observations of stage, discharge, or other hydrologic data are obtained.

Gas chromatography/flame ionization detector (GC/FID) is a laboratory analytical method used as a screening technique for semivolatile organic compounds that are extractable from water in methylene chloride.

Geomorphic channel units, as used in this report, are fluvial geomorphic descriptors of channel shape and stream velocity. Pools, riffles, and runs are types of geomorphic channel units considered for National Water-Quality Assessment (NAWQA) Program habitat sampling.

Green algae (*Chlorophyta*) are unicellular or colonial algae with chlorophyll pigments similar to those in terrestrial green plants. Some forms of green algae produce mats or floating “moss” in lakes. The abundance of green algae in phytoplankton samples is expressed as the number of cells per milliliter (cells/mL) or biovolume in cubic micrometers per milliliter ($\mu\text{m}^3/\text{mL}$). The abundance of green algae in periphyton samples is given in cells per square centimeter (cells/cm²) or biovolume per square centimeter ($\mu\text{m}^3/\text{cm}^2$). (See also “Phytoplankton” and “Periphyton”)

Habitat, as used in this report, includes all nonliving (physical) aspects of the aquatic ecosystem, although living components like aquatic macrophytes and riparian vegetation also are usually included. Measurements of habitat typically are made over a wider geographic scale than are measurements of species distribution.

Habitat quality index is the qualitative description (level 1) of instream habitat and riparian conditions surrounding the reach sampled. Scores range from 0 to 100 percent with higher scores indicative of desirable habitat conditions for aquatic life. Index only applicable to wadable streams.

Hardness of water is a physical-chemical characteristic that commonly is recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations (primarily calcium and magnesium) and is expressed as the equivalent concentration of calcium carbonate (CaCO₃).

High tide is the maximum height reached by each rising tide. The high-high and low-high tides are the higher and lower of the two high tides, respectively, of each tidal day. See NOAA Web site:

<http://www.co-ops.nos.noaa.gov/tideglos.html>

Hilsenhoff's Biotic Index (HBI) is an indicator of organic pollution that uses tolerance values to weight taxa abundances; usually increases with pollution. It is calculated as follows:

$$HBI = \frac{\sum(n)(a)}{N},$$

where n is the number of individuals of each taxon, a is the tolerance value of each taxon, and N is the total number of organisms in the sample.

Horizontal datum (See "Datum")

Hydrologic index stations referred to in this report are continuous-record gaging stations that have been selected as representative of streamflow patterns for their respective regions. Station locations are shown on index maps.

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as defined by the former Office of Water Data Coordination and delineated on the State Hydrologic Unit Maps by the USGS. Each hydrologic unit is identified by an 8-digit number.

Inch (IN., in.), in reference to streamflow, as used in this report, refers to the depth to which the drainage area would be covered with water if all of the runoff for a given time period were distributed uniformly on it. (See also "Annual runoff")

Instantaneous discharge is the discharge at a particular instant of time. (See also "Discharge")

International Boundary Commission Survey Datum refers to a geodetic datum established at numerous monuments along the United States-Canada boundary by the International Boundary Commission.

Island, as used in this report, is a mid-channel bar that has permanent woody vegetation, is flooded once a year, on average, and remains stable except during large flood events.

Laboratory reporting level (LRL) generally is equal to twice the yearly determined long-term method detection level (LT-MDL). The LRL controls false negative error. The probability of falsely reporting a nondetection for a sample that contained an analyte at a concentration equal to or greater than the LRL is predicted to be less than or equal to 1 percent. The value of the LRL will be reported with a "less than" (<) remark code for samples in which the analyte was not detected. The National Water Quality Laboratory (NWQL) collects quality-control data from selected analytical methods on a continuing basis to determine LT-MDLs and to establish LRLs. These values are reevaluated annually on the basis of the most current quality-control data and, therefore, may change. The LRL replaces the term 'non-detection value' (NDV).

Land-surface datum (lsd) is a datum plane that is approximately at land surface at each ground-water observation well.

Latent heat flux (often used interchangeably with latent heat-flux density) is the amount of heat energy that converts water from liquid to vapor (evaporation) or from vapor to liquid (condensation) across a specified cross-sectional area per unit time. Usually expressed in watts per square meter.

Light-attenuation coefficient, also known as the extinction coefficient, is a measure of water clarity. Light is attenuated according to the Lambert-Beer equation:

$$I = I_o e^{-\lambda L},$$

where I_o is the source light intensity, I is the light intensity at length L (in meters) from the source, λ is the light-attenuation coefficient, and e is the base of the natural logarithm. The light-attenuation coefficient is defined as

$$\lambda = -\frac{1}{L} \log_e \frac{I}{I_0}$$

Lipid is any one of a family of compounds that are insoluble in water and that make up one of the principal components of living cells. Lipids include fats, oils, waxes, and steroids. Many environmental contaminants such as organochlorine pesticides are lipophilic.

Long-term method detection level (LT-MDL) is a detection level derived by determining the standard deviation of a minimum of 24 method detection limit (MDL) spike-sample measurements over an extended period of time. LT-MDL data are collected on a continuous basis to assess year-to-year variations in the LT-MDL. The LT-MDL controls false positive error. The chance of falsely reporting a concentration at or greater than the LT-MDL for a sample that did not contain the analyte is predicted to be less than or equal to 1 percent.

Low tide is the minimum height reached by each falling tide. The high-low and low-low tides are the higher and lower of the two low tides, respectively, of each tidal day. *See NOAA Web site:*

<http://www.co-ops.nos.noaa.gov/tideglos.html>

Macrophytes are the macroscopic plants in the aquatic environment. The most common macrophytes are the rooted vascular plants that usually are arranged in zones in aquatic ecosystems and restricted in the area by the extent of illumination through the water and sediment deposition along the shoreline.

Mean concentration of suspended sediment (Daily mean suspended-sediment concentration) is the time-weighted concentration of suspended sediment passing a stream cross section during a given time period. (See also “Daily mean suspended-sediment concentration” and “Suspended-sediment concentration”)

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period. (See also “Discharge”)

Mean high or low tide is the average of all high or low tides, respectively, over a specific period.

Mean sea level is a local tidal datum. It is the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch. Shorter series are specified in the

name; for example, monthly mean sea level and yearly mean sea level. In order that they may be recovered when needed, such datums are referenced to fixed points known as benchmarks. (See also “Datum”)

Measuring point (MP) is an arbitrary permanent reference point from which the distance to water surface in a well is measured to obtain water level.

Megahertz is a unit of frequency. One megahertz equals one million cycles per second.

Membrane filter is a thin microporous material of specific pore size used to filter bacteria, algae, and other very small particles from water.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

Method detection limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99-percent confidence that the analyte concentration is greater than zero. It is determined from the analysis of a sample in a given matrix containing the analyte. At the MDL concentration, the risk of a false positive is predicted to be less than or equal to 1 percent.

Method of Cubatures is a method of computing discharge in tidal estuaries based on the conservation of mass equation.

Methylene blue active substances (MBAS) indicate the presence of detergents (anionic surfactants). The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

Micrograms per gram (UG/G, µg/g) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per kilogram (UG/KG, µg/kg) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the constituent per unit mass (kilogram) of the material analyzed. One

microgram per kilogram is equivalent to 1 part per billion.

Micrograms per liter (UG/L, $\mu\text{g/L}$) is a unit expressing the concentration of chemical constituents in water as mass (micrograms) of constituent per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter. One microgram per liter is equivalent to 1 part per billion.

Microsiemens per centimeter (US/CM, $\mu\text{S/cm}$) is a unit expressing the amount of electrical conductivity of a solution as measured between opposite faces of a centimeter cube of solution at a specified temperature. Siemens is the International System of Units nomenclature. It is synonymous with mhos and is the reciprocal of resistance in ohms.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in water as the mass (milligrams) of constituent per unit volume (liter) of water. Concentration of suspended sediment also is expressed in milligrams per liter and is based on the mass of dry sediment per liter of water-sediment mixture.

Minimum reporting level (MRL) is the smallest measured concentration of a constituent that may be reliably reported by using a given analytical method.

Miscellaneous site, miscellaneous station, or miscellaneous sampling site is a site where streamflow, sediment, and/or water-quality data or water-quality or sediment samples are collected once, or more often on a random or discontinuous basis to provide better areal coverage for defining hydrologic and water-quality conditions over a broad area in a river basin.

Most probable number (MPN) is an index of the number of coliform bacteria that, more probably than any other number, would give the results shown by the laboratory examination; it is not an actual enumeration. MPN is determined from the distribution of gas-positive cultures among multiple inoculated tubes.

Multiple-plate samplers are artificial substrates of known surface area used for obtaining benthic invertebrate samples. They consist of a series of spaced, hardboard plates on an eyebolt.

Nanograms per liter (NG/L, ng/L) is a unit expressing the concentration of chemical constituents in solution

as mass (nanograms) of solute per unit volume (liter) of water. One million nanograms per liter is equivalent to 1 milligram per liter.

National Geodetic Vertical Datum of 1929 (NGVD 29) is a fixed reference adopted as a standard geodetic datum for elevations determined by leveling. It formerly was called "Sea Level Datum of 1929" or "mean sea level." Although the datum was derived from the mean sea level at 26 tide stations, it does not necessarily represent local mean sea level at any particular place. *See NOAA Web site:* <http://www.ngs.noaa.gov/faq.shtml#WhatVD29VD88> (See "North American Vertical Datum of 1988")

Natural substrate refers to any naturally occurring immersed or submersed solid surface, such as a rock or tree, upon which an organism lives. (See also "Substrate")

Nekton are the consumers in the aquatic environment and consist of large, free-swimming organisms that are capable of sustained, directed mobility.

Nephelometric turbidity unit (NTU) is the measurement for reporting turbidity that is based on use of a standard suspension of formazin. Turbidity measured in NTU uses nephelometric methods that depend on passing specific light of a specific wavelength through the sample.

North American Datum of 1927 (NAD 27) is the horizontal control datum for the United States that was defined by a location and azimuth on the Clarke spheroid of 1866.

North American Datum of 1983 (NAD 83) is the horizontal control datum for the United States, Canada, Mexico, and Central America that is based on the adjustment of 250,000 points including 600 satellite Doppler stations that constrain the system to a geocentric origin. NAD 83 has been officially adopted as the legal horizontal datum for the United States by the Federal government.

North American Vertical Datum of 1988 (NAVD 88) is a fixed reference adopted as the official civilian vertical datum for elevations determined by Federal surveying and mapping activities in the United States. This datum was established in 1991 by minimum-constraint adjustment of the Canadian, Mexican, and United States first-order terrestrial leveling networks.

Open or screened interval is the length of unscreened opening or of well screen through which water enters a well, in feet below land surface.

Organic carbon (OC) is a measure of organic matter present in aqueous solution, suspension, or bottom sediment. May be reported as dissolved organic carbon (DOC), particulate organic carbon (POC), or total organic carbon (TOC).

Organic mass or volatile mass of a living substance is the difference between the dry mass and ash mass and represents the actual mass of the living matter. Organic mass is expressed in the same units as for ash mass and dry mass. (See also "Ash mass," "Biomass," and "Dry mass")

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meter (m²), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliter (mL) or liter (L). Numbers of planktonic organisms can be expressed in these terms.

Organochlorine compounds are any chemicals that contain carbon and chlorine. Organochlorine compounds that are important in investigations of water, sediment, and biological quality include certain pesticides and industrial compounds.

Parameter code is a 5-digit number used in the USGS computerized data system, National Water Information System (NWIS), to uniquely identify a specific constituent or property.

Partial-record station is a site where discrete measurements of one or more hydrologic parameters are obtained over a period of time without continuous data being recorded or computed. A common example is a crest-stage gage partial-record station at which only peak stages and flows are recorded.

Particle size is the diameter, in millimeters (mm), of a particle determined by sieve or sedimentation methods. The sedimentation method uses the principle of Stokes Law to calculate sediment particle sizes. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube, sedigraph) determine

fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification, as used in this report, agrees with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (mm)	Method of analysis
Clay	>0.00024 - 0.004	Sedimentation
Silt	>0.004 - 0.062	Sedimentation
Sand	>0.062 - 2.0	Sedimentation/sieve
Gravel	>2.0 - 64.0	Sieve
Cobble	>64 - 256	Manual measurement
Boulder	>256	Manual measurement

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. For the sedimentation method, most of the organic matter is removed, and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native water analysis.

Peak flow (peak stage) is an instantaneous local maximum value in the continuous time series of streamflows or stages, preceded by a period of increasing values and followed by a period of decreasing values. Several peak values ordinarily occur in a year. The maximum peak value in a year is called the annual peak; peaks lower than the annual peak are called secondary peaks. Occasionally, the annual peak may not be the maximum value for the year; in such cases, the maximum value occurs at midnight at the beginning or end of the year, on the recession from or rise toward a higher peak in the adjoining year. If values are recorded at a discrete series of times, the peak recorded value may be taken as an approximation of the true peak, which may occur between the recording instants. If the values are recorded with finite precision, a sequence of equal recorded values may occur at the peak; in this case, the first value is taken as the peak.

Percent composition or percent of total is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, weight, mass, or volume.

Percent shading is a measure of the amount of sunlight potentially reaching the stream. A clinometer is used to measure left and right bank canopy angles. These values are added together, divided by 180, and multiplied by 100 to compute percentage of shade.

Periodic-record station is a site where stage, discharge, sediment, chemical, physical, or other hydrologic measurements are made one or more times during a year but at a frequency insufficient to develop a daily record.

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. Although primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton are useful indicators of water quality.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

pH of water is the negative logarithm of the hydrogen-ion activity. Solutions with pH less than 7.0 standard units are termed "acidic," and solutions with a pH greater than 7.0 are termed "basic." Solutions with a pH of 7.0 are neutral. The presence and concentration of many dissolved chemical constituents found in water are affected, in part, by the hydrogen-ion activity of water. Biological processes including growth, distribution of organisms, and toxicity of the water to organisms also are affected, in part, by the hydrogen-ion activity of water.

Phytoplankton is the plant part of the plankton. They usually are microscopic, and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment and commonly are known as algae. (See also "Plankton")

Picocurie (PC, pCi) is one-trillionth (1×10^{-12}) of the amount of radioactive nuclide represented by a curie (Ci). A curie is the quantity of radioactive nuclide that yields 3.7×10^{10} radioactive disintegrations per second (dps). A picocurie yields 0.037 dps, or 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers. Concentrations are expressed as a number of cells per milliliter (cells/mL) of sample.

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Polychlorinated naphthalenes (PCNs) are industrial chemicals that are mixtures of chlorinated naphthalene compounds. They have properties and applications similar to polychlorinated biphenyls (PCBs) and have been identified in commercial PCB preparations.

Pool, as used in this report, is a small part of a stream reach with little velocity, commonly with water deeper than surrounding areas.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photo-synthetic and chemosynthetic activity of producer organisms (chiefly, green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated (carbon method) by the plants.

Primary productivity (carbon method) is expressed as milligrams of carbon per area per unit time [$\text{mg C}/(\text{m}^2/\text{time})$] for periphyton and macrophytes or per volume [$\text{mg C}/(\text{m}^3/\text{time})$] for phytoplankton. The carbon method defines the amount of carbon dioxide consumed as measured by radioactive carbon (carbon-14). The carbon-14 method is of greater sensitivity than the oxygen light- and dark-bottle method and is preferred for use with unenriched water samples. Unit time may be either the hour or day, depending on the incubation period. (See also "Primary productivity")

Primary productivity (oxygen method) is expressed as milligrams of oxygen per area per unit time [$\text{mg O}/(\text{m}^2/\text{time})$] for periphyton and macrophytes or per volume [$\text{mg O}/(\text{m}^3/\text{time})$] for phytoplankton. The oxygen method defines production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light- and dark-bottle method is preferred if the rate of primary production is sufficient for accurate

measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period. (See also "Primary productivity")

Radioisotopes are isotopic forms of elements that exhibit radioactivity. Isotopes are varieties of a chemical element that differ in atomic weight but are very nearly alike in chemical properties. The difference arises because the atoms of the isotopic forms of an element differ in the number of neutrons in the nucleus; for example, ordinary chlorine is a mixture of isotopes having atomic weights of 35 and 37, and the natural mixture has an atomic weight of about 35.453. Many of the elements similarly exist as mixtures of isotopes, and a great many new isotopes have been produced in the operation of nuclear devices such as the cyclotron. There are 275 isotopes of the 81 stable elements, in addition to more than 800 radioactive isotopes.

Reach, as used in this report, is a length of stream that is chosen to represent a uniform set of physical, chemical, and biological conditions within a segment. It is the principal sampling unit for collecting physical, chemical, and biological data.

Recoverable from bed (bottom) material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results. (See also "Bed material")

Recurrence interval, also referred to as return period, is the average time, usually expressed in years, between occurrences of hydrologic events of a specified type (such as exceedances of a specified high flow or nonexceedance of a specified low flow). The terms "return period" and "recurrence interval" do not imply regular cyclic occurrence. The actual times between occurrences vary randomly, with most of the times being less than the average and a few being substantially greater than the average. For example, the 100-year flood is the flow rate that is exceeded by the annual maximum peak flow at intervals whose

average length is 100 years (that is, once in 100 years, on average); almost two-thirds of all exceedances of the 100-year flood occur less than 100 years after the previous exceedance, half occur less than 70 years after the previous exceedance, and about one-eighth occur more than 200 years after the previous exceedance. Similarly, the 7-day, 10-year low flow ($7Q_{10}$) is the flow rate below which the annual minimum 7-day-mean flow dips at intervals whose average length is 10 years (that is, once in 10 years, on average); almost two-thirds of the nonexceedances of the $7Q_{10}$ occur less than 10 years after the previous nonexceedance, half occur less than 7 years after, and about one-eighth occur more than 20 years after the previous nonexceedance. The recurrence interval for annual events is the reciprocal of the annual probability of occurrence. Thus, the 100-year flood has a 1-percent chance of being exceeded by the maximum peak flow in any year, and there is a 10-percent chance in any year that the annual minimum 7-day-mean flow will be less than the $7Q_{10}$.

Replicate samples are a group of samples collected in a manner such that the samples are thought to be essentially identical in composition.

Return period (See "Recurrence interval")

Riffle, as used in this report, is a shallow part of the stream where water flows swiftly over completely or partially submerged obstructions to produce surface agitation.

River mileage is the curvilinear distance, in miles, measured upstream from the mouth along the meandering path of a stream channel in accordance with Bulletin No. 14 (October 1968) of the Water Resources Council and typically is used to denote location along a river.

Run, as used in this report, is a relatively shallow part of a stream with moderate velocity and little or no surface turbulence.

Runoff is the quantity of water that is discharged ("runs off") from a drainage basin during a given time period. Runoff data may be presented as volumes in acre-feet, as mean discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches. (See also "Annual runoff")

Sea level, as used in this report, refers to one of the two commonly used national vertical datums (NGVD 1929 or NAVD 1988). See separate entries for definitions of these datums.

Sediment is solid material that originates mostly from disintegrated rocks; when transported by, suspended in, or deposited from water, it is referred to as “fluvial sediment.” Sediment includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are affected by environmental and land-use factors. Some major factors are topography, soil characteristics, land cover, and depth and intensity of precipitation.

Sensible heat flux (often used interchangeably with latent sensible heat-flux density) is the amount of heat energy that moves by turbulent transport through the air across a specified cross-sectional area per unit time and goes to heating (cooling) the air. Usually expressed in watts per square meter.

Seven-day, 10-year low flow ($7Q_{10}$) is the discharge below which the annual 7-day minimum flow falls in 1 year out of 10 on the long-term average. The recurrence interval of the $7Q_{10}$ is 10 years; the chance that the annual 7-day minimum flow will be less than the $7Q_{10}$ is 10 percent in any given year. (See also “Annual 7-day minimum” and “Recurrence interval”)

Shelves, as used in this report, are streambank features extending nearly horizontally from the flood plain to the lower limit of persistent woody vegetation.

Sodium adsorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Sodium hazard in water is an index that can be used to evaluate the suitability of water for irrigating crops.

Soil heat flux (often used interchangeably with soil heat-flux density) is the amount of heat energy that moves by conduction across a specified cross-sectional area of soil per unit time and goes to heating (or cooling) the soil. Usually expressed in watts per square meter.

Soil-water content is the water lost from the soil upon drying to constant mass at 105 °C; expressed either as mass of water per unit mass of dry soil or as the volume of water per unit bulk volume of soil.

Specific electrical conductance (conductivity) is a measure of the capacity of water (or other media) to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 °C. Specific electrical conductance is a function of the types and quantity of dissolved substances in water and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is from 55 to 75 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stable isotope ratio (per MIL) is a unit expressing the ratio of the abundance of two radioactive isotopes. Isotope ratios are used in hydrologic studies to determine the age or source of specific water, to evaluate mixing of different water, as an aid in determining reaction rates, and other chemical or hydrologic processes.

Stage (See “Gage height”)

Stage-discharge relation is the relation between the water-surface elevation, termed stage (gage height), and the volume of water flowing in a channel per unit time.

Streamflow is the discharge that occurs in a natural channel. Although the term “discharge” can be applied to the flow of a canal, the word “streamflow” uniquely describes the discharge in a surface stream course. The term “streamflow” is more general than “runoff” as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lives.

Substrate embeddedness class is a visual estimate of riffle streambed substrate larger than gravel that is surrounded or covered by fine sediment (<2 mm, sand or finer). Below are the class categories expressed as the percentage covered by fine sediment:

0	no gravel or larger substrate	3	26-50 percent
1	> 75 percent	4	5-25 percent
2	51-75 percent	5	< 5 percent

Surface area of a lake is that area (acres) encompassed by the boundary of the lake as shown on USGS topographic maps, or other available maps or photographs. Because surface area changes with lake stage, surface areas listed in this report represent those determined for the stage at the time the maps or photographs were obtained.

Surficial bed material is the upper surface (0.1 to 0.2 foot) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Surrogate is an analyte that behaves similarly to a target analyte, but that is highly unlikely to occur in a sample. A surrogate is added to a sample in known amounts before extraction and is measured with the same laboratory procedures used to measure the target analyte. Its purpose is to monitor method performance for an individual sample.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. It is defined operationally as the material retained on a 0.45-micrometer filter.

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative suspended water-sediment sample that is retained on a 0.45-micrometer membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment, and, thus, the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results. Determinations of "suspended, recoverable" constituents are made either by directly analyzing the suspended material collected on the filter or, more commonly, by difference, on the basis of determinations of (1) dissolved and (2) total recoverable concentrations of the constituent. (See also "Suspended")

Suspended sediment is the sediment maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid. (See also "Sediment")

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 foot above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L). The analytical technique uses the mass of all of the sediment and the net weight of the water-sediment mixture in a sample to compute the suspended-sediment concentration. (See also "Sediment" and "Suspended sediment")

Suspended-sediment discharge (tons/d) is the rate of sediment transport, as measured by dry mass or volume, that passes a cross section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft³/s) x 0.0027. (See also "Sediment," "Suspended sediment," and "Suspended-sediment concentration")

Suspended-sediment load is a general term that refers to a given characteristic of the material in suspension that passes a point during a specified period of time. The term needs to be qualified, such as "annual suspended-sediment load" or "sand-size suspended-sediment load," and so on. It is not synonymous with either suspended-sediment discharge or concentration. (See also "Sediment")

Suspended solids, total residue at 105 °C concentration is the concentration of inorganic and organic material retained on a filter, expressed as milligrams of dry material per liter of water (mg/L). An aliquot of the sample is used for this analysis.

Suspended, total is the total amount of a given constituent in the part of a water-sediment sample that is retained on a 0.45-micrometer membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. Knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total." Determinations of "suspended, total" constituents are made either by directly analyzing portions of the suspended material collected on the filter or, more commonly, by difference, on the basis of determinations of (1) dissolved and (2) total concentrations of the constituent. (See also "Suspended")

Synoptic studies are short-term investigations of specific water-quality conditions during selected seasonal or hydro-logic periods to provide improved spatial resolution for critical water-quality conditions. For the period and conditions sampled, they assess the spatial distribution of selected water-quality conditions in relation to causative factors, such as land use and contaminant sources.

Taxa (Species) richness is the number of species (taxa) present in a defined area or sampling unit.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, *Hexagenia limbata*, is the following:

Kingdom:	Animal
Phylum:	Arthropoda
Class:	Insecta
Order:	Ephemeroptera
Family:	Ephemeridae
Genus:	<i>Hexagenia</i>
Species:	<i>Hexagenia limbata</i>

Thalweg is the line formed by connecting points of minimum streambed elevation (deepest part of the channel).

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term "temperature recorder" is used in the table descriptions and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

Time-weighted average is computed by multiplying the number of days in the sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the total number of days. A time-weighted average represents the composition of water resulting from the mixing of flow proportionally to the duration of the concentration.

Tons per acre-foot (T/acre-ft) is the dry mass (tons) of a constituent per unit volume (acre-foot) of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY, tons/d) is a common chemical or sediment discharge unit. It is the quantity of a substance in solution, in suspension, or as bedload that passes a stream section during a 24-hour period. It is equivalent to 2,000 pounds per day, or 0.9072 metric ton per day.

Total is the amount of a given constituent in a representative whole-water (unfiltered) sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determined at least 95 percent of the constituent in the sample.)

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. This group includes coliforms that inhabit the intestine of warmblooded animals and those that inhabit soils. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria that ferment lactose with gas formation within 48 hours at 35 °C. In the laboratory, these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35 °C plus or minus 1.0 °C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milliliters of sample. (See also "Bacteria")

Total discharge is the quantity of a given constituent, measured as dry mass or volume, that passes a stream cross section per unit of time. When referring to constituents other than water, this term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total in bottom material is the amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical

procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as “total in bottom material.”

Total length (fish) is the straight-line distance from the anterior point of a fish specimen’s snout, with the mouth closed, to the posterior end of the caudal (tail) fin, with the lobes of the caudal fin squeezed together.

Total load refers to all of a constituent in transport. When referring to sediment, it includes suspended load plus bed load.

Total organism count is the number of organisms collected and enumerated in any particular sample. (See also “Organism count/volume”)

Total recoverable is the amount of a given constituent in a whole-water sample after a sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the “total” amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data for whole-water samples, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures may produce different analytical results.

Total sediment discharge is the mass of suspended-sediment plus bed-load transport, measured as dry weight, that passes a cross section in a given time. It is a rate and is reported as tons per day. (See also “Bedload,” “Bedload discharge,” “Sediment,” “Suspended sediment,” and “Suspended-sediment concentration”)

Total sediment load or **total load** is the sediment in transport as bedload and suspended-sediment load. The term may be qualified, such as “annual suspended-sediment load” or “sand-size suspended-sediment load,” and so on. It differs from total sediment discharge in that load refers to the material, whereas discharge refers to the quantity of material, expressed in units of mass per unit time. (See also “Sediment,” “Suspended-sediment load,” and “Total load”)

Transect, as used in this report, is a line across a stream perpendicular to the flow and along which measurements are taken, so that morphological and flow characteristics along the line are described from bank to bank. Unlike a cross section, no attempt is made to determine known elevation points along the line.

Turbidity is the reduction in the transparency of a solution because of the presence of suspended and some dissolved substances. The measurement technique records the collective optical properties of the solution that cause light to be scattered and attenuated rather than transmitted in straight lines; the higher the intensity of scattered or attenuated light, the higher the value of the turbidity. Turbidity is expressed in nephelometric turbidity units (NTU). Depending on the method used, the turbidity units as NTU can be defined as the intensity of light of a specified wavelength scattered or attenuated by suspended particles or absorbed at a method specified angle, usually 90 degrees, from the path of the incident light. Currently approved methods for the measurement of turbidity in the USGS include those that conform to USEPA Method 180.1, ASTM D1889-00, and ISO 7027. Measurements of turbidity by these different methods and different instruments are unlikely to yield equivalent values.

Ultraviolet (UV) absorbance (absorption) at 254 or 280 nanometers is a measure of the aggregate concentration of the mixture of UV absorbing organic materials dissolved in the analyzed water, such as lignin, tannin, humic substances, and various aromatic compounds. UV absorbance (absorption) at 254 or 280 nanometers is measured in UV absorption units per centimeter of path length of UV light through a sample.

Unconfined aquifer is an aquifer whose upper surface is a water table free to fluctuate under atmospheric pressure. (See “Water-table aquifer”)

Vertical datum (See “Datum”)

Volatile organic compounds (VOCs) are organic compounds that can be isolated from the water phase of a sample by purging the water sample with inert gas, such as helium, and, subsequently, analyzed by gas chromatography. Many VOCs are human-made chemicals that are used and produced in the manufacture of paints, adhesives, petroleum products, pharmaceuticals, and refrigerants. They often are components of fuels, solvents, hydraulic fluids, paint

thinners, and dry-cleaning agents commonly used in urban settings. VOC contamination of drinking-water supplies is a human-health concern because many are toxic and are known or suspected human carcinogens.

Water table is that surface in a ground-water body at which the water pressure is equal to the atmospheric pressure.

Water-table aquifer is an unconfined aquifer within which the water table is found.

Water year in USGS reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 2002, is called the "2002 water year."

Watershed (See "Drainage basin")

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports. (WRD was used as an abbreviation for "Water-Resources Data" in reports published prior to 1976.)

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the

concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

Wet mass is the mass of living matter plus contained water. (See also "Biomass" and "Dry mass")

Wet weight refers to the weight of animal tissue or other substance including its contained water. (See also "Dry weight")

WSP is used as an acronym for "Water-Supply Paper" in reference to previously published reports.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and often are large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers. (See also "Plankton")

Techniques of Water-Resources Investigations of the U.S. Geological Survey

The USGS publishes a series of manuals, the Techniques of Water-Resources Investigations, describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, section A of book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

Reports in the Techniques of Water-Resources Investigations series, which are listed below, are online at <http://water.usgs.gov/pubs/twri/>. Printed copies are for sale by the USGS, Information Services, Box 25286, Federal Center, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office), telephone 1-888-ASK-USGS. Please telephone 1-888-ASK-USGS for current prices, and refer to the title, book number, chapter number, and mention the "U.S. Geological Survey Techniques of Water-Resources Investigations." Products can then be ordered by telephone, or online at <http://www.usgs.gov/sales.html>, or by FAX to (303)236-469 of an order form available online at <http://mac.usgs.gov/isb/pubs/forms/>. Prepayment by major credit card or by a check or money order payable to the "U.S. Geological Survey" is required.

Book 1. Collection of Water Data by Direct Measurement

Section D. Water Quality

1–D1. *Water temperature—Influential factors, field measurement, and data presentation*, by H.H. Stevens, Jr., J.F. Ficke, and G.F. Smoot: USGS–TWRI book 1, chap. D1. 1975. 65 p.

1–D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W. Wood: USGS–TWRI book 1, chap. D2. 1976. 24 p.

Book 2. Collection of Environmental Data

Section D. Surface Geophysical Methods

2–D1. *Application of surface geophysics to ground-water investigations*, by A.A.R. Zohdy, G.P. Eaton, and D.R. Mabey: USGS–TWRI book 2, chap. D1. 1974. 116 p.

2–D2. *Application of seismic-refraction techniques to hydrologic studies*, by F.P. Haeni: USGS–TWRI book 2, chap. D2. 1988. 86 p.

Section E. Subsurface Geophysical Methods

2–E1. *Application of borehole geophysics to water-resources investigations*, by W.S. Keys and L.M. MacCary: USGS–TWRI book 2, chap. E1. 1971. 126 p.

2–E2. *Borehole geophysics applied to ground-water investigations*, by W.S. Keys: USGS–TWRI book 2, chap. E2. 1990. 150 p.

Section F. Drilling and Sampling Methods

2–F1. *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and W.E. Teasdale: USGS–TWRI book 2, chap. F1. 1989. 97 p.

Book 3. Applications of Hydraulics

Section A. Surface-Water Techniques

- 3–A1. *General field and office procedures for indirect discharge measurements*, by M.A. Benson and Tate Dalrymple: USGS–TWRI book 3, chap. A1. 1967. 30 p.
- 3–A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M.A. Benson: USGS–TWRI book 3, chap. A2. 1967. 12 p.
- 3–A3. *Measurement of peak discharge at culverts by indirect methods*, by G.L. Bodhaine: USGS–TWRI book 3, chap. A3. 1968. 60 p.
- 3–A4. *Measurement of peak discharge at width contractions by indirect methods*, by H.F. Matthai: USGS–TWRI book 3, chap. A4. 1967. 44 p.
- 3–A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS–TWRI book 3, chap. A5. 1967. 29 p.
- 3–A6. *General procedure for gaging streams*, by R.W. Carter and Jacob Davidian: USGS–TWRI book 3, chap. A6. 1968. 13 p.
- 3–A7. *Stage measurement at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A7. 1968. 28 p.
- 3–A8. *Discharge measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A8. 1969. 65 p.
- 3–A9. *Measurement of time of travel in streams by dye tracing*, by F.A. Kilpatrick and J.F. Wilson, Jr.: USGS–TWRI book 3, chap. A9. 1989. 27 p.
- 3–A10. *Discharge ratings at gaging stations*, by E.J. Kennedy: USGS–TWRI book 3, chap. A10. 1984. 59 p.
- 3–A11. *Measurement of discharge by the moving-boat method*, by G.F. Smoot and C.E. Novak: USGS–TWRI book 3, chap. A11. 1969. 22 p.
- 3–A12. *Fluorometric procedures for dye tracing*, Revised, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS–TWRI book 3, chap. A12. 1986. 34 p.
- 3–A13. *Computation of continuous records of streamflow*, by E.J. Kennedy: USGS–TWRI book 3, chap. A13. 1983. 53 p.
- 3–A14. *Use of flumes in measuring discharge*, by F.A. Kilpatrick and V.R. Schneider: USGS–TWRI book 3, chap. A14. 1983. 46 p.
- 3–A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS–TWRI book 3, chap. A15. 1984. 48 p.
- 3–A16. *Measurement of discharge using tracers*, by F.A. Kilpatrick and E.D. Cobb: USGS–TWRI book 3, chap. A16. 1985. 52 p.
- 3–A17. *Acoustic velocity meter systems*, by Antonius Laenen: USGS–TWRI book 3, chap. A17. 1985. 38 p.
- 3–A18. *Determination of stream reaeration coefficients by use of tracers*, by F.A. Kilpatrick, R.E. Rathbun, Nobuhiro Yotsukura, G.W. Parker, and L.L. DeLong: USGS–TWRI book 3, chap. A18. 1989. 52 p.
- 3–A19. *Levels at streamflow gaging stations*, by E.J. Kennedy: USGS–TWRI book 3, chap. A19. 1990. 31 p.
- 3–A20. *Simulation of soluble waste transport and buildup in surface waters using tracers*, by F.A. Kilpatrick: USGS–TWRI book 3, chap. A20. 1993. 38 p.
- 3–A21. *Stream-gaging cableways*, by C. Russell Wagner: USGS–TWRI book 3, chap. A21. 1995. 56 p.

Section B. Ground-Water Techniques

- 3–B1. *Aquifer-test design, observation, and data analysis*, by R.W. Stallman: USGS–TWRI book 3, chap. B1. 1971. 26 p.
- 3–B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G.D. Bennett: USGS–TWRI book 3, chap. B2. 1976. 172 p.
- 3–B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J.E. Reed: USGS–TWRI book 3, chap. B3. 1980. 106 p.
- 3–B4. *Regression modeling of ground-water flow*, by R.L. Cooley and R.L. Naff: USGS–TWRI book 3, chap. B4. 1990. 232 p.

3–B4. *Supplement 1. Regression modeling of ground-water flow—Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems*, by R.L. Cooley: USGS–TWRI book 3, chap. B4. 1993. 8 p.

3–B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems—An introduction*, by O.L. Franke, T.E. Reilly, and G.D. Bennett: USGS–TWRI book 3, chap. B5. 1987. 15 p.

3–B6. *The principle of superposition and its application in ground-water hydraulics*, by T.E. Reilly, O.L. Franke, and G.D. Bennett: USGS–TWRI book 3, chap. B6. 1987. 28 p.

3–B7. *Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow*, by E.J. Wexler: USGS–TWRI book 3, chap. B7. 1992. 190 p.

3–B8. *System and boundary conceptualization in ground-water flow simulation*, by T.E. Reilly: USGS–TWRI book 3, chap. B8. 2001. 29 p.

Section C. Sedimentation and Erosion Techniques

3–C1. *Fluvial sediment concepts*, by H.P. Guy: USGS–TWRI book 3, chap. C1. 1970. 55 p.

3–C2. *Field methods for measurement of fluvial sediment*, by T.K. Edwards and G.D. Glysson: USGS–TWRI book 3, chap. C2. 1999. 89 p.

3–C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS–TWRI book 3, chap. C3. 1972. 66 p.

Book 4. Hydrologic Analysis and Interpretation

Section A. Statistical Analysis

4–A1. *Some statistical tools in hydrology*, by H.C. Riggs: USGS–TWRI book 4, chap. A1. 1968. 39 p.

4–A2. *Frequency curves*, by H.C. Riggs: USGS–TWRI book 4, chap. A2. 1968. 15 p.

4–A3. *Statistical methods in water resources*, by D.R. Helsel and R.M. Hirsch: USGS–TWRI book 4, chap. A3. 1991. Available only online at <http://water.usgs.gov/pubs/twri/twri4a3/>. (Accessed August 30, 2002.)

Section B. Surface Water

4–B1. *Low-flow investigations*, by H.C. Riggs: USGS–TWRI book 4, chap. B1. 1972. 18 p.

4–B2. *Storage analyses for water supply*, by H.C. Riggs and C.H. Hardison: USGS–TWRI book 4, chap. B2. 1973. 20 p.

4–B3. *Regional analyses of streamflow characteristics*, by H.C. Riggs: USGS–TWRI book 4, chap. B3. 1973. 15 p.

Section D. Interrelated Phases of the Hydrologic Cycle

4–D1. *Computation of rate and volume of stream depletion by wells*, by C.T. Jenkins: USGS–TWRI book 4, chap. D1. 1970. 17 p.

Book 5. Laboratory Analysis

Section A. Water Analysis

5–A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M.J. Fishman and L.C. Friedman, editors: USGS–TWRI book 5, chap. A1. 1989. 545 p.

5–A2. *Determination of minor elements in water by emission spectroscopy*, by P.R. Barnett and E.C. Mallory, Jr.: USGS–TWRI book 5, chap. A2. 1971. 31 p.

5–A3. *Methods for the determination of organic substances in water and fluvial sediments*, edited by R.L. Wershaw, M.J. Fishman, R.R. Grabbe, and L.E. Lowe: USGS–TWRI book 5, chap. A3. 1987. 80 p.

5–A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by L.J. Britton and P.E. Greeson, editors: USGS–TWRI book 5, chap. A4. 1989. 363 p.

5–A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS–TWRI book 5, chap. A5. 1977. 95 p.

5–A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments*, by L.C. Friedman and D.E. Erdmann: USGS–TWRI book 5, chap. A6. 1982. 181 p.

Section C. Sediment Analysis

5–C1. *Laboratory theory and methods for sediment analysis*, by H.P. Guy: USGS–TWRI book 5, chap. C1. 1969. 58 p.

Book 6. Modeling Techniques

Section A. Ground Water

6–A1. *A modular three-dimensional finite-difference ground-water flow model*, by M.G. McDonald and A.W. Harbaugh: USGS–TWRI book 6, chap. A1. 1988. 586 p.

6–A2. *Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model*, by S.A. Leake and D.E. Prudic: USGS–TWRI book 6, chap. A2. 1991. 68 p.

6–A3. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual*, by L.J. Torak: USGS–TWRI book 6, chap. A3. 1993. 136 p.

6–A4. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions*, by R.L. Cooley: USGS–TWRI book 6, chap. A4. 1992. 108 p.

6–A5. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details*, by L.J. Torak: USGS–TWRI book 6, chap. A5. 1993. 243 p.

6–A6. *A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction*, by Eric D. Swain and Eliezer J. Wexler: USGS–TWRI book 6, chap. A6. 1996. 125 p.

6–A7. *User's guide to SEAWAT: A computer program for simulation of three-dimensional variable-density ground-water flow*, by Weixing Guo and Christian D. Langevin: USGS–TWRI book 6, chap. A7. 2002. 77 p.

Book 7. Automated Data Processing and Computations

Section C. Computer Programs

7–C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P.C. Trescott, G.F. Pinder, and S.P. Larson: USGS–TWRI book 7, chap. C1. 1976. 116 p.

7–C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L.F. Konikow and J.D. Bredehoeft: USGS–TWRI book 7, chap. C2. 1978. 90 p.

7–C3. *A model for simulation of flow in singular and interconnected channels*, by R.W. Schaffranek, R.A. Baltzer, and D.E. Goldberg: USGS–TWRI book 7, chap. C3. 1981. 110 p.

Book 8. Instrumentation

Section A. Instruments for Measurement of Water Level

8–A1. *Methods of measuring water levels in deep wells*, by M.S. Garber and F.C. Koopman: USGS–TWRI book 8, chap. A1. 1968. 23 p.

8–A2. *Installation and service manual for U.S. Geological Survey manometers*, by J.D. Craig: USGS–TWRI book 8, chap. A2. 1983. 57 p.

Section B. Instruments for Measurement of Discharge

8–B2. *Calibration and maintenance of vertical-axis type current meters*, by G.F. Smoot and C.E. Novak: USGS–TWRI book 8, chap. B2. 1968. 15 p.

Book 9. Handbooks for Water-Resources Investigations

Section A. National Field Manual for the Collection of Water-Quality Data

9–A1. *National field manual for the collection of water-quality data: Preparations for water sampling*, by F.D. Wilde, D.B. Radtke, Jacob Gibbs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A1. 1998. 47 p.

9–A2. *National field manual for the collection of water-quality data: Selection of equipment for water sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibbs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A2. 1998. 94 p.

9–A3. *National field manual for the collection of water-quality data: Cleaning of equipment for water sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibbs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A3. 1998. 75 p.

9–A4. *National field manual for the collection of water-quality data: Collection of water samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibbs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A4. 1999. 156 p.

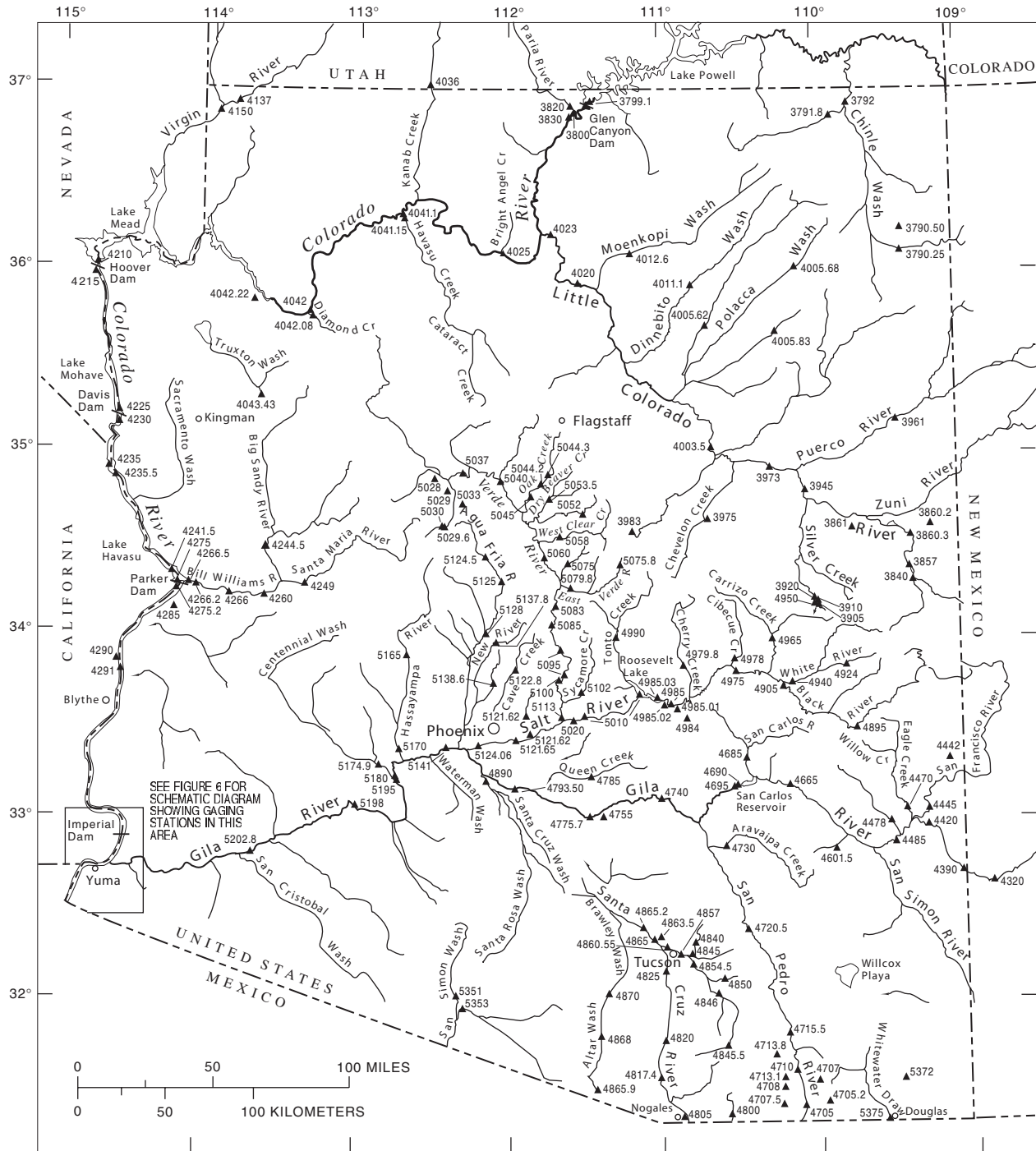
9–A5. *National field manual for the collection of water-quality data: Processing of water samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibbs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A5. 1999. 149 p.

9–A6. *National field manual for the collection of water-quality data: Field measurements*, edited by F.D. Wilde and D.B. Radtke: USGS–TWRI book 9, chap. A6. 1998. Variously paginated.

9–A7. *National field manual for the collection of water-quality data: Biological indicators*, edited by D.N. Myers and F.D. Wilde: USGS–TWRI book 9, chap. A7. 1997 and 1999. Variously paginated.

9–A8. *National field manual for the collection of water-quality data: Bottom-material samples*, by D.B. Radtke: USGS–TWRI book 9, chap. A8. 1998. 48 p.

9–A9. *National field manual for the collection of water-quality data: Safety in field activities*, by S.L. Lane and R.G. Fay: USGS–TWRI book 9, chap. A9. 1998. 60 p.

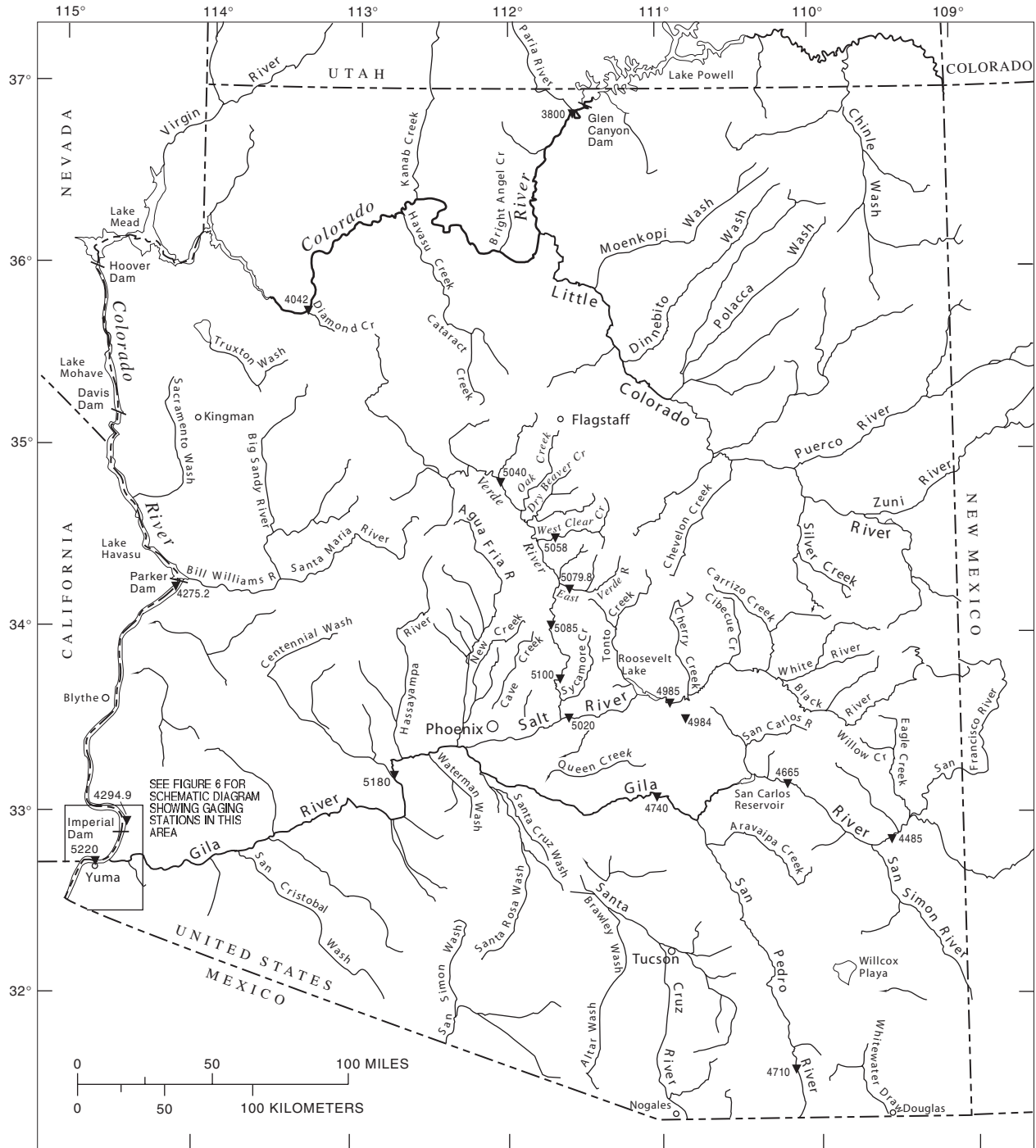


Base from U.S. Geological Survey State base maps, 1:500,000; Arizona, 1974; Nevada, 1965; New Mexico, 1965; and Utah, 1959

EXPLANATION

- ▲4665 STREAMFLOW-GAGING STATION AND ABBREVIATED NUMBER Complete station number is 09466500

Figure 4. Locations of streamflow-gaging stations, water year 2003.



Base from U.S. Geological Survey State base maps, 1:500,000, Arizona, 1974; Nevada, 1965; New Mexico, 1965; and Utah, 1959

EXPLANATION

4710 ▼ WATER-QUALITY STATION AND ABBREVIATED NUMBER Complete station number is 09471000

Figure 5. Locations of surface-water-quality stations, water year 2003.

HYDROLOGIC-DATA STATION RECORDS

SAN JUAN RIVER BASIN

09379025 CHINLE CREEK AT CHINLE, AZ

LOCATION--Lat 36°09'18", long 109°32'15" (unsurveyed), Apache County, Hydrologic Unit 14080204, in Navajo Indian Reservation, in Canyon De Chelly National Park, 0.5 mi from park entrance on the right bank 300 ft downstream of State Highway 64 bridge.

DRAINAGE AREA--639 mi².

PERIOD OF RECORD--Nov. 1999 to current year.

GAGE--Water-stage recorder. Elevation of gage is 5,540 ft above sea level, from topographic map.

REMARKS--Records poor. Flow regulated by Wheatfields and Tsale Lakes. Some diversions upstream for irrigation, livestock tanks, and domestic use.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 1,000 ft³/s Aug. 13, 2001, gage height, 4.01 ft. Minimum daily discharge, no flow for many days.

EXTREMES FOR CURRENT YEAR--Maximum discharge, 447 ft³/s Sept. 9 at 2115, gage height 3.41 ft. Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	3.3	5.9	39	28	0.23	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	2.8	5.9	46	32	0.15	0.00	0.01	0.25
3	0.00	0.00	0.00	0.00	1.7	5.5	56	31	0.00	0.00	1.7	2.1
4	0.00	0.00	0.00	0.00	e0.50	5.6	48	26	0.00	0.00	0.81	1.2
5	0.00	0.00	0.00	0.00	e0.50	5.9	49	26	0.00	0.00	0.05	0.00
6	0.00	0.00	0.00	0.00	0.00	5.5	57	26	0.00	0.00	0.00	28
7	0.00	0.00	0.00	0.00	0.00	5.2	56	28	0.00	0.00	0.00	1.7
8	0.00	0.00	0.00	0.00	0.00	5.8	55	29	0.00	0.00	0.00	0.00
9	0.00	0.01	0.00	0.00	0.00	6.1	52	25	0.00	0.00	0.00	44
10	0.00	0.00	0.00	0.00	0.00	6.4	69	26	0.00	0.00	0.00	58
11	0.00	0.00	0.00	0.00	0.00	6.8	115	20	0.00	0.00	0.00	12
12	0.00	0.00	0.00	0.36	0.67	7.3	107	26	0.00	0.00	0.00	11
13	0.00	0.00	0.00	0.82	4.4	8.0	76	17	0.00	0.00	0.00	6.8
14	0.00	0.00	0.00	0.58	4.7	8.7	92	11	0.00	0.00	0.00	8.8
15	0.00	0.00	0.00	0.85	5.6	11	95	13	0.00	0.00	11	9.5
16	0.00	0.00	0.00	0.67	5.5	11	57	13	0.00	0.00	2.3	9.9
17	0.00	0.00	0.00	0.59	5.9	16	66	8.2	0.00	0.00	29	11
18	0.00	0.00	0.00	0.22	6.1	18	72	5.3	0.00	0.00	0.08	12
19	0.00	0.00	0.00	e0.50	6.0	19	50	4.5	0.00	0.00	0.00	13
20	0.00	0.00	0.00	0.92	5.1	23	53	3.6	0.00	0.00	0.00	6.2
21	0.00	0.00	0.00	2.0	4.7	23	46	3.6	0.00	0.00	0.91	0.00
22	0.00	0.00	0.00	3.4	4.7	25	42	4.2	0.00	0.00	7.9	0.00
23	0.00	0.00	0.00	3.1	4.0	26	40	5.2	0.00	0.00	0.47	0.00
24	0.00	0.00	0.00	3.8	4.4	29	35	5.5	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	3.7	5.2	26	97	3.6	0.00	0.00	3.2	0.00
26	0.00	0.00	0.00	3.1	5.9	30	76	1.9	0.00	0.00	0.95	0.00
27	0.00	0.00	0.00	3.0	6.1	39	57	0.72	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	3.3	6.3	35	63	0.26	0.00	21	0.00	0.00
29	0.00	0.00	0.00	4.1	---	33	44	0.24	0.00	0.10	0.00	0.00
30	0.00	0.00	0.00	3.4	---	36	35	0.22	0.00	0.00	0.00	0.00
31	0.00	---	0.00	2.7	---	46	---	0.22	---	0.00	0.00	---
TOTAL	0.00	0.01	0.00	41.11	94.07	534.6	1845	424.26	0.38	21.10	58.38	235.45
MEAN	0.000	0.000	0.000	1.33	3.36	17.2	61.5	13.7	0.013	0.68	1.88	7.85
MAX	0.00	0.01	0.00	4.1	6.3	46	115	32	0.23	21	29	58
MIN	0.00	0.00	0.00	0.00	0.00	5.2	35	0.22	0.00	0.00	0.00	0.00
MED	0.00	0.00	0.00	0.59	4.4	11	56	11	0.00	0.00	0.00	1.5
CAL YR 2002	TOTAL	457.28	MEAN	1.25	MAX	21	MIN	0.00	MED	0.00		
WTR YR 2003	TOTAL	3254.36	MEAN	8.92	MAX	115	MIN	0.00	MED	0.00		

e Estimated

SAN JUAN RIVER BASIN

09379050 LUKACHUKAI CREEK NEAR LUKACHUKAI, AZ

LOCATION.--Lat 36°28'39", long 109°20'58" (unsurveyed), Apache County, Hydrologic Unit 14080204, in Navajo Indian Reservation, on left bank 8 mi northwest of Lukachukai, AZ.

DRAINAGE AREA.--Unknown.

PERIOD OF RECORD.--Nov. 1999 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,750 ft above sea level, from topographic map.

REMARKS.--Records poor. Many small diversions upstream for irrigation and livestock.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,000 ft³/s Sept. 10, 2002, at 1345, gage height, 8.17 ft, from an extension of the rating curve. Minimum daily discharge, no flow for many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 15	1430	*1,670	*6.06
Sept. 6	1345	1,220	5.45

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0.02	0.82	2.1	e1.0	1.4	5.2	5.5	4.6	0.08	0.03	0.00	0.00
2	e0.03	0.72	0.94	e1.0	1.5	5.9	6.2	4.0	0.07	0.03	e20	0.01
3	0.28	0.63	1.6	e1.0	1.00	4.0	6.0	3.8	0.05	0.03	e0.50	0.01
4	0.26	0.64	1.0	e1.0	0.85	4.9	5.1	3.6	0.01	0.03	e0.05	0.02
5	0.14	0.49	1.1	e1.0	e1.2	5.4	5.7	2.9	0.01	0.03	e0.03	0.02
6	0.05	0.41	0.94	e1.0	e1.0	3.8	5.7	2.5	0.01	0.03	0.02	54
7	0.02	0.54	1.1	1.2	e1.0	4.2	5.8	2.5	0.01	0.02	0.04	0.67
8	0.02	0.76	1.1	1.1	e1.0	4.4	5.9	2.4	0.01	0.02	0.04	e0.02
9	0.02	0.98	0.94	1.4	e1.3	4.2	7.6	2.9	0.03	0.03	0.03	41
10	0.02	8.6	e0.67	2.0	e1.4	4.2	10	2.5	0.02	0.03	0.03	6.7
11	0.02	1.9	e0.56	2.4	e2.0	4.5	16	2.2	0.02	0.03	2.3	0.25
12	0.02	1.0	e0.76	2.0	e2.5	4.6	23	1.7	0.03	0.04	0.88	0.03
13	0.02	1.1	e1.0	1.6	3.0	4.7	27	1.2	0.03	0.03	0.00	0.02
14	0.02	0.79	e1.4	1.6	3.5	5.1	30	1.7	0.02	0.03	0.00	0.01
15	0.02	0.77	1.4	1.6	3.0	5.2	27	1.8	0.02	0.02	104	0.01
16	0.02	0.50	1.1	1.1	2.2	5.5	16	1.9	0.03	0.03	13	0.01
17	3.1	0.58	1.4	1.4	2.1	6.7	12	1.2	0.03	0.03	0.71	0.00
18	2.5	0.92	1.1	e1.0	6.4	12	8.9	0.93	0.03	0.03	0.12	0.00
19	0.64	0.67	e1.0	e2.0	3.7	12	6.8	0.66	0.05	0.05	0.08	0.01
20	0.45	0.84	e1.0	1.7	3.3	9.2	5.7	0.34	0.03	6.8	0.06	0.01
21	0.39	1.2	e1.0	1.6	2.5	11	5.3	0.28	0.01	e1.0	0.06	0.01
22	0.36	0.97	e0.50	1.6	2.2	7.9	5.1	0.23	0.01	e0.05	0.15	0.01
23	0.49	0.82	e0.50	1.4	2.2	6.6	4.8	0.22	0.02	0.04	16	0.01
24	0.59	0.69	e0.50	1.7	2.6	6.8	4.4	0.22	0.02	0.04	1.0	0.01
25	0.53	0.95	e0.50	1.6	3.3	6.8	9.8	0.19	0.03	0.04	16	0.01
26	0.74	0.58	e0.50	1.8	5.2	6.2	9.5	0.19	0.03	0.04	2.1	0.01
27	2.0	0.60	e0.50	1.8	6.2	6.6	8.5	0.17	0.03	1.4	0.04	0.02
28	1.1	0.59	e0.50	1.5	6.4	5.8	8.0	0.12	0.02	0.82	0.01	0.02
29	2.1	1.00	e1.0	1.6	---	5.3	7.2	0.12	0.03	0.00	0.01	0.03
30	1.8	1.7	e1.0	1.6	---	5.3	6.0	0.11	0.03	0.00	0.01	0.03
31	1.1	---	e1.0	1.6	---	5.2	---	0.09	---	0.00	0.01	---
TOTAL	18.87	32.76	29.71	45.9	73.95	189.2	304.5	47.27	0.82	10.80	177.28	102.96
MEAN	0.61	1.09	0.96	1.48	2.64	6.10	10.2	1.52	0.027	0.35	5.72	3.43
MAX	3.1	8.6	2.1	2.4	6.4	12	30	4.6	0.08	6.8	104	54
MIN	0.02	0.41	0.50	1.0	0.85	3.8	4.4	0.09	0.01	0.00	0.00	0.00
MED	0.28	0.78	1.0	1.6	2.2	5.3	7.0	1.2	0.03	0.03	0.06	0.01
AC-FT	37	65	59	91	147	375	604	94	1.6	21	352	204
CAL YR 2002	TOTAL	401.46	MEAN	1.10	MAX	100	MIN	0.00	MED	0.39	AC-FT	796
WTR YR 2003	TOTAL	1034.02	MEAN	2.83	MAX	104	MIN	0.00	MED	0.98	AC-FT	2050

e Estimated

SAN JUAN RIVER BASIN

09379180 LAGUNA CREEK AT DENNEHOTSO, AZ

LOCATION--Lat 36°51'14", long 109°50'43", in unsurveyed Apache County, Hydrologic Unit 14080204, on right bank about 50 ft upstream from bridge, at Dennehotso, AZ.

DRAINAGE AREA--414 mi².

PERIOD OF RECORD--July 1996 to current year.

GAGE--Water-stage recorder. Elevation of gage is 4,985 ft above sea level, from topographic map.

REMARKS--Records poor.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 1,690 ft³/s, Sept. 16, 1997, gage height, 11.39 ft. Minimum daily discharge, no flow for many days.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 500 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sept. 10.....	1030	*933	*8.45

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	6.0	5.3	0.00	e0.80	1.0	0.00	0.00	0.00	0.00	e5.0	0.37
2	0.00	2.0	5.2	0.00	e0.50	1.3	0.00	0.00	0.00	0.00	e30	0.08
3	1.4	0.64	4.8	e0.20	e0.10	1.2	0.00	0.00	0.00	0.00	e32	0.06
4	11	0.48	3.6	e0.20	e0.04	1.2	0.00	0.00	0.00	0.00	e20	0.02
5	2.1	0.58	e2.0	e0.15	0.01	1.0	0.00	0.00	0.00	0.00	3.9	30
6	0.23	0.36	e1.5	e1.5	0.00	0.64	0.00	0.00	0.00	0.00	e0.20	33
7	0.02	0.36	e1.0	e2.0	0.00	0.60	0.00	0.00	0.00	0.00	e0.00	e45
8	0.00	0.63	e0.50	e1.0	0.00	1.3	0.00	0.00	0.00	0.00	0.00	e0.10
9	0.00	0.73	e1.0	e3.0	0.00	0.58	0.00	0.00	0.00	0.00	0.45	e70
10	0.00	e12	e0.80	e4.0	0.00	0.33	0.00	0.00	0.00	0.00	0.67	518
11	0.00	e13	e0.50	e10	0.00	0.13	0.00	0.00	0.00	0.00	0.47	e10
12	0.00	e5.5	e0.50	e8.0	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.73
13	0.00	1.8	e0.80	e5.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
14	0.00	0.99	e1.2	e1.3	e1.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.99	e1.0	e5.6	e5.6	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.82	e2.0	e3.7	e3.7	0.00	0.00	0.00	0.00	0.00	0.12	0.00
17	0.00	0.27	e3.0	e1.7	e1.8	0.41	0.00	0.00	0.00	0.00	0.91	0.00
18	0.00	0.60	e5.0	e0.63	e0.63	e14	0.00	0.00	0.00	0.00	e0.05	0.00
19	0.00	0.92	e1.5	e0.14	e0.14	14	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	1.2	e0.30	e0.50	e1.0	e14	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	1.1	e0.30	e1.0	e0.50	e5.0	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	1.4	e0.20	e0.50	0.55	e3.0	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.38	e0.20	e0.50	0.19	0.94	0.00	0.00	0.00	0.00	0.15	0.00
24	0.00	2.0	e0.20	e0.40	0.00	e1.1	0.00	0.00	0.00	0.00	0.00	0.00
25	0.29	1.5	0.08	e0.30	0.33	e1.2	0.00	0.00	0.00	0.00	0.00	0.00
26	0.32	0.96	0.00	e0.80	0.38	e3.8	0.00	0.00	0.00	0.00	e3.0	0.00
27	21	0.55	0.00	e0.50	0.47	e1.8	0.00	0.00	0.00	0.00	1.7	0.00
28	7.9	0.45	0.00	e0.80	0.60	0.05	0.00	0.00	0.00	0.00	0.43	0.00
29	4.7	0.51	0.00	e1.0	---	0.00	0.00	0.00	0.00	e32	0.08	0.00
30	10	3.0	0.00	e1.1	---	e1.0	0.00	0.00	0.00	e8.0	0.02	0.00
31	8.8	---	0.00	e1.0	---	e0.05	---	0.00	---	e15	e0.00	---
TOTAL	67.76	61.72	42.48	56.52	18.64	69.63	0.00	0.00	0.00	55.00	99.31	707.41
MEAN	2.19	2.06	1.37	1.82	0.67	2.25	0.000	0.000	0.000	1.77	3.20	23.6
MAX	21	13	5.3	10	5.6	14	0.00	0.00	0.00	32	32	518
MIN	0.00	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	134	122	84	112	37	138	0.00	0.00	0.00	109	197	1400
CFSM	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.06

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2003, BY WATER YEAR (WY)

	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	9.54	3.71	1.68	2.97	3.25	2.11	1.61	0.84
MAX	28.0	7.35	3.40	4.29	6.14	4.51	3.22	4.93
(WY)	2001	1999	1999	2000	1998	2001	1999	2001
MIN	0.098	1.60	1.05	1.82	0.67	0.85	0.000	0.000
(WY)	2002	2000	2000	2003	2003	1999	2003	2000

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1996 - 2003

ANNUAL TOTAL	2093.78	1178.47	
ANNUAL MEAN	5.74	3.23	6.20
HIGHEST ANNUAL MEAN			11.4
LOWEST ANNUAL MEAN			1.22
HIGHEST DAILY MEAN	544	Sep 11	651
LOWEST DAILY MEAN	0.00	Apr 13	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Apr 23	0.00
ANNUAL RUNOFF (AC-FT)	4150		4490
ANNUAL RUNOFF (CFSM)	0.014	0.008	0.015
10 PERCENT EXCEEDS	4.3	4.3	6.7
50 PERCENT EXCEEDS	0.08	0.00	0.59
90 PERCENT EXCEEDS	0.00	0.00	0.00

e Estimated

SAN JUAN RIVER BASIN

09379200 CHINLE CREEK NEAR MEXICAN WATER, AZ

LOCATION--Lat 36°56'38", long 109°42'36" in sec. 19, T.41 N., R.25 E. (unsurveyed), Apache County, Hydrologic Unit 14080204, in Navajo Indian Reservation, on right bank 150 ft upstream from bridge on U.S. Highway 160, 3 mi upstream from Walker Creek, 4 mi southwest of Mexican Water, 5 mi downstream from confluence of Chinle Creek and Laguna Creek, and 6 mi upstream from Arizona-Utah State line.

DRAINAGE AREA--3,650 mi².

PERIOD OF RECORD--Oct. 1964 to current year (monthly discharge only for 1979). Prior to Oct. 1970 published as Chinle Wash near Mexican Water.

REVISED RECORDS--WDR AZ--88--1: Drainage area.

GAGE--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 4,720 ft above sea level.

REMARKS--Records fair except for estimated daily discharge, which is poor. Some diversions upstream for irrigation, livestock tanks, and domestic use. Many Farms Reservoir, about 25 mi upstream, was built in 1939 with an original capacity of 25,000 acre-ft. The reservoir provides off-channel storage for irrigation of about 1,600 acres.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 12,000 ft³/s Aug. 24, 1982, gage height, 13.87 ft, from rating curve extended above 3,100 ft³/s on basis of slope-area measurement at gage height 12.50 ft; no flow at times each year.

EXTREMES FOR CURRENT PERIOD--Peak discharges greater than base discharge of 500 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 16.....	0715	775	5.18
Sept. 10.....	0615	*5,540	*9.81

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0.40	e8.0	2.8	0.84	1.1	3.3	0.62	0.59	0.00	0.00	8.9	0.67
2	0.58	e4.0	4.4	0.52	1.4	4.3	0.33	0.68	0.00	0.00	42	0.37
3	0.81	e2.0	6.1	0.60	1.3	4.4	0.46	0.53	0.00	0.00	e48	0.00
4	6.1	e2.0	4.7	0.56	1.2	4.3	0.74	0.60	0.00	0.00	e33	0.00
5	7.2	e2.0	2.9	0.44	1.1	4.1	0.70	0.65	0.00	0.00	11	0.00
6	3.3	e1.5	2.1	2.5	0.95	4.9	0.67	0.74	0.00	0.00	4.8	e72
7	1.8	0.98	2.0	2.8	0.68	4.7	0.72	0.67	0.00	0.00	0.69	e1.1
8	1.3	1.6	0.97	1.8	0.75	4.9	0.71	0.51	0.00	0.00	0.00	0.64
9	2.0	3.9	1.6	3.7	0.82	5.5	0.81	0.37	0.00	0.00	0.00	2.5
10	3.5	5.3	1.3	4.9	0.73	5.5	0.84	0.68	0.00	0.00	0.00	1600
11	3.3	14	0.93	13	0.90	5.7	0.86	0.58	0.00	0.00	0.00	633
12	4.3	5.0	0.98	9.7	1.1	6.3	0.87	0.60	0.00	0.00	2.6	23
13	5.4	2.3	1.1	5.6	2.2	6.4	0.97	0.78	0.00	0.00	0.02	e5.0
14	5.9	1.8	1.8	2.8	1.7	7.1	0.94	0.58	0.00	0.00	0.00	e2.0
15	6.3	1.3	1.5	1.5	6.2	8.4	0.90	0.72	0.00	0.00	0.00	e1.0
16	5.8	1.1	2.4	e0.80	4.6	9.9	0.93	0.51	0.00	0.00	147	e1.0
17	5.9	0.86	5.3	e0.60	1.9	8.0	0.90	0.41	0.00	0.00	e24	0.28
18	6.8	0.48	6.9	e0.60	e0.70	6.5	0.68	0.19	0.00	0.00	e6.0	0.08
19	7.4	0.66	2.4	e1.0	e0.30	12	0.85	0.49	0.00	0.00	1.4	0.04
20	7.3	0.92	0.73	e1.0	e0.20	20	0.99	0.22	0.00	0.00	0.15	0.01
21	8.5	1.2	0.69	e1.4	0.71	22	0.89	0.48	0.00	0.00	0.00	0.00
22	8.8	1.3	0.55	e1.0	1.4	6.9	0.63	0.19	0.00	0.00	0.00	0.00
23	27	1.5	0.57	1.0	1.0	e2.0	0.69	0.13	0.00	0.00	25	0.00
24	e7.0	0.83	0.45	0.60	1.6	e1.5	0.97	0.25	0.00	0.00	e0.10	0.00
25	e4.0	1.8	0.34	0.53	1.8	1.4	0.78	0.10	0.00	0.00	e0.50	0.00
26	e2.0	1.7	0.12	1.1	2.5	3.9	0.41	0.11	0.00	0.00	e12	0.00
27	e30	1.0	0.17	0.76	2.6	2.8	0.44	0.18	0.00	0.00	5.4	0.00
28	e7.0	0.75	0.09	1.1	2.7	2.6	0.49	0.06	0.00	0.00	1.7	0.00
29	e4.0	0.80	0.17	1.4	---	2.0	0.49	0.06	0.00	43	0.76	0.00
30	e15	0.80	0.23	1.7	---	1.6	0.55	0.08	0.00	12	0.04	0.00
31	e10	---	0.18	1.4	---	1.1	---	0.00	---	23	0.00	---
TOTAL	208.69	71.38	56.47	67.25	44.14	184.0	21.83	12.74	0.00	78.00	375.06	2342.69
MEAN	6.73	2.38	1.82	2.17	1.58	5.94	0.73	0.41	0.000	2.52	12.1	78.1
MAX	30	14	6.9	13	6.2	22	0.99	0.78	0.00	43	147	1600
MIN	0.40	0.48	0.09	0.44	0.20	1.1	0.33	0.00	0.00	0.00	0.00	0.00
AC-FT	414	142	112	133	88	365	43	25	0.00	155	744	4650

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2003, BY WATER YEAR (WY)

MEAN	22.2	14.2	8.31	16.8	26.3	23.4	56.7	48.7	5.12	24.9	54.2	42.8
MAX	142	144	41.2	151	169	215	402	294	72.5	129	501	342
(WY)	1973	1988	1966	1993	1988	1983	1985	1980	1973	1975	1982	1982
MIN	0.18	0.41	1.09	1.60	1.58	0.67	0.53	0.21	0.000	0.000	0.000	0.000
(WY)	2002	1991	1978	1996	2003	1967	1996	2002	1975	1979	1974	1979

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1965 - 2003

ANNUAL TOTAL		7824.96		3462.25		
ANNUAL MEAN		21.4		9.49		28.6
HIGHEST ANNUAL MEAN						94.2
LOWEST ANNUAL MEAN						4.47
HIGHEST DAILY MEAN		2500	Sep 12	1600	Sep 10	6000
LOWEST DAILY MEAN		0.00	May 21	0.00	May 31	0.00
ANNUAL SEVEN-DAY MINIMUM		0.00	Jun 3	0.00	May 31	0.00
ANNUAL RUNOFF (AC-FT)		15520		6870		20750
10 PERCENT EXCEEDS		7.3		7.0		56
50 PERCENT EXCEEDS		1.5		0.84		3.0
90 PERCENT EXCEEDS		0.00		0.00		0.00

e Estimated

COLORADO RIVER MAIN STEM

09379900 LAKE POWELL AT GLEN CANYON DAM, AZ

LOCATION.--Lat 36°56'12", long 111°29'00", in sec. 24, T.41 N., R.8 E., Coconino County, Hydrologic Unit 14070006, at Glen Canyon Dam on Colorado River, 900 ft upstream from bridge on U.S. Highway 89, 1.4 mi downstream from Wahweap Creek, 2 mi northwest of Page, and 12 mi downstream from Utah-Arizona State line.

DRAINAGE AREA.--111,700 mi², approximately, including 3,959 mi² in Great Divide basin in southern Wyoming, which is noncontributing.

PERIOD OF RECORD.--Mar. 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Sept. 1, 1964, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by concrete-arch gravity dam; storage began Mar. 13, 1963; dam completed Sept. 1963. Total capacity, (from capacity table computed by Bureau of Reclamations, based on a survey completed in 1985; used since Oct. 1, 1990) 26,215,000 acre-ft consisting of the following: dead storage, 1,893,000 acre-ft below elevation 3,370 ft-sill of outlet gates; usable contents, 24,322,000 acre-ft between elevations 3,370 ft and 3,700 ft-top of conservation pool. Reservoir is used for power development, to provide storage replacement for upstream irrigation development, and to meet downstream requirements under the Colorado River Compact of 1922. Figures given herein represent usable contents; prior to Oct. 1, 1968, figures of total contents were published (prior to sealing of diversion tunnel July 7, 1965, all storage was usable).

COOPERATION.--Records furnished by Bureau of Reclamation.

EXTREMES (at 2400) FOR PERIOD OF RECORD.--Maximum contents, 26,373,000 acre-ft July 14, 1983, elevation, 3,708.34 ft; minimum since power pool level was reached (Aug. 16, 1964), 4,166,000 acre-ft Mar. 18, 1965, elevation, 3,490.76 ft.

EXTREMES (at 2400) FOR CURRENT YEAR.--Maximum contents, 14,470,000 acre-ft Oct. 1, elevation, 3,626.55 ft; minimum, 12,094,000 acre-ft Sept. 8, elevation, 3,603.57 ft.

Capacity table (elevation, in feet, and usable contents, in acre-feet)

3,610	12,730,000	3,670	19,838,000
3,622	13,976,000	3,682	21,553,000
3,634	15,306,000	3,694	23,373,000
3,646	16,723,000	3,706	25,304,000
3,658	18,232,000		

RESERVOIR STORAGE, in K AC-FT, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14470	14267	14101	13757	13248	12825	12436	12239	12826	13353	12768	12149
2	14450	14269	14091	13740	13233	12807	12425	12239	12888	13338	12765	12140
3	14447	14256	14077	13722	13214	12791	12419	12245	12958	13325	12743	12135
4	14444	14247	14067	13702	13204	12776	12410	12253	13026	13323	12718	12126
5	14439	14238	14056	13687	13183	12761	12395	12260	13082	13306	12696	12121
6	14434	14234	14046	13671	13169	12748	12390	12262	13140	13300	12677	12111
7	14428	14224	14035	13658	13154	12734	12383	12259	13195	13285	12656	12101
8	14423	14217	14026	13639	13134	12722	12374	12267	13244	13266	12635	12094
9	14415	14212	14014	13624	13119	12709	12365	12262	13274	13249	12607	12117
10	14408	14211	14004	13607	13101	12695	12355	12262	13293	13232	12599	12128
11	14404	14213	13996	13593	13083	12681	12350	12264	13311	13210	12569	12157
12	14398	14213	13984	13579	13068	12668	12339	12264	13326	13193	12545	12176
13	14391	14209	13972	13565	13055	12651	12335	12261	13334	13180	12522	12191
14	14383	14202	13965	13546	13040	12635	12323	12260	13348	13159	12503	12194
15	14377	14202	13954	13530	13024	12620	12313	12256	13363	13137	12480	12192
16	14368	14195	13946	13516	13006	12610	12307	12252	13377	13117	12455	12188
17	14352	14189	13929	13498	12992	12602	12300	12246	13379	13091	12441	12188
18	14348	14184	13915	13481	12977	12589	12289	12259	13395	13064	12420	12180
19	14343	14178	13905	13462	12968	12579	12285	12264	13393	13049	12394	12175
20	14336	14172	13889	13447	12952	12576	12286	12274	13389	13039	12375	12170
21	14327	14164	13884	13427	12934	12566	12281	12292	13391	13015	12355	12165
22	14320	14159	13876	13412	12916	12555	12276	12315	13402	12984	12342	12158
23	14308	14150	13862	13399	12898	12543	12276	12348	13406	12970	12309	12152
24	14303	14143	13850	13382	12887	12528	12272	12393	13400	12942	12297	12149
25	14297	14144	13843	13365	12890	12523	12265	12441	13395	12926	12280	12141
26	14296	14131	13828	13349	12861	12529	12260	12487	13388	12897	12255	12135
27	14290	14125	13821	13333	12844	12499	12263	12539	13384	12882	12237	12128
28	14281	14119	13809	13318	12833	12481	12256	12587	13379	12870	12212	12122
29	14280	14115	13796	13300	---	12469	12247	12635	13377	12835	12191	12113
30	14271	14111	13789	13284	---	12458	12243	12687	13365	12813	12174	12110
31	14270	---	13774	13269	---	12444	---	12756	---	12794	12156	---
TOTAL	445301	425693	432104	418862	364987	391374	369718	382628	398428	406144	386376	364406
MEAN	14365	14190	13939	13512	13035	12625	12324	12343	13281	13101	12464	12147
MAX	14470	14269	14101	13757	13248	12825	12436	12239	13406	13353	12768	12194
MIN	14270	14111	13774	13269	12833	12444	12243	12239	12826	12794	12156	12094
(*)	3624.72	3623.25	3620.10	3615.28	3611.02	3607.13	3605.10	3610.26	3616.20	3610.63	3604.21	3603.73
(**)	-198000	-159000	-337000	-505000	-436000	-389000	-201000	+513000	+609000	-571000	-638000	-46000
CAL YR 2002	TOTAL 5763085	MEAN 15789	MAX 17984	MIN 13774	(**)	-4222000						
WTR YR 2003	TOTAL 4786021	MEAN 13112	MAX 14470	MIN 12094	(**)	-2358000						

(*) Elevation, in feet, at end of month.
(**) Change in contents, in acre-feet.

COLORADO RIVER MAIN STEM

09379910 COLORADO RIVER BELOW GLEN CANYON DAM, AZ

LOCATION.--Lat 36°55'18", long 111°28'58" in NW1/4SE1/4sec. 25, T.41 N., R.8 E., Coconino County, Hydrologic Unit 14070006, on left bank 4,500 ft downstream from Glen Canyon Dam, 2 mi west of Page, 13 mi downstream from Utah-Arizona State line, and 14.5 mi upstream from Lees Ferry.

DRAINAGE AREA.--111,700 mi², approximately, including 3,959 mi² in Great Divide basin in southern Wyoming, which is noncontributing.

PERIOD OF RECORD.--Oct. 1989 to Mar. 1993, Mar. 2000 to current year.

GAGE.--Water-stage recorder. Datum of gage is 3,100 ft above sea level.

REMARKS.--Records fair. Flow completely regulated since Mar. 13, 1963, by Lake Powell 4,500 ft upstream. Many diversions above Lake Powell for irrigation, municipal, and industrial use. No diversion or inflow between Lake Powell and the gage.

CORRECTION.--The maximum discharge for water year 2001 is 21,100 ft³/s; the previous published figure was not the maximum.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,000 ft³/s Sept. 7, 2000, gage height, 38.48 ft. Minimum daily discharge, 2,570 ft³/s Oct. 29, 1989.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20,900 ft³/s Jan. 28 at 1420, gage height, 35.62 ft. Minimum daily discharge, 6,930 ft³/s Oct. 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8280	8140	8600	12800	12900	12900	10500	11300	10300	15900	15900	7590
2	8280	7720	10100	12900	12900	12900	10400	11400	15200	15900	15500	8360
3	8320	7000	10100	12800	13000	12900	10400	10500	15200	15800	10500	8310
4	8290	8140	10100	12900	12900	12900	10300	7940	15100	10500	15800	8390
5	8040	8230	9980	12900	12900	12800	10400	11300	15300	15500	15800	8420
6	7130	8250	10200	12800	12900	12800	7440	11400	15200	10500	15800	8420
7	8320	8180	9510	12900	13000	12800	10400	11300	14100	15800	15800	7170
8	8300	8180	8530	12900	12900	13000	10200	11400	10400	15900	15800	8390
9	8690	7920	10000	12900	12900	13000	10400	11400	15300	15800	15500	8360
10	8210	7220	10000	12800	12900	12900	10400	10400	15300	15800	10500	8250
11	8290	8150	10100	12800	12900	12800	10400	7950	15300	15900	15700	8320
12	7900	8270	10200	12800	12900	12900	10500	11400	15300	14900	15700	8320
13	7160	8300	10100	12800	12900	12800	7520	11400	15300	11000	15700	8290
14	8150	8290	9620	12800	12900	12900	10300	11400	14300	15900	15700	7090
15	8250	8330	8650	12800	12900	12900	10400	11400	10300	15900	15800	8430
16	8170	7990	10100	12800	13000	12900	10500	11400	15400	15900	15600	8370
17	8200	7140	10100	12800	12900	13000	10500	10500	15500	15800	10700	8360
18	8220	8240	10000	12900	12900	12900	10400	8010	15500	15800	15700	8320
19	7820	8200	10100	12900	12900	12900	10500	11400	15500	14900	15800	8370
20	7050	8220	10100	12900	12900	12900	7540	11500	15500	11000	15700	8350
21	8210	8310	9420	12800	13000	11900	10500	11500	14500	15900	15700	7110
22	8260	8240	8690	12900	12900	12800	10500	11400	10200	16100	15700	8360
23	8190	7960	10100	12800	12900	12800	10500	10400	15200	15800	15500	8330
24	8140	7230	10100	12900	12900	12900	10600	8290	15500	15800	10700	8350
25	8100	8200	8650	12900	12900	12900	10600	8280	15600	15100	15600	8230
26	7700	8230	10100	12800	13500	12900	10600	8290	15600	15600	15600	7780
27	6930	8240	10100	12800	13500	12900	7650	11500	15600	10500	15700	7770
28	8090	7230	9540	13000	13500	12900	10500	11400	15500	15900	15600	7060
29	8130	8280	8700	12900	---	12900	10700	12400	10400	16000	15600	7760
30	8210	7920	10100	12900	---	12900	10800	12700	15500	16200	15300	8170
31	8360	---	10100	12900	---	12900	---	12200	---	16200	10600	---
TOTAL	249390	239950	301790	398500	363400	398500	302350	333060	432900	463500	460600	242800
MEAN	8045	7998	9735	12850	12980	12850	10080	10740	14430	14950	14860	8093
MAX	8690	8330	10200	13000	13500	13000	10800	12700	15600	16200	15900	8430
MIN	6930	7000	8530	12800	12900	11900	7440	7940	10200	10500	10500	7060
AC-FT	494700	475900	598600	790400	720800	790400	599700	660600	858700	919400	913600	481600
CAL YR 2002	TOTAL 3956610	MEAN 10840	MAX 15500	MIN 6930	AC-FT 7848000							
WTR YR 2003	TOTAL 4186740	MEAN 11470	MAX 16200	MIN 6930	AC-FT 8304000							

COLORADO RIVER MAIN STEM

09380000 COLORADO RIVER AT LEES FERRY, AZ
(NATIONAL STREAM-QUALITY ACCOUNTING NETWORK)

LOCATION--Lat 36°51'53", long 111°35'15", in NE1/4SE1/4 sec. 13, T.40 N., R.7 E., Coconino County, Hydrologic Unit 14070006, in Navajo Indian Reservation, on left bank at head of Marble Gorge at Lees Ferry, just upstream from Paria River, 16 mi downstream from Glen Canyon Dam, 28 mi downstream from Utah-Arizona State line, and 61.5 mi upstream from Little Colorado River.

DRAINAGE AREA--111,800 mi², approximately, including 3,959 mi² in Great Divide Basin in southern Wyoming, which is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD--Jan. 1895 to current year. Estimates of monthly and annual discharge only for some periods, published in WSP 1313.

REVISED RECORDS--WSP 859: 1921--23. WSP 1313: 1914--21.

GAGE--Water-stage recorder. Datum of gage is 3,106.16 ft above sea level. Prior to Jan. 19, 1923, nonrecording gages or reference points within 400 ft of present gage, at different datums.

REMARKS--No estimated daily discharge. Records good. Flow regulated since Mar. 13, 1963, by Lake Powell, 16 mi upstream. Many diversions above Lake Powell for irrigation, municipal, and industrial use. No diversions or inflow between Lake Powell and the gage.

AVERAGE DISCHARGE--51 years (water years 1912--62), 17,850 ft³/s, 12,930,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD--1895--1962: Maximum discharge, 220,000 ft³/s June 18, 1921, gage height, 26.5 ft, from floodmarks, from rating curve extended above 120,000 ft³/s on basis of discharge computed for station near Grand Canyon; minimum, 750 ft³/s Dec. 27, 1924.

1963--2000: Maximum discharge, 97,300 ft³/s June 29, 1983, gage height, 18.14 ft; minimum daily, 700 ft³/s Jan. 23, 24, 1963, result of closing coffer dam at Glen Canyon Dam.

EXTREMES OUTSIDE PERIOD OF RECORD--Maximum discharge since at least 1868, about 300,000 ft³/s July 7, 1884, gage height, 31.5 ft, present site and datum, from floodmark at mouth of Paria River, from rating curve extended above 120,000 ft³/s on basis of discharge computed for flood of June 18, 1921, for station near Grand Canyon.

EXTREMES FOR CURRENT YEAR--Maximum discharge, 20,300 ft³/s, Feb. 2, 11, 16, 22, 23, and Mar. 2 and 8, gage height, 10.62 ft. Minimum daily discharge, 7,270 ft³/s Sept. 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8430	8290	8400	12300	12900	13000	11200	11300	10600	16000	16100	8090
2	8360	7940	10200	13000	12900	13000	10600	11500	14800	15900	15500	8260
3	8420	7410	10200	12900	13000	13000	10600	10700	15300	15800	11100	8270
4	8370	7990	10300	13000	12900	12900	10500	8440	15300	11000	15200	8420
5	8110	8340	10100	13000	12900	12900	10600	10900	15400	15000	15800	8420
6	7390	8370	10300	13000	12900	12900	8080	11500	15300	11000	15900	8390
7	8210	8280	9690	13100	13000	12900	10100	11400	14300	15200	15900	7320
8	8390	8270	8690	13000	12900	13000	10400	11500	10800	15900	15800	8350
9	8760	8080	10100	13000	13000	13000	10500	11500	14900	15800	15600	8360
10	8360	7420	10200	12900	13000	13000	10500	10500	15300	15800	11100	8350
11	8380	7920	10300	13000	13000	12900	10500	8370	15400	15900	15200	8270
12	7990	8270	10400	13000	13000	13000	10600	10900	15400	15000	15900	8350
13	7480	8300	10300	12900	13000	12900	8120	11500	15400	11500	15900	8280
14	8080	8280	9810	12900	12900	12900	10000	11500	14400	15300	15900	7320
15	8350	8330	8830	12900	13000	12900	10500	11500	10800	15900	15800	8380
16	8290	8090	10200	12900	13000	12900	10600	11500	14900	15900	15700	8400
17	8310	7330	10300	12900	12900	13000	10600	10600	15400	15800	11400	8400
18	8350	7940	10300	12900	13000	13000	10500	8420	15600	15800	15100	8370
19	7980	8220	10300	13000	13000	13000	10500	10800	15500	14900	16000	8410
20	7360	8250	10300	13000	13000	12900	8080	11500	15500	11600	15900	8340
21	8170	8350	9600	12900	13000	12100	10100	11500	14700	15400	16000	7330
22	8440	8280	9020	13000	13000	12900	10500	11500	10700	16000	16000	8320
23	8390	8110	10100	12900	12900	12900	10500	10800	14500	15900	15700	8380
24	8330	7400	10200	12900	13000	13000	10600	8220	15600	15900	11500	8400
25	8300	7980	8960	12900	13000	12900	10500	8170	15600	15200	15100	8320
26	7900	8290	10100	12900	13600	13000	10600	8170	15700	15500	15900	7910
27	7320	8300	10300	12800	13600	13000	8090	10900	15600	11100	16000	7780
28	8070	7550	9730	13000	13600	13000	10000	11300	15500	15300	15900	7270
29	8370	8050	9000	12900	---	12900	10600	12200	11000	15900	15900	7820
30	8410	8120	10100	12900	---	13000	10800	12700	14900	16300	15600	8160
31	8600	---	10300	12900	---	12900	---	12200	---	16200	11300	---
TOTAL	253670	241750	306630	400600	364900	400600	305370	333490	434100	463700	465700	244440
MEAN	8183	8058	9891	12920	13030	12920	10180	10760	14470	14960	15020	8148
MAX	8760	8370	10400	13100	13600	13000	11200	12700	15700	16300	16100	8420
MIN	7320	7330	8400	12300	12900	12100	8080	8170	10600	11000	11100	7270
AC-FT	503200	479500	608200	794600	723800	794600	605700	661500	861000	919700	923700	484800
CAL YR 2002	TOTAL 3988900	MEAN 10930	MAX 15600	MIN 7070	AC-FT 7912000							
WTR YR 2003	TOTAL 4214950	MEAN 11550	MAX 16300	MIN 7270	AC-FT 8360000							

COLORADO RIVER MAIN STEM
09380000 COLORADO RIVER AT LEES FERRY, AZ—CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD--Jan. to July 1926, Oct. 1926 to June 1927, Aug. 1928 to Dec. 1933, Nov. 1942 to Oct. 1945, Oct. 1947 to current year.

PERIOD OF DAILY RECORD--

SPECIFIC CONDUCTANCE: Oct. 1964 to Sept. 1981, Feb. 1982 to Dec. 1987, Oct. 1989 to Mar. 2003.

pH: Aug. 1990 to Apr. 1993.

WATER TEMPERATURE: July 1949 to Sept. 1981, Feb. 1982 to Dec. 1987, Oct. 1989 to Mar. 2003.

DISSOLVED OXYGEN: Aug. 1990 to Apr. 1993.

SUSPENDED-SEDIMENT DISCHARGE: Oct. 1928 to Dec. 1933, Nov. 1942 to Sept. 1944, Oct. 1947 to Sept. 1965.

TURBIDITY: Oct. 1998 to Sept. 2000, minimum daily values.

INSTRUMENTATION--Specific conductance and water temperature recorder Mar. 1977 to Sept. 1981, Feb. 1982 to Dec. 1987, and Oct. 1990 to current year; pH, Aug. 1990 to Apr. 1993; dissolved-oxygen recorder Aug. 1990 to Apr. 1993.

REMARKS--Daily water temperature and specific conductance records good. Unpublished daily specific conductance measurements for period Nov. 1942 to Oct. 1945, Oct. 1947 to Sept. 1964 available from District Office in Tucson, AZ. Extreme value for the period of record include only those obtained after a normal flow release pattern from Glen Canyon Dam was started after July 31, 1965.

EXTREMES FOR PERIOD OF RECORD--

SPECIFIC CONDUCTANCE (Aug. 1965 to Sept. 1981, Feb. 1982 to Dec. 1987, Oct. 1990 to current year): Maximum, 1,260 microsiemens, Apr. 20, 21, 1967; minimum, 460 microsiemens, Aug. 10, 1965.

pH: Maximum, 8.3, on many days in Jan. to Apr. and June 1991; minimum, 7.6, on several days in Nov. and Dec. 1990, and Mar. 1991.

WATER TEMPERATURE (Aug. 1965 to Sept. 1981, Feb. 1982 to Dec. 1987, Oct. 1990 to current year): Maximum, 21.0°C on several days during Aug., Sept., and Oct. 1965, 1967, 1968; minimum, 2.0°C on Jan. 29, 30, 1970.

DISSOLVED OXYGEN: Maximum recorded, 11.2 mg/L, Apr. 29, 1991; minimum recorded, 6.4 mg/L, Sept. 18, 1991.

TURBIDITY: Minimum daily, less than 1.0 NTU on most days.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Turbidity, NTU (00076)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, unfltrd std (00400)	Specific conductance, uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
NOV													
13...	0950	9	7850	.60	685	6.5	63	7.6	757	8.5	9.1	250	64.0
FEB													
04...	0850	9	5490	.36	682	6.3	59	7.7	850	2.8	7.5	270	70.0
APR													
28...	1310	9	11000	.23	678	7.2	70	7.8	900	21.8	8.9	280	71.0
JUN													
24...	1340	9	17900	.57	675	8.4	86	8.1	855	27.5	10.5	270	69.0
24...	1350	7	17900	1.2	675	8.4	86	8.1	854	27.5	10.5	260	68.0
Date	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, unfltrd water, recoverable, 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 titr., mg/L (00453)	Carbonate, wat flt incrm. titr., 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)
NOV													
13...	65.0	21.0	21.0	3.00	2	58.0	131	159	<1	41.0	.3	190	455
FEB													
04...	72.0	23.0	23.0	3.30	2	69.0	139	168	<1	53.0	.3	210	512
APR													
28...	73.0	24.0	25.0	3.40	2	73.0	144	176	<1	59.0	.3	220	537
JUN													
24...	70.0	24.0	24.0	3.50	2	70.0	135	165	<1	53.0	.3	220	521
24...	70.0	23.0	24.0	3.40	2	69.0	137	167	<1	53.0	.3	220	519
Date	Residue water, fltrd, tons/acre-ft (70303)	Residue 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, unfltrd mg/L (71845)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water, unfltrd mg/L as N (00630)	Phosphorus, water, unfltrd mg/L (00665)	COD, high level, water, unfltrd mg/L (00340)	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													
13...	.66	485	4	.20	.01	.01	.310	<.02	10	<1k	<1	<1	2
FEB													
04...	.73	537	5	.30	--	<.01	.370	<.02	7	<1k	<1	<1	1
APR													
28...	.81	595	2	<.20	--	<.01	.380	<.02	<5	<1k	<1	<1	2
JUN													
24...	.81	594	<1	.30	--	<.01	.300	<.02	6	<1k	<1	<1	2
24...	.77	566	4	<.20	--	<.01	.300	<.02	7	--	<1	<1	2

COLORADO RIVER MAIN STEM

09380000 COLORADO RIVER AT LEES FERRY, AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Arsenic water, unfltrd ug/L (01002)	Barium, water, fltrd, ug/L (01005)	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, fltrd, ug/L (01020)	Boron, water, unfltrd recover- able, ug/L (01022)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	Chrom- ium, water, fltrd, ug/L (01030)	Chrom- ium, water, unfltrd recover- able, ug/L (01034)	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover- able, ug/L (01042)
NOV 13...	2	95.0	94.0	<1	<1	72	72	<.5	<.5	<1	<1	<2	<2
FEB 04...	2	100	100	<1	<1	82	82	<.5	<.5	<1	<1	<2	<2
APR 28...	3r	98.0	98.0	<1	<1	85	87	<.5	<.5	<1	<1	<2	<2
JUN 24...	1	110	110	<1	<1	85	88	<.5	<.5	<1	<1	<2	<2
24...	2	100	110	<1	<1	83	88	<.5	<.5	<1	<1	<2	<2

Date	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recover- able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover- able, ug/L (01051)	Mangan- ese, water, fltrd, ug/L (01056)	Mangan- ese, water, unfltrd recover- able, ug/L (01055)	Mercury water, fltrd, ug/L (71890)	Mercury water, unfltrd recover- able, ug/L (71900)	Nickel, water, fltrd, ug/L (01065)	Nickel, water, unfltrd recover- able, ug/L (01067)	Selen- ium, water, fltrd, ug/L (01145)	Selen- ium, water, unfltrd ug/L (01147)	Silver, water, fltrd, ug/L (01075)
NOV 13...	<2	8	<2	<2	1	2	<.10	<.1	1	<1	2	2	<1
FEB 04...	<2	7	<2	<2	<1	1	<.10	<.1	1	<1	2	3	<1
APR 28...	<2	5	<2	<2	<1	1	<.10	<.1	<1	2	3	2	<1
JUN 24...	<2	5	<2	<2	1	1	<.10	<.1	1	2	3	2	<1
24...	<2	6	<2	<2	<1	1	<.10	<.1	1	1	3	2	<1

Date	Silver, water, unfltrd recover- able, ug/L (01077)	Stront- ium, water, unfltrd recover- able, ug/L (01082)	Thall- ium, water, fltrd, ug/L (01057)	Thall- ium, water, unfltrd ug/L (01059)	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 load, tons/d (80155)
NOV 13...	<1	750	<2	<2	17	15	2	42
FEB 04...	<1	810	<2	<2	3	3	3	44
APR 28...	<1	850	<2	<2	<2	<2	3	89
JUN 24...	<1	860	<2	<2	<2	<2	5	242
24...	<1	860	<2	<2	<2	<2	--	--

Remark codes used in this report:
 < -- Less than
 Value qualifier codes used in this report:
 k -- Counts outside acceptable range
 r -- Value verified by rerun, same method

COLORADO RIVER MAIN STEM

09380000 COLORADO RIVER AT LEES FERRY, AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

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 2003 sampling period and are defined in the introductory text section titled "Water-Quality Control Data".

Date	Time	Sample type	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Sodium, water, fltrd, mg/L (00930)	Ammonia	Ammonia	Nitrite	Phosphorus, water, unfltrd, mg/L (00665)	Aluminum, water, fltrd, ug/L (01106)	Barium, water, fltrd, ug/L (01005)	Beryllium, water, fltrd, ug/L (01010)	Cadmium, water, fltrd, ug/L (01025)
						+ org-N, water, unfltrd, mg/L as N (00625)	water, unfltrd, mg/L as N (00610)	+ nitrate, water, unfltrd, mg/L as N (00630)					
NOV 13...	1000	2	.03	<.03	<.1	<.20	<.01	<.020	<.02	<3	<.5	<1	<.5
Date	Time	Sample type	Chromium, water, fltrd, ug/L (01030)	Copper, water, fltrd, ug/L (01040)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Mangan-	Nickel, water, fltrd, ug/L (01065)	Zinc, water, fltrd, ug/L (01090)				
							ese, water, fltrd, ug/L (01056)						
NOV 13...			<1	<2	<2	<2	<1	<1	<2				

Remark codes used in this report:

< -- Less than

COLORADO RIVER MAIN STEM

09380000 COLORADO RIVER AT LEES FERRY, AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM 25 DEG.C) , WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	1	746	736	740	746	731	736	737	732	735	768	761
2	753	741	746	743	729	733	742	731	736	770	753	763
3	763	748	755	743	730	734	749	739	742	769	757	763
4	750	739	745	746	728	732	746	739	743	775	762	769
5	749	733	741	733	727	729	753	738	745	777	766	772
6	751	733	739	739	730	734	746	733	743	776	759	770
7	747	735	740	743	735	738	747	742	745	772	754	762
8	750	740	744	747	731	739	748	738	744	764	751	757
9	755	738	745	740	727	732	745	737	740	763	753	760
10	756	738	744	741	730	733	752	734	740	761	750	756
11	754	739	744	743	730	736	750	735	744	757	748	753
12	747	736	741	749	730	741	756	745	751	763	751	755
13	749	735	741	743	732	738	753	744	748	776	760	765
14	742	731	735	736	730	733	750	746	748	779	765	774
15	741	731	736	736	730	732	753	747	749	778	761	772
16	747	736	740	741	731	733	755	748	752	774	763	769
17	752	737	743	745	738	741	757	750	753	768	755	762
18	750	736	742	761	743	749	760	750	755	772	753	762
19	747	734	739	743	733	739	763	739	749	774	759	765
20	749	736	740	745	736	740	757	741	748	778	766	772
21	749	735	740	745	732	739	763	742	756	781	769	776
22	748	734	742	738	730	735	759	738	749	781	770	777
23	750	735	741	742	734	738	755	742	749	778	768	775
24	747	733	739	742	730	735	760	742	751	783	769	776
25	746	733	739	742	722	733	755	747	750	787	775	782
26	744	730	736	738	730	735	754	748	750	788	777	783
27	741	730	734	740	733	736	754	748	751	788	779	786
28	734	730	731	742	730	738	757	752	755	789	776	785
29	742	733	737	735	731	733	764	757	759	790	776	785
30	746	733	738	737	730	734	772	764	768	791	781	787
31	743	731	736	---	---	---	772	767	769	796	784	790
MONTH	763	730	740	761	722	736	772	731	749	796	748	771

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM 25 DEG.C) , WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	FEBRUARY			MARCH		
	MAX	MIN	MEAN	MAX	MIN	MEAN
1	806	789	795	837	818	829
2	824	794	801	837	827	832
3	837	823	830	832	826	830
4	829	800	820	838	821	831
5	821	801	813	840	824	836
6	812	800	804	846	833	841
7	804	793	798	859	835	850
8	802	789	794	847	835	842
9	802	778	791	842	835	839
10	799	786	795	843	837	839
11	799	780	791	847	837	842
12	791	776	786	847	833	842
13	803	788	793	847	832	842
14	813	800	804	849	836	844
15	813	803	810	851	838	845
16	811	796	806	846	832	841
17	804	791	799	849	840	845
18	806	788	797	891	839	858
19	807	782	797	892	867	876
20	811	785	797	879	854	866
21	813	784	804	887	864	876
22	827	790	807	864	851	856
23	838	797	824	854	849	853
24	822	781	805	855	840	850
25	823	788	808	854	833	845
26	818	806	814	---	---	---
27	837	813	824	---	---	---
28	836	814	826	---	---	---
29	---	---	---	---	---	---
30	---	---	---	---	---	---
31	---	---	---	---	---	---
MONTH	838	776	805	---	---	---

COLORADO RIVER MAIN STEM
09380000 COLORADO RIVER AT LEES FERRY, AZ—CONTINUED
 WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	9.9	9.2	9.6	9.5	9.1	9.3	9.6	9.4	9.5	9.1	8.5	8.8
2	9.8	9.1	9.4	9.5	9.2	9.3	9.8	9.5	9.6	9.1	8.6	8.9
3	9.4	9.0	9.3	9.2	8.4	8.9	9.8	9.6	9.7	9.0	8.6	8.8
4	9.6	9.1	9.4	9.3	8.3	8.9	9.6	9.2	9.3	8.9	8.5	8.7
5	9.6	9.1	9.5	9.4	8.6	9.1	9.3	9.0	9.2	8.9	8.5	8.7
6	9.7	9.3	9.5	9.4	8.2	9.1	9.3	9.1	9.2	9.0	8.8	8.9
7	9.8	9.2	9.6	9.3	8.4	9.1	9.3	9.1	9.2	9.2	8.7	8.9
8	9.9	9.3	9.6	9.4	9.0	9.2	9.3	9.0	9.1	9.1	8.8	9.0
9	9.8	9.2	9.6	9.9	9.3	9.6	9.5	9.0	9.2	9.1	8.8	9.0
10	9.7	9.1	9.5	9.8	9.1	9.5	9.5	9.2	9.3	9.3	8.9	9.1
11	9.6	9.1	9.5	9.3	8.6	9.0	9.4	9.1	9.2	9.4	9.0	9.2
12	9.7	9.4	9.6	9.1	8.5	8.9	9.3	8.9	9.1	9.1	8.8	9.0
13	9.6	9.1	9.4	9.1	8.8	9.0	9.3	8.9	9.1	8.9	8.6	8.8
14	9.6	9.1	9.5	9.4	8.7	9.1	9.4	9.0	9.2	8.9	8.6	8.7
15	9.7	9.2	9.6	9.4	9.1	9.3	9.4	9.1	9.2	9.1	8.7	8.8
16	9.7	9.1	9.5	9.3	8.9	9.1	9.3	9.0	9.1	8.9	8.5	8.7
17	9.6	9.1	9.4	9.2	8.8	9.0	9.2	8.8	9.0	9.0	8.6	8.8
18	9.8	9.2	9.5	9.2	8.7	9.0	9.0	8.6	8.8	8.9	8.5	8.8
19	9.7	9.3	9.6	9.2	8.8	9.0	8.9	8.4	8.5	8.8	8.5	8.7
20	9.6	9.2	9.5	9.2	8.8	9.0	8.7	8.3	8.5	8.7	8.4	8.6
21	9.6	9.0	9.4	9.2	8.9	9.1	8.9	8.4	8.6	8.8	8.3	8.6
22	9.5	9.0	9.3	9.2	8.8	9.0	9.0	8.7	8.8	8.8	8.4	8.6
23	9.6	9.1	9.3	9.3	8.9	9.1	9.0	8.8	8.9	8.8	8.5	8.7
24	9.5	9.0	9.4	9.2	8.8	9.0	9.1	8.9	9.0	8.8	8.5	8.7
25	9.5	9.1	9.4	9.2	8.9	9.0	9.0	8.6	8.8	8.8	8.4	8.6
26	9.6	9.3	9.4	9.1	8.8	9.0	9.0	8.6	8.8	8.7	8.2	8.5
27	9.7	9.3	9.5	9.1	8.7	8.9	8.9	8.6	8.7	8.7	8.2	8.5
28	9.7	9.1	9.5	9.1	8.7	8.9	8.8	8.5	8.6	8.7	8.2	8.5
29	9.6	9.2	9.4	9.2	8.9	9.1	8.7	8.5	8.6	8.7	8.3	8.5
30	9.4	8.9	9.2	9.4	9.0	9.2	8.7	8.4	8.6	8.7	8.3	8.5
31	9.4	9.0	9.3	---	---	---	8.9	8.5	8.7	8.7	8.3	8.5
MONTH	9.9	8.9	9.5	9.9	8.2	9.1	9.8	8.3	9.0	9.4	8.2	8.7

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	FEBRUARY			MARCH		
	MAX	MIN	MEAN	MAX	MIN	MEAN
1	8.7	8.3	8.5	8.4	8.0	8.2
2	8.5	8.0	8.3	8.6	8.0	8.3
3	8.2	7.6	7.9	8.6	7.9	8.3
4	8.4	7.7	8.0	8.3	8.1	8.2
5	8.4	7.8	8.1	8.6	7.9	8.2
6	8.3	7.7	8.0	8.6	7.9	8.2
7	8.3	7.8	8.0	8.6	7.9	8.3
8	8.4	7.8	8.1	8.7	8.0	8.3
9	8.4	7.9	8.2	8.7	8.0	8.4
10	8.5	7.8	8.2	8.7	8.0	8.4
11	8.5	8.0	8.2	8.8	8.0	8.4
12	8.5	8.1	8.3	8.8	8.1	8.4
13	8.5	8.3	8.4	8.9	8.1	8.5
14	8.7	8.3	8.4	8.6	8.3	8.4
15	8.6	8.1	8.3	8.4	8.2	8.3
16	8.6	8.1	8.4	8.8	8.3	8.5
17	8.7	8.2	8.5	8.6	8.2	8.4
18	8.7	8.3	8.5	8.2	7.9	8.0
19	8.6	8.1	8.4	8.5	7.8	8.1
20	8.7	8.2	8.4	8.9	8.0	8.4
21	8.7	8.0	8.3	8.8	8.2	8.6
22	8.6	8.0	8.3	9.0	8.1	8.5
23	8.6	7.7	8.1	9.0	8.2	8.6
24	8.7	8.1	8.4	8.9	8.2	8.5
25	8.7	8.3	8.5	9.2	8.3	8.7
26	8.5	8.2	8.3	---	---	---
27	8.4	8.0	8.2	---	---	---
28	8.5	8.0	8.3	---	---	---
29	---	---	---	---	---	---
30	---	---	---	---	---	---
31	---	---	---	---	---	---
MONTH	8.7	7.6	8.3	---	---	---

PARIA RIVER BASIN

09382000 PARIA RIVER AT LEES FERRY, AZ

LOCATION--Lat 36°52'20", long 111°35'38", in NW¼NE¼ sec. 13, T.40 N., R.7 E., Coconino County, Hydrologic Unit 14070007, on left bank 0.6 mi northwest of Lees Ferry, and 1.1 mi upstream from mouth.

DRAINAGE AREA--1,410 mi².

PERIOD OF RECORD--Oct. 1923 to current year.

REVISED RECORDS--WSP 1925: 1958(M), drainage area.

GAGE--Water-stage recorder. Datum of gage is 3,123.68 ft above sea level. Prior to Oct. 5, 1925, nonrecording gage at site 2,000 ft upstream at different datum. Oct. 13, 1925, to Sept. 11, 1929, nonrecording gage at present site and datum.

REMARKS--Records fair except for estimated daily discharges, which are poor. Diversions above station for irrigation of about 3,300 acres, mostly in southern Utah.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 16,100 ft³/s Oct. 5, 1925, gage height, 16.3 ft, from floodmark, from rating curve extended above 2,000 ft³/s on basis of float-area measurement of peak flow; maximum gage height, 16.65 ft Sept. 9, 1980; minimum daily discharge, 1 ft³/s in most years prior to 1931.

CORRECTION--The maximum discharge for water year 2001 is 3,220 ft³/s; the previous published figure was not the maximum.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 1,400 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 24	1245	*1,530	*8.23

Minimum daily discharge, 1.6 ft³/s Aug. 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e50	16	20	15	15	41	13	5.2	3.6	3.3	31	4.3
2	e26	17	25	14	15	39	12	5.4	3.6	3.2	24	e3.6
3	61	18	21	15	15	37	11	5.4	e3.6	3.3	e26	e3.6
4	74	21	18	17	16	35	11	6.8	e3.6	3.2	e9.6	6.5
5	36	20	18	18	16	32	12	5.6	e3.6	3.4	5.3	37
6	18	20	19	21	16	31	11	5.3	3.6	3.5	3.4	e37
7	11	20	18	19	15	e26	12	5.0	3.8	3.3	2.4	e161
8	8.4	20	17	20	15	24	11	4.6	3.8	3.2	2.1	e34
9	8.3	28	16	19	15	24	8.3	4.8	4.1	3.1	1.6	e15
10	7.5	e262	13	19	16	24	8.7	4.8	3.9	3.4	2.5	e10
11	7.2	e83	14	23	16	24	8.8	5.0	3.6	3.4	8.3	8.1
12	7.7	e16	16	21	16	24	8.2	5.8	3.7	3.2	12	6.8
13	8.2	15	16	17	19	24	8.1	5.3	3.8	3.1	7.1	6.4
14	7.8	14	16	17	52	23	7.8	5.0	3.6	3.2	5.6	4.5
15	7.6	13	16	16	46	24	7.6	5.1	3.7	3.4	4.8	5.3
16	7.0	12	17	17	40	24	7.7	6.0	3.6	3.5	e81	3.0
17	7.7	13	18	15	33	32	8.7	7.0	3.6	3.6	e38	3.1
18	7.5	13	37	15	26	32	8.4	6.6	3.5	e3.6	e20	3.6
19	6.8	12	20	14	20	22	9.5	5.6	3.7	3.5	39	5.3
20	6.7	12	16	14	17	18	11	5.5	3.5	3.6	e48	5.4
21	6.5	11	14	15	17	19	8.3	5.1	3.6	3.6	82	5.3
22	11	12	13	13	16	18	8.0	4.5	3.6	5.7	e28	5.2
23	52	12	15	13	16	16	8.7	4.5	3.6	5.2	7.9	5.3
24	34	12	17	13	15	16	13	4.2	3.3	3.3	e235	5.4
25	19	12	15	14	19	16	10	3.9	3.5	2.6	e59	5.4
26	11	11	12	e15	98	15	8.8	3.8	3.7	3.0	20	5.3
27	15	12	10	e15	91	14	7.2	3.8	3.7	2.9	11	5.4
28	34	13	9.2	16	e66	14	5.5	3.8	3.8	2.9	8.0	5.4
29	e35	14	11	16	---	13	5.2	3.8	3.6	22	15	5.3
30	21	15	11	15	---	13	5.2	3.8	3.4	e16	11	5.3
31	16	---	12	15	---	13	---	3.7	---	22	5.9	---
TOTAL	628.9	769	510.2	506	777	727	275.7	154.7	109.3	156.2	854.5	416.8
MEAN	20.3	25.6	16.5	16.3	27.8	23.5	9.19	4.99	3.64	5.04	27.6	13.9
MAX	74	262	37	23	98	41	13	7.0	4.1	22	235	161
MIN	6.5	11	9.2	13	15	13	5.2	3.7	3.3	2.6	1.6	3.0
AC-FT	1250	1530	1010	1000	1540	1440	547	307	217	310	1690	827

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2003, BY WATER YEAR (WY)

MEAN	30.2	23.4	20.9	22.4	37.3	38.3	20.5	10.4	7.15	23.9	53.3	52.5
MAX	288	123	69.4	96.7	242	216	93.3	52.4	58.3	172	237	424
(WY)	1926	1958	1967	1969	1980	1979	1979	1934	1972	1936	1932	1927
MIN	5.99	10.1	8.81	8.03	14.3	8.86	4.75	2.03	1.97	2.32	4.51	4.18
(WY)	1956	1991	1931	1931	2002	1972	2002	1927	1926	1939	1976	1968

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1924 - 2003	
ANNUAL TOTAL	4868.8		5885.3			
ANNUAL MEAN	13.3		16.1		28.3	
HIGHEST ANNUAL MEAN					65.1	
LOWEST ANNUAL MEAN					11.1	
HIGHEST DAILY MEAN	342	Sep 8	262	Nov 10	6750	Sep 13 1927
LOWEST DAILY MEAN	2.4	Aug 13	1.6	Aug 9	1.0	Jun 25 1926
ANNUAL SEVEN-DAY MINIMUM	2.5	Aug 13	3.2	Jul 8	1.0	Jul 16 1927
ANNUAL RUNOFF (AC-FT)	9660		11670		20510	
10 PERCENT EXCEEDS	20		31		42	
50 PERCENT EXCEEDS	7.5		12		14	
90 PERCENT EXCEEDS	2.9		3.6		3.7	

e Estimated

COLORADO RIVER MAIN STEM

09383000 COLORADO RIVER AT COMPACT POINT, NEAR LEES FERRY, AZ

LOCATION--Lat 36°51'05", long 111°36'21", in NE_{1/4}SE_{1/4} sec. 23, T.40 N., R.7 E., Coconino County, Hydrologic Units 14070006, 15010001, (see REMARKS), 1 mi downstream from Paria River, 1.4 mi downstream from gage on Colorado River at Lees Ferry, and 29 mi downstream from Utah-Arizona State line.

DRAINAGE AREA--112,000 mi², approximately, including 3,959 mi² in Great Divide basin in southern Wyoming, which is noncontributing.

PERIOD OF RECORD--Oct. 1913 to current year (monthly discharge only). Prior to Oct. 1950, published in WSP 1313.

DETERMINATION OF DISCHARGE--There is no gage. Monthly and yearly discharge computed as the sum of flow at stations on Colorado River and Paria River at Lees Ferry.

REMARKS--This location on the Colorado River is the dividing point between the Upper Basin and Lower Basin, as defined in the Colorado River Compact of 1922. Flow substantially regulated by Lake Powell beginning Mar. 13, 1963. (See elsewhere in this report.)

AVERAGE DISCHARGE--49 years (water years 1914--62), 17,760 ft³/s, 12,870,000 acre-ft/yr; 39 years (water years 1965--2003), 14,070 ft³/s, 10,190,000 acre-ft/yr

Monthly discharge, water year October 2002 to September 2003

Month	Mean, in cubic feet per second	Runoff, in acre-feet
October	8,203	504,400
November	8,084	481,000
December.....	9,908	609,200
Calendar year 2002.....	10,940	7,922,000
January.....	12,940	795,600
February.....	13,060	725,300
March.....	12,950	796,000
April.....	10,190	606,300
May.....	10,760	661,800
June.....	14,470	861,300
July	14,960	920,100
August	15,050	925,400
September.....	8,162	485,700
Water year 2003.....	11,560	8,372,000

NOTE.--Record shown is sum of flow at stations on Colorado River and Paria River at Lees Ferry.

LITTLE COLORADO RIVER BASIN

09384000 LITTLE COLORADO RIVER ABOVE LYMAN LAKE, NEAR ST. JOHNS, AZ

LOCATION--Lat 34°18'52", long 109°21'42", in SW1/4SE1/4 sec. 27, T.11 N., R.28 E., Apache County, Hydrologic Unit 15020001, on left bank 0.75 mi downstream from Coyote Creek, 6 mi upstream from Lyman Dam, and 15 mi south of St. Johns.

DRAINAGE AREA--706 mi², of which 2.5 mi² is noncontributing.

PERIOD OF RECORD--Apr. 1940 to current year. Prior to Oct. 1975 published as "above Lyman Reservoir."

REVISED RECORDS--WDR AZ-88-1: Drainage area.

GAGE--Water-stage recorder and crest-stage gage. Elevation of gage is 6,010 ft above sea level, from topographic map. Prior to Dec. 7, 1976, water-stage recorder at site 0.4 mi downstream at datum approximately 20 ft lower, used as supplemental gage Mar. 21, 1980, to Apr. 21, 1987. See WSP 1313 for history of changes prior to 1950.

REMARKS--Records fair for estimated daily discharges, which are poor. Flow regulated by many small reservoirs—combined capacity, about 15,500 acre-ft. Diversions for irrigation of about 6,700 acres above station.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 16,000 ft³/s July 25, 1940, gage height, 17.1 ft, datum then in use, from floodmarks, by slope-area measurement of peak flow and reservoir inflow studies; maximum gage height, 18.6 ft, Sept. 12, 1975, at previous site (from graph recorded to 18.4 ft); no flow at times.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 400 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 31.....	2230	*398	*4.61

Minimum daily discharge, 0.01 ft³/s for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	2.4	4.6	e4.2	2.6	5.0	23	9.7	19	0.03	24	22
2	2.9	2.4	4.7	e4.2	2.6	5.0	28	14	17	0.03	38	18
3	3.1	2.2	6.3	e4.1	2.5	4.8	40	15	17	0.03	9.9	15
4	3.1	2.4	6.2	e4.1	2.4	4.4	30	13	15	0.02	2.6	12
5	3.3	2.6	5.4	e4.1	2.7	4.9	22	13	14	0.01	1.4	11
6	2.7	2.8	4.7	e3.9	2.5	4.9	19	13	11	0.02	1.6	18
7	2.2	2.9	4.4	e3.7	2.4	4.4	18	12	8.5	0.01	6.6	16
8	3.0	2.9	4.1	e3.5	2.7	3.9	17	8.0	7.4	0.01	4.1	13
9	3.1	3.4	4.1	e3.3	2.8	3.6	18	8.5	7.9	0.01	3.1	12
10	3.3	5.6	4.1	2.9	2.8	3.8	19	12	9.0	0.01	4.5	14
11	3.2	5.9	4.0	2.9	3.0	4.4	18	11	4.8	0.01	3.2	24
12	2.9	6.9	e3.8	2.8	3.1	5.5	16	7.8	3.7	0.01	2.3	25
13	2.9	4.9	e3.7	2.7	3.2	6.4	16	5.9	4.4	<0.01	3.1	22
14	3.0	4.2	e3.7	2.8	3.7	7.4	14	5.3	4.1	<0.01	8.2	20
15	2.8	4.0	3.8	2.9	4.9	7.7	12	3.5	3.4	<0.01	10	17
16	2.9	4.0	3.8	2.7	5.1	8.5	13	2.7	4.0	<0.01	8.6	10
17	2.8	4.2	4.1	2.7	4.5	9.0	25	3.0	4.2	<0.01	9.9	4.5
18	3.1	4.0	e4.3	2.7	4.5	10	27	3.3	3.5	<0.01	11	2.4
19	3.2	4.1	e4.2	2.8	4.2	10	21	3.5	1.5	<0.01	9.3	2.0
20	3.1	3.9	e4.2	2.8	4.4	9.6	18	3.1	1.7	<0.01	11	1.6
21	2.9	4.1	e4.2	2.9	4.9	8.6	16	3.5	1.2	0.01	16	1.2
22	3.0	3.8	e4.2	2.9	4.3	10	14	2.9	0.91	0.01	15	1.6
23	2.8	4.1	e4.5	2.9	3.6	9.6	14	3.6	0.20	0.01	17	0.74
24	2.5	4.1	e4.5	3.0	3.5	10	12	3.6	0.10	0.01	14	1.1
25	2.3	4.1	e4.2	2.8	3.4	12	12	9.7	0.07	0.01	14	1.1
26	2.3	4.1	e4.1	2.6	4.2	13	10	16	0.06	22	12	0.43
27	2.7	4.2	e4.2	2.6	4.5	16	8.2	18	0.12	0.55	16	0.30
28	2.8	4.2	e4.3	2.6	5.1	21	7.1	18	0.07	6.3	23	0.38
29	3.0	4.2	e4.4	2.5	---	20	5.0	18	0.08	13	49	0.48
30	2.8	4.5	e4.4	2.5	---	18	7.4	17	0.06	1.0	35	0.30
31	2.7	---	e4.2	2.5	---	17	---	18	---	20	27	---
TOTAL	88.9	117.1	135.4	95.6	100.1	278.4	519.7	295.6	163.97	63.18	410.4	287.13
MEAN	2.87	3.90	4.37	3.08	3.58	8.98	17.3	9.54	5.47	2.04	13.2	9.57
MAX	3.3	6.9	6.3	4.2	5.1	21	40	18	19	22	49	25
MIN	2.2	2.2	3.7	2.5	2.4	3.6	5.0	2.7	0.06	0.01	1.4	0.30
AC-FT	176	232	269	190	199	552	1030	586	325	125	814	570

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2003, BY WATER YEAR (WY)

MEAN	9.20	7.93	9.84	10.4	12.4	29.8	91.7	35.3	9.17	9.60	22.7	12.9
MAX	213	37.8	46.6	38.9	43.3	182	397	374	95.4	40.3	143	105
(WY)	1984	1987	1979	1942	1962	1985	1979	1941	1973	1967	1955	1946
MIN	0.074	0.32	0.83	2.08	2.84	1.89	1.26	0.44	0.010	0.000	0.59	0.017
(WY)	1957	1957	1957	1957	1957	1990	1996	2000	1959	1963	2000	1960

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1941 - 2003	
ANNUAL TOTAL	1270.99		2555.48			
ANNUAL MEAN	3.48		7.00		21.7	
HIGHEST ANNUAL MEAN					71.6	
LOWEST ANNUAL MEAN					2.94	
HIGHEST DAILY MEAN	112	Sep 11	49	Aug 29	1660	Oct 2 1983
LOWEST DAILY MEAN	0.01	Jun 17	0.01	Jul 5	0.00	Sep 10 1950
ANNUAL SEVEN-DAY MINIMUM	0.01	Jun 20	0.01	Jul 7	0.00	Sep 10 1950
ANNUAL RUNOFF (AC-FT)	2520		5070		15740	
10 PERCENT EXCEEDS	4.9		18		42	
50 PERCENT EXCEEDS	3.1		4.1		6.7	
90 PERCENT EXCEEDS	0.02		0.41		1.1	

e Estimated

< Actual value is known to be less than the value shown

LITTLE COLORADO RIVER BASIN

09385700 LITTLE COLORADO RIVER BELOW SALADO SPRINGS, NEAR ST. JOHNS, AZ

LOCATION--Lat 34°27'02", long 109°21'42", in NW1/4SE1/4SE1/4 sec. 10, T.12 N., R.28 E., Apache County, Hydrologic Unit 15020002, 2.2 miles upstream from the State Highway 61 bridge in St. Johns.

DRAINAGE AREA--845 mi².

PERIOD OF RECORD--Jan. 1985 to Dec. 1986, July 2002 to current year.

GAGE--Water-stage recorder. Elevation of gage is 5,785 ft above sea level, from topographic map.

REMARKS--Records good except for estimated daily discharges and those greater than 50 ft³/s, which are poor. Flow partially regulated by Lyman Lake. Many diversions for irrigation above station.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 478 ft³/s, Sept. 8, 2002, gage height, 10.84 ft, from an extension of the rating curve. Minimum daily 0.52 ft³/s, July 14, 2003.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 120 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 15.....	0245	*438	*10.78

Minimum daily discharge, 0.52 ft³/s, July 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	2.7	3.4	e4.9	3.6	4.2	2.9	2.6	5.2	3.5	0.96	1.7
2	3.3	2.7	3.4	e4.7	3.4	3.8	2.7	4.8	5.2	3.2	1.0	1.8
3	2.6	2.7	6.7	e4.8	3.1	3.7	2.7	7.3	6.5	3.2	1.3	1.9
4	2.6	2.7	5.2	e4.7	3.3	3.6	2.7	7.0	7.1	3.1	0.73	2.3
5	2.6	2.7	3.9	e4.6	3.4	3.3	2.7	7.2	7.1	4.4	0.73	2.4
6	2.6	2.7	3.5	4.3	3.4	3.4	2.7	7.2	7.1	4.4	0.76	2.5
7	2.6	2.8	3.6	4.3	4.3	3.3	2.7	6.9	4.3	1.2	0.82	2.4
8	2.7	2.8	3.7	4.1	3.6	3.2	2.7	6.8	4.0	0.75	0.85	2.4
9	2.6	2.8	3.7	4.5	4.0	3.2	2.9	6.8	4.0	0.93	0.78	2.4
10	2.5	5.3	3.6	4.2	4.2	3.0	2.8	6.8	4.4	0.63	0.73	2.8
11	2.4	4.0	3.6	3.9	3.6	3.1	2.9	7.1	4.9	0.75	0.75	3.0
12	2.4	2.9	3.5	3.8	3.8	3.1	2.8	7.1	6.1	0.89	1.9	4.8
13	2.5	2.8	3.6	3.7	4.0	3.1	2.8	7.1	6.1	0.82	2.3	3.5
14	2.5	2.9	3.6	3.7	4.5	3.0	2.7	7.0	6.1	0.52	5.8	2.0
15	2.5	2.8	3.9	3.7	4.9	3.1	3.0	6.9	5.9	0.82	81	2.3
16	2.5	2.7	3.8	3.5	4.1	3.2	3.3	6.6	6.1	0.87	6.6	0.95
17	2.5	2.8	3.9	3.5	3.8	3.3	3.1	6.6	6.3	0.91	2.6	0.85
18	3.4	2.8	e4.0	3.5	3.6	3.2	3.4	6.5	6.6	1.0	2.2	0.93
19	2.8	2.8	e4.4	3.5	3.5	3.6	2.4	6.7	6.5	1.0	2.8	2.0
20	2.6	2.8	e4.2	3.6	3.4	3.4	2.7	6.0	6.1	0.93	2.1	0.75
21	2.5	3.0	e4.3	3.9	3.5	3.3	2.7	5.3	5.4	0.91	1.8	0.83
22	2.4	3.0	e4.4	3.9	3.4	3.3	2.6	5.1	5.0	0.96	1.8	0.98
23	2.4	3.0	3.8	3.8	3.2	3.2	2.5	5.3	4.7	1.0	1.8	1.1
24	2.5	3.0	4.1	3.8	3.3	3.0	2.6	5.4	4.7	1.0	1.7	1.1
25	2.4	3.0	e4.7	3.7	3.4	3.2	2.6	5.2	4.7	1.3	1.7	1.2
26	2.4	3.0	e5.7	3.6	4.2	3.1	2.5	4.5	4.7	1.2	1.7	1.2
27	2.7	3.0	e6.3	3.5	4.0	3.0	2.5	4.1	4.4	1.2	1.8	1.2
28	2.7	3.0	e5.1	3.5	3.9	2.9	2.5	5.3	3.8	1.1	1.9	0.85
29	2.7	3.1	e5.9	3.5	---	3.0	2.6	5.2	4.0	1.5	1.8	1.0
30	2.6	3.4	e5.5	3.5	---	3.0	2.5	4.7	3.8	1.1	1.7	1.1
31	2.6	---	e4.9	3.5	---	3.0	---	5.0	---	1.8	1.7	---
TOTAL	81.8	89.7	133.9	121.7	104.4	100.8	82.2	186.1	160.8	46.89	136.11	54.24
MEAN	2.64	2.99	4.32	3.93	3.73	3.25	2.74	6.00	5.36	1.51	4.39	1.81
MAX	3.7	5.3	6.7	4.9	4.9	4.2	3.4	7.3	7.1	4.4	81	4.8
MIN	2.4	2.7	3.4	3.5	3.1	2.9	2.4	2.6	3.8	0.52	0.73	0.75
MED	2.6	2.8	3.9	3.8	3.6	3.2	2.7	6.6	5.2	1.0	1.7	1.7
AC-FT	162	178	266	241	207	200	163	369	319	93	270	108
CFSM	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.01	0.00

WTR YR 2003 TOTAL 1298.64 MEAN 3.56 MAX 81 MIN 0.52 MED 3.2 AC-FT 2580 CFSM 0.00

e Estimated

LITTLE COLORADO RIVER BASIN

09386020 CARRIZO WASH NEAR ST. JOHNS, AZ

LOCATION--Lat 34°36'53", long 109°19'04", T.14 N., R.28 E., unsurveyed, Apache County, Hydrologic Unit 1502002, on east side of Carrizo Wash bridge pier on U.S. Highway 666 (AZ Highway 61), 8.5 mi north of St. Johns.

DRAINAGE AREA--Not determined.

PERIOD OF RECORD--Aug. 1998 to current year.

GAGE--Water-stage recorder and crest-stage gage. Datum of gage is 5,610.5 ft above sea level, from ADOT benchmark on highway bridge.

REMARKS--Records fair, except for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 1,190 ft³/s , Sept. 18, 2002, gage height 10.04 ft, from an extension of the rating curve based on slope-area measurement. Minimum daily discharge, no flow most of each year.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 200 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 27	1245	443	9.84
Sept. 2	1915	*468	*9.91

Minimum daily discharge, no flow for most of year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	3.2
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	176
3	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52
4	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21
5	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.7
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	e5.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59
12	0.00	e3.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42
13	0.00	e2.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23
14	0.00	e0.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.8
15	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52	0.14
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16	0.00
18	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e4.6	0.00
19	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.0	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.56	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.9	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	135	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13	46	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	9.6	93	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.16	53	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.11	23	---
TOTAL	0.46	22.67	0.58	0.00	0.00	0.00	0.00	0.00	0.00	22.87	498.07	398.04
MEAN	0.015	0.76	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.74	16.1	13.3
MAX	0.42	12	0.37	0.00	0.00	0.00	0.00	0.00	0.00	13	135	176
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.9	45	1.2	0.00	0.00	0.00	0.00	0.00	0.00	45	988	790

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2003, BY WATER YEAR (WY)

	1998	1999	2000	2001	2002	2003
MEAN	0.24	0.16	0.004	0.000	0.000	0.000
MAX	1.11	0.76	0.019	0.000	0.000	0.000
(WY)	2001	2003	2003	1999	1999	1999
MIN	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	2000	1999	1999	1999	1999	1999

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1998 - 2003
ANNUAL TOTAL	2605.40	942.69	
ANNUAL MEAN	7.14	2.58	3.43
HIGHEST ANNUAL MEAN			7.08
LOWEST ANNUAL MEAN			0.19
HIGHEST DAILY MEAN	733 Sep 12	176 Sep 2	733 Sep 12 2002
LOWEST DAILY MEAN	0.00 Jan 1	0.00 Oct 1	0.00 Aug 27 1998
ANNUAL SEVEN-DAY MINIMUM	0.00 Jan 1	0.00 Oct 1	0.00 Aug 27 1998
ANNUAL RUNOFF (AC-FT)	5170	1870	2490
10 PERCENT EXCEEDS	0.04	0.09	0.00
50 PERCENT EXCEEDS	0.00	0.00	0.00
90 PERCENT EXCEEDS	0.00	0.00	0.00

e Estimated

LITTLE COLORADO RIVER BASIN

09386030 LITTLE COLORADO RIVER ABOVE ZION RESERVOIR, NEAR ST. JOHNS, AZ

LOCATION.--Lat 34°35'01", long 109°24'23", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 30, T.14 N., R.28 E., Apache County, Hydrologic Unit 15020002, on downstream side of center pier of bridge on private road, 1.5 mi upstream from Carrizo Creek, 4 mi upstream from Zion Reservoir, and 5.8 mi northwest of St. Johns.

DRAINAGE AREA.--1,007 mi², of which 2.5 mi² is noncontributing.

PERIOD OF RECORD.--Oct. 1975 to current year.

REVISED RECORDS.--WDR AZ--88--1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 5,560 ft above sea level, from topographic map.

REMARKS.--Records fair. Diversions above station for irrigation of about 10,200 acres, including 1,500 acres served by Lyman Canal. Regulation by many reservoirs above station (combined capacity, 46,900 acre-ft), the largest of which is Lyman Lake. Records do not include flow bypassing the station through an abandoned irrigation ditch during higher stages.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 590 ft³/s July 31, 1994, gage height, 4.16 ft; minimum daily, no flow on many days in 2001 and 2003 water years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20 ft³/s Aug. 15 at 1930, gage height, 1.64 ft. Minimum daily discharge, no flow on many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.33	1.1	2.4	1.8	1.3	1.3	0.01	0.04	0.01	0.00	0.00	0.08
2	0.35	1.1	2.3	2.0	1.3	1.3	0.02	0.05	0.01	0.00	0.00	0.13
3	0.30	1.1	5.5	1.8	1.1	1.3	0.01	0.05	0.01	0.00	0.00	0.00
4	0.27	0.98	7.7	1.8	0.78	1.2	0.01	0.02	0.01	0.00	0.00	0.00
5	0.25	0.83	5.0	2.0	0.97	1.2	0.02	0.03	0.01	0.00	0.00	0.00
6	0.27	0.93	3.7	2.4	1.1	1.1	0.01	0.03	0.01	0.00	0.00	0.00
7	0.29	1.0	3.1	2.2	1.0	1.1	0.01	0.03	0.01	0.00	0.00	0.00
8	0.32	1.1	2.9	1.9	1.1	1.1	0.02	0.03	0.01	0.00	0.00	0.00
9	0.37	1.1	2.7	2.0	1.1	0.98	0.03	0.02	0.01	0.00	0.00	0.00
10	0.39	2.7	2.3	1.8	1.1	0.98	0.02	0.02	0.01	0.00	0.00	0.00
11	0.33	3.8	2.2	1.8	1.2	0.98	0.02	0.02	0.01	0.00	0.00	0.00
12	0.27	2.9	2.0	1.8	1.3	0.98	0.02	0.02	0.01	0.00	0.00	0.00
13	0.27	2.2	2.1	1.7	1.2	1.00	0.02	0.02	0.01	0.00	0.00	0.00
14	0.28	1.9	2.2	1.6	1.2	0.99	0.03	0.02	0.01	0.00	0.00	0.00
15	0.34	1.7	2.3	1.4	1.3	0.98	0.04	0.02	0.01	0.00	4.2	0.00
16	0.38	1.5	2.0	1.4	1.3	1.0	0.03	0.02	0.01	0.00	3.5	0.00
17	0.41	1.4	1.6	1.3	1.3	1.2	0.03	0.02	0.01	0.00	0.01	0.00
18	3.0	1.5	1.3	1.3	1.2	1.1	0.03	0.02	0.02	0.00	0.00	0.00
19	1.8	1.5	1.6	1.3	1.2	1.2	0.05	0.02	0.02	0.00	0.00	0.00
20	1.4	1.6	1.2	1.3	1.2	1.2	0.09	0.02	0.02	0.00	0.00	0.00
21	1.2	1.6	0.85	1.4	1.1	1.2	0.07	0.02	0.02	0.00	0.00	0.00
22	1.1	1.8	1.4	1.4	1.1	1.2	0.05	0.02	0.02	0.00	0.00	0.00
23	0.94	1.7	1.4	1.4	0.98	1.2	0.05	0.02	0.01	0.00	0.00	0.00
24	0.88	1.7	1.2	1.4	0.99	1.1	0.03	0.02	0.00	0.00	0.00	0.00
25	0.88	1.8	1.6	1.4	0.95	1.1	0.03	0.02	0.00	0.00	0.00	0.00
26	0.89	1.7	1.2	1.4	1.0	0.89	0.04	0.02	0.00	0.00	0.00	0.00
27	0.98	1.7	0.92	1.4	1.2	0.10	0.03	0.03	0.00	0.00	0.00	0.00
28	1.1	1.6	0.85	1.4	1.3	0.01	0.03	0.02	0.00	0.00	0.23	0.00
29	1.2	1.8	0.79	1.4	---	0.01	0.03	0.02	0.00	0.00	0.44	0.00
30	1.2	2.0	1.2	1.4	---	0.01	0.03	0.02	0.00	0.00	0.03	0.00
31	1.1	---	1.5	1.3	---	0.01	---	0.01	---	0.00	0.00	---
TOTAL	23.09	49.34	69.01	49.9	31.87	29.02	0.91	0.74	0.28	0.00	8.41	0.21
MEAN	0.74	1.64	2.23	1.61	1.14	0.94	0.030	0.024	0.009	0.000	0.27	0.007
MAX	3.0	3.8	7.7	2.4	1.3	1.3	0.09	0.05	0.02	0.00	4.2	0.13
MIN	0.25	0.83	0.79	1.3	0.78	0.01	0.01	0.01	0.00	0.00	0.00	0.00
AC-FT	46	98	137	99	63	58	1.8	1.5	0.6	0.00	17	0.4

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1976 - 2003, BY WATER YEAR (WY)

MEAN	7.20	6.56	7.66	7.71	7.95	10.2	16.1	9.79	2.23	2.96	6.43	4.42
MAX	79.1	31.7	32.6	30.2	21.0	75.0	118	75.5	34.7	11.7	33.4	16.5
(WY)	1984	1984	1984	1984	1984	1985	1985	1979	1979	1979	1982	1984
MIN	0.046	0.076	0.082	0.092	0.44	0.24	0.030	0.019	0.009	0.000	0.23	0.007
(WY)	2002	1998	1998	1998	2001	2001	2003	2002	2003	2003	1991	2003

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1976 - 2003

ANNUAL TOTAL	745.80	262.78	
ANNUAL MEAN	2.04	0.72	7.43
HIGHEST ANNUAL MEAN			26.8
LOWEST ANNUAL MEAN			0.72
HIGHEST DAILY MEAN	225	Sep 11	270
LOWEST DAILY MEAN	0.01	May 13	0.00
ANNUAL SEVEN-DAY MINIMUM	0.01	May 22	0.00
ANNUAL RUNOFF (AC-FT)	1480	521	5380
10 PERCENT EXCEEDS	2.2	1.8	13
50 PERCENT EXCEEDS	0.37	0.10	3.1
90 PERCENT EXCEEDS	0.01	0.00	0.08

LITTLE COLORADO RIVER BASIN

09386100 LITTLE COLORADO RIVER BELOW ZION RESERVOIR, NEAR ST. JOHNS, AZ

LOCATION--Lat 34°36'17", long 109°29'19", in SE1/4NW1/4 sec. 21, T.14 N., R.27 E., Apache County, Hydrologic Unit 15020002, on left bank 0.50 mi downstream from Zion Reservoir, 10 mi northwest of St. Johns.

DRAINAGE AREA--Undetermined.

PERIOD OF RECORD--Sept. 1998 to current year.

GAGE--Water-stage recorder and crest-stage gage. Elevation of gage is 5,530 ft above sea level, from topographic map.

REMARKS--Records fair, except for estimated daily discharges, which are poor. Flow regulated by many small reservoirs - combined capacity, about 15,500 acre-ft. Diversions for irrigation of about 6,700 acres above station.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 2,470 ft³/s Sept. 11, 2002, gage height, 11.84 ft, from an extension of the rating curve based on the weir equation for submerged weir flow. Minimum daily discharge, no flow for many days.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 500 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 18	0745	*18	*4.35

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.02	0.05	1.0	0.07	0.37	e0.95	0.00	0.00	0.00	0.00	0.00	0.00
2	0.01	0.05	0.93	0.15	0.26	e0.95	0.00	0.00	0.00	0.00	0.00	0.00
3	0.01	0.06	3.2	0.29	0.06	e0.83	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.07	2.3	0.77	0.04	0.61	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.07	1.5	e1.3	0.06	0.40	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.06	1.7	e2.0	0.07	0.30	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.07	1.6	e1.9	0.07	0.27	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.06	1.5	e1.7	0.11	0.21	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.03	1.3	e1.7	0.18	0.15	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.38	1.1	e1.5	0.32	0.11	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.26	0.95	1.2	0.43	0.07	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.11	0.85	0.98	0.58	0.06	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.11	0.79	0.84	0.67	0.05	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.16	0.84	0.83	e1.0	0.04	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.19	1.0	0.77	e1.2	0.03	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.14	0.81	0.60	0.96	0.04	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.19	0.76	0.53	0.64	0.04	0.00	0.00	0.00	0.00	0.00	0.00
18	4.1	0.20	0.98	0.47	0.62	0.03	0.00	0.00	0.00	0.00	0.00	0.00
19	0.32	e0.23	1.1	0.44	0.92	0.06	0.00	0.00	0.00	0.00	0.00	0.00
20	0.05	e0.27	0.57	0.47	0.75	0.10	0.00	0.00	0.00	0.00	0.00	0.00
21	0.02	e0.31	0.57	0.59	0.57	0.08	0.00	0.00	0.00	0.00	0.00	0.00
22	0.02	e0.35	0.41	0.64	0.36	0.08	0.00	0.00	0.00	0.00	0.00	0.00
23	0.01	e0.38	0.29	0.58	0.17	0.08	0.00	0.00	0.00	0.00	0.00	0.00
24	0.01	e0.42	0.21	0.62	0.16	0.05	0.00	0.00	0.00	0.00	0.00	0.00
25	0.01	e0.46	0.18	0.52	0.13	0.05	0.00	0.00	0.00	0.00	0.00	0.00
26	0.02	0.49	0.11	0.43	0.38	0.05	0.00	0.00	0.00	0.00	0.00	0.00
27	0.09	0.52	0.03	0.42	0.39	0.03	0.00	0.00	0.00	0.00	0.00	0.00
28	0.16	0.50	0.02	0.42	0.67	0.02	0.00	0.00	0.00	0.00	0.01	0.00
29	0.09	0.68	0.02	0.43	---	0.01	0.00	0.00	0.00	0.00	0.00	0.00
30	0.06	0.97	0.03	0.38	---	0.01	0.00	0.00	0.00	0.00	0.00	0.00
31	0.05	---	0.04	0.36	---	0.01	---	0.00	---	0.00	0.00	---
TOTAL	5.05	7.84	26.69	23.90	12.14	5.77	0.00	0.00	0.00	0.00	0.01	0.00
MEAN	0.16	0.26	0.86	0.77	0.43	0.19	0.000	0.000	0.000	0.000	0.000	0.000
MAX	4.1	0.97	3.2	2.0	1.2	0.95	0.00	0.00	0.00	0.00	0.01	0.00
MIN	0.00	0.03	0.02	0.07	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	10	16	53	47	24	11	0.00	0.00	0.00	0.00	0.02	0.00

CAL YR 2002 TOTAL 5941.20 MEAN 16.3 MAX 2140 MIN 0.00 AC-FT 11780
WTR YR 2003 TOTAL 81.40 MEAN 0.22 MAX 4.1 MIN 0.00 AC-FT 161

e Estimated

LITTLE COLORADO RIVER BASIN

09390500 SHOW LOW CREEK NEAR LAKESIDE, AZ

LOCATION--Lat 34°10'46", long 109°59'14", in SW¹/₄NW¹/₄ sec. 14, T.9 N., R.22 E., Navajo County, Hydrologic Unit 15020005, on left bank 1 mi upstream from pumping plant on Show Low Lake, 1.9 mi northwest of Lakeside, 2.2 mi upstream from Jacques Dam, and 6 mi southeast of Show Low.

DRAINAGE AREA--68.6 mi².

PERIOD OF RECORD--May 1953 to current year.

REVISED RECORDS--WSP 1513: 1954-56. WSP 1926: Drainage area. WDR AZ-71-1: 1970(M).

GAGE--Water-stage recorder and concrete-dam control with V-notch sharp-crested weir. Elevation of gage is 6,610 ft above sea level, from topographic map.

REMARKS--Records fair except for estimated daily discharges, which are poor. Record shows inflow to Show Low Lake. Flow partly regulated by several small reservoirs, largest of which are Rainbow Lake and Scott Reservoir, combined capacity, 2,400 acre-ft. Diversions for irrigation of about 250 acres above station.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 5,550 ft³/s Dec. 18, 1978, gage height, 9.16 ft, from rating curve extended above 2,500 ft³/s; maximum gage height, 9.53 ft Dec. 26, 1971; no flow Oct. 5, 6, Dec. 10-19, 1964, Jan. 4-15, 1970.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 100 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 17	0830	*120	*3.18

Minimum daily discharge, 0.11 ft³/s, Sept. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.93	0.80	1.9	1.1	0.33	1.9	5.9	1.0	1.3	1.4	6.6	6.6
2	0.83	1.0	1.2	0.64	0.32	1.9	4.9	1.0	1.5	1.0	6.5	6.5
3	0.73	1.0	3.4	0.58	0.26	1.9	4.7	1.0	1.3	0.90	6.5	6.9
4	0.70	0.90	2.5	0.57	0.27	2.4	4.1	0.94	1.1	0.80	5.3	7.4
5	0.64	0.96	2.0	0.57	0.29	3.7	4.0	0.84	1.2	0.83	5.0	7.5
6	0.73	0.75	1.8	0.58	0.30	5.9	3.4	0.72	0.88	0.72	4.6	7.4
7	0.53	0.62	1.7	0.59	0.30	12	3.2	0.68	1.1	0.82	3.8	4.8
8	0.42	0.64	1.6	0.58	0.31	21	3.1	0.62	1.3	0.93	4.9	2.6
9	0.40	0.66	1.5	e1.7	0.38	40	3.0	0.61	1.0	0.91	3.4	2.4
10	0.34	1.7	1.5	e1.1	0.41	53	3.0	0.57	4.8	0.43	2.8	2.7
11	0.32	1.0	1.4	e0.78	0.38	52	3.0	0.57	6.6	2.1	2.4	1.4
12	0.32	0.68	1.4	e0.56	0.39	42	2.8	0.61	5.9	4.0	3.0	0.70
13	0.31	0.74	1.4	e0.50	0.58	32	2.6	0.70	5.8	5.4	4.1	0.37
14	0.28	0.78	1.4	e0.48	6.5	21	2.4	0.95	5.6	5.5	5.4	0.19
15	0.27	0.73	1.4	e0.47	20	10	3.6	1.5	5.6	5.6	7.4	0.12
16	0.27	0.70	1.4	e0.47	9.0	12	4.0	1.5	5.4	4.0	8.0	0.11
17	0.24	0.74	1.5	0.46	3.9	115	3.1	1.3	5.7	3.5	6.4	e0.63
18	0.25	0.78	1.8	0.45	2.4	82	2.9	1.2	5.9	3.6	6.6	1.8
19	0.44	0.76	1.4	0.42	1.8	57	2.7	1.0	6.1	5.0	8.6	1.8
20	0.50	0.68	1.3	0.42	1.4	51	2.7	1.1	6.1	4.3	8.2	1.9
21	0.50	0.64	1.2	0.68	1.1	79	2.7	1.2	5.8	4.1	7.7	1.8
22	0.49	0.66	1.1	0.69	0.92	76	2.5	1.3	5.8	4.6	8.1	1.5
23	0.84	0.91	1.1	0.58	0.75	90	2.3	2.0	5.1	4.7	9.9	1.1
24	0.78	1.0	1.2	0.50	0.63	71	2.1	3.5	1.5	4.1	9.4	1.4
25	0.78	1.2	1.1	0.46	0.57	44	1.8	2.7	0.87	3.9	10	3.1
26	0.79	1.2	1.1	0.43	1.1	27	1.9	1.5	0.84	4.6	7.2	2.9
27	0.92	1.6	1.1	0.40	1.5	22	1.5	0.72	1.0	4.4	8.4	2.5
28	0.90	1.5	1.1	0.38	1.7	16	1.1	0.87	1.2	4.5	7.9	2.6
29	0.88	1.8	1.2	0.37	---	12	1.00	1.4	1.5	4.9	7.2	2.7
30	0.88	1.9	1.3	0.35	---	9.7	0.96	1.1	1.2	8.2	8.5	2.3
31	0.83	---	1.2	0.34	---	8.2	---	1.3	---	7.8	8.0	---
TOTAL	18.04	29.03	46.2	18.20	57.79	1072.6	86.96	36.00	98.99	107.54	201.8	85.72
MEAN	0.58	0.97	1.49	0.59	2.06	34.6	2.90	1.16	3.30	3.47	6.51	2.86
MAX	0.93	1.9	3.4	1.7	20	115	5.9	3.5	6.6	8.2	10	7.5
MIN	0.24	0.62	1.1	0.34	0.26	1.9	0.96	0.57	0.84	0.43	2.4	0.11
AC-FT	36	58	92	36	115	2130	172	71	196	213	400	170

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2003, BY WATER YEAR (WY)

MEAN	5.72	5.30	20.5	12.9	29.5	43.1	18.6	7.20	5.97	5.55	5.42	4.51
MAX	57.4	54.3	285	200	225	189	197	72.0	13.2	10.8	20.1	18.5
(WY)	1985	1979	1985	1993	1980	1978	1973	1973	1992	1987	1988	1988
MIN	0.58	0.20	0.20	0.10	0.19	0.63	0.97	1.16	1.82	1.07	1.17	0.59
(WY)	2003	2002	1965	1971	1964	2000	1957	2003	1990	1996	2001	2000

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1954 - 2003

ANNUAL TOTAL	490.88	1858.87	
ANNUAL MEAN	1.34	5.09	13.6
HIGHEST ANNUAL MEAN			56.8
LOWEST ANNUAL MEAN			1.19
HIGHEST DAILY MEAN	6.5	Sep 11	3520
LOWEST DAILY MEAN	0.11	Feb 25	0.00
ANNUAL SEVEN-DAY MINIMUM	0.17	Feb 22	0.00
ANNUAL RUNOFF (AC-FT)	974	3690	9870
10 PERCENT EXCEEDS	2.5	8.0	19
50 PERCENT EXCEEDS	1.1	1.4	4.2
90 PERCENT EXCEEDS	0.27	0.44	0.69

e Estimated

LITTLE COLORADO RIVER BASIN

09391000 SHOW LOW LAKE NEAR SHOW LOW, AZ

LOCATION--Lat 34°11'35", long 110°00'15", in NW¹/₄ sec. 10, T.9 N., R.22 E., Navajo County, Hydrologic Unit 15020005, on upstream side of right end of Jaques Dam on Show Low Creek, 3.4 mi northwest of Lakeside, and 4.5 mi southeast of Show Low.

DRAINAGE AREA--73.0 mi².

PERIOD OF RECORD--June 1953 to current year. Periodic readings of elevation and contents only, 1953--1985, published with record of Show Low Creek below Jaques Dam near Show Low, AZ (09392000).

GAGE--Water-stage recorder, with periodic supplemental lake elevation readings. Elevation of gage is 6,580.0 ft above sea level.

REMARKS--Records good. Lake is formed by an earthen-rock dam; storage began in spring of 1953. The spillway is a concrete, broad-crested Ogee weir. Total capacity to spillway, 6,180 acre-ft, consisting of 1,070 acre-ft dead storage below elevation 6,535.0 ft (sill of outlet structure) and 5,110 acre-ft usable storage between elevation 6,535.0 ft and 6,570.0 ft (sill of overflow spillway). Capacity table prepared by Leeds, Hill, and Jewett, consulting engineers, from surveys by the firm. Water cannot be pumped when lake elevation is below 6,538.5 ft (sill of intake to pumping plant), but can be released to stream channel down to elevation 6,535.0 ft. Figures given herein represent total contents.

EXTREMES FOR PERIOD OF RECORD--Maximum contents, 6,920 acre-ft Dec. 18, 1978, and Dec. 27, 1984; maximum elevation, 6,573.72 ft Dec. 27, 1984; minimum contents, not determined.

EXTREMES FOR CURRENT YEAR--Maximum contents, 4,670 acre-ft Apr. 5 at 1415, elevation 6,561.78 ft; minimum contents 1,790 acre-ft Oct. 22--26; minimum elevation 6,541.91 ft Oct. 23.

Capacity table (elevation, in feet, and contents, in acre-feet)

6,535	1,070	6,565	5,240
6,545	2,160	6,575	7,180
6,555	3,560		

RESERVOIR STORAGE, in (ACRE-FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1930	1800	1850	1950	1990	2150	4660	4540	4250	3960	3450	3510
2	1920	1800	1860	1950	1980	2150	4660	4530	4240	3940	3440	3520
3	1910	1800	1870	1950	1980	2160	4660	4520	4230	3920	3430	3520
4	1910	1800	1870	1950	1980	2160	4660	4500	4220	3890	3410	3530
5	1900	1800	1870	1950	1980	2170	4660	4500	4210	3870	3400	3540
6	1890	1810	1880	1950	1980	2190	4660	4490	4200	3840	3380	3550
7	1880	1810	1880	1950	1980	2210	4660	4480	4180	3820	3370	3560
8	1880	1810	1880	1960	1990	2260	4650	4470	4170	3790	3360	3560
9	1870	1810	1880	1960	1990	2360	4650	4450	4160	3770	3340	3570
10	1870	1820	1890	1960	1990	2480	4650	4440	4160	3740	3320	3580
11	1860	1820	1890	1970	1990	2590	4650	4430	4160	3720	3310	3580
12	1850	1820	1890	1970	1990	2690	4640	4420	4160	3700	3290	3580
13	1850	1820	1890	1970	2000	2760	4640	4410	4160	3680	3280	3580
14	1840	1820	1900	1970	2020	2810	4630	4400	4160	3660	3280	3570
15	1830	1820	1900	1970	2060	2830	4640	4390	4160	3640	3290	3570
16	1830	1820	1900	1970	2080	2870	4640	4390	4160	3630	3310	3560
17	1820	1820	1910	1970	2090	3160	4630	4380	4160	3610	3320	3550
18	1810	1830	1910	1970	2090	3360	4630	4370	4160	3590	3340	3540
19	1810	1820	1910	1970	2100	3490	4620	4360	4160	3580	3360	3530
20	1800	1820	1920	1980	2100	3600	4620	4350	4160	3570	3380	3520
21	1800	1820	1920	1980	2100	3790	4620	4340	4160	3550	3390	3510
22	1790	1820	1920	1980	2110	3960	4610	4330	4160	3540	3400	3500
23	1790	1820	1930	1980	2110	4180	4600	4330	4150	3530	3430	3490
24	1790	1820	1930	1980	2110	4340	4600	4320	4120	3510	3450	3490
25	1790	1820	1930	1980	2120	4440	4590	4310	4100	3500	3470	3490
26	1790	1820	1930	1980	2130	4510	4580	4310	4080	3480	3470	3490
27	1800	1830	1930	1990	2130	4550	4570	4290	4050	3470	3480	3480
28	1800	1830	1940	1980	2140	4590	4570	4280	4030	3460	3490	3470
29	1800	1830	1940	1980	---	4610	4560	4280	4010	3440	3490	3470
30	1800	1840	1940	1990	---	4630	4550	4270	3980	3450	3500	3460
31	1800	---	1940	1990	---	4650	---	4260	---	3440	3510	---
MAX	1930	1840	1940	1990	2140	4650	4660	4540	4250	3960	3510	3580
MIN	1790	1800	1850	1950	1980	2150	4550	4260	3980	3440	3280	3460
(*)	6542.00	6542.38	6543.23	6543.58	6544.86	6561.67	6561.08	6559.36	6557.71	6554.25	6554.67	6554.37
(**)	-140	+40	+100	+50	+150	+2510	-100	-290	-280	-540	+70	-50
CAL YR 2002	MAX 2760	MIN 1790	(**)	-820								
WTR YR 2003	MAX 4660	MIN 1790	(**)	+1520								

(*) Elevation, in feet, at end of month.
(**) Change in contents, in acre-feet.

LITTLE COLORADO RIVER BASIN

09392000 SHOW LOW CREEK BELOW JAQUES DAM, NEAR SHOW LOW, AZ

LOCATION.--Lat 34°11'47", long 110°00'13", in NW $\frac{1}{4}$ sec. 10, T.9 N., R.22 E., Navajo County, Hydrologic Unit 15020005, on right bank just downstream from Jaques Dam, 3.5 mi northwest of Lakeside, and 4.5 mi southeast of Show Low.

DRAINAGE AREA.--73.0 mi².

PERIOD OF RECORD.--Nov. 1941 to Jan. 1945, June 1953 to Sept. 1955 (monthly discharge only), Oct. 1955 to current year. Monthly discharge only Nov. 1941 to Jan. 1945, published in WSP 1313. Published as "at Jaques damsite, near Lakeside" 1941-45.

REVISED RECORDS.--WSP 1926: Drainage area. WDR AZ-81-1: 1979 (M).

GAGE.--Water-stage recorder and sharp-crested weir, with supplementary water-stage recorder on lake for recording flow over concrete spillway. Elevation of gage is 6,530 ft above sea level, from topographic map. Nov. 1941 to Jan. 1945 nonrecording gage at site 100 ft upstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Discharge record is the sum of the diversions from Show Low Lake into Show Low Creek (09392000) and flows over the Show Low Lake spillway, which enters Show Low Creek about 0.25 mi downstream of station 09392000. Flow over the spillway occurred from Mar. 15 to Apr. 2 and Apr. 7 to 15 this year. Record since 1953 shows release from Show Low Lake. Flow regulated by several reservoirs, largest of which are Show Low Lake, completed in 1953; Rainbow Lake, completed prior to 1941; and Scott Reservoir, completed in 1946 (combined capacity, 8,800 acre-ft). Diversions for irrigation of about 250 acres above Show Low Lake and diversion by pumping of floodwater stored in Show Low Lake to Forestdale Creek in Salt River basin (see record for Forestdale Creek diversion from Show Low Creek, near Show Low, elsewhere in this report).

AVERAGE DISCHARGE.--50 years (water years 1954-2003), 8.95 ft³/s, 6,490 acre-ft/yr; median of yearly mean discharges, 3.94 ft³/s, 2,850 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,800 ft³/s, spillway flow entering 0.2 mi downstream from station, Dec. 27, 1984, lake elevation, 6,573.72 ft, from rating curve extended above 270 ft³/s; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 18, 1952, discharge, 6,250 ft³/s at site 5 mi downstream at Show Low, is the largest since at least 1940.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 11 ft³/s on many days. Minimum daily discharge, no flow Oct. 26, 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	0.11	0.44	0.33	0.23	0.22	1.6	4.9	5.4	11	11	4.5
2	3.6	0.11	0.44	0.28	0.32	0.22	2.9	4.9	5.4	11	11	4.7
3	3.6	0.10	0.44	0.22	0.25	0.22	3.2	4.9	5.4	11	11	4.7
4	3.7	0.11	0.44	0.22	0.22	0.22	3.2	4.9	5.3	11	11	4.7
5	3.7	0.06	0.44	0.22	0.23	0.22	3.4	4.9	5.3	11	11	4.7
6	3.7	0.11	0.44	0.22	0.22	0.22	4.0	4.9	5.3	11	11	4.7
7	3.7	0.11	0.44	0.22	0.22	0.22	4.0	4.9	5.4	11	11	4.0
8	3.3	0.11	0.44	0.27	0.22	0.22	4.0	4.9	5.4	11	11	0.22
9	2.4	0.11	0.44	0.33	0.22	0.22	4.0	4.9	5.4	11	11	0.22
10	2.9	0.11	0.44	0.33	0.22	0.22	4.0	4.8	5.3	11	11	0.22
11	2.9	0.11	0.44	0.33	0.22	0.22	4.0	4.8	5.3	11	11	0.22
12	2.9	0.11	0.44	0.27	0.22	0.22	4.0	4.8	5.4	11	11	0.22
13	3.0	0.11	0.44	0.22	0.22	0.22	4.0	4.8	5.4	11	11	0.22
14	3.1	0.11	0.44	0.22	0.22	0.22	4.0	4.7	5.4	11	11	0.22
15	3.1	0.11	0.44	0.22	0.22	0.22	4.0	4.8	5.3	11	3.7	0.61
16	3.1	0.11	0.44	0.22	0.22	0.22	4.3	4.7	5.3	11	0.22	5.0
17	3.1	0.20	0.44	0.22	0.22	0.22	4.6	4.7	5.3	11	0.22	5.6
18	3.2	0.74	0.44	0.22	0.22	0.22	4.6	4.7	5.4	11	0.22	5.6
19	3.2	1.3	0.44	0.22	0.22	0.22	4.6	4.7	5.4	11	0.22	5.6
20	3.2	1.3	0.44	0.22	0.22	0.22	4.6	5.0	5.4	11	0.22	5.6
21	3.2	1.3	0.44	0.22	0.22	0.22	4.6	5.4	5.3	11	0.22	5.6
22	3.2	1.3	0.44	0.22	0.22	0.22	4.6	5.4	5.3	11	0.22	5.6
23	1.2	1.3	0.44	0.22	0.22	0.22	4.6	5.4	7.6	11	0.22	5.6
24	0.11	1.3	0.44	0.22	0.22	0.22	4.8	5.4	11	11	0.22	5.6
25	0.05	1.3	0.44	0.22	0.22	0.22	4.9	5.4	11	11	2.9	5.6
26	0.00	1.0	0.44	0.22	0.22	0.22	4.9	5.4	11	11	4.4	5.6
27	0.00	0.33	0.44	0.22	0.22	0.22	4.9	5.4	11	11	4.4	5.6
28	0.09	0.35	0.44	0.22	0.22	0.22	4.9	5.4	11	11	4.4	5.6
29	0.11	0.44	0.44	0.22	---	0.22	4.9	5.4	11	11	4.4	5.6
30	0.11	0.44	0.44	0.22	---	0.22	4.9	5.4	11	11	4.4	5.6
31	0.11	---	0.40	0.22	---	0.69	---	5.3	---	11	4.4	---
TOTAL	73.18	14.30	13.60	7.42	6.31	7.29	125.0	155.9	202.4	341	188.98	117.55
MEAN	2.36	0.48	0.44	0.24	0.23	0.24	4.17	5.03	6.75	11.0	6.10	3.92
MAX	3.7	1.3	0.44	0.33	0.32	0.69	4.9	5.4	11	11	11	5.6
MIN	0.00	0.06	0.40	0.22	0.22	0.22	1.6	4.7	5.3	11	0.22	0.22
AC-FT	145	28	27	15	13	14	248	309	401	676	375	233
CAL YR 2002	TOTAL	770.43	MEAN	2.11	MAX	4.1	MIN	0.00	AC-FT	1530		
WTR YR 2003	TOTAL	1252.93	MEAN	3.43	MAX	11	MIN	0.00	AC-FT	2490		

LITTLE COLORADO RIVER BASIN

09394500 LITTLE COLORADO RIVER AT WOODRUFF, AZ

LOCATION--Lat 34°46'58", long 110°02'37", in NE1/4SW1/4 sec. 17, T. 16 N., R. 22 E., Navajo County, Hydrologic Unit 15020002, on left bank at abandoned county road bridge in Woodruff, 3.7 mi downstream from Silver Creek.

DRAINAGE AREA--8,072 mi², of which 297 mi² is noncontributing.

PERIOD OF RECORD--Mar. to May 1905; June to July 1905 (gage heights only); Aug. 1905 to May 1907; July 1907 to Apr. 1908, July to Oct. 1908, Dec. 1908, and Dec. 1915 to Sept. 1916 (gage heights only); Oct. 1916 to Aug. 1917 (monthly discharge only); Sept. 1917 to Mar. 1918, Dec. 1918 to Dec. 1919, Apr. 1929 to Dec. 1933, Sept. 1935 to current year. Published as "near Woodruff" 1916-19, 1929-48.

REVISED RECORDS--WSP 1049: 1917. WSP 1213: 1906, 1919(M). WDR AZ-88-1: Drainage area.

GAGE--Water-stage recorder. Datum of gage is 5,130.3 ft above sea level. See WSP 1733 for history of changes prior to Sept. 22, 1949.

REMARKS--Records good except for estimated daily discharges, which are poor. Diversions above station for irrigation of about 22,000 acres, including a pump installation 1,000 ft upstream installed in spring of 1973. Some regulation by reservoirs above station; combined capacity, about 81,400 acre-ft.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge not determined, occurred Jan. 19, 1916; maximum discharge recorded, 25,000 ft³/s Dec. 5, 1919; maximum gage height, 22.9 ft from highwater mark in gage well, Dec. 19, 1978; no flow at times in most years prior to 1960 and in 1974, 1976, 1983, 1999, 2000, and 2001.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 1,900 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 29.....	0800	*662	*8.55

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	2.2	5.7	2.8	2.7	16	0.81	0.19	2.4	0.00	64	7.3
2	1.7	1.8	7.2	2.8	2.2	30	0.77	0.45	1.3	0.00	65	87
3	2.8	1.7	53	2.8	2.2	28	0.77	0.53	0.30	0.00	62	60
4	1.8	1.8	86	2.6	2.2	11	0.60	0.79	0.02	0.00	20	79
5	4.7	1.9	25	2.2	2.2	6.0	0.05	0.70	0.04	0.00	9.5	41
6	3.5	1.8	11	2.2	2.2	3.8	0.00	0.12	0.16	0.00	9.8	19
7	4.8	1.5	7.7	2.3	2.4	2.4	0.09	0.01	0.23	0.00	6.1	11
8	9.0	1.2	5.6	5.4	2.8	1.8	0.05	0.19	0.17	0.00	80	e3.0
9	11	1.00	3.8	7.7	2.8	1.5	0.35	0.50	0.28	0.00	150	3.4
10	3.8	7.9	3.5	8.6	2.7	1.5	0.37	0.50	0.10	0.00	81	21
11	2.3	47	3.5	4.7	2.5	1.5	0.03	0.81	0.00	0.00	38	83
12	3.7	15	3.1	4.0	2.8	1.4	0.08	0.64	0.00	0.00	19	31
13	2.7	5.5	2.8	3.3	2.8	1.3	0.46	0.11	0.00	0.00	16	21
14	2.2	3.7	2.8	2.8	2.9	1.3	0.44	0.03	0.00	0.00	9.2	21
15	4.3	2.9	2.8	2.8	3.4	1.2	0.46	0.04	0.00	0.00	164	7.6
16	4.2	2.1	2.6	2.4	3.3	1.5	0.79	0.31	0.00	0.00	114	4.7
17	2.2	2.0	2.2	2.2	3.7	1.5	0.85	0.41	0.00	0.00	73	3.2
18	1.6	1.5	2.2	2.2	3.9	1.4	0.68	0.50	0.00	0.00	29	2.1
19	1.4	0.39	2.2	2.2	6.6	37	0.60	0.47	0.00	0.00	17	1.8
20	1.3	0.36	2.2	2.2	4.0	44	0.70	0.11	0.00	0.00	23	3.9
21	0.69	0.40	2.2	2.2	3.3	30	0.63	0.01	0.00	53	23	3.7
22	0.61	1.2	2.2	2.2	3.3	19	0.07	0.85	0.00	6.0	72	1.6
23	2.2	1.2	2.5	2.2	2.6	15	0.00	1.5	0.00	2.5	13	2.1
24	2.2	0.98	2.8	2.2	2.5	7.6	0.25	1.9	0.00	5.8	19	2.2
25	2.2	1.5	2.8	2.2	2.4	4.2	0.68	1.9	0.00	3.4	21	2.8
26	2.2	1.8	2.8	2.2	2.2	2.8	0.86	1.2	0.00	2.9	124	3.3
27	2.3	1.8	2.8	2.2	16	2.0	0.93	0.36	0.00	27	257	6.8
28	2.9	1.8	2.3	2.2	11	1.5	0.64	0.89	0.00	24	141	4.2
29	2.9	1.8	2.2	2.2	---	1.4	0.08	0.97	0.00	283	39	2.6
30	2.2	1.8	2.2	2.0	---	1.1	0.00	0.95	0.00	56	84	4.0
31	2.2	---	2.2	2.4	---	1.1	---	2.6	---	172	20	---
TOTAL	92.70	117.53	261.9	92.4	103.6	279.8	13.09	20.54	5.00	635.60	1862.6	544.3
MEAN	2.99	3.92	8.45	2.98	3.70	9.03	0.44	0.66	0.17	20.5	60.1	18.1
MAX	11	47	86	8.6	16	44	0.93	2.6	2.4	283	257	87
MIN	0.61	0.36	2.2	2.0	2.2	1.1	0.00	0.01	0.00	0.00	6.1	1.6
MED	2.2	1.8	2.8	2.2	2.8	2.0	0.46	0.50	0.00	0.00	38	4.4
AC-FT	184	233	519	183	205	555	26	41	9.9	1260	3690	1080
CFSM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
MEAN	38.3	23.4	33.1	40.1	56.3
MAX	301	543	382	599	827
(WY)	1973	1906	1920	1993	1932
MIN	1.05	0.90	1.24	1.12	0.91
(WY)	1951	2000	2000	2000	2000

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1905 - 2003

ANNUAL TOTAL	20491.80	4029.06	
ANNUAL MEAN	56.1	11.0	48.4
HIGHEST ANNUAL MEAN			161
LOWEST ANNUAL MEAN			4.36
HIGHEST DAILY MEAN	5000	Sep 12	283
LOWEST DAILY MEAN	0.00	Mar 31	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	May 15	0.00
MAXIMUM PEAK STAGE			22.90
ANNUAL RUNOFF (AC-FT)	40650	7990	35050
ANNUAL RUNOFF (CFSM)	0.007	0.001	0.006
10 PERCENT EXCEEDS	17	26	88
50 PERCENT EXCEEDS	1.8	2.2	6.5
90 PERCENT EXCEEDS	0.00	0.00	0.95

e Estimated

LITTLE COLORADO RIVER BASIN

09397300 LITTLE COLORADO RIVER NEAR JOSEPH CITY, AZ

LOCATION--Lat 34°54'04", long 110°15'17", in NE1/4SE1/4 sec. 6, T.17 N., R.20 E., Navajo County, Hydrologic Unit 15020008, on left bank just upstream from diversion dam, 5.4 mi west of Holbrook, 5.7 mi southeast of Joseph City, and 8.5 mi downstream from Puerco River.

DRAINAGE AREA--12,384 mi², of which 347 mi² are noncontributing.

PERIOD OF RECORD--July 1973 to current year (daily discharge only for those days on which instantaneous discharge exceeds 500 ft³/s).

REVISED RECORDS--WDR AZ-88-1: Drainage area.

GAGE--Water-stage recorder, crest-stage gage, and concrete diversion dam. Datum of gage is 5,031.10 ft above sea level (U.S. Army Corps of Engineers benchmark). From Oct. 1, 1990, to Mar. 19, 1993, on right bank at same datum.

REMARKS--Records fair except for estimated daily discharges, which are poor. Published record includes only those days when instantaneous discharge over the crest of the dam exceeds 500 ft³/s. Diversions above station for irrigation of about 23,000 acres, diversions at dam on right bank of most low flows for irrigation of about 1,500 acres in vicinity of Joseph City. Some regulation by reservoirs; combined capacity of principal reservoirs, about 91,400 acre-ft.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 25,400 ft³/s Dec. 19, 1978, gage height, 7.64 ft, from rating curve extended above 7,400 ft³/s on basis of slope-area measurement at gage height 6.82 ft.

EXTREMES OUTSIDE PERIOD OF RECORD--A discharge of 60,000 ft³/s was determined for peak of Sept. 19, 1923, at Holbrook (see prior records for sta 09397000, Little Colorado River at Holbrook, for this peak and other peaks 1905-6, 1949-73).

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 5,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sept. 11.....	0915	*2,630	*4.25

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	191	---	---	---	---	---	---	---	e60	---
4	---	---	---	---	---	---	---	---	---	---	385	146
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	116	---	---	---	---	---	---	---	---
7	---	---	---	e413	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	1460
12	---	---	---	---	---	---	---	---	---	---	82	e255
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	706	---
16	---	---	---	---	---	---	---	---	---	---	e242	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	171	---
26	---	---	---	---	---	---	---	---	---	---	395	---
27	---	---	---	---	---	---	---	---	---	---	641	---
28	---	---	---	---	---	---	---	---	---	---	e185	---
29	---	---	---	---	---	---	---	---	---	375	663	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	---	---	---	---	---	---	---	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---
AC-FT	---	---	---	---	---	---	---	---	---	---	---	---

e Estimated

LITTLE COLORADO RIVER BASIN

09397500 CHEVELON CREEK BELOW WILDCAT CANYON NEAR WINSLOW, AZ

LOCATION--Lat 34°38'11", long 110°42'49", in SW1/4 sec. 36, T.15 N., R.15 E., Navajo County, Hydrologic Unit 15020010, Sitgreaves National Forest, on right bank 0.4 mi downstream from Wildcat Canyon and 25 mi south of Winslow.

DRAINAGE AREA--271 mi².

PERIOD OF RECORD--May 1947 to Sept. 1970 (daily discharge), 1979, 1982-95 (annual maximum only), Oct. 1995 to current year.

REVISED RECORDS--WSP 1179: 1949(p), WSP 1283: 1951(m).

GAGE--Water-stage recorder. Datum of gage is 5,905.16 ft above sea level, from Bureau of Reclamation benchmark.

REMARKS--No estimated daily discharges. Records good. Storage and regulation by Chevelon Canyon Lake (capacity 6,193 acre-ft) 17 mi upstream.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 24,700 ft³/s Jan. 8, 1993, gage height, 20.78 ft; no flow for many days.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 200 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 17	1100	*848	*6.09
Mar. 27	1245	484	5.14

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	114	0.02	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	133	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	125	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	92	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	70	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	53	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	41	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	31	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	25	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	86	18	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	285	17	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	363	17	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	459	14	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	521	13	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	398	13	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	663	11	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	399	9.1	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	237	8.5	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	158	8.0	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	128	6.9	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	142	5.4	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	158	4.3	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	284	3.1	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	356	1.7	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	372	0.90	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	401	0.42	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	328	0.25	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	---	203	0.15	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	---	128	0.08	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	102	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	6171.00	855.80	0.02	0.00	0.00	0.00	0.00
MEAN	0.000	0.000	0.000	0.000	0.000	199	28.5	0.001	0.000	0.000	0.000	0.000
MAX	0.00	0.00	0.00	0.00	0.00	663	133	0.02	0.00	0.00	0.00	0.00
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	12240	1700	0.04	0.00	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 2003, BY WATER YEAR (WY)

MEAN	2.76	9.35	34.5	71.0	51.0	152	140	8.53	0.065	0.21	12.8	14.0
MAX	45.9	108	320	523	308	473	658	47.4	1.70	4.45	205	210
(WY)	1959	1960	1966	1952	1957	1960	1952	1952	1955	1964	1951	1970
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1949	1949	1951	1951	1954	1996	1996	1947	1947	1947	1948	1948

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1947 - 2003

ANNUAL TOTAL	0.00	7026.82		
ANNUAL MEAN	0.000	19.3	40.9	
HIGHEST ANNUAL MEAN			132	1952
LOWEST ANNUAL MEAN			0.000	1996
HIGHEST DAILY MEAN	0.00	Jan 1	663	Mar 17
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 1
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Oct 1
ANNUAL RUNOFF (AC-FT)	0.00		13940	29590
10 PERCENT EXCEEDS	0.00		13	86
50 PERCENT EXCEEDS	0.00		0.00	0.00
90 PERCENT EXCEEDS	0.00		0.00	0.00

LITTLE COLORADO RIVER BASIN

09398300 BLUE RIDGE RESERVOIR NEAR PINE, AZ

LOCATION--Lat 34°33'19", long 111°11'00", in NE1/4SE1/4 sec. 33, T.14 N., R.11 E., Coconino County, Hydrologic Unit 15020008, in Coconino National Forest, on upstream side of left end of spillway structure of Blue Ridge Dam on East Clear Creek, at mouth of General Springs Canyon, 7.3 mi east of Clints Well, and 20 mi northeast of Pine.

DRAINAGE AREA--71.1 mi².

PERIOD OF RECORD--Dec. 1964 to Mar. 1965 (periodic elevations only), Apr. 1965 to current year.

GAGE--Water-stage recorder. Datum of gage is 6,620 ft above sea level; gage readings have been reduced to elevations NGVD. Prior to Apr. 2, 1965, nonrecording-gage readings (at intervals of 3 to 8 days) at NGVD.

REMARKS--Records good. Reservoir is formed by a concrete arch dam. Dam completed and storage began in Dec. 1964. Total capacity is 19,500 acre-ft at elevation 6,735 ft, of which 15,000 acre-ft is usable storage below 6,720 ft, the spillway crest. Drawdown below 6,646.3 ft, 2,620 acre-ft restricted by sill at mouth of diversion tunnel since Nov. 1981. Reservoir serves as a basin from which water is pumped to the East Verde River. (See records for East Verde River diversion from East Clear Creek, near Pine.) Release is possible through valve in base of dam. Figures given herein represent total contents.

EXTREMES FOR PERIOD OF RECORD--Maximum contents, 17,230 acre-ft Feb. 19, 1993, elevation, 6,727.56 ft; minimum contents since reservoir filled (Apr. 1965), 1,450 acre-ft Nov. 18--27, 1981; minimum elevation, 6,630.75 ft Nov. 26, 1981.

EXTREMES FOR CURRENT YEAR--Maximum contents, 15,100 acre-ft Apr. 5-16, elevation, 6,720.39 ft Apr. 15; minimum daily contents, 4,980 acre-ft Feb. 10-12; minimum elevation 6,668.54 ft Feb. 12.

RESERVOIR STORAGE, in (ACRE-FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5430	5290	5180	5040	5020	6740	14600	14860	14100	13330	12800	12350
2	5430	5290	5170	5040	5020	6750	14790	14840	14080	13310	12780	12350
3	5430	5280	5170	5030	5010	6760	14920	14830	14050	13290	12760	12340
4	5420	5280	5160	5030	5010	6770	14980	14840	14010	13270	12740	12330
5	5420	5270	5160	5020	5000	6780	e15100	14820	13950	13250	12720	12320
6	5410	5260	5150	5020	5000	6780	e15100	14770	13880	13220	12710	12300
7	5410	5260	5150	5010	4990	6800	e15100	14750	13850	13200	12690	12290
8	5400	5260	5140	5010	4990	6850	e15100	14740	13830	13180	12680	12270
9	5400	5260	5140	5010	4990	6940	e15100	14730	13810	13160	12660	12300
10	5390	5260	5140	5020	4980	7100	e15100	14690	13780	13140	12640	12340
11	5380	5260	5130	5020	4980	7310	e15100	14660	13760	13120	12630	12340
12	5380	5260	5130	5030	4980	7590	e15100	14630	13740	13110	12610	12340
13	5370	5260	5120	5040	5690	7930	e15100	14600	13710	13090	12600	12330
14	5370	5260	5110	5040	6260	8350	15080	14570	13690	13070	12590	12320
15	5360	5250	5110	5040	6440	8770	15090	14560	13670	13060	12570	12300
16	5360	5250	5100	5050	6530	9760	15080	14550	13650	13040	12560	12280
17	5360	5240	5100	5050	6580	10570	15080	14520	13630	13020	12540	12270
18	5350	5240	5100	5050	6620	10920	15070	14510	13610	13010	12530	12250
19	5350	5230	5100	5050	6640	11110	15050	14470	13580	13000	12520	12240
20	5340	5230	5090	5050	6660	11250	15040	14440	13560	12980	12500	12220
21	5330	5220	5090	5040	6670	11440	15030	14430	13540	12960	12500	12200
22	5330	5220	5080	5040	6670	11630	15030	14370	13520	12950	12500	12190
23	5320	5210	5080	5040	6680	11920	15010	14380	13500	12930	12480	12170
24	5320	5210	5080	5040	6680	12330	15000	14360	13470	12920	12470	12160
25	5310	5200	5070	5040	6700	12750	14990	14320	13450	12900	12450	12140
26	5320	5200	5070	5040	6710	13190	14970	14290	13430	12880	12430	12130
27	5320	5190	5060	5030	6730	13660	14940	14280	13410	12870	12420	12110
28	5310	5190	5060	5030	6740	13990	14910	e14200	13390	12850	12410	12100
29	5310	5180	5060	5030	---	14170	14900	e14150	13370	12840	12390	12080
30	5300	5180	5050	5030	---	14290	14890	14130	13350	12830	12380	12070
31	5300	---	5050	5020	---	14430	---	14120	---	12810	12370	---
TOTAL	166230	157190	158400	156030	164970	305630	450350	450410	410370	404590	389630	367430
MEAN	5360	5240	5110	5030	5890	9860	15010	14530	13680	13050	12570	12250
MAX	5430	5290	5180	5050	6740	14430	15100	14860	14100	13330	12800	12350
MIN	5300	5180	5050	5010	4980	6740	14600	14120	13350	12810	12370	12070
(*)	6670.85	6670.00	6669.04	6668.88	6680.97	6717.97	6719.57	6716.61	6713.54	6711.29	6709.45	6708.19
(**)	-140	-120	-130	-30	+1720	+7690	+460	-770	-770	-540	-440	-300
CAL YR 2002	TOTAL 2254320	MEAN 6180	MAX 7460	MIN 5050	(**)	-2420						
WTR YR 2003	TOTAL 3581230	MEAN 9810	MAX 15100	MIN 4980	(*)	+6630						

e Estimated
(*) Elevation, in feet, at end of month
(**) Change in contents, in acre-feet

LITTLE COLORADO RIVER BASIN

09400350 LITTLE COLORADO RIVER NEAR WINSLOW, AZ

LOCATION--Lat 35°00'42", long 110°39'02", in SW1/4SE1/4 sec. 28, T.19 N., R.16 E., Navajo County, Hydrologic Unit 15020008, about 4 mi east of Winslow, in the median of I-40, on the east side of the bridge, about 0.5 mi east of exit 257.

DRAINAGE AREA--Unknown.

PERIOD OF RECORD--Dec. 2001 to current year. Records for May 1954 to Sept. 1956 at site 1 mi upstream, a major tributary enters between the two sties, records are not equivalent.

GAGE--Water-stage recorder and crest-stage gage. Datum of gage is 4,863 ft above sea level, from Navajo County survey marker.

REMARKS--No estimated daily discharge. Records good. Flow is regulated by reservoirs upstream. Many diversions for irrigation above gage.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 10,800 ft³/s Sept. 12, 2002, gage height, 18.06 ft; minimum daily discharge, 1.0 ft³/s Aug. 18--19, 2002.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 8,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sept. 11	1015	*2,310	*13.90

Minimum daily discharge, 2.8 ft³/s, June 10, 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e14	15	13	5.0	7.7	64	317	14	e3.5	3.7	147	78
2	e11	9.0	13	4.7	7.0	72	296	11	e3.5	3.7	73	27
3	e9.2	7.7	15	4.7	6.7	82	358	9.2	3.6	3.8	11	62
4	e9.2	7.8	248	4.6	6.8	86	426	12	6.3	3.8	292	40
5	e8.9	8.0	160	4.8	6.8	72	360	9.7	4.3	3.8	206	170
6	e8.5	8.1	80	8.1	6.9	52	282	9.7	3.3	3.5	51	115
7	e8.2	7.7	45	e520	7.2	37	213	7.9	3.3	3.4	13	32
8	7.6	7.7	23	e71	8.2	29	172	7.3	3.6	3.4	6.7	e10
9	7.4	6.9	16	e26	8.5	23	134	7.1	3.3	3.4	85	e8.0
10	7.1	8.8	66	e14	9.2	19	109	6.5	2.8	3.3	85	e6.0
11	6.6	8.4	36	e13	9.3	16	91	6.4	2.8	3.2	69	978
12	7.2	9.4	16	e13	9.9	15	82	6.5	2.9	3.3	39	549
13	7.1	35	10	e13	12	42	98	7.6	3.0	3.2	79	165
14	7.3	33	8.3	e13	10	177	112	7.7	3.4	3.2	21	54
15	7.4	25	6.5	e13	9.9	432	110	7.4	3.1	3.1	492	e49
16	7.6	18	4.4	e12	19	660	113	7.5	4.2	3.1	447	e28
17	7.3	15	4.1	e13	95	576	108	7.5	4.4	3.1	131	e9.8
18	8.0	13	5.1	12	152	1160	110	7.3	4.4	3.0	168	e4.3
19	7.8	11	4.2	12	115	829	96	7.4	3.9	3.1	139	e4.0
20	7.6	10	3.8	11	91	583	87	7.6	3.5	3.3	163	e3.6
21	7.7	10	3.7	11	73	469	75	7.5	3.7	3.2	82	e3.4
22	7.7	10	3.3	9.5	61	436	65	7.6	3.6	3.2	50	e3.4
23	41	10	4.4	9.7	50	442	60	7.7	2.9	3.7	190	e3.4
24	12	10	5.3	9.4	41	403	55	e7.0	3.0	3.6	135	e3.4
25	9.4	10	4.5	8.8	34	556	44	e6.0	3.3	3.8	74	3.8
26	8.2	10	4.5	9.0	30	720	39	e5.5	3.6	4.3	365	3.8
27	9.9	11	4.4	9.2	25	721	36	e5.0	3.9	7.5	472	4.0
28	18	10	4.4	8.4	24	824	29	e4.5	4.0	6.1	239	4.2
29	11	11	4.6	8.5	---	772	21	e3.5	4.0	16	512	4.2
30	10	13	5.1	8.4	---	543	17	3.3	3.9	243	213	4.1
31	18	---	5.0	8.2	---	409	---	3.2	---	43	177	---
TOTAL	317.9	369.5	826.6	888.0	936.1	11321	4115	228.1	109.0	404.8	5226.7	2430.4
MEAN	10.3	12.3	26.7	28.6	33.4	365	137	7.36	3.63	13.1	169	81.0
MAX	41	35	248	520	152	1160	426	14	6.3	243	512	978
MIN	6.6	6.9	3.3	4.6	6.7	15	17	3.2	2.8	3.0	6.7	3.4
MED	8.2	10	5.3	9.7	11	409	103	7.4	3.5	3.4	135	8.9
AC-FT	631	733	1640	1760	1860	22460	8160	452	216	803	10370	4820
CFSM	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.01	0.01
CAL YR 2002	TOTAL 34865.4	MEAN 95.5	MAX 8280	MIN 1.0	MED 6.3	AC-FT 69160	CFSM 0.01					
WTR YR 2003	TOTAL 27173.1	MEAN 74.4	MAX 1160	MIN 2.8	MED 9.9	AC-FT 53900	CFSM 0.00					

e Estimated

LITTLE COLORADO RIVER BASIN

09400562 ORAIBI WASH NEAR TOLANI LAKE, AZ

LOCATION.--Lat 35°34'47", long 110°46'24", NW1/4SW1/4SE1/4 sec. 7, T.25 N., R.15 E., Navajo County, Hydrologic Unit 15020012, on right bank, about 27 mi northeast of Leupp, AZ.

DRAINAGE AREA.--635 mi².

PERIOD OF RECORD.--July 1995 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,025 ft above sea level, from topographic map.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 799 ft³/s, Aug. 6, 1997, gage height 11.66 ft. Minimum daily discharge, no flow for many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sept. 8.....	1345	*273	*7.78

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.8	0.03
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e1.0	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e60
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.3
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.3
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e50	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.6	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e70	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.1	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.8	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e40	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.1	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	6.4	0.84	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	27	5.0	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	13	1.5	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46.40	330.56	219.95
MEAN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.50	10.7	7.33
MAX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27	70	60
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	92	656	436
CFSM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2003, BY WATER YEAR (WY)

MEAN	3.95	0.047	0.000	0.000	0.000	0.22	0.12	0.006	0.061	1.76	11.2	9.48
MAX	19.0	0.21	0.001	0.000	0.000	1.41	0.94	0.049	0.49	5.74	29.4	27.5
(WY)	1998	2001	1998	1996	1996	1998	2000	2001	2000	1999	1999	2002
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1996	2000	1996	1996	1996	1996	1996	1996	1996	1996	1996	2001

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1995 - 2003
ANNUAL TOTAL	1006.53	596.91	
ANNUAL MEAN	2.76	1.64	2.33
HIGHEST ANNUAL MEAN			4.35
LOWEST ANNUAL MEAN			0.50
HIGHEST DAILY MEAN	182	70	276
LOWEST DAILY MEAN	0.00	0.00	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	0.00	0.00
ANNUAL RUNOFF (AC-FT)	2000	1180	1690
ANNUAL RUNOFF (CFSM)	0.004	0.003	0.004
10 PERCENT EXCEEDS	0.00	0.00	0.00
50 PERCENT EXCEEDS	0.00	0.00	0.00
90 PERCENT EXCEEDS	0.00	0.00	0.00

e Estimated

LITTLE COLORADO RIVER BASIN
09400568 POLACCA WASH NEAR SECOND MESA, AZ

LOCATION.--Lat 35°39'21", long 110°33'41", SE^{1/4}NE^{1/4}SW^{1/4} sec. 18, T.26 N., R.17 E., Navajo County, Hydrologic Unit 15020013 on the right bank, about 10 mi southwest of Second Mesa.

DRAINAGE AREA.--905 mi².

PERIOD OF RECORD.--Apr. 1994 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,240 ft above sea level, from topographic map.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,020 ft³/s, Aug. 5, 1997, gage height 8.00 ft. Minimum daily discharge, no flow for many days.

CORRECTION.--The maximum discharge for water year 2000 was 463 ft³/s, the previous published figure was not the maximum.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s, and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 25	0100	*734	*8.32

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.04	0.10	0.12	0.10	0.11	0.18	0.22	0.09	0.02	0.00	2.3	0.09
2	0.04	0.11	0.11	0.07	0.10	0.19	0.20	0.09	0.02	0.00	139	1.2
3	0.08	0.09	0.11	0.07	0.08	0.19	0.17	0.07	0.01	0.00	34	17
4	0.07	0.10	0.11	0.09	0.08	0.18	0.20	0.05	0.01	0.00	2.2	0.62
5	0.07	0.10	0.10	0.10	0.08	0.16	0.19	0.08	0.00	0.00	0.33	45
6	0.07	0.08	0.10	0.14	0.07	0.16	0.18	0.11	0.00	0.00	0.06	32
7	0.07	0.09	0.10	0.11	0.09	0.16	0.17	0.09	0.00	0.00	0.03	101
8	0.07	0.09	0.10	0.11	0.08	0.16	0.17	0.07	0.00	0.00	0.03	55
9	0.07	0.10	0.08	0.11	0.09	0.16	0.18	0.06	0.00	0.00	60	16
10	0.07	0.10	0.09	0.11	0.08	0.17	0.18	0.06	0.00	0.00	4.7	6.5
11	0.06	0.09	0.08	0.11	0.08	0.19	0.16	0.09	0.00	0.00	1.5	2.2
12	0.07	0.09	0.07	0.09	0.13	0.20	0.17	0.09	0.00	0.00	0.10	0.44
13	0.07	0.10	0.07	0.09	0.32	0.20	0.16	0.08	0.00	0.00	0.02	0.04
14	0.07	0.10	0.08	0.09	0.18	0.19	0.15	0.09	0.00	0.00	0.02	0.02
15	0.07	0.11	0.10	0.09	0.13	0.21	0.16	0.11	0.00	0.00	20	0.03
16	0.07	0.10	0.10	0.09	0.11	0.33	0.15	0.09	0.00	0.00	3.5	0.02
17	0.08	0.11	0.10	0.08	0.11	0.35	0.15	0.08	0.00	0.00	15	0.02
18	0.10	0.12	0.08	0.08	0.12	0.30	0.14	0.04	0.00	0.00	5.3	0.02
19	0.09	0.12	0.05	0.08	0.11	0.30	0.22	0.04	0.00	0.00	1.1	0.02
20	0.09	0.10	0.05	0.09	0.11	0.30	0.18	0.05	0.00	0.00	0.10	0.02
21	0.08	0.09	0.08	0.10	0.10	0.29	0.16	0.06	0.00	0.00	2.9	0.02
22	0.09	0.09	0.05	0.09	0.09	0.24	0.15	0.04	0.00	0.00	29	0.02
23	0.14	0.09	0.10	0.10	0.09	0.24	0.14	0.05	0.00	0.00	93	0.02
24	0.11	0.08	0.12	0.11	0.12	0.25	0.16	0.04	0.00	17	320	0.03
25	0.10	0.08	0.06	0.11	0.14	0.28	0.14	0.04	0.00	1.3	242	0.03
26	0.09	0.09	0.05	0.10	0.18	0.25	0.11	0.04	0.00	0.02	17	0.02
27	0.11	0.08	0.03	0.10	0.18	0.22	0.10	0.03	0.00	0.00	7.7	0.02
28	0.10	0.08	0.01	0.11	0.22	0.20	0.09	0.03	0.00	36	2.4	0.02
29	0.10	0.10	0.06	0.10	---	0.20	0.09	0.03	0.00	143	0.27	0.02
30	0.10	0.13	0.12	0.10	---	0.21	0.07	0.03	0.00	17	1.3	0.02
31	0.10	---	0.11	0.11	---	0.22	---	0.02	---	4.9	0.41	---
TOTAL	2.54	2.91	2.59	3.03	3.38	6.88	4.71	1.94	0.06	219.22	1005.27	277.46
MEAN	0.082	0.097	0.084	0.098	0.12	0.22	0.16	0.063	0.002	7.07	32.4	9.25
MAX	0.14	0.13	0.12	0.14	0.32	0.35	0.22	0.11	0.02	143	320	101
MIN	0.04	0.08	0.01	0.07	0.07	0.16	0.07	0.02	0.00	0.00	0.02	0.02
AC-FT	5.0	5.8	5.1	6.0	6.7	14	9.3	3.8	0.1	435	1990	550

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
MEAN	6.11	0.26	0.17	0.21	0.24
MAX	33.9	0.96	0.35	0.40	0.55
(WY)	2001	1999	1995	1995	1995
MIN	0.020	0.071	0.060	0.098	0.098
(WY)	2002	2002	2001	2003	2002

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1994 - 2003

ANNUAL TOTAL	777.34	1529.99	
ANNUAL MEAN	2.13	4.19	2.89
HIGHEST ANNUAL MEAN			6.71
LOWEST ANNUAL MEAN			0.27
HIGHEST DAILY MEAN	180	Sep 12	320
LOWEST DAILY MEAN	0.00	Jun 9	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Jun 16	0.00
ANNUAL RUNOFF (AC-FT)	1540	3030	2090
10 PERCENT EXCEEDS	0.12	0.81	0.40
50 PERCENT EXCEEDS	0.07	0.09	0.13
90 PERCENT EXCEEDS	0.00	0.00	0.02

LITTLE COLORADO RIVER BASIN

09400583 JEDDITO WASH NEAR JEDDITO, AZ

LOCATION--Lat 35°34'39", long 110°27'42", NE1/4NW1/4NW1/4 sec. 18, T.25 N., R.18 E., Navajo County, Hydrologic Unit 15020014, on right upstream side of State Highway 87 bridge, about 20 mi southwest of Second Mesa, AZ.

DRAINAGE AREA--147 mi².

PERIOD OF RECORD--Sept. 1993 to current year.

GAGE--Water-stage recorder. Elevation of gage is 5,440 ft above sea level, from topographic map.

REMARKS--Records poor.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 1,320 ft³/s, Sept. 9, 2003, gage height 9.83 ft. Minimum daily discharge, no flow for many days.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 20.....	0345	462	5.02	Sept. 6.....	1915	254	3.67
Aug. 22.....	0530	441	4.89	Sept. 9.....	2330	*1,320	*9.83

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e10	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.50	0.00	0.00	e1.0
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.10
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e4.0
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e6.0
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.05
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	192
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	290
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e10
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e5.0	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.10	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.30	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.02	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.05	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.05	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.50	0.00	103.52	528.15
MEAN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.35	0.000	3.34	17.6
MAX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	46	290
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MED	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21	0.00	205	1050
CFSM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2003, BY WATER YEAR (WY)

	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994	1994
MEAN	0.39	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.035	0.56	1.79	2.43
MAX	2.81	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.35	2.48	6.86	17.6
(WY)	1994	1994	1994	1994	1994	1994	1994	1994	2003	1999	1999	2003
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1995	1994	1994	1994	1994	1994	1994	1994	1994	1996	1998	1995

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1994 - 2003
ANNUAL TOTAL	192.06	642.17	
ANNUAL MEAN	0.53	1.76	0.43
HIGHEST ANNUAL MEAN			1.76 2003
LOWEST ANNUAL MEAN			0.002 1998
HIGHEST DAILY MEAN	80 Aug 6	290 Sep 10	290 Sep 10 2003
LOWEST DAILY MEAN	0.00 Jan 1	0.00 Oct 1	0.00 Oct 1 1993
ANNUAL SEVEN-DAY MINIMUM	0.00 Jan 1	0.00 Oct 1	0.00 Oct 12 1993
ANNUAL RUNOFF (AC-FT)	381	1270	315
ANNUAL RUNOFF (CFSM)	0.004	0.012	0.003
10 PERCENT EXCEEDS	0.00	0.00	0.00
50 PERCENT EXCEEDS	0.00	0.00	0.00
90 PERCENT EXCEEDS	0.00	0.00	0.00

e Estimated

LITTLE COLORADO RIVER BASIN

09401110 DINNEBITO WASH NEAR SAND SPRINGS, AZ

LOCATION--Lat 35°46'52", long 110°55'57", in SW1/4SE1/4SE1/4 sec. 34, T.28 N., R.13 E., Navajo County, Hydrologic Unit 15020017, on the right bank, about 15 mi west of Old Oraibi.

DRAINAGE AREA--473 mi².

PERIOD OF RECORD--June 1993 to current year.

GAGE--Water-stage recorder. Elevation of gage is 5,160 ft above sea level, from topographic map.

REMARKS--Records fair except for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 2,540 ft³/s, Aug. 11, 2001, gage height 12.53 ft. Minimum daily discharge, 0.05 ft³/s, Aug. 16, 23, and Oct. 1-6, 2002.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 23.....	0245	672	7.07	Sept. 7	1715	551	6.75
Aug. 20	0445	618	6.93	Sept.10	0715	*986	*8.08

Minimum daily discharge, 0.05 ft³/s, Oct. 1-6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.05	0.10	0.27	0.22	0.31	0.31	0.22	0.21	0.12	0.07	7.0	0.22
2	0.05	0.10	0.23	0.29	0.25	0.40	0.27	0.21	0.12	0.07	26	0.10
3	0.05	0.10	0.23	0.34	0.25	0.31	0.22	0.17	0.10	0.07	11	41
4	0.05	0.10	0.24	0.29	0.24	0.30	0.23	0.19	0.10	0.07	1.5	6.7
5	0.05	0.16	0.22	0.33	0.25	0.29	0.22	0.21	0.11	0.07	0.25	6.5
6	0.05	0.12	0.23	0.63	0.23	0.27	0.25	0.22	0.10	0.06	0.15	13
7	0.17	0.11	0.23	0.51	0.27	0.29	0.26	0.20	0.10	0.06	0.13	74
8	0.10	0.09	0.23	0.40	0.30	0.29	0.26	0.19	0.10	0.06	0.11	36
9	0.09	0.09	0.22	0.42	0.29	0.29	0.27	0.18	0.10	0.06	0.10	5.4
10	0.08	0.09	0.23	0.36	0.30	0.29	0.26	0.20	0.09	0.07	0.09	100
11	0.08	0.09	0.22	0.34	0.28	0.30	0.27	0.21	0.09	0.07	0.09	15
12	0.08	0.09	0.22	0.28	0.35	0.30	0.26	0.22	0.09	0.07	0.09	5.2
13	0.08	0.14	0.23	0.28	0.87	0.28	0.23	0.23	0.10	0.06	0.09	0.70
14	0.09	0.17	0.24	0.28	0.46	0.28	0.23	0.23	0.09	0.07	0.08	0.20
15	0.09	0.17	0.26	0.28	0.39	0.30	0.25	0.22	0.09	0.06	0.10	0.18
16	0.09	0.15	0.24	0.25	0.32	0.53	0.27	0.22	0.09	0.06	0.18	0.16
17	0.12	0.18	0.25	0.25	0.30	0.46	0.24	0.21	0.09	0.06	0.13	0.13
18	0.10	0.18	0.25	0.28	0.33	0.32	0.25	0.18	0.09	0.06	0.10	0.13
19	0.09	0.17	0.19	0.27	0.30	0.29	0.37	0.18	0.09	0.06	4.2	0.14
20	0.09	0.19	0.19	0.29	0.30	0.29	0.32	0.18	0.07	0.06	196	0.14
21	0.09	0.19	0.20	0.29	0.28	0.27	0.25	0.18	0.07	0.06	7.7	0.13
22	0.09	0.19	0.19	0.28	0.26	0.27	0.22	0.18	0.08	0.06	1.1	0.14
23	0.11	0.20	0.24	0.27	0.24	0.27	0.24	0.18	0.07	62	10	0.14
24	0.11	0.19	0.26	0.29	0.29	0.26	0.25	0.17	0.06	2.5	0.73	0.17
25	0.10	0.20	0.20	0.29	0.30	0.30	0.23	0.16	0.07	1.7	0.25	0.16
26	0.11	0.19	0.15	0.28	0.33	0.27	0.21	0.15	0.08	7.8	19	0.14
27	0.12	0.18	0.17	0.29	0.34	0.24	0.20	0.15	0.08	14	12	0.14
28	0.11	0.19	0.14	0.29	0.37	0.22	0.19	0.14	0.08	25	5.7	0.14
29	0.10	0.21	0.17	0.29	---	0.23	0.18	0.14	0.08	27	1.5	0.14
30	0.10	0.40	0.20	0.29	---	0.25	0.18	0.13	0.07	24	7.7	0.13
31	0.10	---	0.21	0.30	---	0.25	---	0.12	---	14	1.4	---
TOTAL	2.79	4.73	6.75	9.75	9.00	9.22	7.30	5.76	2.67	179.41	314.47	306.33
MEAN	0.090	0.16	0.22	0.31	0.32	0.30	0.24	0.19	0.089	5.79	10.1	10.2
MAX	0.17	0.40	0.27	0.63	0.87	0.53	0.37	0.23	0.12	62	196	100
MIN	0.05	0.09	0.14	0.22	0.23	0.22	0.18	0.12	0.06	0.06	0.08	0.10
AC-FT	5.5	9.4	13	19	18	18	14	11	5.3	356	624	608
CFSM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
MEAN	3.90	0.43	0.39	0.43	0.41
MAX	19.2	0.62	0.57	0.67	0.58
(WY)	1998	1997	1994	1995	1994
MIN	0.090	0.16	0.21	0.21	0.27
(WY)	2003	2003	2002	2002	2002

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1993 - 2003
ANNUAL TOTAL	1051.81	858.18	
ANNUAL MEAN	2.88	2.35	2.98
HIGHEST ANNUAL MEAN			6.16
LOWEST ANNUAL MEAN			0.45
HIGHEST DAILY MEAN	525	196	556
LOWEST DAILY MEAN	0.05	0.05	0.05
ANNUAL SEVEN-DAY MINIMUM	0.05	0.06	0.05
ANNUAL RUNOFF (AC-FT)	2090	1700	2160
ANNUAL RUNOFF (CFSM)	0.006	0.005	0.006
10 PERCENT EXCEEDS	0.40	0.71	0.64
50 PERCENT EXCEEDS	0.20	0.21	0.34
90 PERCENT EXCEEDS	0.08	0.08	0.16

LITTLE COLORADO RIVER BASIN

09401260 MOENKOPI WASH AT MOENKOPI, AZ

LOCATION--Lat 36°06'18", long 111°12'04", in NW¹/₄NE¹/₄ sec. 3, T.31 N., R.11 E. (unsurveyed), Coconino County, Hydrologic Unit 15020018, in Hopi Indian Reservation on right bank, 100 ft upstream from bridge on State Highway 264, 1.3 mi southeast of Moenkopi, 2.5 mi downstream from former gaging station 09401250, and 12.5 mi downstream from Begashibito Wash.

DRAINAGE AREA--1,629 mi².

PERIOD OF RECORD--July 1976 to current year. Records for Oct. 1973 to July 1976, at site 2.5 mi upstream, not equivalent below 1.5 ft³/s due to channel losses.

REVISED RECORDS--WDR AZ--88--1: Drainage area.

GAGE--Water-stage recorder and crest-stage gages. Elevation of gage is 4,610 ft above sea level, from topographic map.

REMARKS--Records poor.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 10,100 ft³/s Sept. 30, 1983, gage height, 15.10 ft, from rating curve extended above 220 ft³/s on basis of step-backwater computation at gage heights 12.2 ft, 15.0 ft, and 17.8 ft; maximum gage height, 18.94 ft Sept. 10, 2003, from floodmark. No flow at times each year.

EXTREMES OUTSIDE PERIOD OF RECORD--A discharge of 15,100 ft³/s occurred Aug. 4, 1929, at former streamflow-gaging station site 3.5 mi downstream.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 1,200 ft³/s and (or) maximum (*)

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 20.....	0215	2,530	13.33
Sept. 10.....	unknown	*5,080	*18.94

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	2.6	6.3	9.9	4.3	3.8	2.2	2.0	0.38	0.00	0.00	0.94
2	1.2	2.3	3.1	9.6	4.3	3.6	2.0	2.0	0.34	0.00	12	0.78
3	1.3	2.7	2.5	9.2	4.6	3.5	2.0	1.7	0.15	0.00	e0.05	0.61
4	1.3	2.6	2.5	9.0	4.4	3.5	2.2	1.7	0.00	0.00	0.00	8.0
5	1.3	2.7	2.4	8.4	4.1	3.5	2.3	1.8	0.00	0.00	0.00	18
6	1.1	2.4	2.4	8.0	4.5	3.4	2.4	1.8	0.00	0.00	0.00	12
7	1.2	2.5	2.4	7.2	6.9	3.3	2.4	1.7	0.00	0.00	0.00	62
8	1.3	2.4	2.5	8.8	5.3	3.4	2.4	1.4	0.00	0.00	0.00	29
9	1.9	2.6	2.4	6.0	5.7	3.3	2.4	1.4	0.00	0.00	0.00	412
10	1.9	27	2.5	5.3	6.5	3.3	2.5	1.4	0.00	0.00	0.00	e1800
11	1.6	15	2.5	5.0	4.2	3.4	2.5	1.6	0.00	0.00	0.00	48
12	1.6	3.3	e2.5	4.5	4.1	3.4	2.5	1.5	0.00	0.00	0.00	13
13	1.6	2.7	e2.6	4.0	4.8	3.4	2.1	1.4	0.00	0.00	0.00	5.4
14	1.7	2.9	e2.7	4.0	4.6	3.4	2.2	1.3	0.00	0.00	0.00	3.3
15	1.4	3.0	e2.8	3.7	4.0	3.5	2.6	1.4	0.00	0.00	0.00	2.2
16	1.3	2.5	2.7	3.7	3.7	4.3	2.8	1.4	0.00	0.00	0.00	1.9
17	1.3	2.6	2.8	3.5	3.6	15	2.6	1.3	0.00	0.00	0.00	1.1
18	1.4	2.6	3.1	3.6	3.8	5.2	2.7	1.1	0.00	0.00	0.00	1.1
19	1.5	2.6	e3.2	3.7	3.8	3.3	3.5	1.0	0.00	0.00	5.1	0.87
20	1.8	2.5	e3.7	3.6	3.6	3.0	2.9	0.95	0.00	0.00	445	0.92
21	1.9	2.5	4.7	3.3	3.7	3.0	2.0	1.0	0.00	0.00	18	0.85
22	1.9	2.6	6.1	3.3	3.6	2.7	1.9	0.95	0.00	0.00	7.6	0.75
23	2.1	2.6	7.1	2.8	3.5	2.6	2.3	0.94	0.00	0.22	37	0.80
24	2.2	2.5	5.6	2.9	3.6	2.5	2.4	0.88	0.00	0.00	23	0.79
25	2.2	2.5	5.7	3.4	3.5	2.6	2.1	0.75	0.00	0.00	22	0.72
26	2.2	2.5	5.8	3.8	3.6	2.5	1.7	0.64	0.00	0.00	27	0.62
27	2.2	2.4	6.7	3.7	4.2	2.4	1.7	0.63	0.00	0.00	12	0.54
28	2.1	2.1	6.9	4.0	4.1	2.3	1.9	0.63	0.00	2.6	14	0.45
29	2.1	2.5	8.4	4.0	---	2.1	1.9	0.60	0.00	0.20	39	0.55
30	2.2	2.9	9.6	4.1	---	2.2	2.0	0.54	0.00	0.00	6.4	0.50
31	2.2	---	9.9	4.3	---	2.3	---	0.45	---	0.00	1.3	---
TOTAL	52.2	114.6	134.1	160.3	120.6	109.7	69.1	37.86	0.87	3.02	669.45	2427.69
MEAN	1.68	3.82	4.33	5.17	4.31	3.54	2.30	1.22	0.029	0.097	21.6	80.9
MAX	2.2	27	9.9	9.9	6.9	15	3.5	2.0	0.38	2.6	445	1800
MIN	1.1	2.1	2.4	2.8	3.5	2.1	1.7	0.45	0.00	0.00	0.00	0.45
AC-FT	104	227	266	318	239	218	137	75	1.7	6.0	1330	4820

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2003, BY WATER YEAR (WY)

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	
MEAN	10.0	5.96	3.35	4.65	6.96	3.74	2.40	2.07	0.58	13.0	30.8	30.5																
MAX	81.8	70.6	13.5	28.1	47.6	10.5	8.54	15.5	10.6	91.6	180	134																
(WY)	1982	1988	1979	1993	1993	1993	1988	1992	1988	1977	2001	1983																
MIN	0.24	1.14	0.62	1.20	1.90	1.68	1.01	0.31	0.000	0.000	0.000	0.000																
(WY)	1992	1981	1981	2001	2001	1997	1979	1984	1984	1979	1978	1979																

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1977 - 2003

ANNUAL TOTAL	4578.11	3899.49	
ANNUAL MEAN	12.5	10.7	9.52
HIGHEST ANNUAL MEAN			21.7
LOWEST ANNUAL MEAN			2.14
HIGHEST DAILY MEAN	1800	Sep 8	1800
LOWEST DAILY MEAN	0.00	Jun 1	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Jun 1	0.00
ANNUAL RUNOFF (AC-FT)	9080		7730
10 PERCENT EXCEEDS	3.0		6.9
50 PERCENT EXCEEDS	2.0		2.4
90 PERCENT EXCEEDS	0.00		0.00

e Estimated

LITTLE COLORADO RIVER BASIN

09402000 LITTLE COLORADO RIVER NEAR CAMERON, AZ

LOCATION.--Lat 35°55'35", long 111°34'00", in NW_{1/4} sec. 5, T.29 N., R.8 E. (unsurveyed), Coconino County, Hydrologic Unit 15020016, in Navajo Indian Reservation, on left bank 3 mi downstream from Coconino damsite, 9.5 mi downstream from Moenkopi Wash, 9.5 mi northwest of Cameron, and 45 mi upstream from mouth.

DRAINAGE AREA.--26,459 mi², of which 368 mi² are noncontributing.

PERIOD OF RECORD.--June 1947 to current year.

REVISED RECORDS.--WDR AZ-88-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,979.2 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Diversions above station for irrigation of about 32,000 acres. Some regulation by reservoirs above station (combined capacity of principal reservoirs, about 135,000 acre-ft).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,900 ft³/s Jan. 21, 1952, gage height, 20.7 ft; no flow at times in each year.

CORRECTION.--The maximum discharge for water year 2002 is 11,500 ft³/s; the previous published figure was not the maximum.

EXTREMES OUTSIDE PERIOD OF RECORD.--A discharge of about 120,000 ft³/s occurred on Sept. 19 or 20, 1923, based on discharge at Grand Falls.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft³/s and (or) maximum (*)

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sept. 10.....	2100	*3,340	*7.81

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.13	0.00	0.00	0.00	1.1	2.1	373	0.00	0.00	0.00	0.11	182
2	0.03	0.00	2.2	0.00	1.0	2.1	264	0.00	0.00	0.00	11	150
3	0.00	0.00	3.5	0.00	0.87	1.6	176	0.00	0.00	0.00	53	79
4	0.00	0.00	2.2	0.00	0.78	1.1	147	0.00	0.00	0.00	77	46
5	0.00	0.00	1.1	0.00	0.66	0.89	171	0.00	0.00	0.00	46	82
6	0.00	0.00	0.93	1.7	0.51	0.77	262	0.00	0.00	0.00	16	50
7	0.00	0.00	0.87	3.4	0.30	2.7	215	0.00	0.00	0.00	112	74
8	0.00	0.00	0.83	2.8	0.09	13	154	0.00	0.00	0.00	76	205
9	0.00	0.00	8.6	70	0.07	16	114	0.00	0.00	0.00	50	219
10	0.00	0.00	28	128	0.05	9.1	86	0.00	0.00	0.00	11	1760
11	0.00	15	21	89	0.26	5.1	67	0.00	0.00	0.00	4.3	373
12	0.00	6.6	12	56	0.84	3.2	49	0.00	0.00	0.00	31	126
13	0.00	2.2	7.3	41	1.3	2.2	37	0.00	0.00	0.00	50	967
14	0.00	0.74	10	32	1.5	1.5	28	0.00	0.00	0.00	30	339
15	0.00	0.20	20	26	2.1	1.2	18	0.00	0.00	0.00	77	132
16	0.00	0.06	12	19	2.0	1.4	9.5	0.00	0.00	0.00	75	72
17	0.00	0.02	8.2	13	1.5	326	17	0.00	0.00	0.00	410	45
18	0.00	0.00	5.1	8.6	1.2	582	31	0.00	0.00	0.00	361	27
19	0.00	0.00	2.2	6.0	1.1	801	30	0.00	0.00	0.00	233	18
20	0.00	0.00	0.80	4.9	1.0	1020	27	0.00	0.00	0.00	690	8.9
21	0.00	0.00	0.45	4.2	0.99	597	26	0.00	0.00	0.00	256	3.8
22	0.00	0.00	0.06	3.5	31	397	21	0.00	0.00	0.00	182	1.8
23	0.00	0.00	0.04	2.7	25	284	10	0.00	0.00	0.00	158	0.76
24	0.00	0.00	0.02	2.1	18	212	4.7	0.00	0.00	7.6	76	0.30
25	0.00	0.00	0.19	1.5	10	194	2.4	0.00	0.00	0.19	217	0.08
26	0.00	0.00	0.27	1.2	7.5	177	0.75	0.00	0.00	0.01	182	0.05
27	0.00	0.00	0.05	1.2	4.6	291	0.08	0.00	0.00	0.00	77	0.03
28	0.00	0.00	0.01	1.3	2.5	541	0.00	0.00	0.00	0.00	329	0.02
29	0.00	0.00	0.00	1.1	---	594	0.00	0.00	0.00	5.2	549	0.01
30	0.00	0.00	0.00	0.93	---	699	0.00	0.00	0.00	38	229	0.00
31	0.00	---	0.00	0.98	---	556	---	0.00	---	2.4	453	---
TOTAL	0.16	24.82	147.92	522.11	117.82	7334.96	2340.43	0.00	0.00	53.40	5121.41	4961.75
MEAN	0.005	0.83	4.77	16.8	4.21	237	78.0	0.000	0.000	1.72	165	165
MAX	0.13	15	28	128	31	1020	373	0.00	0.00	38	690	1760
MIN	0.00	0.00	0.00	0.00	0.05	0.77	0.00	0.00	0.00	0.00	0.11	0.00
AC-FT	0.3	49	293	1040	234	14550	4640	0.00	0.00	106	10160	9840

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 2003, BY WATER YEAR (WY)

MEAN	201	71.5	95.1	221	247	458	551	126	15.5	105	354	237
MAX	4192	753	1689	4692	2723	1873	3970	2882	595	616	2264	1164
(WY)	1973	1988	1979	1993	1993	1978	1973	1973	1955	1954	1955	2002
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1951	1956	1957	1964	1964	1951	1971	1950	1950	1960	1960	1979

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1948 - 2003
ANNUAL TOTAL	37578.29	20624.78	
ANNUAL MEAN	103	56.5	223
HIGHEST ANNUAL MEAN			1127
LOWEST ANNUAL MEAN			14.1
HIGHEST DAILY MEAN	8360	Sep 11	1760
LOWEST DAILY MEAN	0.00	Jan 25	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Mar 2	0.00
ANNUAL RUNOFF (AC-FT)	74540	40910	161800
10 PERCENT EXCEEDS	41	182	600
50 PERCENT EXCEEDS	0.00	0.75	2.4
90 PERCENT EXCEEDS	0.00	0.00	0.00

LITTLE COLORADO RIVER BASIN

09402300 LITTLE COLORADO RIVER ABOVE THE MOUTH NEAR DESERT VIEW, AZ

LOCATION-- Lat 36°11'29", long 111°45'18", Coconino County, Hydrological Unit 15020016, in the Grand Canyon National Park, on the left bank about 1.0 mi upstream of the mouth, 62 mi west-southwest of Lees Ferry, about 55 mi downstream of Cameron, and about 11 mi east-northeast from Desert View.

DRAINAGE AREA-- 26,946 mi², of which 368 mi² are noncontributing.

PERIOD OF RECORD-- May 1990 to July 1990, at a site about 2,500 ft downstream, August 1990 to January 1993, May 24, 2003 to current year.

GAGE-- Water-stage recorder. Elevation of gage is 2,700 ft above sea level, from topographic map. Prior to August 1, 1990, on the right bank about 2,500 ft downstream, datum 2,720 ft above sea level, from topographic map, August 1990 to January 1993, datum 2,745 ft above sea level.

REMARKS-- Records fair. Diversions above the station for irrigation of about 32,000 acres. Some regulation by reservoirs, combined capacity of the principal reservoirs, about 135,000 acre-ft.

EXTREMES FOR PERIOD OF RECORD -- Maximum recorded peak discharge, 7,860 ft³/s, Jan. 8, 1993, gage height, 55.14 ft. Maximum discharge 18,200 ft³/s, Jan. 12, 1993 based on records at 09402000, Little Colorado River near Cameron, gage height unknown, minimum recorded daily discharge 194 ft³/s, Mar. 3, 1991.

EXTREMES OUTSIDE PERIOD OF RECORD--About 120,000 ft³/s, Sept. 20 or 21, 1923, gage height unknown, based on discharge at 09401000, Little Colorado River at Grand Falls.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 4,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sept. 6	0915	*3,250	*9.13

Minimum daily discharge, 208 ft³/s, July 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	217	208	229	529
2	---	---	---	---	---	---	---	---	219	213	230	390
3	---	---	---	---	---	---	---	---	218	217	229	372
4	---	---	---	---	---	---	---	---	215	216	252	306
5	---	---	---	---	---	---	---	---	219	212	291	288
6	---	---	---	---	---	---	---	---	217	213	277	530
7	---	---	---	---	---	---	---	---	216	217	251	281
8	---	---	---	---	---	---	---	---	217	217	319	303
9	---	---	---	---	---	---	---	---	213	223	302	409
10	---	---	---	---	---	---	---	---	e210	223	282	844
11	---	---	---	---	---	---	---	---	209	223	247	1540
12	---	---	---	---	---	---	---	---	209	221	237	473
13	---	---	---	---	---	---	---	---	216	223	234	745
14	---	---	---	---	---	---	---	---	220	225	272	842
15	---	---	---	---	---	---	---	---	214	226	341	466
16	---	---	---	---	---	---	---	---	219	223	415	347
17	---	---	---	---	---	---	---	---	218	225	291	296
18	---	---	---	---	---	---	---	---	217	226	690	275
19	---	---	---	---	---	---	---	---	210	224	481	260
20	---	---	---	---	---	---	---	---	e210	227	637	250
21	---	---	---	---	---	---	---	---	e210	227	703	241
22	---	---	---	---	---	---	---	---	e210	227	496	237
23	---	---	---	---	---	---	---	---	e212	224	420	231
24	---	---	---	---	---	---	---	---	e215	224	377	230
25	---	---	---	---	---	---	---	219	220	226	311	229
26	---	---	---	---	---	---	---	219	220	230	477	228
27	---	---	---	---	---	---	---	220	220	229	360	228
28	---	---	---	---	---	---	---	220	219	229	408	228
29	---	---	---	---	---	---	---	220	217	229	606	227
30	---	---	---	---	---	---	---	211	210	234	664	227
31	---	---	---	---	---	---	---	216	---	229	578	---
TOTAL	---	---	---	---	---	---	---	---	6456	6910	11907	12052
MEAN	---	---	---	---	---	---	---	---	215	223	384	402
MAX	---	---	---	---	---	---	---	---	220	234	703	1540
MIN	---	---	---	---	---	---	---	---	209	208	229	227
MED	---	---	---	---	---	---	---	---	217	224	319	292
AC-FT	---	---	---	---	---	---	---	---	12810	13710	23620	23910

e Estimated

COLORADO RIVER MAIN STEM

09402500 COLORADO RIVER NEAR GRAND CANYON, AZ

LOCATION.--Lat 36°06'05", long 112°05'08", in sec. 5, T.31 N., R.3 E. (unsurveyed), Coconino County, Hydrologic Unit 15010001, in Grand Canyon National Park, on left bank 0.2 mi upstream from Kaibab Bridge, 0.4 mi upstream from Bright Angel Creek, 4.5 mi northeast of village of Grand Canyon, 26 mi downstream from Little Colorado River, and 267 mi upstream from Hoover Dam.

DRAINAGE AREA.--141,600 mi² approximately, including 3,959 mi² in Great Divide basin in southern Wyoming, which is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Oct. 1922 to current year. Prior to 1944, published as "Colorado River at Bright Angel Creek, near Grand Canyon." Gage-height records collected 1.5 mi downstream 1908-13, published in reports of U.S. Weather Bureau.

GAGE.--Water-stage recorder. Datum of gage is 2,418.7 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Flow completely regulated by Lake Powell, 104 mi upstream, since Mar. 13, 1963. (See elsewhere in this report.) Many diversions above station for irrigation, municipal, and industrial uses.

EXTREMES FOR PERIOD OF RECORD.--1922--62: Maximum discharge, 127,000 ft³/s July 2, 1927, gage height, 29.25 ft; minimum, 700 ft³/s Dec. 28, 1924, gage height, -0.70 ft.
1963--2001: Maximum discharge, 96,200 ft³/s June 29, 1983, gage height, 26.26 ft; minimum, 850 ft³/s Jan. 26, 1963, gage height, -0.55 ft, result of closing coffer dam at Glen Canyon Dam.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1884, 300,000 ft³/s about July 8, 1884 (computed on basis of flood studies at Lees Ferry). Crest discharge of flood of June 19, 1921, was 220,000 ft³/s, gage height, 37.5 ft from floodmarks, from rating curve extended above 120,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 21,000 ft³/s Mar. 20 at 1145, gage height, 12.10 ft. Minimum daily discharge, 7,520 ft³/s Sept. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8780	8940	8460	10700	13400	14100	14000	11200	12700	15700	16500	11300
2	8740	8690	8950	13000	13400	13500	11600	11800	10700	16200	16300	8340
3	8710	8270	10500	13300	13300	13500	11200	11900	15500	16200	15800	8810
4	8780	7620	10600	13300	13400	13500	11100	11100	15600	16200	11000	8760
5	8720	8480	10600	13400	13400	13400	11100	8580	15600	11000	16000	8860
6	8460	8710	10500	13500	13400	13400	11100	11600	15700	15700	16200	8930
7	7640	8730	10700	13400	13400	13400	8470	11900	15700	10900	16200	8850
8	8610	8650	10000	13400	13500	13400	10900	11800	14600	16000	16300	7790
9	8710	8710	9050	13400	13300	13500	10900	11900	10900	16200	16300	8930
10	9080	8500	10500	13400	13400	13500	11000	11900	15600	16100	15900	8970
11	8670	7860	10600	13500	13400	13400	11000	10900	15700	16100	11000	10300
12	8710	8410	10600	13500	13500	13400	11000	8520	15800	16200	16000	8930
13	8320	8640	10700	13500	13500	13400	11000	11700	15700	15200	16100	8980
14	7690	8680	10700	13400	13400	13300	8280	11900	15700	11400	16300	9430
15	8480	8650	10200	13400	13400	13400	10700	11900	14700	16100	16600	7870
16	8680	8680	9220	13400	13500	13400	10900	11900	10800	16100	16400	8860
17	8630	8400	10600	13300	13500	13400	11000	11900	15600	16200	16100	8790
18	8650	7580	10700	13400	13400	13900	11000	11000	15900	16100	11500	8740
19	8700	8430	10600	13400	13400	14000	10900	8570	15800	16100	16600	8700
20	8300	8590	10700	13400	13400	14400	10900	11600	15800	15200	16700	8740
21	7600	8620	10700	13400	13400	14200	8250	11900	15800	11500	16900	8690
22	8590	8710	9970	13400	13500	13000	10700	11900	14800	16200	16900	7580
23	8800	8660	9290	13400	13400	13700	11000	11900	10700	16400	16700	8650
24	8780	8420	10600	13400	13400	13600	11000	11000	15400	16100	16200	8700
25	8690	7700	10600	13400	13500	13600	11000	8650	15800	16100	11500	8720
26	8660	8460	9230	13400	13500	13600	11000	8580	16000	15400	16400	8610
27	8260	8650	10500	13300	14100	13600	11000	8560	16000	15800	16500	8190
28	7580	8660	10700	13300	14100	13700	8280	11600	16000	11000	16400	8120
29	8540	7750	10100	13500	---	13900	10600	11800	15800	16100	16600	7520
30	8740	8550	9300	13400	---	14000	11000	12800	10900	16400	16800	8110
31	8780	---	10600	13400	---	14100	---	13100	---	16500	16200	---
TOTAL	264080	253400	316070	412300	377200	422200	321880	345360	441300	472400	486900	261770
MEAN	8519	8447	10200	13300	13470	13620	10730	11140	14710	15240	15710	8726
MAX	9080	8940	10700	13500	14100	14400	14000	13100	16000	16500	16900	11300
MIN	7580	7580	8460	10700	13300	13000	8250	8520	10700	10900	11000	7520
AC-FT	523800	502600	626900	817800	748200	837400	638400	685000	875300	937000	965800	519200
CAL YR 2002	TOTAL	4141720	MEAN	11350	MAX	16100	MIN	7580	AC-FT	8215000		
WTR YR 2003	TOTAL	4374860	MEAN	11990	MAX	16900	MIN	7520	AC-FT	8678000		

09402500 COLORADO RIVER NEAR GRAND CANYON , AZ—CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD --Oct. 1925 to Nov. 1942, Sept. 1943 to Dec. 1987, Aug. 1990 to Apr. 1993, Apr. 1998 to current year.

PERIOD OF DAILY RECORD --

WATER TEMPERATURE: Oct. 1940 to Oct. 1942, Sept. 1943 to Sept. 1976, Apr. 1983 to Dec. 1987, Aug. 1990 to Apr. 1993, Apr. 1998 to Mar. 2003.

SPECIFIC CONDUCTANCE: Oct. 1964 to Mar. 1974, Apr. 1983 to Dec. 1987, Aug. 1990 to Apr. 1993, Apr. 1998 to Mar. 2003.

pH: Aug. 1990 to Apr. 1993.

DISSOLVED OXYGEN: Aug. 1990 to Apr. 1993.

SUSPENDED-SEDIMENT DISCHARGE: Oct. 1925 to Nov. 1942, Sept. 1943 to Sept. 1972, June 1983 to Dec. 1983, Sept. 1985 to Feb. 1986.

TURBIDITY: Feb. 1998 to Sept. 2000.

INSTRUMENTATION --Water-temperature recorder Nov. 1952 to Sept. 1976, Apr. 1983 to Dec. 1987, Aug. 1990 to Apr. 1993, Apr. 1998 to current year. Specific conductance recorder Oct. 1964 to Mar. 1974, Apr. 1983 to Dec. 1987, Aug. 1990 to Apr. 1993, Apr. 1998 to current year.

REMARKS --Temperature and specific conductance records are good. Unpublished chemical analyses for period Oct. 1930 to Sept. 1940, daily specific conductance measurements Oct. 1937 to Nov. 1942, Sept. 1943 to Sept. 1964, and daily water temperature Oct. 1936 to Sept. 1940, available from the District office in Tucson, AZ.

EXTREMES FOR PERIOD OF RECORD --

WATER TEMPERATURE (Apr. 1983 to Dec. 1987, Aug. 1990 to Apr. 1993, Apr. 1998 to Sept. 1998): Maximum recorded, 16.0°C on Aug. 26, 1984; minimum recorded, 5.7°C on Dec. 24, 25, 1990.

SPECIFIC CONDUCTANCE (Apr. 1983 to Dec. 1987, Aug. 1990 to Apr. 1993, Apr. 1998 to Sept. 1998): Maximum recorded, 1,440 microsiemens on Mar. 20, 1986; minimum recorded, 631 microsiemens Dec. 22, 1986.

pH: Maximum recorded 8.6 units, Nov. 5, 1990; minimum recorded, 7.7 units Nov. 5, 1990.

DISSOLVED OXYGEN: Maximum recorded, 11.4 mg/L, Jan. 23, 1993; minimum recorded, 9.8 mg/L, Nov. 27–30, 1991, May 26, 1992, Mar. 21 and 23, 1993.

TURBIDITY: Minimum daily 1.1 NTU on many days.

EXTREMES FOR CURRENT YEAR --

WATER TEMPERATURE: Maximum recorded, 12.0°C Oct. 1; minimum recorded, 7.3°C Dec. 28.

SPECIFIC CONDUCTANCE: Maximum recorded, 998 microsiemens, Mar. 29; minimum recorded, 821 microsiemens Jan. 13.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C) , WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	899	857	875	898	857	870	888	858	868	894	859	870
2	902	858	876	891	858	867	884	856	867	922	839	866
3	899	856	877	899	857	871	869	836	848	898	831	846
4	893	853	867	898	859	875	867	833	844	894	830	844
5	900	856	874	903	861	879	868	835	846	896	832	846
6	903	864	880	888	855	866	876	839	852	896	835	850
7	905	864	880	883	851	860	875	840	852	904	837	855
8	897	856	877	890	851	864	877	843	855	902	838	853
9	894	856	868	892	855	867	888	846	866	898	826	844
10	888	854	865	900	859	872	883	842	858	892	825	841
11	895	854	870	891	860	872	873	837	848	966	830	860
12	895	859	871	898	862	875	871	835	847	904	825	849
13	903	859	874	889	861	869	881	843	856	888	821	836
14	900	861	877	887	860	868	876	841	854	886	822	837
15	902	867	881	890	864	871	877	846	856	892	828	846
16	889	854	869	891	857	869	882	847	864	900	840	855
17	889	852	865	891	855	866	882	845	858	900	838	854
18	889	855	866	901	857	874	873	842	852	897	834	849
19	894	859	871	907	867	880	876	847	856	892	829	844
20	904	860	874	896	865	874	880	847	857	894	831	845
21	904	862	878	894	863	872	874	849	856	895	833	848
22	900	862	879	894	860	870	881	852	862	904	840	855
23	892	860	870	895	861	871	897	858	876	906	844	858
24	893	858	870	893	860	870	885	847	862	908	846	860
25	893	858	870	899	861	875	879	842	855	906	843	857
26	897	859	872	899	858	876	884	846	864	907	844	859
27	903	859	874	886	854	864	887	851	864	915	851	865
28	906	859	878	891	854	866	879	845	857	920	854	868
29	901	863	880	895	855	871	882	850	860	921	854	869
30	884	854	865	905	864	879	889	851	868	919	854	868
31	895	853	867	---	---	---	890	852	866	919	852	868
MONTH	906	852	873	907	851	871	897	833	858	966	821	854

COLORADO RIVER MAIN STEM
09402500 COLORADO RIVER NEAR GRAND CANYON , AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C) , WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH		
1	922	852	870	957	880	901
2	925	858	875	969	883	906
3	927	864	878	968	888	910
4	932	866	886	971	896	914
5	969	892	911	964	896	911
6	963	873	900	964	899	914
7	955	870	893	969	902	918
8	943	868	887	976	905	923
9	934	870	884	991	904	928
10	931	862	880	981	904	922
11	921	864	876	984	906	924
12	929	856	876	974	905	921
13	926	853	872	962	909	923
14	919	853	869	973	902	924
15	928	859	877	970	907	922
16	941	870	888	972	908	924
17	942	876	891	975	906	926
18	940	869	888	995	910	951
19	933	867	883	---	---	e949
20	929	868	881	994	918	941
21	926	869	882	948	913	927
22	927	864	882	949	919	929
23	933	868	887	984	920	944
24	943	875	894	977	910	929
25	959	871	905	975	910	929
26	953	850	884	980	907	927
27	943	858	884	968	908	924
28	941	875	892	973	914	939
29	---	---	---	998	913	942
30	---	---	---	---	---	e946
31	---	---	---	---	---	---
MONTH	969	850	885	---	---	---

e Estimated

COLORADO RIVER MAIN STEM

09402500 COLORADO RIVER NEAR GRAND CANYON , AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	12.0	11.4	11.7	10.9	10.2	10.6	10.0	9.3	9.5	8.7	8.1	8.3
2	11.8	11.0	11.4	10.8	10.4	10.6	10.0	9.6	9.7	8.9	8.2	8.5
3	11.3	10.7	10.9	10.8	9.9	10.3	10.2	9.8	9.9	9.0	8.5	8.7
4	11.3	10.9	11.1	10.1	9.5	9.8	10.2	9.7	9.9	9.1	8.5	8.8
5	11.3	10.8	11.0	10.1	9.3	9.7	10.2	9.7	9.9	9.1	8.6	8.9
6	11.7	11.0	11.2	9.8	9.0	9.4	10.0	9.4	9.6	9.2	8.8	8.9
7	11.8	11.3	11.5	9.9	9.5	9.7	9.7	9.3	9.5	9.4	8.8	9.1
8	11.9	11.4	11.6	10.0	9.8	9.9	9.7	9.2	9.5	9.4	9.0	9.2
9	11.9	11.4	11.7	10.6	10.0	10.3	9.7	8.9	9.3	9.4	9.1	9.2
10	11.9	11.4	11.6	10.6	10.2	10.4	9.5	8.9	9.2	9.6	9.2	9.3
11	11.9	11.5	11.7	10.6	10.1	10.3	9.6	9.0	9.2	9.7	9.3	9.5
12	11.8	11.4	11.6	10.6	10.0	10.3	9.6	9.1	9.3	9.7	9.3	9.5
13	11.6	11.3	11.4	10.3	9.5	9.9	9.6	9.0	9.2	9.7	9.3	9.5
14	11.6	11.1	11.3	10.0	9.3	9.6	9.3	8.8	9.1	9.5	9.1	9.3
15	11.4	11.0	11.2	9.9	9.4	9.7	9.4	9.0	9.2	9.3	8.9	9.1
16	11.6	10.9	11.2	9.9	9.1	9.5	9.5	9.3	9.4	9.3	8.7	9.0
17	11.5	11.0	11.3	9.7	9.4	9.5	9.5	9.4	9.4	9.2	8.9	9.1
18	11.6	11.0	11.2	9.8	9.3	9.5	9.4	9.0	9.1	9.2	8.7	9.0
19	11.6	10.8	11.1	9.8	9.1	9.5	9.0	8.4	8.7	9.3	8.7	9.0
20	11.2	10.7	11.0	9.7	9.0	9.4	8.8	8.0	8.3	9.3	8.7	9.0
21	11.3	11.0	11.1	9.8	9.2	9.5	8.1	7.9	8.0	9.3	8.8	9.0
22	11.3	11.0	11.2	9.9	9.3	9.6	8.2	7.8	8.0	9.3	8.8	9.1
23	11.2	10.8	11.0	10.0	9.4	9.6	8.4	8.2	8.3	9.4	8.8	9.1
24	11.2	10.7	11.0	10.0	9.3	9.6	8.7	8.4	8.5	9.4	9.0	9.2
25	11.1	10.6	10.8	9.9	9.4	9.6	8.8	8.3	8.5	9.5	8.9	9.2
26	11.0	10.6	10.8	9.4	8.9	9.2	8.8	8.0	8.3	9.4	8.9	9.2
27	10.9	10.5	10.6	9.3	8.6	9.0	8.3	7.5	7.8	9.3	8.9	9.1
28	10.9	10.5	10.7	9.2	8.6	8.9	8.0	7.3	7.5	9.4	8.7	9.0
29	10.8	10.5	10.6	9.2	8.8	9.0	8.0	7.5	7.7	9.4	8.9	9.2
30	10.8	10.3	10.6	9.5	9.1	9.2	8.5	7.9	8.1	9.4	8.9	9.2
31	10.9	10.4	10.5	---	---	---	8.5	8.0	8.2	9.5	8.9	9.2
MONTH	12.0	10.3	11.1	10.9	8.6	9.7	10.2	7.3	8.9	9.7	8.1	9.1

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN
1	9.5	9.0	9.3	9.2	8.7	8.9
2	9.5	9.1	9.3	9.3	8.9	9.0
3	9.1	8.6	8.8	9.4	8.8	9.0
4	9.0	8.3	8.6	9.3	8.9	9.1
5	8.6	8.0	8.3	9.5	8.7	9.1
6	8.6	7.8	8.1	9.6	8.8	9.2
7	8.5	7.7	8.1	9.8	9.3	9.5
8	8.4	7.7	8.0	10.0	9.4	9.6
9	8.5	7.8	8.1	10.1	9.5	9.7
10	8.7	8.0	8.3	10.2	9.6	9.9
11	8.6	8.3	8.4	10.2	9.7	9.9
12	8.7	8.4	8.5	10.4	9.9	10.1
13	9.0	8.5	8.7	10.4	10.0	10.2
14	9.6	8.9	9.2	10.3	10.1	10.2
15	9.7	9.2	9.4	10.2	9.8	10.0
16	9.6	9.3	9.5	9.9	9.7	9.8
17	9.6	9.3	9.4	9.9	9.4	9.6
18	9.9	9.4	9.6	9.9	9.4	9.6
19	9.8	9.2	9.5	9.5	9.2	9.3
20	9.5	9.1	9.3	9.7	9.0	9.3
21	9.6	9.1	9.3	10.1	9.6	9.8
22	9.6	9.2	9.4	10.7	9.9	10.2
23	9.5	9.0	9.3	10.7	10.4	10.5
24	9.4	9.1	9.2	10.8	10.4	10.6
25	9.5	9.0	9.2	10.7	10.5	10.6
26	9.7	9.2	9.4	10.7	10.3	10.5
27	9.6	9.1	9.4	10.7	10.3	10.6
28	9.2	8.9	9.0	10.3	9.8	10.0
29	---	---	---	10.1	9.6	9.8
30	---	---	---	10.4	9.5	9.9
31	---	---	---	---	---	---
MONTH	9.9	7.7	8.9	---	---	---

KANAB CREEK BASIN

09403600 KANAB CREEK NEAR KANAB, UT

LOCATION--Lat 37°06'02", long 112°32'50", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 5, T. 43 S., R. 6 W., Kane County, Hydrologic Unit 15010003, on left bank at upstream side of bridge on U.S. Highway 89, 300 ft upstream from Tiny Canyon and 3.5 mi north of Kanab.

DRAINAGE AREA--198 mi².

PERIOD OF RECORD--July 1959 to September 1968 (peaks only). January 1979 to current year

REVISED RECORDS--WDR UT-98-1: 1997, daily values.

GAGE--Water-stage recorder and crest-stage gage. Elevation of gage is 5,060 ft above NGVD of 1929, from topographic map. A crest-stage gage from July 22, 1959 to September 30, 1968 at different datum. July 6, 1979 to September 18, 1984 water-stage recorder at same site, different datum.

REMARKS--Records poor. Several diversions above station for irrigation and stock watering.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 3,030 ft³/s, Sep 8, 1961, gage height, 8.39 ft, from rating curve extended above 31 ft³/s on basis of slope area measurement at gage height, 7.09 ft; minimum daily discharge, 2.9 ft³/s, Jul 27, 2000.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug 22	unkno	*235	*0.00	No other peak greater than base discharge.			

Minimum daily discharge, 3.5 ft³/s, Sep 17, gage height, 6.22 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.7	6.6	6.8	7.7	12	22	8.8	7.7	7.2	3.9	5.0	e8.0
2	e7.0	6.7	7.0	7.8	11	23	8.4	7.6	7.2	4.0	7.9	e10
3	e6.5	7.0	7.1	7.7	11	28	7.1	7.8	7.2	4.0	5.5	e9.0
4	e6.5	7.4	7.0	7.5	11	30	7.6	9.0	7.2	4.1	4.4	e8.0
5	e6.3	7.6	7.1	7.7	11	28	8.4	8.0	7.3	4.1	4.5	e8.0
6	e6.0	7.9	7.4	7.5	12	27	8.0	8.3	7.4	4.2	4.4	e20
7	e6.0	8.1	7.4	7.7	14	27	8.0	8.0	7.5	4.2	4.4	e8.0
8	e5.8	7.2	6.5	8.3	14	29	8.2	8.4	7.4	4.2	4.5	e7.5
9	e5.7	7.6	5.6	8.5	14	31	7.9	7.8	7.1	4.3	4.3	e6.5
10	e5.7	9.1	5.4	8.8	14	34	8.1	7.4	6.9	4.3	4.5	e6.0
11	e5.9	8.6	5.1	8.9	14	43	8.1	7.3	6.8	4.2	4.5	e5.0
12	e5.9	8.3	4.8	8.3	16	54	8.5	7.1	6.6	4.1	4.1	e5.0
13	e6.0	8.1	4.7	8.0	18	46	8.4	6.8	6.4	4.2	4.0	e4.5
14	e6.0	7.8	4.7	8.2	14	41	8.2	6.9	6.4	4.2	4.1	e4.2
15	e5.8	7.5	4.9	8.7	12	40	8.3	7.1	6.1	4.3	4.3	e4.0
16	e6.0	7.5	5.1	8.9	10	54	7.9	6.8	5.9	4.5	5.4	3.7
17	e6.2	7.3	6.2	8.3	9.6	85	8.8	6.6	5.8	4.5	5.6	3.5
18	e5.6	6.8	6.0	9.4	9.6	55	9.1	6.6	5.7	4.5	5.3	4.2
19	e5.8	6.7	5.4	9.4	11	34	8.2	6.3	5.3	4.5	5.1	4.3
20	e5.9	6.5	e6.0	9.1	11	25	7.8	6.5	5.4	4.6	5.5	4.1
21	e6.0	6.2	7.0	9.4	11	22	8.0	6.6	5.4	4.8	5.3	3.8
22	6.2	6.2	7.3	9.8	11	20	8.2	6.7	5.2	5.0	e30	3.7
23	6.4	6.4	7.4	9.6	12	18	9.0	6.8	5.2	4.8	e10	3.7
24	6.7	6.1	7.0	10	12	17	8.2	6.9	5.0	4.8	e7.0	3.9
25	6.6	6.4	e7.2	10	16	16	8.2	7.0	5.0	5.1	e6.0	3.9
26	6.5	6.4	e7.2	11	15	14	8.1	7.0	4.8	5.7	e6.8	3.9
27	7.0	6.1	e7.4	11	17	12	8.1	7.2	4.6	5.4	e6.0	3.7
28	7.2	6.0	7.5	12	17	11	8.0	7.3	4.4	5.4	e6.0	3.7
29	7.1	6.4	7.2	12	---	9.8	7.8	7.3	4.1	8.3	e5.0	3.7
30	6.9	6.6	7.5	12	---	9.1	8.0	7.1	4.0	7.4	e7.8	3.6
31	6.9	---	7.7	13	---	9.3	---	6.9	---	5.3	e6.2	---
TOTAL	193.8	213.1	200.6	286.2	360.2	914.2	245.4	224.8	180.5	146.9	193.4	171.1
MEAN	6.25	7.10	6.47	9.23	12.9	29.5	8.18	7.25	6.02	4.74	6.24	5.70
MAX	7.2	9.1	7.7	13	18	85	9.1	9.0	7.5	8.3	30	20
MIN	5.6	6.0	4.7	7.5	9.6	9.1	7.1	6.3	4.0	3.9	4.0	3.5
AC-FT	384	423	398	568	714	1,810	487	446	358	291	384	339

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2003, BY WATER YEAR (WY)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	10.3	9.84	10.6	12.2	15.8	24.1	21.8	9.55	6.92	7.01	8.14	9.79												
MAX	25.7	15.2	21.7	27.9	45.1	72.4	132	27.6	12.1	13.8	16.5	28.1												
(WY)	(1982)	(1988)	(1980)	(1997)	(1980)	(1983)	(1980)	(1980)	(1981)	(1981)	(1981)	(1998)												
MIN	5.12	5.33	5.31	5.15	5.64	8.83	6.81	5.62	4.36	3.90	4.07	4.77												
(WY)	(2002)	(2002)	(1990)	(2002)	(2002)	(2002)	(1990)	(2001)	(1986)	(2000)	(1995)	(2002)												

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1980 - 2003

ANNUAL TOTAL	2,280.8	3,330.2		
ANNUAL MEAN	6.25	9.12		
HIGHEST ANNUAL MEAN			12.1	1980
LOWEST ANNUAL MEAN			5.96	2002
HIGHEST DAILY MEAN	11	Mar 17	85	Mar 17
LOWEST DAILY MEAN	3.3	Jan 23	3.5	Sep 17
ANNUAL SEVEN-DAY MINIMUM	3.6	Aug 11	3.8	Sep 24
ANNUAL RUNOFF (AC-FT)	4,520		6,610	
10 PERCENT EXCEEDS	8.4		14	
50 PERCENT EXCEEDS	6.0		7.1	
90 PERCENT EXCEEDS	4.2		4.3	

e Estimated

HAVASU CREEK BASIN

09404110 HAVASU CREEK AT SUPAI, AZ

LOCATION.--Lat 36°13'37", long 112°41'15" (unsurveyed), in Coconino County, Hydrologic Unit 15010004, on the Havasupai Indian Reservation on the right bank, about 1.5 mi upstream from Supai.

DRAINAGE AREA.--2,809 mi², including 209 mi², which are non-contributing.

PERIOD OF RECORD.--Sept. 1995 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,240 ft above sea level from topographic map.

REMARKS.--Records fair except for estimated daily discharges and daily discharges greater than 100 ft³/s, which are poor. Several diversions and small impoundments upstream for irrigation and public supply.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, unknown, Aug. 10, 1997, gage height, 20.8 ft (estimated from highwater mark); minimum daily 56 ft³/s, Dec. 15, 1998.

EXTREMES OUTSIDE PERIOD OF RECORD.--Jan. 2, 1910, maximum discharge unknown, flood wave reported as about 20 ft high through Supai Village. Sept. 3, 1990, 20,300 ft³/s, based on slope-area computation for site 12 mi downstream at the mouth. Flood wave through Supai Village reported as about 14 ft for this event; minimum discharge unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, unknown Aug. 15, gage height, 20.14 ft. Minimum daily discharge, 61 ft³/s on Sept. 29--30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	63	65	68	66	68	67	63	69	67	67	66
2	65	63	65	68	66	68	68	64	68	72	69	89
3	65	63	66	68	66	69	67	65	68	74	70	e113
4	64	64	66	68	65	69	67	65	68	67	69	63
5	64	64	65	68	65	68	67	65	66	67	67	63
6	65	64	66	69	65	68	65	65	65	68	66	62
7	65	64	65	69	65	68	65	66	66	66	66	63
8	65	67	65	69	65	68	65	66	67	69	65	65
9	65	68	66	69	66	68	66	65	68	67	65	65
10	65	69	66	69	66	69	66	65	68	65	69	65
11	65	68	66	69	66	70	66	65	69	66	69	64
12	64	66	65	69	66	69	67	65	68	69	68	64
13	63	66	66	68	67	69	68	65	67	68	68	64
14	65	66	66	69	66	69	68	66	67	70	68	64
15	65	64	68	69	66	69	70	66	67	68	e592	65
16	64	65	69	68	66	71	69	66	66	67	e190	64
17	66	66	69	68	66	70	70	66	66	67	66	64
18	66	65	69	68	66	68	76	66	66	68	66	63
19	64	64	67	68	67	68	70	66	66	68	e90	62
20	65	64	68	69	68	68	66	68	67	69	e103	63
21	64	65	68	70	68	67	67	68	67	68	e105	63
22	64	66	68	68	68	66	66	67	68	67	e110	63
23	65	66	68	68	68	67	64	66	69	67	e120	63
24	64	66	67	68	68	67	64	67	67	68	66	63
25	65	66	66	67	67	66	65	67	66	69	66	63
26	65	66	66	66	68	67	65	67	67	69	66	63
27	64	66	66	66	69	67	65	68	68	69	65	62
28	65	65	66	65	68	66	64	68	67	69	65	62
29	66	66	68	65	---	66	63	69	67	70	66	61
30	64	66	68	66	---	66	63	69	68	69	66	61
31	64	---	68	66	---	66	---	70	---	66	66	---
TOTAL	2004	1961	2067	2105	1863	2105	1999	2054	2016	2113	2914	1975
MEAN	64.6	65.4	66.7	67.9	66.5	67.9	66.6	66.3	67.2	68.2	94.0	65.8
MAX	66	69	69	70	69	71	76	70	69	74	592	113
MIN	63	63	65	65	65	66	63	63	65	65	65	61
AC-FT	3970	3890	4100	4180	3700	4180	3970	4070	4000	4190	5780	3920
CFSM	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2003, BY WATER YEAR (WY)

	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	64.9	63.1	65.1	64.8	64.4	65.0	65.9	64.9	65.5
MAX	69.6	65.4	67.1	67.9	66.5	67.9	69.4	69.4	68.9
(WY)	2001	2003	1998	2003	2003	2003	1999	2000	1996
MIN	59.7	60.7	63.4	63.3	62.3	63.3	63.0	61.6	62.4
(WY)	2000	2000	2000	1999	1998	2001	1996	1997	1997

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1995 - 2003
ANNUAL TOTAL	23893	25176	
ANNUAL MEAN	65.5	69.0	66.0
HIGHEST ANNUAL MEAN			69.0
LOWEST ANNUAL MEAN			65.0
HIGHEST DAILY MEAN	136 Sep 7	592 Aug 15	592 Aug 15 2003
LOWEST DAILY MEAN	62 Feb 9	61 Sep 29	56 Dec 15 1998
ANNUAL SEVEN-DAY MINIMUM	62 Aug 12	62 Sep 24	57 Dec 13 1998
ANNUAL RUNOFF (AC-FT)	47390	49940	47810
ANNUAL RUNOFF (CFSM)	0.023	0.025	0.023
10 PERCENT EXCEEDS	66	69	68
50 PERCENT EXCEEDS	65	66	65
90 PERCENT EXCEEDS	64	64	62

e Estimated

HAVASU CREEK BASIN

09404115 HAVASU CREEK ABOVE THE MOUTH, NEAR SUPAI, AZ

LOCATION--Lat 36°18'24", long 112°45'39", unsurveyed, Coconino County, Hydrologic Unit 15010004, in Grand Canyon National Park, 8.0 mi downstream from Supai, 69 mi downstream from Phantom Ranch, 173 mi downstream from Glen Canyon Dam, and 199 mi upstream from Hoover Dam.

DRAINAGE AREA--3,020 mi², including 209 mi², which are noncontributing.

PERIOD OF RECORD--Nov. 1990 to Sept. 1997, June 2000 to current year.

GAGE--Water-stage recorder. Datum of gage is 1,793.81 ft above sea level.

REMARKS--Records good, except for estimated daily discharges and discharges greater than 100 ft³/s, which are poor. Several diversions and small impoundments upstream for irrigation and public supply.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 13,400 ft³/s, Feb. 21, 1991, gage height, 23.4 ft; minimum daily 63 ft³/s on many days in 1997.

EXTREMES OUTSIDE PERIOD OF RECORD--Maximum discharge unknown, Jan. 2, 1910, flood wave reported as about 20 ft high through Supai Village. Sept. 3, 1990, 26.3 ft, 20,300 ft³/s, based on slope-area computation, flood wave through Supai Village reported as about 14 ft for this event. Minimum discharge unknown.

EXTREMES FOR CURRENT YEAR--Maximum discharge, 17,700 ft³/s Aug. 15, gage height, 25.22 ft, from flood mark. Minimum daily discharge, 66 ft³/s Oct. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	68	70	72	72	72	73	73	71	74	71	71	e73	
2	69	70	72	72	73	73	74	71	73	71	71	e100	
3	69	71	72	72	72	73	74	72	73	70	71	e140	
4	69	71	72	72	72	73	74	72	73	70	72	e73	
5	69	70	72	73	73	73	75	72	73	70	71	e73	
6	68	69	72	73	72	72	74	72	72	71	72	e73	
7	68	70	72	71	72	72	74	71	71	71	72	e73	
8	70	70	72	71	72	72	73	71	71	70	72	e73	
9	69	71	72	72	72	72	74	70	e71	70	72	e73	
10	69	71	73	72	72	72	74	70	e71	70	72	e73	
11	67	71	73	72	72	72	73	70	e71	70	72	e73	
12	67	70	72	72	73	72	73	71	e71	70	72	e73	
13	67	71	71	72	82	72	73	71	69	70	72	e74	
14	67	71	71	72	83	72	74	72	71	70	72	e74	
15	68	71	71	72	76	72	75	72	71	70	e700	e74	
16	68	71	71	72	75	74	73	72	71	70	e250	e74	
17	66	71	73	72	75	74	72	72	71	70	e72	e74	
18	68	69	72	73	75	73	74	72	71	71	e72	e74	
19	67	69	71	72	74	72	77	72	72	71	e100	e74	
20	67	70	72	71	74	73	72	73	71	71	e110	e74	
21	67	70	72	71	74	73	73	73	71	71	e130	74	
22	70	70	72	71	74	73	73	73	70	71	e140	74	
23	72	71	72	71	74	73	73	72	71	71	e150	74	
24	71	71	72	72	74	73	73	73	70	71	e72	75	
25	71	72	71	71	74	73	71	73	70	71	e72	75	
26	72	71	71	71	74	73	71	73	70	71	e72	75	
27	71	71	71	72	74	73	71	73	70	71	e72	75	
28	71	71	72	72	74	72	71	72	70	71	e72	75	
29	71	71	73	72	---	72	71	73	70	71	e72	75	
30	71	73	72	72	---	73	71	74	71	71	e72	75	
31	70	---	72	72	---	74	---	74	---	71	e72	---	
TOTAL	2137	2118	2228	2227	2073	2253	2193	2232	2134	2188	3304	2309	
MEAN	68.9	70.6	71.9	71.8	74.0	72.7	73.1	72.0	71.1	70.6	107	77.0	
MAX	72	73	73	73	83	74	77	74	74	71	700	140	
MIN	66	69	71	71	72	72	71	70	69	70	71	73	
AC-FT	4240	4200	4420	4420	4110	4470	4350	4430	4230	4340	6550	4580	
CAL YR 2002	TOTAL 25444	MEAN 69.7	MAX 194	MIN 65	AC-FT 50470								
WTR YR 2003	TOTAL 27396	MEAN 75.1	MAX 700	MIN 66	AC-FT 54340								

e Estimated

COLORADO RIVER MAIN STEM

09404200 COLORADO RIVER ABOVE DIAMOND CREEK NEAR PEACH SPRINGS, AZ

LOCATION.--Lat 35°46'25", long 113°21'46", sec. 33, T.28 N., R.10 W., unsurveyed, Mohave County, Hydrologic Unit 15010002, in Lake Mead National Recreation Area, on the right bank, 0.6 mi upstream from Diamond Creek, 138 mi downstream from Phantom Ranch, 25 mi north of Peach Springs, 242 mi downstream from Glen Canyon Dam, and 130 mi upstream from Hoover Dam.

DRAINAGE AREA.--149,316 mi², including 3,959 mi² in Great Divide basin in southern Wyoming, and 697 mi² on the Colorado Plateau, which are noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1983 to Dec. 1983, Sept. 1985 to Feb. 1986, Oct. 1989 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,340 ft above sea level, from topographic map.

REMARKS.--Records good, except for estimated daily discharges, which are fair. Flow regulated since Mar. 13, 1963, by Lake Powell 242 mi upstream. Many diversions above Lake Powell for irrigation, municipal, and industrial use. Several unregulated tributaries below Glen Canyon Dam.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 97,000 ft³/s, June 30, 1983, gage height, unknown; minimum 3,710 ft³/s, Mar. 21, 1990, gage height, 43.89 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge since at least 1868, about 300,000 ft³/s, about July 8, 1884, based on flow studies at Lees Ferry.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 21,700 ft³/s Aug. 16 at 0515, gage height, 51.96 ft. Minimum daily discharge, 7,990 ft³/s Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7990	9050	8700	10800	13800	14600	14500	11300	13300	11200	17600	16900
2	8870	9240	8850	11000	13800	14500	14300	11500	12800	15900	17600	12000
3	8970	8960	9110	13300	13800	13900	11900	12100	11000	16600	17200	9220
4	8890	8580	10800	13800	13700	13900	11400	12200	15600	16600	16600	9100
5	8970	8130	10800	13700	13800	13900	11400	11400	16000	16500	11600	9150
6	8920	8520	10900	13800	13800	13800	11300	9330	15900	11300	16700	9320
7	8690	8980	10800	14000	13800	13700	11400	11600	16100	15900	17000	9360
8	8040	9010	10900	13900	13800	13700	9130	12200	16000	11300	17100	9220
9	8630	8960	10400	13900	13800	13800	10800	12100	14900	16200	17200	8340
10	8910	9030	9410	13900	13700	13900	11100	12200	11200	16600	17200	9140
11	9250	8840	10800	13800	13800	13900	11200	12100	15700	16500	16700	9250
12	8900	8330	10900	14000	13800	13900	11200	11200	16000	16500	11600	10600
13	8900	8530	10900	14000	14000	13800	11200	9230	16100	16600	16600	9330
14	8530	8930	11000	14000	14100	13900	11200	11600	16000	15600	17000	9250
15	8120	8970	11000	13900	13900	13700	9070	12100	16000	11800	17500	9800
16	8490	8940	10500	13800	13900	14000	10700	12200	15000	16300	18300	8470
17	8870	8980	9580	13800	14100	14000	11200	12100	11100	16500	17300	9040
18	8840	8740	10900	13800	14100	13900	11300	12100	15800	16600	17000	9130
19	8850	8080	11000	13800	14100	14200	11300	11300	16200	16600	12200	9110
20	8900	8510	10900	13800	14100	14400	11200	9270	16200	16500	17700	9070
21	8540	8870	11000	13800	14000	14800	11200	11500	16200	15600	17600	9090
22	8050	8910	11000	13900	13800	14600	8970	12100	16200	11800	17900	9030
23	8620	8990	10300	13800	13800	13400	10700	12100	15100	16400	17800	8160
24	9010	8960	9690	13800	13800	14100	11200	12100	11000	16800	17900	8860
25	9020	8790	10800	13800	13800	14000	11200	11300	15500	e16500	17400	9060
26	8940	8200	10900	13800	13900	14000	11200	9090	16200	e16500	12200	9070
27	8970	8580	9660	13800	14000	14000	11200	8880	16300	e15800	16900	8980
28	8560	8950	10700	13700	14700	14000	11200	8870	16400	e16200	17200	8620
29	8070	8970	10900	13800	---	14100	9020	11400	16300	e11400	17200	8480
30	8590	8360	10400	13900	---	14300	10700	11900	16200	16900	17300	8020
31	9030	---	9700	13800	---	14400	---	12900	---	18000	17500	---
TOTAL	269930	262890	323200	422700	389500	435100	333390	351270	452300	479500	514600	282170
MEAN	8707	8763	10430	13640	13910	14040	11110	11330	15080	15470	16600	9406
MAX	9250	9240	11000	14000	14700	14800	14500	12900	16400	18000	18300	16900
MIN	7990	8080	8700	10800	13700	13400	8970	8870	11000	11200	11600	8020
AC-FT	535400	521400	641100	838400	772600	863000	661300	696700	897100	951100	1021000	559700

CAL YR 2002 TOTAL 4260680 MEAN 11670 MAX 16700 MIN 7990 AC-FT 8451000
WTR YR 2003 TOTAL 4516550 MEAN 12370 MAX 18300 MIN 7990 AC-FT 8959000

e Estimated

COLORADO RIVER MAIN STEM
09404200 COLORADO RIVER ABOVE DIAMOND CREEK NEAR PEACH SPRINGS, AZ—CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD--June 1983 to Dec. 1983, Sept. 1985 to Feb. 1985, Sept. 1989 to Apr. 1993, and Nov. 1996 to current year.

PERIOD OF DAILY RECORD--

SPECIFIC CONDUCTANCE: Aug. 1990 to Apr. 1993.

pH: Aug. 1990 to Apr. 1993.

WATER TEMPERATURE: Aug. 1990 to Apr. 1993.

DISSOLVED-OXYGEN CONCENTRATION: Aug. 1990 to Apr. 1993.

SUSPENDED-SEDIMENT DISCHARGE: Aug. 1990 to Apr. 1993.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Turbidity, wat unfltrd lab, Hach 2100AN NTU (99872)	UV absorbance, 254 nm, wat flt units /cm (50624)	UV absorbance, 280 nm, wat flt units /cm (61726)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	
Date		Hardness, water, unfltrd mg/L as CaCO3 (00900)	Noncarbohardness, wat flt field, mg/L as CaCO3 (00904)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat flt incrm. titr., mg/L (00453)	Carbonate, wat flt incrm. titr., mg/L (00452)	Bromide, water, fltrd, mg/L (71870)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)
OCT														
31...	1115	9	8430	36	.055	.038	729	11.9	116	S7.7p	876	15.0	11.9	
31...	1130	7	8430	--	--	--	--	--	--	--	--	15.0	11.9	
DEC														
05...	1145	9	11500	E15	.049	.033	737	10.6	96	7.9	880	8.9	9.8	
05...	1200	7	11500	--	--	--	--	--	--	--	--	8.9	9.8	
JAN														
23...	1015	9	16500	40	.049	.033	737	10.6	96	7.8	834	6.5	9.5	
23...	1030	7	16500	--	--	--	--	--	--	--	--	6.5	9.5	
MAR														
06...	1100	9	17800	31	.052	.036	732	10.5	97	8.0	898	15.5	10.0	
06...	1110	7	17800	37	.052	.036	732	10.5	97	7.8	899	15.5	10.0	
APR														
23...	1100	9	11300	6.1	.052	.036	727	10.2	101	8.2	962	13.5	13.0	
23...	1110	7	11300	--	--	--	--	--	--	--	--	13.5	13.0	
MAY														
28...	1040	9	8860	3.8	.053	.037	729	9.3	103	S8.3p	917	29.1	17.7	
28...	1150	7	8860	--	--	--	--	--	--	--	--	29.1	17.7	
JUL														
16...	0750	9	18900	17	.048	.032	726	--	--	8.6	916	38.2	17.7	
16...	0800	7	18900	--	--	--	--	--	--	--	--	38.2	17.7	
AUG														
28...	1120	9	19500	680d	.057	.040	729	9.8	106	8.1	895	27.5	17.2	
28...	1130	7	19500	760d	.055	.038	729	9.8	106	8.2	882	27.5	17.2	

COLORADO RIVER MAIN STEM

09404200 COLORADO RIVER ABOVE DIAMOND CREEK NEAR PEACH SPRINGS, AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Silica	Sulfate	Residue	Residue	Residue	Ammonia	Ammonia	Ammonia	Nitrite	Nitrite	Ortho-	Partic-	Phos-
	water, fltrd, mg/L (00955)	water, fltrd, mg/L (00945)	water, consti- tuents mg/L (70301)	water, fltrd, tons/ acre-ft (70303)	on evap. at 180degC wat flt mg/L (70300)	+ org-N, water, fltrd, mg/L as N (00623)	+ org-N, water, unfltrd mg/L as N (00625)	Ammonia water, fltrd, mg/L as N (00608)	+ nitrate water fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	phos- phate, water, fltrd, mg/L as P (00671)	ulate nitro- gen, susp, water, fltrd, mg/L (49570)	Phos- phorus, water, fltrd, mg/L (00666)
OCT													
31...	6.46	185	495	.77	565	.12	.18	<.015	.293	<.002	<.007	.09	<.004
31...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
05...	7.14	181	510	.76	557	.13	.15	<.015	.286	<.002	<.007	<.02	<.004
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
23...	7.67	194	510	.74	545	.15	.22	<.015	.206	E.002	<.007	.06	E.003
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
06...	7.95	204	546	.78	576	.18	.22	<.015	.325	<.002	<.007	.13	E.003
06...	7.97	199	539	.75	554	.18	.19	<.015	.322	<.002	<.007	.08	E.004
APR													
23...	7.10	218	591	.86	629	.17	.19	E.009	.313	.003	<.007	.02	E.002
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
28...	6.57	210	561	.84	615	E.10	.16	<.015	.265	E.002	<.007	.03	E.002
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
16...	6.79	216	565	.81	596	.11	.22	E.008	.256	<.002	<.007	.03	E.003
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
28...	7.16	218	578	.82	603	.16	.86	<.015	.332	<.002	<.007	.68	.007
28...	7.31	212	578	.83	608	.17	.89	<.015	.330	E.002n	<.007	.68rc	.007
Date	Phos- phorus, water, unfltrd mg/L (00665)	Total nitro- gen, water, fltrd, mg/L (00602)	Total nitro- gen, water, unfltrd mg/L (00600)	Total carbon, suspnd sedimnt total, mg/L (00694)	Inor- ganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Alum- inum, water, fltrd, ug/L (01106)	Anti- mony, water, fltrd, ug/L (01095)	Arsenic water, fltrd, ug/L (01000)	Barium, water, fltrd, ug/L (01005)	Beryll- ium, water, fltrd, ug/L (01010)	Boron, water, fltrd, ug/L (01020)
OCT													
31...	.055	.42	.47	1.4	<.1	1.4	2.8	E1	E.26	1.9	75	<.06	73
31...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
05...	.046	.41	.44	<.1	<.1	<.1	2.3	<2	E.27	2.2	100	<.06	92
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
23...	.092	.35	.42	1.6	1.3	.3	2.5	4	E.29	1.7	100	<.06	91
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
06...	.081	.50	.54	3.4	.6	2.8	2.2	E1	E.26	2.0	111	<.06	107
06...	.067	.50	.51	2.4	.7	1.7	2.2	4	E.30	2.0	109	<.06	113
APR													
23...	.013	.48	.50	.3	<.1	.3	2.3	E1	E.24	2.0	97	<.06	109
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
28...	.009	--	.43	.4	<.1	.3	2.3	E1	E.22	1.8	99	<.06	88
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
16...	.043	.36	.48	.7	.1	.6	2.5	E1	E.23	1.8	101	<.06	99
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
28...	.47oc	.49	1.2	15.6	--i	--i	2.4	2	E.25n	1.6	134	<.06	96
28...	.48oc	.50	1.2	15.7p	7.6	19.6	2.5	3	E.25n	1.7	132	<.06	101

COLORADO RIVER MAIN STEM
09404200 COLORADO RIVER ABOVE DIAMOND CREEK NEAR PEACH SPRINGS, AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Cadmium water, fltrd, ug/L (01025)	Chrom- ium, water, fltrd, ug/L (01030)	Cobalt water, fltrd, ug/L (01035)	Copper, water, fltrd, ug/L (01040)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium water, fltrd, ug/L (01130)	Mangan- ese, water, fltrd, ug/L (01056)	Molyb- denum, water, fltrd, ug/L (01060)	Nickel, water, fltrd, ug/L (01065)	Selen- ium, water, fltrd, ug/L (01145)	Silver, water, fltrd, ug/L (01075)	Stront- ium, water, fltrd, ug/L (01080)
OCT													
31...	<.04	<.8	.14	1.4	<10	<.08	28.2	.6	2.9	2.96	2.3	<.20	634
31...	--	--	--	--	--	--	--	--	--	--	--	--	--
DEC													
05...	<.04	<.8	.16	1.2	<10	<.08	35.3	1.1	3.5	3.31	2.6	<.20	767
05...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
23...	E.02	<.8	.18	1.3	<10	<.08	34.8	1.0	4.1	2.93	2.0	<.20	800
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAR													
06...	<.04	<.8	.21	1.1	<10	E.05	40.7	2.0	4.4	4.27	2.6	<.20	854
06...	<.04	<.8	.22	1.1	<10	.29ic	40.0	2.0	4.5	4.32	2.7	<.20	857
APR													
23...	<.04	<.8	.23	2.0	<10	<.08	39.7	1.1	4.5	2.19	2.6	<.20	866
23...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
28...	<.04	<.8	.15	1.2	<8	<.08	35.8	.5	3.8	2.97	2.2	<.20	750
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
16...	<.04	<.8	.18	1.1	<8	<.08	35.0	.7	4.4	3.21	2.4	<.20	863
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
28...	<.04	<.8	.18	1.5	<8	<.08	38.5	<.2	4.4	3.01	2.3	<.20	934
28...	<.04	<.8	.19	1.5	<8	<.08	38.9	<.2	4.5	3.16	2.4	<.20	930

Date	Vanad- ium, water, fltrd, ug/L (01085)	Zinc, water, fltrd, ug/L (01090)	Uranium natural water, fltrd, ug/L (22703)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment load, tons/d (80155)
OCT						
31...	2.0	2	2.66	96	75	1710
31...	--	--	--	95	75	1710
DEC						
05...	2.8	E1	3.39	68	78	2420
05...	--	--	--	S62pe	S90pe	2790p
JAN						
23...	2.1	<1	3.64	76	194	8640
23...	--	--	--	S60pe	S218pe	9710p
MAR						
06...	2.0	2	4.19	40	185	8890
06...	2.1	E1	4.22	34	229	11000
APR						
23...	1.8	1	4.45	54	28	853
23...	--	--	--	50	36	1100
MAY						
28...	2.3	1	3.72	52	16	383
28...	--	--	--	53	15	359
JUL						
16...	2.0	E<1	3.87	29	112	5720
16...	--	--	--	34	92	4690
AUG						
28...	2.3	E<1n	4.33	78	1220	64500
28...	2.3	E<1n	4.37	77	1200	63300

Remark codes used in this report:

< -- Less than
E -- Estimated value
S -- Most probable value

Value qualifier codes used in this report:

c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
e -- See field comment
i -- Result may be affected by interference
n -- Below the NDV
o -- Result determined by alternate method
p -- Value reported is preferred
r -- Value verified by rerun, same method

Null value qualifier codes used in this report:

i -- Required sample type not received

COLORADO RIVER MAIN STEM

09404200 COLORADO RIVER ABOVE DIAMOND CREEK NEAR PEACH SPRINGS, AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Water-quality measurements in the following table were made as part of the National Stream-Quality Accounting Network. The following analyses are quality-assurance samples processed during the 2003 sampling period and are defined in the introductory text section titled "Water-Quality Control Data".

Date	Time	Sample type	Calcium water, fltrd, mg/L (00915)	Magnesium water, fltrd, mg/L (00925)	Sodium, water, fltrd, mg/L (00930)	Silica, water, fltrd, mg/L (00955)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite water, fltrd, mg/L as N (00613)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Ortho-phosphate, water, fltrd, mg/L as P (00671)	Inorganic carbon, suspnd, mg/L (00688)	Total carbon, suspnd, mg/L (00694)	Particulate nitrogen, susp, mg/L (49570)
JAN 23...	1023	2	E.01	<.008	<.09	E.13	<.015	<.002	<.022	<.007	<.1	<.1	<.02
AUG 28...	1128	2	.02p	E.007n	<.10	.02	<.015	<.002	<.022	<.007	<.1	<.1	<.02

Date	UV absorbance, 280 nm, wat flt units /cm (61726)	UV absorbance, 254 nm, wat flt units /cm (50624)	Aluminum, water, fltrd, ug/L (01106)	Antimony, water, fltrd, ug/L (01095)	Arsenic, water, fltrd, ug/L (01000)	Barium, water, fltrd, ug/L (01005)	Beryllium, water, fltrd, ug/L (01010)	Boron, water, fltrd, ug/L (01020)	Cadmium, water, fltrd, ug/L (01025)	Chromium, water, fltrd, ug/L (01030)	Cobalt, water, fltrd, ug/L (01035)	Copper, water, fltrd, ug/L (01040)	Iron, water, fltrd, ug/L (01046)
JAN 23...	.002	.002	<2	<.30	<.3	<.050	<.06	<7	<.04	<.8	<.01	<.2	<10
AUG 28...	<.004	<.004	<2	<.30	<.3	Mn	<.06	<7	<.04	<.8	<.01	<.2	<8

Date	Lead, water, fltrd, ug/L (01049)	Lithium, water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	Molybdenum, water, fltrd, ug/L (01060)	Nickel, water, fltrd, ug/L (01065)	Selenium, water, fltrd, ug/L (01145)	Silver, water, fltrd, ug/L (01075)	Strontium, water, fltrd, ug/L (01080)	Thallium, water, fltrd, ug/L (01057)	Vanadium, water, fltrd, ug/L (01085)	Zinc, water, fltrd, ug/L (01090)	Uranium natural, water, fltrd, ug/L (22703)	Organic carbon, water, fltrd, mg/L (00681)
JAN 23...	<.08	<.5	<.2	<.3	<.06	<.5	<.20	<.20	<.04	E.1	<1	<.02	<.3
AUG 28...	<.08	<.5	<.2	<.3	<.06	<.5	<.20	E.11n	<.04	<.1	Mn	.02	<.3

Date	Organic carbon, suspnd, mg/L (00689)
JAN 23...	<.1
AUG 28...	<.1

Remark codes used in this report:
 < -- Less than
 E -- Estimated value
 M -- Presence verified, not quantified
 Value qualifier codes used in this report:
 n -- Below the NDV
 p -- Value reported is preferred

COLORADO RIVER BASIN

09404208 DIAMOND CREEK NEAR PEACH SPRINGS, AZ

LOCATION--Lat 35°45'54", long 113°22'03", sec. 32, T.28 N., R.10 W., unsurveyed, Mohave County, Hydrologic Unit 15010002, on the Hualapai Reservation, on the right bank, 0.25 mi upstream from mouth, and 20.4 mi north of Peach Springs by dirt road.

DRAINAGE AREA--279.5 mi².

PERIOD OF RECORD--May 1993 to current year.

GAGE--Water-stage recorder. Elevation of gage is 1,400 ft above sea level, from topographic map.

REMARKS--Records fair except for estimated daily discharge and July 25 to Sept. 30, which are poor.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 10,500 ft³/s Aug. 29, 2000, gage height 15.32 ft from floodmark; minimum daily discharge, 0.64 ft³/s, Aug. 9, 1993.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 600 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 25.....	1330	4,470	12.95	Aug. 19	2230	1,230	10.84
Aug. 15.....	1945	*4,730	*13.08	Sept. 1	2100	3,240	12.27

Minimum daily discharge, 1.4 ft³/s, Aug. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2.7	3.1	4.5	4.5	4.1	5.5	4.4	3.1	1.9	2.4	1.4	84
2	3.0	3.1	4.8	4.5	4.4	5.2	4.5	3.0	1.9	2.5	1.9	3.8
3	3.0	3.1	4.8	4.5	4.5	4.6	4.7	3.1	1.9	2.5	3.0	5.0
4	2.9	3.1	5.0	4.5	4.5	4.5	4.6	3.2	1.9	2.5	2.3	4.4
5	2.8	3.2	4.8	4.6	4.5	4.7	4.6	3.1	1.9	2.3	2.4	4.3
6	2.6	3.2	4.6	4.6	4.6	4.3	4.1	3.0	1.6	2.2	3.4	5.3
7	2.6	3.2	4.6	4.3	4.8	4.0	3.8	2.9	1.7	2.1	3.0	5.1
8	2.5	3.2	4.6	4.5	4.9	3.9	3.4	3.0	1.7	1.9	2.0	4.5
9	2.5	3.2	4.7	4.5	5.0	3.8	3.1	3.0	1.7	1.9	1.6	4.3
10	2.5	3.2	5.0	4.5	5.0	3.8	3.0	2.9	1.7	1.9	1.8	4.3
11	2.5	3.5	5.0	4.8	5.0	3.8	3.0	2.8	1.8	1.9	1.8	4.1
12	2.5	3.5	4.9	5.0	5.0	3.5	3.0	2.6	1.9	1.9	2.0	3.7
13	2.5	3.5	4.5	4.9	7.8	3.4	2.9	2.6	1.9	1.9	2.1	3.4
14	2.5	3.6	4.5	4.5	5.8	3.2	2.9	2.6	2.0	1.7	1.7	3.4
15	2.5	3.6	4.5	4.5	5.1	3.3	4.2	2.5	2.0	1.6	e170	3.4
16	2.6	3.6	4.5	4.5	4.6	5.0	3.4	2.4	2.0	1.6	e3.0	3.3
17	2.7	3.6	4.5	4.5	4.5	8.4	3.5	2.3	2.1	1.6	e3.2	3.2
18	2.7	3.6	4.9	4.7	4.5	7.3	4.9	2.3	2.1	1.6	e3.1	3.1
19	2.8	3.7	4.6	4.7	4.7	6.7	5.1	2.3	2.3	1.7	e49	3.0
20	2.8	3.8	4.7	4.4	4.6	6.2	3.9	2.3	2.5	1.6	e3.8	2.8
21	2.9	3.8	4.5	4.5	4.5	6.0	3.7	2.2	2.7	1.6	e2.8	2.8
22	3.5	3.9	4.5	4.5	4.5	5.7	3.8	2.2	2.8	1.7	e2.8	2.8
23	3.3	3.9	4.5	4.5	4.6	5.4	3.8	2.2	2.9	1.7	e2.8	2.6
24	3.2	4.0	4.7	4.5	4.4	5.2	3.5	2.2	3.0	1.7	e3.1	2.6
25	3.2	4.1	4.8	4.5	4.9	5.1	3.2	2.1	2.8	e200	e3.2	2.5
26	3.7	4.2	4.5	4.5	4.7	5.0	3.1	2.0	2.7	e1.9	e22	2.4
27	3.5	4.3	4.5	4.5	5.3	5.0	3.0	2.0	2.6	e1.9	e3.7	2.5
28	3.4	4.2	4.5	4.5	5.3	5.3	2.9	2.1	2.4	e1.9	e3.5	2.6
29	3.4	4.1	4.8	4.5	---	5.0	2.9	2.0	2.3	e1.9	3.3	2.7
30	3.4	5.2	5.0	4.4	---	4.8	3.1	1.9	2.2	28	3.0	2.5
31	3.2	---	5.0	4.3	---	4.6	---	1.9	---	1.5	3.1	---
TOTAL	89.9	109.3	145.3	140.7	136.1	152.2	110.0	77.8	64.9	283.1	315.8	184.4
MEAN	2.90	3.64	4.69	4.54	4.86	4.91	3.67	2.51	2.16	9.13	10.2	6.15
MAX	3.7	5.2	5.0	5.0	7.8	8.4	5.1	3.2	3.0	200	170	84
MIN	2.5	3.1	4.5	4.3	4.1	3.2	2.9	1.9	1.6	1.5	1.4	2.4
AC-FT	178	217	288	279	270	302	218	154	129	562	626	366

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2003, BY WATER YEAR (WY)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	
MEAN	3.05	3.64	4.03	4.47	4.49	5.09	3.77	2.77	2.42	5.90	4.75	4.74
MAX	3.57	4.56	4.79	5.34	5.01	11.3	4.51	3.27	3.81	25.8	19.2	18.6
(WY)	1999	1999	1999	1997	2000	1995	1998	1999	2000	1999	2000	1999
MIN	2.63	3.05	3.17	3.29	3.70	3.82	3.28	1.94	1.79	1.09	1.61	2.26
(WY)	2002	1996	1995	1995	1995	2002	2002	2002	2002	1993	2002	1995

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1993 - 2003
ANNUAL TOTAL	1114.3	1809.5	
ANNUAL MEAN	3.05	4.96	4.18
HIGHEST ANNUAL MEAN			7.07
LOWEST ANNUAL MEAN			2.87
HIGHEST DAILY MEAN	5.2 Nov 30	200 Jul 25	484 Aug 29 2000
LOWEST DAILY MEAN	1.2 Jul 9	1.4 Aug 1	0.64 Aug 9 1993
ANNUAL SEVEN-DAY MINIMUM	1.4 Jul 5	1.6 Jul 15	0.82 Jul 10 1993
ANNUAL RUNOFF (AC-FT)	2210	3590	3030
10 PERCENT EXCEEDS	4.6	5.0	4.8
50 PERCENT EXCEEDS	3.1	3.4	3.3
90 PERCENT EXCEEDS	1.5	1.9	2.0

e Estimated

LITTLE COLORADO RIVER BASIN

09404222 SPENCER CREEK NEAR PEACH SPRINGS, AZ

LOCATION--Lat 35°48'03", long 113°39'29", in NE1/4SW1/4NE1/4 sec. 22, T.13 W. , R.28 N. , Mohave County, Hydrologic Unit 15010005, on the Hualapai Reservation, on the left bank, about 2 mi upstream from the mouth.

DRAINAGE AREA--Undetermined.

PERIOD OF RECORD--Mar. 1998 to current year.

GAGE--Water-stage recorder. Elevation of gage is 1,620 ft above sea level, from topographic map.

REMARKS--Records fair except for estimated daily discharges and days above 20 ft³/s, which are poor.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 2,250 ft³/s, Aug. 30, 1999, gage height, 10.74 ft, from highwater mark; minimum daily discharge, 0.58 ft³/s, Aug. 12, 2003.

EXTREMES FOR CURRENT YEAR--Maximum discharge, 562 ft³/s Aug. 19 at 2230, gage height, 9.20 ft from floodmark. Minimum daily discharge, 0.58 ft³/s, Aug. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	0.94	0.77	0.68	0.68	1.1	0.94	0.77	0.77	0.77	1.1	e11
2	1.0	0.89	0.77	0.68	0.68	1.2	0.98	0.77	0.77	0.77	1.0	e20
3	1.0	0.88	0.77	0.68	0.68	1.2	1.0	0.77	0.77	0.77	0.99	e1.3
4	1.0	0.86	0.77	0.68	0.68	1.2	0.94	0.77	0.77	0.77	0.91	e1.3
5	1.0	0.85	0.77	0.68	0.68	1.2	0.94	0.77	0.77	0.77	0.87	e1.3
6	1.0	0.85	0.77	0.68	0.68	1.2	0.94	0.77	0.77	0.77	0.84	e1.3
7	1.0	0.85	0.77	0.68	0.68	1.2	0.94	0.77	0.77	0.77	0.72	e1.3
8	1.0	0.85	0.77	0.79	0.68	1.2	0.93	0.77	0.77	0.77	0.69	e1.3
9	1.0	0.85	0.77	0.80	0.68	1.2	0.89	0.77	0.77	0.77	0.68	e1.3
10	1.0	0.85	0.77	0.68	0.68	1.2	0.85	0.77	0.77	0.77	0.67	e1.3
11	1.0	0.85	0.77	0.68	0.68	1.2	0.85	0.77	0.77	0.77	0.66	e1.3
12	1.0	0.85	0.77	0.68	0.68	1.2	0.85	0.77	0.77	0.77	0.58	e1.3
13	1.0	0.85	0.77	0.68	0.78	1.2	0.85	0.77	0.77	0.77	0.62	e1.3
14	1.0	0.85	0.77	0.68	0.77	1.2	0.88	0.77	0.77	0.77	0.63	e1.3
15	1.0	0.85	0.77	0.68	0.69	1.2	0.92	0.77	0.77	0.77	e56	e1.3
16	1.0	0.85	0.77	0.68	0.68	1.4	0.93	0.77	0.77	0.77	e34	e1.3
17	1.0	0.85	0.77	0.68	0.68	3.1	0.91	0.77	0.77	0.77	e2.0	e1.3
18	1.0	0.85	0.77	0.68	0.68	1.3	0.93	0.77	0.77	0.77	e1.4	e1.3
19	0.98	0.85	0.77	0.68	0.68	1.1	0.94	0.77	0.77	0.77	e18	e1.3
20	0.94	0.85	0.77	0.68	0.70	1.0	0.89	0.77	0.77	0.77	e23	e1.3
21	0.94	0.85	0.77	0.68	0.69	1.00	0.81	0.77	0.77	0.77	e1.2	e1.3
22	0.94	0.85	0.77	0.68	0.69	0.97	0.83	0.77	0.77	0.77	e1.1	e1.3
23	0.94	0.85	0.77	0.68	0.69	0.94	0.85	0.77	0.77	0.77	e29	e1.3
24	0.94	0.85	0.77	0.68	0.69	0.96	0.85	0.77	0.77	0.77	e6.7	e1.3
25	0.94	0.85	0.73	0.68	0.90	0.90	0.85	0.77	0.77	0.77	e1.2	e1.3
26	0.94	0.85	0.68	0.68	1.0	0.88	0.81	0.77	0.77	0.77	e4.8	e1.3
27	0.94	0.80	0.68	0.68	1.1	0.96	0.77	0.77	0.77	0.77	e52	e1.3
28	0.94	0.77	0.68	0.68	1.2	1.0	0.77	0.77	0.77	1.5	e1.3	e1.3
29	0.94	0.77	0.68	0.68	---	1.00	0.77	0.77	0.77	1.3	e1.3	e1.3
30	0.94	0.77	0.68	0.68	---	0.93	0.77	0.77	0.78	1.2	e1.3	e1.4
31	0.94	---	0.68	0.68	---	0.90	---	0.77	---	1.2	e1.3	---
TOTAL	30.26	25.38	23.29	21.31	20.78	36.24	26.38	23.87	23.12	25.99	246.56	67.5
MEAN	0.98	0.85	0.75	0.69	0.74	1.17	0.88	0.77	0.77	0.84	7.95	2.25
MAX	1.0	0.94	0.77	0.80	1.2	3.1	1.0	0.77	0.78	1.5	56	20
MIN	0.94	0.77	0.68	0.68	0.68	0.88	0.77	0.77	0.77	0.77	0.58	1.3
MED	1.0	0.85	0.77	0.68	0.68	1.2	0.88	0.77	0.77	0.77	1.2	1.3
AC-FT	60	50	46	42	41	72	52	47	46	52	489	134
CAL YR 2002	TOTAL 382.66	MEAN 1.05	MAX 7.3	MIN 0.68	MED 1.0	AC-FT 759						
WTR YR 2003	TOTAL 570.68	MEAN 1.56	MAX 56	MIN 0.58	MED 0.77	AC-FT 1130						

e Estimated

COLORADO RIVER BASIN

09404343 TRUXTON WASH NEAR VALENTINE, AZ

LOCATION--Lat 35°23'03", long 113°39'25", in SE_{1/4}NE_{1/4}NW_{1/4}, sec. 15, T.23 N., R.13 W., Mohave County, Hydrologic Unit 15010007, on the Hualapai Reservation, just southwest of Valentine, south of old Route 66, 29 mi east of Kingman and 20 mi west of Peach Springs.

DRAINAGE AREA--380.3 mi².

PERIOD OF RECORD--Mar. 1993 to current year.

GAGE--Water-stage recorder. Elevation of gage is 3,770 ft above sea level, from topographic map.

REMARKS--Records poor. Numerous small stock ponds located upstream with a combined capacity of less than 1,500 acre-ft. Several minor diversions.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 7,430 ft³/s, Sept. 11, 1999, gage height, 14.07 ft, from floodmark; minimum daily discharge, no flow for many days.

EXTREMES OUTSIDE PERIOD OF RECORD--Maximum discharge July or Aug. 1904, 49,000 ft³/s estimated in Truxton Canyon approximately 12 mi upstream, see WSP 147.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 25.....	1845	1,920	8.86	Aug. 19	2345	*4,370	*11.70
Aug. 15.....	2200	2,120	9.19	Sept. 4	1730	769	5.99

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e2.6
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	185	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	319	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e6.1	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e24	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e280	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.9	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	146	6.9	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e12	10	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	158.00	873.90	43.60
MEAN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5.10	28.2	1.45
MAX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	146	319	26
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	313	1730	86

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2003, BY WATER YEAR (WY)

MEAN	0.26	0.25	0.32	1.00	1.33	1.87	0.39	0.33	0.63	2.74	4.39	2.66
MAX	0.77	0.76	0.81	7.09	11.1	16.1	1.26	1.12	3.17	14.3	28.2	21.6
(WY)	1994	1996	1994	1995	1995	1995	1993	1993	2000	1999	2003	1999
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015	0.000	0.006
(WY)	2002	2002	2002	2002	2002	2002	2002	2002	2002	2000	2002	2001

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1993 - 2003
ANNUAL TOTAL	10.80	1075.50	
ANNUAL MEAN	0.030	2.95	1.40
HIGHEST ANNUAL MEAN			3.37
LOWEST ANNUAL MEAN			0.030
HIGHEST DAILY MEAN	3.5	Jul 19	319
LOWEST DAILY MEAN	0.00	Jan 1	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00
ANNUAL RUNOFF (AC-FT)	21	2130	1010
10 PERCENT EXCEEDS	0.00	0.00	0.88
50 PERCENT EXCEEDS	0.00	0.00	0.15
90 PERCENT EXCEEDS	0.00	0.00	0.00

e Estimated

COLORADO RIVER MAIN STEM

09422500 LAKE MOHAVE AT DAVIS DAM, AZ-NV

LOCATION--Lat 35°11'50", long 114°34'07", in SW1/4SW1/4 sec. 18, T.21 N., R.21 W., Gila and Salt River meridian, Mohave County, AZ, Hydrologic Unit 15030101, on forebay structure on Arizona side of Davis Dam on Colorado River, 29 mi west of Kingman, AZ, and 67 mi downstream from Hoover Dam.

DRAINAGE AREA--173,300 mi², approximately, including 3,959 mi² in Great Divide basin in southern Wyoming, which is noncontributing.

PERIOD OF RECORD--Jan. 1950 to current year.

GAGE--Water-stage recorder. Datum of gage is sea level.

REMARKS--Reservoir is formed by earthfill and rockfill dam; dam completed in Apr. 1949 and storage began Jan. 17, 1950. Usable capacity, 1,810,000 acre-ft between elevations 533.39 ft (lowest point of penstock outlet) - and 647.0 ft (top of spillway gates). A small amount of additional storage is available through use of splashboards on the spillway gates. Dead storage, 8,530 acre-ft below elevation 533.39 ft. Lake is used for power development, regulation for irrigation demand, and to satisfy requirements of the Treaty of 1944 with Mexico. Figures given herein represent usable contents.

EXTREMES FOR PERIOD OF RECORD--Maximum contents, 1,811,000 acre-ft May 24, 1958, May 29, 1963, May 29, 1982; maximum elevation, 647.04 ft May 29, 1963, May 29, 1982; minimum contents (since 1952), 1,168,000 acre-ft Sept. 8, 1953, elevation, 622.15 ft.

EXTREMES FOR CURRENT YEAR--Maximum contents, 1,752,000 acre-ft Feb. 13, elevation, 644.92 ft; minimum, 1,462,000 acre-ft Nov.19, elevation, 634.07 ft.

Capacity table (elevation, in feet, and usable contents, in acre-feet)

628	1,309,000	641	1,644,000
632	1,409,000	644	1,726,000
635	1,486,000	647	1,810,000
638	1,564,000		

RESERVOIR STORAGE, in (ACRE-FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1564000	1486000	1514000	1672000	1697000	1733000	1687000	1688000	1706000	1703000	1739000	1734000
2	1551000	1482000	1515000	1668000	1702000	1736000	1672000	1685000	1705000	1704000	1734000	1737000
3	1545000	1483000	1520000	1664000	1703000	1738000	1666000	1675000	1699000	1708000	1728000	1735000
4	1542000	1487000	1526000	1660000	1713000	1735000	1658000	1673000	1693000	1702000	1723000	1734000
5	1536000	1490000	1528000	1666000	1715000	1723000	1646000	1669000	1681000	1698000	1729000	1733000
6	1529000	1487000	1532000	1662000	1722000	1710000	1644000	1676000	1689000	1695000	1725000	1725000
7	1525000	1484000	1538000	1668000	1721000	1703000	1641000	1682000	1683000	1679000	1719000	1715000
8	1519000	1485000	1543000	1675000	1724000	1698000	1647000	1688000	1679000	1670000	1716000	1706000
9	1513000	1485000	1548000	1680000	1724000	1699000	1652000	1694000	1672000	1673000	1723000	1695000
10	1509000	1480000	1556000	1688000	1726000	1695000	1656000	1693000	1669000	1678000	1736000	1692000
11	1512000	1480000	1562000	1690000	1731000	1689000	1657000	1691000	1673000	1680000	1726000	1688000
12	1505000	1478000	1567000	1688000	1744000	1694000	1650000	1693000	1675000	1684000	1723000	1683000
13	1504000	1477000	1571000	1679000	1752000	1700000	1641000	1698000	1686000	1683000	1726000	1676000
14	1503000	1475000	1572000	1675000	1746000	1693000	1646000	1698000	1696000	1693000	1718000	1670000
15	1504000	1477000	1580000	1682000	1744000	1684000	1643000	1703000	1699000	1700000	1711000	1662000
16	1504000	1471000	1580000	1690000	1749000	1679000	1644000	1712000	1710000	1713000	1707000	1660000
17	1500000	1473000	1581000	1683000	1750000	1676000	1638000	1711000	1710000	1712000	1703000	1660000
18	1495000	1465000	1588000	1679000	1751000	1679000	1643000	1702000	1708000	1708000	1704000	1661000
19	1495000	1462000	1596000	1680000	1749000	1676000	1647000	1704000	1692000	1700000	1703000	1670000
20	1496000	1465000	1611000	1684000	1751000	1677000	1638000	1705000	1679000	1708000	1712000	1673000
21	1495000	1472000	1614000	1683000	1740000	1682000	1635000	1714000	1667000	1704000	1718000	1674000
22	1504000	1479000	1624000	1686000	1738000	1680000	1644000	1727000	1662000	1699000	1718000	1676000
23	1513000	1481000	1634000	1690000	1733000	1672000	1660000	1739000	1657000	1710000	1720000	1671000
24	1515000	1490000	1641000	1695000	1733000	1671000	1671000	1722000	1671000	1704000	1721000	1660000
25	1505000	1500000	1648000	1693000	1742000	1674000	1677000	1703000	1685000	1709000	1735000	1658000
26	1495000	1508000	1658000	1695000	1742000	1674000	1680000	1692000	1694000	1700000	1735000	1659000
27	1495000	1515000	1665000	1693000	1735000	1680000	1678000	1697000	1696000	1708000	1729000	1651000
28	1493000	1518000	1658000	1696000	1729000	1683000	1682000	1707000	1694000	1712000	1731000	1642000
29	1495000	1511000	1659000	1701000	---	1687000	1682000	1722000	1696000	1724000	1733000	1641000
30	1495000	1516000	1662000	1701000	---	1687000	1685000	1726000	1698000	1739000	1727000	1641000
31	1485000	---	1676000	1703000	---	1686000	---	1714000	---	1743000	1738000	---
MAX	1564000	1518000	1676000	1703000	1752000	1738000	1687000	1739000	1710000	1743000	1739000	1737000
MIN	1485000	1462000	1514000	1660000	1697000	1671000	1635000	1669000	1657000	1670000	1703000	1641000
(*)	634.97	636.15	642.17	643.15	644.10	642.54	642.51	643.54	642.99	644.59	644.44	640.86
(**)	-92000	+31000	+160000	+27000	+26000	-43000	-1000	+29000	-16000	+45000	-5000	-97000
CAL YR 2002	MAX 1742000	MIN 1462000	(**)	+22000								
WTR YR 2003	MAX 1752000	MIN 1462000	(**)	+64000								

(*) Elevation, in feet, at end of month
(**) Change in contents, in acre-feet

COLORADO RIVER MAIN STEM

09423000 COLORADO RIVER BELOW DAVIS DAM, AZ-NV

LOCATION.--Lat 35°11'30", long 114°34'17", in SE_{1/4}NE_{1/4} sec. 1, T.32 S., R.66 E., Mount Diablo meridian, in Clark County, Nevada, Hydrologic Unit 15030101, on right bank 0.5 mi downstream from Davis Dam, 29 mi west of Kingman, AZ, and 68 mi downstream from Hoover Dam.

DRAINAGE AREA.--173,300 mi², approximately, including 3,959 mi² in Great Divide basin in southern Wyoming, which is noncontributing.

PERIOD OF RECORD.--June 1905 to Sept. 1907 (published as "at Hardyville"), Mar. 1949 to current year.

REVISED RECORDS.--WDR AZ-86-1:1981.

GAGE.--Water-stage recorder. Datum of gage is 490.00 ft, sea level; gage readings have been reduced to elevations above sea level since Oct. 1, 1967. 1905--7, nonrecording gage at site 4.8 mi downstream at datum about 3.4 ft lower. Mar. 16 to May 3, 1949, water-stage recorder at site 0.5 mi downstream at datum 10.00 ft higher. May 4, 1949, to Feb. 24, 1956, water-stage recorder at site 400 ft upstream at datum 10.00 ft higher. Feb. 25, 1956, to Sept. 30, 1967, water-stage recorder at present site at datum 10.00 ft higher.

REMARKS.--No estimated daily discharges. Records excel. Flow regulated by Lake Mead since Feb. 1, 1935, and by Lake Mohave since Jan. 17, 1950. Many diversions upstream for irrigation, industrial, and municipal uses.

EXTREMES FOR PERIOD OF RECORD.--1905--7: Maximum daily discharge, 116,000 ft³/s June 20, 1906; minimum daily, 2,850 ft³/s Jan. 5, 1906.

1949--2002: Maximum discharge, 46,200 ft³/s July 2, 1983, elevation, 509.48 ft; maximum elevation, 513.91 ft Apr. 22, 1952; no flow at Davis Dam parts of several days July to Sept. 1950 and Dec. 27, 1950, when gates in dam were closed; minimum daily discharge, 285 ft³/s Aug. 3, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 26,100 ft³/s April 20 at 1415, elevation, 505.27 ft. Minimum daily discharge, 7,270 ft³/s Jan. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	14800	10800	11100	9820	13000	11000	21200	18400	16300	17200	14100	13400	
2	13900	9820	11200	10200	12300	11000	22300	18000	14400	13500	12200	12000	
3	12700	9760	10500	11000	12300	15200	22600	17100	14500	14200	12100	11900	
4	12800	9290	9770	9820	10800	15900	22600	15500	15900	17000	17400	12400	
5	11300	9190	9610	9130	12500	17400	22600	18000	18200	16400	12100	12500	
6	11200	9170	10600	8830	15000	17600	22500	17000	18100	16500	11900	12500	
7	13900	9290	9390	9070	11300	17400	22400	16100	18600	16500	14600	12400	
8	12600	10500	7810	9410	10400	14500	19900	15900	18800	15500	14400	12300	
9	11500	10100	9660	11200	11700	15600	19700	16000	19500	14900	14800	12300	
10	10200	10100	9110	10600	11300	17600	20000	17900	15700	17100	15000	12400	
11	9960	10100	8890	10500	8650	17700	20600	19000	16100	17200	14300	12400	
12	9870	11700	10000	10500	8620	14600	21000	19000	16300	16600	14600	12400	
13	9830	12000	9970	11800	10000	15200	21200	16500	15800	17000	12200	11300	
14	10000	11900	9560	10400	10500	17500	20700	16300	16100	16700	13100	11400	
15	9840	11900	9560	9760	9890	17200	20800	16000	16700	15200	13300	12600	
16	9850	11900	10700	7270	8010	15900	20300	16900	16600	14100	14100	12800	
17	10200	11500	10700	14800	9230	17200	20100	16900	17600	16900	13400	11200	
18	10900	12000	10600	12700	9970	18100	20800	16200	17400	16900	13000	11200	
19	10400	11900	10600	10900	11900	18900	20200	17300	17600	16800	11800	11100	
20	10400	11500	9890	10300	11400	20500	19700	18500	16000	15300	10800	11100	
21	10500	11500	9180	10800	13000	18700	19800	17200	16400	16900	10900	11500	
22	9170	11500	8480	11100	11800	18700	18800	16200	17800	18400	13700	11800	
23	8920	10400	8540	9780	13300	18000	18700	16800	17500	14600	13800	12500	
24	9650	10400	8600	11300	13500	17900	18600	17100	16800	16700	12200	13200	
25	11600	11400	8640	12300	13100	18700	18600	17800	12600	16700	11100	12500	
26	9880	11500	9670	11300	12500	20200	18500	17500	14900	15700	12100	12500	
27	9830	9800	10000	12000	12400	20300	18500	16800	16200	14600	12800	13200	
28	9770	10400	9920	12400	11000	20600	20500	16000	16500	14200	12800	13700	
29	9670	11000	10900	11800	---	20700	21900	16500	15900	14100	12800	13700	
30	9900	11000	10300	11800	---	20900	18700	17200	17100	13700	12800	15100	
31	11000	---	9880	13200	---	20300	---	17600	---	15800	13400	---	
TOTAL	336040	323320	303330	335790	319370	541000	613800	529200	497900	492900	407600	371300	
MEAN	10840	10780	9785	10830	11410	17450	20460	17070	16600	15900	13150	12380	
MAX	14800	12000	11200	14800	15000	20900	22600	19000	19500	18400	17400	15100	
MIN	8920	9170	7810	7270	8010	11000	18500	15500	12600	13500	10800	11100	
AC-FT	666500	641300	601700	666000	633500	1073000	1217000	1050000	987600	977700	808500	736500	
CAL YR 2002	TOTAL 5454530	MEAN 14940	MAX 21200	MIN 7810	AC-FT 10820000								
WTR YR 2003	TOTAL 5071550	MEAN 13890	MAX 22600	MIN 7270	AC-FT 10060000								

COLORADO RIVER MAIN STEM

09423500 COLORADO RIVER AT NEEDLES, CA

LOCATION.--Lat 34°51'06", long 114°36'33", in SE1/4SE1/4 sec. 19, T.9 N., R.23 E., San Bernardino meridian, San Bernardino County, Hydrologic Unit 15030101, on right bank at Needles, 15 mi upstream from Bureau of Reclamation gaging station near Topock, AZ, 30 mi downstream from Davis Dam, and 97 mi downstream from Hoover Dam.

DRAINAGE AREA.--174,500 mi², approximately, including 3,959 mi² in Great Divide basin in southern Wyoming, which is noncontributing.

PERIOD OF RECORD.--Apr. 1931 to current year (mean elevations through Sept. 1987; maximum elevations thereafter).

REVISED RECORDS.--WSP 1119:1931-47. WDR AZ-89-1:1983-88.

GAGE.--Water-stage recorder. Datum of gage is sea level. Prior to May 15, 1942, at site 550 ft downstream and May 15, 1942 to Feb. 16, 1969, at site 200 ft upstream.

REMARKS.--Elevation of river below bottom of gage (elevation 459.52 ft) Oct. 12, Jan. 16-21, 25-31, Feb. 2, 3, 5-11. Flow regulated by Lake Mead since Feb. 1, 1935, and by Lake Mohave since Jan. 17, 1950.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 475.77 ft Nov. 30, 1944; minimum recorded, 457.84 ft Feb. 26, 1973.

EXTREMES FOR CURRENT YEAR.--Maximum recorded elevation, 463.69, Apr. 15.

ELEVATION, in FT (NGVD), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	461.76	460.04	---	---	460.12	459.06	462.23	463.37	463.08	e463.00	e462.45	e460.88
2	461.54	459.73	---	---	459.95	459.35	462.78	463.32	462.49	e463.05	e461.73	e460.86
3	461.54	---	---	---	459.55	461.03	462.84	463.17	462.15	e461.69	e460.58	e460.31
4	461.16	---	---	---	459.04	461.10	462.87	462.80	462.36	e462.19	e463.04	e460.36
5	461.12	---	---	---	---	461.29	462.93	463.10	463.17	e462.67	e463.01	e460.78
6	459.47	---	---	---	459.28	461.45	462.88	463.04	463.18	e462.67	e460.65	e461.18
7	461.15	---	---	---	459.23	461.47	462.88	462.60	463.31	e462.59	e461.78	e461.08
8	461.15	---	---	---	---	461.49	462.84	462.48	463.35	e462.48	e461.97	e461.13
9	461.04	---	---	---	---	461.23	462.10	462.16	e463.42	e462.48	e462.06	e461.25
10	459.55	---	---	---	458.91	461.40	462.13	461.96	e463.40	e462.79	e461.24	e461.24
11	---	---	---	---	---	461.55	462.11	463.22	e462.48	e463.02	e461.26	e461.19
12	---	---	---	---	---	461.28	463.60	463.26	e462.84	e463.04	e461.95	e461.56
13	---	459.39	---	---	---	461.00	463.62	463.26	e462.86	e462.88	e461.94	e460.46
14	---	459.45	---	459.12	---	461.43	463.65	462.81	e462.86	e462.99	e460.73	e459.37
15	---	459.43	---	---	---	461.75	463.69	462.58	462.96	e462.50	e460.81	e459.71
16	---	459.56	---	---	---	461.17	463.62	462.95	462.95	e462.42	e460.85	e460.29
17	---	459.66	---	460.91	---	461.51	463.51	463.00	463.04	e462.73	e461.02	e460.28
18	459.51	459.49	458.94	460.98	---	461.66	463.62	463.05	463.16	e462.78	e460.94	e459.55
19	459.90	459.57	458.98	460.15	---	461.61	463.68	462.97	e463.13	e462.82	e460.35	e459.45
20	458.94	459.39	458.91	---	---	461.70	463.68	463.15	e463.06	e462.89	e460.14	e459.44
21	---	---	---	---	459.78	461.66	463.61	463.17	e462.19	e462.91	e459.63	e459.51
22	459.10	---	---	459.35	459.90	461.67	463.49	462.67	e463.05	e463.13	e461.14	e459.78
23	---	---	---	459.46	459.97	461.67	463.28	462.86	e463.24	e463.23	e461.74	e459.83
24	---	---	---	458.86	460.19	461.52	463.21	462.93	e463.12	e462.89	e461.82	e460.11
25	460.58	---	---	459.67	460.27	461.43	463.18	463.04	e462.99	e462.96	e460.28	e460.37
26	460.57	---	---	459.91	459.83	461.83	463.29	463.14	e461.24	e462.96	e460.14	e459.81
27	459.55	---	---	459.34	459.95	461.82	463.31	463.02	e462.78	e462.32	e460.88	e459.92
28	459.72	---	---	459.71	460.01	462.10	463.39	463.02	e462.81	e461.84	e461.20	e460.26
29	459.23	---	---	459.54	---	462.11	463.59	462.82	e462.80	e461.81	e461.13	e460.56
30	459.15	---	459.17	459.53	---	462.25	463.64	462.99	e462.89	e461.83	e460.70	e460.82
31	459.20	---	---	459.98	---	462.21	---	463.07	---	e462.46	e460.80	---
MAX	---	---	---	---	---	462.25	463.69	463.37	463.42	463.23	463.04	461.56
MIN	---	---	---	---	---	459.06	462.10	461.96	461.24	461.69	459.63	459.37

e Estimated

DIVERSIONS AND RETURN FLOWS BETWEEN DAVIS DAM AND PARKER DAM

09423550 TOPOCK MARSH INLET NEAR NEEDLES, CA

LOCATION--Lat 34°50'10", long 114°35'03", in NE_{1/4}NW_{1/4} sec. 33, T.9 N., R.23 E., San Bernardino meridian, in Mohave County, AZ, Hydrologic Unit 15030101, on left bank of Colorado River on north side of intake structure, 1.3 mi east of Needles.

PERIOD OF RECORD--Jan. 1967 to current year.

GAGE--Water-stage recorders above and below intake gates and on intake gates to record head and gate openings. Datum of gages is 400.00 ft above sea level.

REMARKS--No estimated daily discharges. Records fair. Topock Marsh inlet diverts water from the Colorado River into Topock Marsh, an area of 4,260 acres. This water flows through the marsh and returns to the Colorado River through the Topock Marsh outlet. The U.S. Fish and Wildlife Service operate the gate settings that control the flow into marsh. Monthly total return flows through the outlet, sta 09423650, Topock Marsh Outlet near Topock, AZ, are shown in the table below. Prior to June 1978, daily flows for this station were published separately.

EXTREMES FOR PERIOD OF RECORD--Maximum daily discharge, 286 ft³/s Mar. 31, 1995; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	111	25	11	0.84	48	14	138	115	111	102	80	56
2	53	21	10	1.8	48	18	134	109	74	76	46	42
3	52	3.4	11	4.6	35	59	142	111	57	56	27	36
4	62	1.8	5.2	2.9	16	91	136	99	70	71	95	39
5	36	0.00	7.8	0.84	13	133	148	85	129	102	62	42
6	25	0.84	0.98	0.98	70	147	144	109	111	77	32	52
7	36	0.56	8.3	0.84	34	131	130	85	115	98	50	50
8	48	1.5	1.5	0.28	11	86	104	84	125	97	74	48
9	53	0.84	0.28	0.28	16	88	90	63	143	69	77	52
10	15	1.3	8.1	9.7	35	139	99	104	92	88	81	49
11	13	1.5	0.28	11	3.2	171	102	127	78	112	66	49
12	11	4.6	0.56	9.8	0.00	120	99	129	99	90	71	42
13	10	22	8.8	11	0.00	48	99	98	91	101	50	42
14	11	24	8.7	15	6.6	142	92	105	92	116	45	22
15	8.4	22	4.3	0.28	4.2	146	99	84	94	77	52	24
16	7.3	29	8.5	2.2	0.32	97	100	98	92	66	55	46
17	9.1	28	15	29	0.00	111	93	99	94	84	64	31
18	11	28	17	56	0.00	130	91	105	111	97	56	21
19	25	27	14	35	7.2	125	67	99	126	104	32	20
20	14	27	11	8.7	9.6	129	63	126	88	102	28	20
21	12	17	8.4	12	34	126	61	127	87	92	20	21
22	12	11	0.84	14	45	127	83	102	95	108	25	28
23	0.98	14	0.00	15	34	126	98	78	120	95	67	28
24	0.28	6.7	0.00	6.0	58	120	97	95	105	94	52	42
25	25	9.1	0.28	25	56	108	115	99	78	98	31	45
26	29	15	0.56	31	43	135	94	115	50	95	22	34
27	13	18	9.0	22	40	133	106	101	83	74	41	32
28	17	1.5	8.3	35	45	138	115	95	90	63	55	50
29	11	4.5	2.2	25	---	138	143	90	97	56	55	56
30	9.4	14	14	25	---	139	124	113	90	64	45	64
31	17	---	3.8	41	---	131	---	102	---	69	49	---
TOTAL	757.46	380.14	199.68	452.04	712.12	3546	3206	3151	2887	2693	1605	1183
MEAN	24.4	12.7	6.44	14.6	25.4	114	107	102	96.2	86.9	51.8	39.4
MAX	111	29	17	56	70	171	148	129	143	116	95	64
MIN	0.28	0.00	0.00	0.28	0.00	14	61	63	50	56	20	20
AC-FT	1500	754	396	897	1410	7030	6360	6250	5730	5340	3180	2350
(*)	0	0	0	0	0	0	3630	2220	15	0	0	0

CAL YR 2002 TOTAL 23296.78 MEAN 63.8 MAX 157 MIN 0.00 AC-FT 46210 (*) 13230

WTR YR 2003 TOTAL 20772.44 MEAN 56.9 MAX 171 MIN 0.00 AC-FT 41200 (*) 5870

(*) Return surface flow, in acre-feet, to Colorado River.

09424150 COLORADO RIVER AQUEDUCT NEAR PARKER DAM, AZ-CA

LOCATION--Lat 34°18'58", long 114°09'23", in NW_{1/4}SW_{1/4} sec. 28, T.3 N., R.27 E., San Bernardino meridian, in San Bernardino County, CA, Hydrologic Unit 15030101, at intake pumping plant of Metropolitan Water District of Southern California on Lake Havasu, 1.8 mi upstream from Parker Dam and 149 mi downstream from Hoover Dam.

PERIOD OF RECORD--Jan. 1939 to current year (monthly diversions only, Oct. 1942 to Sept. 1991. Published as a supplement to records for Colorado River below Parker Dam, 1942-50. Percolation return flow (monthly flow only) Oct. 1964 to Sept. 1973; prior to Oct. 1964 miscellaneous measurements only. Prior to 1992, published as monthly discharges.

GAGE--Flow obtained from acoustical flowmeters. Prior to Aug. 1990, flow obtained from Venturi meters in pressure lines at intake pumping plant.

REMARKS--Pumping began Jan. 7, 1939. Figures of daily streamflow shown represent water pumped from Lake Havasu less return surface flow from Gene and Copper Basin Reservoirs. No water returned as surface flow from these reservoirs this year. Percolation return flow from Gene and Copper Basin Reservoirs is estimated by the Bureau of Reclamation as 10 acre-ft/day for a yearly total of 3,650 acre-ft, which is used for accounting purposes.

COOPERATION--Diversion records furnished by Metropolitan Water District of Southern California.

EXTREMES FOR PERIOD OF RECORD--Maximum daily streamflow, 4,351 acre-ft, Sept. 1, 1998; no diversion at times.

STREAMFLOW, DAILY, in ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	3953	3883	2107	1429	0.0	3454	2539	1043	1036	2966	2014
2	0.00	3923	3852	2004	1758	0.0	3416	2544	1052	902	3002	2051
3	0.00	3944	3431	1995	1890	3081	3375	2533	1585	1133	3047	1987
4	0.00	3809	3567	2004	1313	3036	2002	2534	1559	1020	2987	1484
5	24	3416	3350	2035	0.00	2348	1946	2516	1570	1025	2986	1527
6	7	3440	3478	2058	0.00	2125	2057	2138	1606	1013	2955	1532
7	3	3447	3948	2560	0.00	1562	2071	2026	1515	1022	2507	2026
8	1	3472	3895	2502	0.00	1020	3195	2034	1559	1025	2519	2014
9	16	3479	3887	2545	0.00	1411	2910	2032	1532	649	2535	2019
10	0.00	3476	2963	2484	0.00	2026	3046	1332	1032	501	2579	2028
11	0.00	3953	2985	2559	0.00	2040	3040	1020	1032	521	1564	2008
12	0.00	3885	2988	1982	0.00	1989	3019	1025	1038	519	1477	2008
13	0.00	3921	3924	2039	0.00	3054	3000	1819	1032	1004	1505	1998
14	63	3369	3905	2074	0.00	3379	2985	2015	1034	1846	1536	1994
15	2009	3437	3890	2050	0.00	3389	3020	2062	1036	1686	1515	1991
16	2643	3429	3835	2035	0.00	2948	2957	1583	1030	2042	1514	2011
17	3469	3463	2908	2023	0.00	2999	2993	1549	1029	2046	1506	1894
18	3507	3485	3911	2017	0.00	3014	2984	1523	1037	2057	1518	1481
19	3418	3441	3873	2010	0.00	3577	2545	1541	1022	2047	1507	1490
20	3504	3936	3910	1515	0.00	3401	2491	1541	1027	2043	1399	1494
21	3923	3929	3347	1524	0.00	3536	2552	1512	1028	2032	986	2014
22	3934	3856	3443	1511	0.00	3415	2580	1557	1022	2565	1507	2001
23	3850	3878	3368	1517	0.00	3452	2578	1550	1025	2468	1533	2009
24	3834	3404	3406	1535	0.00	3390	2564	1545	1025	3134	1545	1963
25	3414	3452	3419	1503	0.00	3257	2555	1545	1008	1920	2045	1976
26	3586	3436	3445	1511	0.00	2007	2559	1553	1017	2010	2068	1980
27	3455	3464	3451	1017	0.00	3010	2574	1564	1022	2019	2029	1980
28	3469	3485	3458	1027	0.00	3053	3070	1440	1016	1913	2001	2003
29	3480	3528	3471	1373	---	3480	3067	1440	1017	2626	2014	1952
30	3474	3926	3492	1457	---	3470	2585	858	1019	2541	2044	2014
31	3489	---	3740	1436	---	3450	---	1007	---	2559	2014	---
TOTAL	58572.00	109036	110423	58009	6390.00	81919.0	83190	53477	34569	50924	62910	56943
MEAN	1889	3635	3562	1871	228	2643	2773	1725	1152	1643	2029	1898
MAX	3934	3953	3948	2560	1890	3577	3454	2544	1606	3134	3047	2051
MIN	0.00	3369	2908	1017	0.00	0.00	1946	858	1008	501	986	1481
(*)	310	300	275	279	1447	279	270	294	270	279	279	270

CAL YR 2002 TOTAL 1241088.00 MEAN 3400 MAX 4004 MIN 0.00 (*) 3615
WTR YR 2003 TOTAL 766362.00 MEAN 2100 MAX 3953 MIN 0.00 (*) 4552

(*) Return flows, in acre-feet, to the Colorado River.

BILL WILLIAMS RIVER BASIN

09424450 BIG SANDY RIVER NEAR WIKIEUP, AZ

LOCATION.--Lat 34°27'45", long 113°37'25", in SE1/4 sec. 16, T.13 N. , R.13 W., Mohave County, Hydrologic Unit 15030201, on left bank 7 mi downstream from Burro Creek, 15 mi upstream from confluence with Santa Maria River, and 17 mi south of Wikieup.

DRAINAGE AREA.--2,742 mi², of which 10.1 mi² are noncontributing.

PERIOD OF RECORD.--Mar. 1966 to current year.

REVISED RECORDS.--WDR AZ-88-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,400 ft, above sea level, from topographic map. Prior to Oct. 1, 1970, at datum 3.06 ft higher. Oct. 1, 1970, to Oct. 10, 1973, at datum 2.06 ft higher. Supplementary water-stage recorder for low flows at site 75 ft upstream at same datum from Apr. 10, 1975 to Mar. 1, 1978; Mar. 28 to Dec. 7, 1966, and Apr. 2, 1969, to Apr. 9, 1975, at site 0.8 mi downstream at different datum.

REMARKS.--Records fair, except estimated discharges, which are poor. Diversions above station for irrigation of about 3,800 acres, mostly by pumping from ground water.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 68,700 ft³/s Feb. 9, 1993, gage height, 16.00 ft, from rating curve extended above 2,200 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 1.3 ft³/s July 13, 1974.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 26	1830	*2,260	*5.78
Mar. 17	1700	1,070	5.12

Minimum daily discharge, 2.0 ft³/s, Nov. 1, 5, 16, 20, Dec. 10-15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	2.0	2.2	2.4	2.1	157	9.6	3.3	3.4	2.9	2.8	2.2
2	2.3	2.1	2.1	2.4	2.1	169	9.2	3.3	3.3	2.8	2.7	2.8
3	2.3	2.1	2.1	2.5	2.2	86	8.9	3.2	3.2	2.9	2.5	169
4	2.3	2.1	2.1	2.4	2.3	53	8.2	3.1	3.2	2.8	2.4	3.2
5	2.3	2.0	2.2	2.4	2.3	26	7.5	3.0	3.1	2.8	2.4	2.7
6	2.3	2.1	2.2	2.3	2.3	13	7.2	3.0	3.1	2.8	2.5	4.6
7	2.3	2.1	2.2	2.2	2.4	12	7.2	2.8	3.1	2.7	2.6	7.8
8	2.4	2.1	2.2	2.2	2.5	20	6.9	2.8	3.1	2.8	2.7	2.7
9	2.5	2.2	2.1	2.3	2.4	25	6.7	2.8	3.1	2.8	2.6	2.7
10	2.6	2.1	2.0	2.3	2.5	15	6.7	2.8	3.1	2.9	2.6	2.5
11	2.5	2.1	2.0	2.2	2.3	12	6.4	2.8	3.0	2.9	2.6	2.5
12	2.5	2.1	2.0	2.3	2.4	12	6.1	2.7	3.1	2.9	2.8	2.4
13	2.4	2.1	2.0	2.3	2.8	12	5.6	2.6	3.1	2.9	2.9	2.4
14	2.4	2.1	2.0	2.4	3.7	12	4.7	2.5	3.1	3.0	2.9	2.4
15	2.4	2.1	2.0	2.7	2.3	13	e6.7	2.5	3.1	3.0	3.1	2.3
16	2.5	2.0	2.1	2.7	2.4	15	e5.1	2.5	3.2	2.9	2.8	2.3
17	2.7	2.1	2.3	2.8	2.4	432	e5.0	2.5	3.0	2.8	2.8	2.3
18	2.6	2.1	2.2	2.9	2.5	505	e5.0	2.5	2.9	2.9	2.6	2.3
19	2.3	2.1	2.1	3.2	2.4	373	e5.0	2.4	2.8	2.8	2.7	2.3
20	2.3	2.0	2.1	3.3	2.4	222	e5.0	2.2	2.8	2.8	2.6	2.3
21	2.3	2.1	2.1	2.8	2.4	127	e4.7	2.1	2.7	2.8	2.4	2.3
22	2.3	2.3	2.1	2.5	2.4	71	e4.5	2.1	2.8	2.7	2.4	2.3
23	2.3	2.3	2.1	2.3	2.4	45	e4.5	2.1	2.7	2.8	2.4	2.3
24	2.5	2.3	2.1	2.3	2.4	32	e4.4	2.1	2.8	2.9	2.4	2.4
25	2.5	2.3	2.2	2.4	2.4	20	2.9	2.1	2.7	2.7	2.6	2.3
26	7.7	2.3	2.3	2.4	2.4	16	2.9	2.1	2.6	2.6	2.7	2.2
27	e3.3	2.3	2.4	2.4	2.4	13	2.2	2.1	2.6	2.7	8.4	2.2
28	e2.1	2.3	2.4	2.4	2.4	24	2.6	2.1	2.5	2.7	3.4	2.2
29	e2.2	2.4	2.4	2.3	---	9.6	3.3	2.7	2.5	2.7	3.1	2.2
30	2.2	2.8	2.3	2.3	---	9.4	3.4	3.3	2.7	2.6	2.4	2.2
31	2.1	---	2.4	2.3	---	9.8	---	3.4	---	2.6	2.3	---
TOTAL	173.4	65.1	67.0	76.6	89.5	2547.8	168.1	81.5	88.4	86.9	194.3	246.3
MEAN	5.59	2.17	2.16	2.47	3.20	82.2	5.60	2.63	2.95	2.80	6.27	8.21
MAX	7.7	2.8	2.4	3.3	2.4	505	9.6	3.4	3.4	3.0	8.4	169
MIN	2.1	2.0	2.0	2.2	2.1	9.4	2.2	2.1	2.5	2.6	2.3	2.2
AC-FT	344	129	133	152	178	5050	333	162	175	172	385	489
CFSM	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
IN.	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2003, BY WATER YEAR (WY)

MEAN	10.7	19.0	69.1	161	344	284	37.3	8.31	4.93	5.14	19.8	19.4
MAX	100	252	737	2674	3892	1943	259	35.8	14.1	20.8	178	226
(WY)	1973	1979	1985	1993	1993	1978	1998	1980	1980	1990	1971	1983
MIN	2.06	2.17	2.14	2.38	2.08	3.58	3.55	2.02	2.10	1.86	2.69	2.84
(WY)	2000	2003	1997	1992	2000	2002	1971	1990	1971	1974	1975	1975

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1967 - 2003
ANNUAL TOTAL	1233.8	3884.9	
ANNUAL MEAN	3.38	10.6	80.6
HIGHEST ANNUAL MEAN			586.0
LOWEST ANNUAL MEAN			3.05
HIGHEST DAILY MEAN	7.7	Oct 26	26100
LOWEST DAILY MEAN	2.0	Nov 1	1.3
ANNUAL SEVEN-DAY MINIMUM	2.0	Dec 9	1.5
ANNUAL RUNOFF (AC-FT)	2450	7710	58400
ANNUAL RUNOFF (CFSM)	0.001	0.004	0.030
ANNUAL RUNOFF (INCHES)	0.02	0.05	0.40
10 PERCENT EXCEEDS	3.6	9.6	50
50 PERCENT EXCEEDS	2.8	2.5	4.8
90 PERCENT EXCEEDS	2.1	2.1	2.8

e Estimated

BILL WILLIAMS RIVER BASIN

09424900 SANTA MARIA RIVER NEAR BAGDAD, AZ

LOCATION.--Lat 34°18'21", long 113°20'47", in SE1/4 sec. 12, T.11 N., R.11 W., Mohave County, Hydrologic Unit 15030203, on right bank 4.0 mi east of Palmerita Ranch, 12 mi upstream from confluence with Big Sandy River, and 21 mi southwest of Bagdad.

DRAINAGE AREA.--1,129 mi².

PERIOD OF RECORD.--Apr. 1966 to Sept. 1985, Oct. 1988 to current year.

REVISED RECORDS.--WDR AZ-89-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,360 ft above sea level, from topographic map.

REMARKS.--Records poor. Diversions above station for irrigation of about 5,300 acres, most of which is by pumping from ground water.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,600 ft³/s Mar. 1, 1978, gage height, 7.82 ft, from rating curve extended above 5,000 ft³/s on basis of step-backwater computations and slope-area measurements at gage heights 5.50 and 7.82 ft; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 17.....	1245	*2,280	*3.65

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	251	13	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	211	9.6	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	229	3.9	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	154	2.5	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	127	2.1	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	97	1.4	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	92	1.1	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	76	0.82	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	74	0.80	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	72	0.55	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	61	0.14	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	42	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	34	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	30	0.00	0.00	0.00	0.00	0.01	0.00
15	0.00	0.00	0.00	0.00	0.00	26	0.00	0.00	0.00	0.00	0.65	0.00
16	0.00	0.00	0.00	0.00	0.00	57	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	1020	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	674	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	304	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	150	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	101	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	63	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	43	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	31	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	22	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	22	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	53	21	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	152	21	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	---	15	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	---	13	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	13	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.00	0.00	0.00	205.00	4146	35.91	0.00	0.00	0.00	0.66	0.00
MEAN	0.000	0.000	0.000	0.000	7.32	134	1.20	0.000	0.000	0.000	0.021	0.000
MAX	0.00	0.00	0.00	0.00	152	1020	13	0.00	0.00	0.00	0.65	0.00
MIN	0.00	0.00	0.00	0.00	0.00	13	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	407	8220	71	0.00	0.00	0.00	1.3	0.00
CFSM	0.00	0.00	0.00	0.00	0.01	0.12	0.00	0.00	0.00	0.00	0.00	0.00
IN.	0.00	0.00	0.00	0.00	0.01	0.14	0.00	0.00	0.00	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2003, BY WATER YEAR (WY)

MEAN	21.1	18.9	66.0	107	193	206	33.0	6.34	1.60	2.76	14.0	18.0
MAX	505	392	461	936	1519	1035	204	36.7	16.6	53.4	198	355
(WY)	1973	1979	1979	1980	1980	1973	1976	1995	1993	1999	1992	1983
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1967	1967	1969	1970	1967	1967	1967	1966	1966	1966	1966	1966

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1966 - 2003
ANNUAL TOTAL	0.00	4387.57	
ANNUAL MEAN	0.000	12.0	56.8
HIGHEST ANNUAL MEAN			232 1980
LOWEST ANNUAL MEAN			0.000 1996
HIGHEST DAILY MEAN	0.00 Jan 1	1020 Mar 17	8410 Dec 18 1978
LOWEST DAILY MEAN	0.00 Jan 1	0.00 Oct 1	0.00 Apr 27 1966
ANNUAL SEVEN-DAY MINIMUM	0.00 Jan 1	0.00 Oct 1	0.00 Apr 27 1966
ANNUAL RUNOFF (AC-FT)	0.00	8700	41140
ANNUAL RUNOFF (CFSM)	0.000	0.011	0.050
ANNUAL RUNOFF (INCHES)	0.00	0.14	0.68
10 PERCENT EXCEEDS	0.00	3.1	65
50 PERCENT EXCEEDS	0.00	0.00	0.00
90 PERCENT EXCEEDS	0.00	0.00	0.00

BILL WILLIAMS RIVER BASIN

09426000 BILL WILLIAMS RIVER BELOW ALAMO DAM, AZ

LOCATION.--Lat 34°13'51", long 113°36'29", in SE¹/₄SE¹/₄ sec. 4, T.10 N., R.13 W., La Paz County, Hydrologic Unit 15030204, on left bank 0.6 mi downstream from Alamo Dam, 3.7 mi downstream from Bullard Wash, and 8 mi downstream from confluence of Santa Maria and Big Sandy Rivers.

DRAINAGE AREA.--4,633 mi², of which 10 mi² probably is noncontributing.

PERIOD OF RECORD.--Oct. 1939 to current year. Monthly discharge only for Oct. and Nov. 1939, published in WSP 1313. Prior to Oct. 1943, published as "Williams River near Alamo." Oct. 1943 to Sept. 1967, published as "Bill Williams River near Alamo."

REVISED RECORDS.--WSP 1213: 1939(M). 1941(P). WDR AZ-89-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 967 ft above sea level, from construction data. Prior to Apr. 9, 1968, at site 1.7 mi upstream at datum 1,002.95 ft above sea level.

REMARKS.--Records good. Diversions above station for irrigation of about 9,100 acres, mostly by pumping from ground water. Flow regulated by Alamo Lake, beginning Mar. 2, 1969. Temporary storage and slight regulation of releases through uncontrolled rectangular conduit through Alamo Dam June 23, 1968, to Mar. 27, 1969. Alamo Lake is formed by an earthfill and rockfill dam, completed in 1968. Total capacity of lake is 1,043,000 acre-ft. See table below for monthend contents.

EXTREMES FOR PERIOD OF RECORD.--1940-68: Maximum discharge, 65,100 ft³/s Aug. 29, 1951, gage height, 30.8 ft, site and datum then in use; minimum daily, 1.1 ft³/s Sept. 4, 1958.

1969-2002: Maximum discharge, 6,980 ft³/s Mar. 16, 22, 1993, gage height, unknown as weir had washed out; no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--The history of floods that occurred prior to Oct. 1939 is published in WSP 1683. The peak discharges have been correlated with those for Bill Williams River at Planet. The peak discharge for Feb. 1937 has been determined as 105,000 ft³/s at a stage of 46 ft, site and datum then in use, from rating curve extended above 50,000 ft³/s on basis of slope-area measurement for flood of Sept. 6, 1939, at a stage of 39.6 ft, discharge of 86,000 ft³/s and known stable highwater control.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 35 ft³/s Feb. 14. Minimum daily discharge, 8.7 ft³/s on Jan. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	9.6	11	9.8	9.6	28	25	22	26	26	26	24
2	26	9.6	11	9.6	9.6	28	25	22	26	26	26	24
3	26	9.6	11	9.6	19	27	25	22	26	24	26	24
4	26	9.6	11	9.6	27	27	25	22	26	24	26	24
5	26	9.6	11	9.6	28	26	25	22	26	24	26	24
6	26	9.6	11	9.6	29	26	24	22	26	24	26	24
7	26	9.6	11	9.6	30	26	23	22	26	24	26	24
8	26	9.6	11	9.6	15	25	23	22	26	24	26	24
9	26	9.6	11	9.6	17	25	23	22	26	24	26	24
10	26	9.6	11	9.6	32	25	23	22	26	24	26	24
11	26	9.6	11	9.6	33	25	23	22	26	24	26	24
12	26	9.6	11	9.6	33	25	23	22	26	24	26	24
13	26	9.6	11	9.6	34	25	23	22	26	24	26	24
14	26	9.6	11	9.6	35	26	23	25	26	24	26	24
15	26	9.6	11	9.6	34	26	17	27	26	24	26	24
16	26	9.6	11	9.6	34	26	22	28	26	24	26	24
17	26	9.6	11	9.6	34	26	22	28	26	24	26	24
18	26	9.6	11	9.6	33	21	22	28	26	24	22	24
19	26	9.0	11	9.6	27	26	22	27	26	24	26	24
20	26	9.6	11	9.6	31	26	21	26	26	24	26	24
21	26	9.6	11	9.6	30	26	21	24	26	24	26	24
22	15	9.6	11	9.6	29	26	22	24	26	24	26	24
23	9.6	9.6	11	8.7	28	26	21	24	26	24	26	24
24	9.6	9.6	11	9.6	28	25	22	24	26	24	26	24
25	9.6	9.6	11	9.6	28	26	22	24	26	24	26	24
26	9.6	9.6	11	9.6	28	26	22	24	26	24	26	24
27	9.6	9.7	11	9.6	28	26	22	24	26	24	25	24
28	9.6	9.8	11	9.6	29	26	22	24	26	24	24	24
29	9.2	10	11	9.6	---	26	22	24	26	24	24	24
30	9.6	11	11	9.6	---	25	22	24	26	24	24	24
31	9.6	---	11	9.6	---	25	---	25	---	26	24	---
TOTAL	647.0	289.5	341	296.9	772.2	798	677	740	780	750	793	720
MEAN	20.9	9.65	11.0	9.58	27.6	25.7	22.6	23.9	26.0	24.2	25.6	24.0
MAX	26	11	11	9.8	35	28	25	28	26	26	26	24
MIN	9.2	9.0	11	8.7	9.6	21	17	22	26	24	22	24
AC-FT	1280	574	676	589	1530	1580	1340	1470	1550	1490	1570	1430
(*)	72600	71600	71200	71100	70400	72100	70100	67600	64600	61800	59700	57300
(**)	-1600	-1000	-400	-100	-700	+1700	-2000	-2500	-3000	-2800	-2100	-2400
CAL YR 2002	TOTAL 9633.5	MEAN 26.4	MAX 40	MIN 9.0	AC-FT 19110	(**)	-26200					
WTR YR 2003	TOTAL 7604.6	MEAN 20.8	MAX 35	MIN 8.7	AC-FT 15080	(**)	-16900					

(*) Contents, in acre-feet, at end of month in Alamo Lake, furnished by Corps of Engineers.
(**) Change in contents, in acre-feet

09426600 BILL WILLIAMS RIVER AT MINERAL WASH, NEAR PLANET, AZ

WATER-QUALITY RECORDS

LOCATION--Lat 34°15'18", long 114°00'32", in SE1/4NE1/4 sec. 34, T.11 N., R.17 W., on boundary between Mohave and La Paz Counties, Hydrologic Unit 15030204, at convergence with Mineral Wash, 4 mi west of Planet Wash, 4 mi west of Planet Ranch, 6.1 mi upstream from waterline of Havasu Lake at elevation of 450 ft above sea level, and approximately 30 mi downstream from Alamo Lake.

DRAINAGE AREA--5,320 mi², of which 686 mi² is below Alamo Dam, and 10 mi² is noncontributing.

PERIOD OF RECORD--Dec. 1928 to Sept. 1940, Nov. 1942 to Oct. 1946, Jan. 1970 to Jan. 1972, Oct. 1974 to current year.

REVISED RECORDS--VWDR AZ-91-1: Drainage area.

PERIOD OF DAILY RECORD--

SPECIFIC CONDUCTANCE: Oct. 1974 to Sept. 1981.

WATER TEMPERATURE: Oct. 1974 to Sept. 1981.

REMARKS--Streamflow ungaged.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, NTU (00076)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd std units (00400)	Specific conductance, uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, mg/L as CaCO3 (00900)	Noncarbohardness, wat flt field, mg/L as CaCO3 (00904)	Calcium water, fltrd, mg/L (00915)
JAN 30...	0830	7.9	--	753	5.8	55	8.0	1120	8.0	12.0	280	21	72.4
MAY 28...	0815	2.6	--	748	6.6	78	7.9	1150	29.0	22.5	260	11	67.7
AUG 26...	0900	.15	20	748	2.2	28	7.7	1180	33.0	27.0	260	1	62.0
Date	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, unfltrd water, recover, mg/L (00925)	Magnesium, water, unfltrd recover, 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)	Silica, water, fltrd, mg/L (00955)	Sulfate water, fltrd, mg/L (00945)
JAN 30...	--	22.7	--	7.41	3	121	257	311	<1	149	1.47	36.7	90.3
MAY 28...	--	21.8	--	7.22	4	134	252	304	<1	154	1.6	35.5	83.2
AUG 26...	65.0	25.0	26.0	7.10	4	140	257	313	<1	160	1.6	--	70.0
Date	Residue water, fltrd, sum of constituents mg/L (70301)	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)	Ammonia water, unfltrd mg/L (71845)	Ammonia water, unfltrd mg/L as N (00610)	Nitrate water, fltrd, mg/L (71851)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite + nitrate water, unfltrd mg/L as N (00630)	Nitrite water, fltrd, mg/L as N (00613)
JAN 30...	656	.91	672	--	.42	.09	--	--	1.12	.25	.26	--	.008
MAY 28...	657	.93	683	--	.51	.04	--	--	--	--	.07	--	E.006
AUG 26...	620	.92	674	33	.60	--	.17	.13	--	--	--	<.020	--
Date	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L (00660)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	COD, high level, water, unfltrd mg/L (00340)	E coli, m-TEC MF, water, col/100 mL (31633)	Fecal coliform, M-FC, 0.7u MF col/100 mL (31625)	Aluminum, water, fltrd, ug/L (01106)	Antimony, water, fltrd, ug/L (01095)	Antimony, water, unfltrd ug/L (01097)	Arsenic water, fltrd, ug/L (01000)
JAN 30...	.34	.092	.03	.04	.14	.68	--	<1k	170	<20	--	--	3
MAY 28...	.47	.104	.03	.05	.19	.57	--	--	150	<50	--	--	6
AUG 26...	.47	--	--	--	.08	--	11	--	--	--	<1	<1	6

BILL WILLIAMS RIVER BASIN

09426600 BILL WILLIAMS RIVER AT MINERAL WASH, NEAR PLANET, AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Arsenic water, unfltrd ug/L (01002)	Barium, water, fltrd, ug/L (01005)	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, fltrd, ug/L (01020)	Boron, water, unfltrd recover- able, ug/L (01022)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	Chrom- ium, water, fltrd, ug/L (01030)	Chrom- ium, water, unfltrd recover- able, ug/L (01034)	Cobalt water, fltrd, ug/L (01035)	Copper, water, fltrd, ug/L (01040)
JAN 30...	--	102	--	--	--	--	--	<.2	--	E.5	--	<8	<1.2
MAY 28...	--	98.3	--	--	--	--	--	<.2	--	<.8	--	<3	<1.2
AUG 26...	6	110	130	<1	<1	398	399	<.5	<.5	<1	1	--	<2

Date	Copper, water, unfltrd recover- able, ug/L (01042)	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recover- able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover- able, ug/L (01051)	Lithium water, fltrd, ug/L (01130)	Mangan- ese, water, fltrd, ug/L (01056)	Mangan- ese, water, unfltrd recover- able, ug/L (01055)	Mercury water, fltrd, ug/L (71890)	Mercury water, unfltrd recover- able, ug/L (71900)	Molyb- denum, water, fltrd, ug/L (01060)	Nickel, water, fltrd, ug/L (01065)	Nickel, water, unfltrd recover- able, ug/L (01067)
JAN 30...	--	<10	--	<1	--	66	117	--	<.02	--	<30	<6.0	--
MAY 28...	--	<8	--	<1	--	75	134	--	<.02	--	6	<2.0	--
AUG 26...	2	12	1480	<2	<2	--	269	330	<.10	<.1	--	2	2

Date	Selen- ium, water, fltrd, ug/L (01145)	Selen- ium, water, unfltrd ug/L (01147)	Silver, water, fltrd, ug/L (01075)	Silver, water, unfltrd recover- able, ug/L (01077)	Stront- ium, water, fltrd, ug/L (01080)	Stront- ium, water, unfltrd recover- able, ug/L (01082)	Thall- ium, water, fltrd, ug/L (01057)	Thall- ium, water, unfltrd ug/L (01059)	Vanad- ium, water, fltrd, ug/L (01085)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover- able, ug/L (01092)	Suspnd. sedi- ment, sievel diametr concentr ation <.063mm (70331)	Sus- pended sedi- ment concentr ation mg/L (80154)
JAN 30...	<3	--	<.3	--	1030	--	--	--	E5	--	--	98	95
MAY 28...	<3	--	<.3	--	970	--	--	--	E5	--	--	98	83
AUG 26...	<1	2	<1	<1	--	920	<2	<2	--	2	5	--	--

Date	Sus- pended sedi- ment load, tons/d (80155)
JAN 30...	2.0
MAY 28...	.58
AUG 26...	--

Remark codes used in this report:

< -- Less than
E -- Estimated value

Value qualifier codes used in this report:

k -- Counts outside acceptable range

BILL WILLIAMS RIVER BASIN

09426620 BILL WILLIAMS RIVER NEAR PARKER, AZ

LOCATION--Lat 34°15'45", long 114°01'37", in NE1/4SE1/4SE1/4 sec. 28, T.11 N., R.17 W., La Paz County, Hydrologic Unit 15030204, on left bank 1.8 mi downstream from Mineral Wash and Havasu National Wildlife Refuge boundary, 5.3 mi upstream from mouth, 17 mi northeast of Parker, and approximately 31 mi downstream from Alamo Dam.

DRAINAGE AREA--5,337 mi², of which 703 mi² is below Alamo Dam and 10 mi² is noncontributing.

PERIOD OF RECORD--Oct. 1988 to current year.

REVISED RECORDS--WDR AZ-91-1: Drainage area.

GAGE--Water-stage recorder. Datum of gage is 500.00 ft above sea level (Bureau of Reclamation benchmark).

REMARKS--Records poor. Diversions above station for irrigation, mostly by pumping from ground water. Flow regulated by Alamo Dam.

EXTREMES FOR PERIOD OF RECORD--Maximum daily discharge, 6,800 ft³/s Mar. 17-26, 1993; no flow for many days most years.

EXTREMES OUTSIDE PERIOD OF RECORD--The history of floods that occurred at a former site located about 3 mi upstream is published in WSP 1683, Bill Williams River at Planet (sta 09426500).

EXTREMES FOR CURRENT YEAR--Maximum daily discharge, 7.4 ft³/s March 17. Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.43	3.3	5.2	5.0	6.1	5.2	1.7	0.24	0.00	0.00	0.00
2	0.00	0.47	3.2	5.1	5.0	5.8	4.7	1.7	0.16	0.00	0.00	0.00
3	0.00	0.51	3.3	5.1	4.9	5.8	4.8	1.5	0.09	0.00	0.00	0.00
4	0.00	0.53	3.3	5.2	4.9	5.9	4.8	1.4	0.00	0.00	0.00	0.00
5	0.00	0.58	3.3	5.3	5.0	5.9	4.7	1.5	0.00	0.00	0.00	0.00
6	0.00	0.64	3.3	5.1	4.9	6.0	4.7	1.4	0.00	0.00	0.00	0.00
7	0.00	0.66	3.4	5.0	5.0	6.2	4.6	1.2	0.00	0.00	0.00	0.00
8	0.00	0.65	3.5	5.2	5.0	6.1	4.4	1.3	0.00	0.00	0.00	0.00
9	0.00	0.68	3.6	5.8	4.9	5.8	4.3	1.3	0.00	0.00	0.00	0.00
10	0.00	0.73	3.8	5.6	4.9	6.1	3.9	1.2	0.00	0.00	0.00	0.00
11	0.00	0.81	3.9	5.6	4.9	6.0	3.6	1.3	0.00	0.00	0.00	0.00
12	0.00	0.88	4.0	5.5	4.9	5.9	3.4	1.3	0.00	0.00	0.00	0.00
13	0.00	0.97	4.2	5.6	6.1	5.9	3.2	1.2	0.00	0.00	0.00	0.00
14	0.00	1.1	4.3	5.6	5.4	5.9	3.0	1.2	0.00	0.00	0.00	0.00
15	0.00	1.1	4.3	5.6	5.0	5.8	2.6	1.1	0.00	0.00	0.00	0.00
16	0.00	1.2	4.4	5.6	5.0	6.7	2.9	1.1	0.00	0.00	0.00	0.00
17	6.3	1.3	4.4	5.7	4.9	7.4	2.9	1.1	0.00	0.00	0.00	0.00
18	0.61	1.3	4.6	5.8	4.8	6.8	3.0	0.93	0.00	0.00	0.00	0.00
19	0.30	1.4	4.9	5.9	4.9	6.3	2.8	0.91	0.00	0.00	0.00	0.00
20	0.24	1.4	5.0	6.0	5.0	6.3	3.0	0.89	0.00	0.00	0.00	0.00
21	0.18	1.5	5.1	6.0	5.1	6.1	2.7	0.88	0.00	0.00	0.00	0.00
22	0.08	1.5	5.2	5.9	5.1	6.1	2.2	0.80	0.00	0.00	0.00	0.00
23	0.09	1.6	5.2	6.0	5.1	6.1	2.3	0.76	0.00	0.00	0.00	0.00
24	0.13	1.7	5.1	6.2	5.2	5.9	2.4	0.65	0.00	0.00	0.00	0.00
25	0.16	1.8	5.1	6.1	5.4	5.7	2.3	0.58	0.00	0.00	0.00	0.00
26	0.19	1.7	5.1	6.0	6.0	5.5	2.0	0.53	0.00	0.00	0.00	0.00
27	2.9	1.8	5.2	6.1	6.1	5.4	2.0	0.52	0.00	0.00	0.00	0.00
28	0.70	2.0	5.2	5.8	5.9	4.8	1.8	0.57	0.00	0.00	0.00	0.00
29	0.56	2.1	5.2	5.2	---	5.0	1.7	0.49	0.00	0.00	0.00	0.00
30	0.48	4.2	5.2	5.1	---	5.1	1.6	0.35	0.00	0.00	0.00	0.00
31	0.42	---	5.2	5.1	---	5.3	---	0.31	---	0.00	0.00	---
TOTAL	13.34	37.24	134.8	173.0	144.3	183.7	97.5	31.67	0.49	0.00	0.00	0.00
MEAN	0.43	1.24	4.35	5.58	5.15	5.93	3.25	1.02	0.016	0.000	0.000	0.000
MAX	6.3	4.2	5.2	6.2	6.1	7.4	5.2	1.7	0.24	0.00	0.00	0.00
MIN	0.00	0.43	3.2	5.0	4.8	4.8	1.6	0.31	0.00	0.00	0.00	0.00
AC-FT	26	74	267	343	286	364	193	63	1.0	0.00	0.00	0.00
CAL YR 2002	TOTAL 1048.78	MEAN 2.87	MAX 46	MIN 0.00	AC-FT 2080							
WTR YR 2003	TOTAL 816.04	MEAN 2.24	MAX 7.4	MIN 0.00	AC-FT 1620							

DIVERSIONS ABOVE PARKER DAM

09426650 CENTRAL ARIZONA PROJECT CANAL AT HAVASU PUMPING PLANT, NEAR PARKER, AZ

LOCATION--Lat 34°17'20", long 114°06'37", in NW¼NW¼ sec. 23, T.11 N., R.18 W., La Paz County, Hydrologic Unit 15030204, on left bank of Bill Williams River arm of Lake Havasu, 2 mi upstream from Parker Dam and 19 mi northeast of Parker.

PERIOD OF RECORD--Oct. 1984 to current year. Prior to Oct. 1988, published as "CAP Canal Havasu pumping Plant near Parker."

REMARKS--Figures of daily streamflow shown represent water pumped from Lake Havasu for delivery to the Central Arizona Project.

COOPERATION--Diversion records furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD--Maximum daily streamflow, 7,040 acre-ft, May 4, 2003; no diversion on many days each year.

STREAMFLOW, DAILY, in ACRE FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2083	0.0	4711	7008	5982	6058	6040	5840	5904	2450	1676	3104
2	1978	0.0	2168	5913	6024	6046	5803	5375	5543	2454	2127	2997
3	1991	0.0	1573	5899	6028	6030	5816	6036	5491	2448	1823	3097
4	2337	1882	1565	5865	6028	6060	5804	7040	5195	2465	1372	3083
5	1993	4735	1565	6958	6026	5996	5807	5981	5159	2456	907	3095
6	2688	3874	1577	5881	5992	6192	6063	5459	5361	2452	1062	3413
7	2412	3788	3497	5907	6002	6012	5863	5522	5709	2283	904	4877
8	1978	3788	5883	6046	5994	6006	5866	5847	6042	2430	903	3523
9	2251	3713	3598	5625	6545	5996	5937	5327	4798	2446	1222	2758
10	2253	3554	3598	4007	5873	6012	5861	5874	5126	2432	1210	1792
11	2263	3558	3640	3971	5576	6000	5876	7030	5425	2437	931	1791
12	2269	3552	3598	3983	5587	6014	5872	6215	5432	2436	912	1825
13	2265	3548	2001	3979	5617	6006	5860	5818	5400	2437	911	1717
14	2263	3552	4036	4253	5613	6044	5965	5880	5393	2441	910	1775
15	2261	3550	7010	5905	5879	6038	5858	5888	5395	2440	910	1778
16	1624	3527	4243	5905	5877	6046	5891	5884	5390	2440	910	1513
17	1166	4725	3852	5885	5597	6052	5684	5948	5125	2441	1213	1271
18	1067	3963	4251	6180	5641	6058	5850	6142	5218	2439	911	364
19	899	3959	4499	6179	6182	6069	5859	6375	5299	2438	623	539
20	732	3959	4780	6153	6256	6075	5863	5924	5190	2440	627	364
21	625	3959	4794	6145	6226	6511	5861	5378	5526	2440	623	369
22	518	3957	7010	5970	6272	6546	5728	5908	5403	2440	924	627
23	202	3957	4778	5625	6272	6552	5860	5916	5068	2438	2429	1131
24	0.0	4719	4731	6807	6044	6158	5801	5725	4611	2437	2580	1130
25	0.0	4221	7008	6397	5857	5719	5832	6022	2926	2439	2577	1122
26	0.0	4719	4435	6325	6077	5419	5844	6030	2942	2441	2575	1132
27	0.0	4754	4358	5954	6030	5714	5846	5889	2429	2441	2581	1133
28	0.0	4721	4500	5998	6079	6159	5848	5892	2463	2443	2754	933
29	0.0	4752	7014	5895	---	6160	5821	5879	2450	2440	3097	926
30	0.0	4719	4078	5996	---	6153	5826	5884	2455	2440	3099	926
31	0.0	---	4080	5950	---	6135	---	5890	---	2439	3082	---
TOTAL	40118.0	107705.0	128431	178564	167176	188036	175705	183818	143868	75543	48385	54105
MEAN	1294	3590	4143	5760	5971	6066	5857	5930	4796	2437	1561	1804
MAX	2688	4754	7014	7008	6545	6552	6063	7040	6042	2465	3099	4877
MIN	0.00	0.00	1565	3971	5576	5419	5684	5327	2429	2283	623	364
CAL YR 2002	TOTAL	1581986.0	MEAN	4334	MAX	7014	MIN	0.00				
WTR YR 2003	TOTAL	1491454.0	MEAN	4086	MAX	7040	MIN	0.00				

COLORADO RIVER MAIN STEM

09427500 LAKE HAVASU NEAR PARKER DAM, AZ-CA

LOCATION.--Lat 34°18'58", long 114°09'23", in NW1/4SW1/4 sec. 28, T.3 N., R.27 E., San Bernardino meridian, in San Bernardino County, CA, Hydrologic Unit 15030101, at intake pumping plant for Colorado River aqueduct of Metropolitan Water District of Southern California, 1.8 mi upstream from Parker Dam on Colorado River, and 149 mi downstream from Hoover Dam.

DRAINAGE AREA.--182,700 mi², approximately, including 3,959 mi² in Great Divide basin in southern Wyoming, which is noncontributing.

PERIOD OF RECORD.--July 1938 to current year. Published as "Parker Reservoir near Parker Dam" 1938.

REVISED RECORDS.--WRD Ariz. 1975: 1974 (elevation).

GAGE.--Water-stage recorder. Datum of gage is sea level.

REMARKS.--Lake is formed by concrete-arch dam; dam was completed and storage began July 1, 1938. Usable capacity—based on Apr. 1957 re-survey by Bureau of Reclamation between elevations 430.54 ft and 450.54 ft—619,400 acre-ft between elevations 400.54 ft, sill of regulating gates, and 450.54 ft, top of regulating gates. Prior to Oct. 1, 1956, different capacity table used. Dead storage, 28,600 acre-ft below elevation 400.54 ft, based on original survey. About 0.07 ft fall indicated between gage and Parker Dam under normal operating conditions. Drawdown below elevation 440.54 ft not legally permissible except by consent of the Metropolitan Water District of Southern California or in an emergency affecting the safety of the dam. Lake is used for flood control, power development, regulation of river for irrigation demand, and as a basin from which water is pumped by Metropolitan Water District of Southern California to Colorado River aqueduct. Figures given herein represent usable contents. For record of diversion to Colorado River aqueduct, see record for Colorado River aqueduct near Parker Dam elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum storage, 693,000 acre-ft, by temporary use of flashboards, Apr. 18, 1943, June 4, 1953; maximum elevation, 451.23 ft May 27, 1988, affected by wind; minimum storage, 71,400 acre-ft June 25, 1942, elevation, 412.09 ft.

EXTREMES FOR CURRENT YEAR.--Maximum storage, 604,600 acre-ft Oct. 5, elevation, 450.62 ft, affected by wind; minimum storage, 529,700 acre-ft Feb. 5, elevation, 446.34 ft.

RESERVOIR STORAGE, in (ACRE-FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	584800	588200	562600	548300	538700	568100	537100	597800	598000	592500	600600	595800
2	589900	591100	562200	548500	539500	564300	537700	600800	604000	594400	598600	595400
3	597100	591700	559200	550600	536400	560200	544000	594600	595000	598200	595000	589900
4	601200	588600	560200	552600	532300	560300	546100	592500	590300	599000	600600	594400
5	604600	583000	563900	553600	529700	563700	550300	588000	592900	598800	596400	596000
6	603800	580600	566200	553200	535300	565600	552600	588700	596000	598600	588200	595000
7	602800	582100	569400	550400	538900	567100	558300	592700	591100	599800	593100	593100
8	603800	584000	568600	546800	537300	562600	561700	597600	591500	594300	591700	590700
9	596600	582700	564900	545400	533700	560300	563400	594600	591700	590100	589900	587400
10	598600	577900	566000	550300	538000	559600	567300	590700	592700	596400	591100	582800
11	598600	571400	563400	554300	538400	558500	564100	590900	593700	592300	591300	587600
12	596600	561300	561100	557700	539100	563500	561900	593300	597800	593100	594300	583000
13	592700	560200	559800	561100	542700	558100	561700	595000	601000	593500	590300	580600
14	590700	561700	557700	563500	548100	549400	561100	596600	599000	597400	596200	575600
15	586800	560700	551300	556200	548100	548800	564500	602800	598400	598600	596800	569400
16	583000	560300	546700	551000	546800	553200	569600	603200	596200	595000	591700	568800
17	579200	558800	547700	544500	543800	555300	574700	598600	592300	596200	593900	568800
18	581100	560500	547400	543600	545000	559000	580400	596400	592300	598000	597400	574500
19	581100	561100	550100	542700	547000	559400	580200	593900	595800	597600	599400	573200
20	583000	558300	552100	541100	548800	566900	580600	594600	597800	597400	599800	572000
21	581100	559600	552800	539500	545900	567900	584900	597000	594100	596200	602200	570300
22	583000	562200	552100	541300	546100	566700	589100	604200	593300	594300	600200	566700
23	583000	560000	551700	543800	542700	565200	591300	603200	594100	589100	597200	561100
24	583000	554000	549900	541300	543800	560200	595400	596400	590100	597800	598400	558700
25	581100	556200	545900	538900	557900	556600	597000	591900	594800	595800	600600	566400
26	581100	555600	547400	538700	569900	558500	593900	593300	597400	597800	598200	568200
27	579200	558300	546300	537300	576800	554700	591700	593300	598200	598000	597800	563700
28	577300	562800	547400	535500	573200	551900	588700	594600	597200	602400	602600	562200
29	579200	563400	546300	536400	---	546800	589100	598400	596600	601000	602200	562800
30	581100	563200	549500	538400	---	544700	593300	604200	591900	592300	599800	564500
31	584900	---	549200	539100	---	542000	---	599000	---	598200	597200	---
MAX	604600	591700	569400	563500	576800	568100	597000	604200	604000	602400	602600	596000
MIN	577300	554000	545900	535500	529700	542000	537100	588000	590100	589100	588200	558700
(**)	+17800	-21700	-14000	-10100	+34100	-31200	+51300	+5700	-7100	+6300	-1000	-32700
CAL YR 2002	MAX 604600	MIN 542500	(**)	-2300								
WTR YR 2003	MAX 604600	MIN 529700	(**)	+2600								

(**) Change in contents, in acre-feet

COLORADO RIVER MAIN STEM
09427500 LAKE HAVASU NEAR PARKER DAM, AZ-CA—CONTINUED

ELEVATION, in FT (NGVD of 1929), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
 DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	448.79	449.51	448.16	447.39	446.86	448.45	446.77	450.00	450.01	449.73	450.14	449.90
2	449.05	449.66	448.14	447.40	446.90	448.25	446.80	450.15	450.31	449.83	450.04	449.88
3	449.42	449.69	447.98	447.52	446.73	448.03	447.15	449.84	449.86	450.02	449.86	449.60
4	449.63	449.53	448.03	447.63	446.50	448.04	447.27	449.73	449.62	450.06	450.14	449.83
5	449.80	449.24	448.23	447.68	446.36	448.22	447.50	449.50	449.75	450.05	449.93	449.91
6	449.76	449.11	448.35	447.66	446.67	448.32	447.63	449.54	449.91	450.04	449.51	449.86
7	449.71	449.19	448.52	447.51	446.87	448.40	447.93	449.74	449.66	450.10	449.76	449.76
8	449.76	449.29	448.48	447.31	446.78	448.16	448.11	449.99	449.68	449.82	449.69	449.64
9	449.94	449.22	448.28	447.23	446.58	448.04	448.20	449.84	449.69	449.61	449.60	449.47
10	450.04	448.97	448.34	447.50	446.82	448.00	448.41	449.64	449.74	449.93	449.66	449.23
11	450.04	448.63	448.20	447.72	446.84	447.94	448.24	449.65	449.79	449.72	449.67	449.48
12	449.94	448.09	448.08	447.90	446.88	448.21	448.12	449.77	450.00	449.76	449.82	449.24
13	449.74	448.03	448.01	448.08	447.08	447.92	448.11	449.86	450.16	449.78	449.62	449.11
14	449.64	448.11	447.90	448.21	447.38	447.45	448.08	449.94	450.06	449.98	449.92	448.85
15	449.44	448.06	447.56	447.82	447.38	447.42	448.26	450.25	450.03	450.04	449.95	448.52
16	449.24	448.04	447.30	447.54	447.31	447.66	448.53	450.27	449.92	449.86	449.69	448.49
17	449.04	447.96	447.36	447.18	447.14	447.77	448.80	450.04	449.72	449.92	449.80	448.49
18	449.14	448.05	447.34	447.13	447.21	447.97	449.10	449.93	449.72	450.01	449.98	448.79
19	449.14	448.08	447.49	447.08	447.32	447.99	449.09	449.80	449.90	449.99	450.08	448.72
20	449.24	447.93	447.60	446.99	447.42	448.39	449.11	449.84	450.00	449.98	450.10	448.66
21	449.14	448.00	447.64	446.90	447.26	448.44	449.34	449.96	449.81	449.92	450.22	448.57
22	449.24	448.14	447.60	447.00	447.27	448.38	449.56	450.32	449.77	449.82	450.12	448.38
23	449.24	448.02	447.58	447.14	447.08	448.30	449.67	450.27	449.81	449.56	449.97	448.08
24	449.24	447.70	447.48	447.00	447.14	448.03	449.88	449.93	449.61	450.00	450.03	447.95
25	449.14	447.82	447.26	446.87	447.91	447.84	449.96	449.70	449.85	449.90	450.14	448.36
26	449.14	447.79	447.34	446.86	448.55	447.94	449.80	449.77	449.98	450.00	450.02	448.46
27	449.04	447.93	447.28	446.78	448.91	447.74	449.69	449.77	450.02	450.01	450.00	448.22
28	448.94	448.17	447.34	446.68	448.72	447.59	449.54	449.84	449.97	450.23	450.24	448.14
29	449.04	448.20	447.28	446.73	---	447.31	449.56	450.03	449.94	450.16	450.22	448.17
30	449.14	448.19	447.46	446.84	---	447.19	449.77	450.32	449.70	449.72	450.10	448.26
31	449.34	---	447.44	446.88	---	447.04	---	450.06	---	450.02	449.97	---
MAX	450.04	449.69	448.52	448.21	448.91	448.45	449.96	450.32	450.31	450.23	450.24	449.91
MIN	448.79	447.70	447.26	446.68	446.36	447.04	446.77	449.50	449.61	449.56	449.51	447.95
CAL YR 2002	MAX 450.04	MIN 445.99										
WTR YR 2003	MAX 450.32	MIN 446.36										

COLORADO RIVER MAIN STEM

09427520 COLORADO RIVER BELOW PARKER DAM, AZ-CA

LOCATION--Lat 34°17'44", long 114°08'22", in NW¹/₄NW¹/₄ sec. 3, T.2 N., R.27 E., San Bernardino meridian, in San Bernardino County, CA, Hydrologic Unit 15030104, on north end of powerplant at Parker Dam, 13 mi northeast of Parker, AZ, and 14 mi upstream from Headgate Rock Dam.

DRAINAGE AREA--182,700 mi², approximately, including 3,959 mi² in Great Divide basin in southern Wyoming, which is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD--Feb. to Sept. 1934 (gage heights and fragmentary discharge records), Oct. 1934 to current year. Prior to Oct. 1937, published as "near Parker, Ariz."

REVISED RECORDS--WSP 1313: 1941(M).

GAGE--Water-stage recorder. Datum of gage is 300.54 ft above sea level. Prior to Oct. 1, 1967, at site 3.8 mi downstream at datum 346.23 ft above sea level.

REMARKS--No estimated daily discharges. Records good. Flow regulated by Lake Mead since Feb. 1, 1935, by Lake Mohave since Jan. 17, 1950, and by Lake Havasu since July 1, 1938. Many diversions above station. For record of diversion to Colorado River aqueduct and return flows, see record for Colorado River aqueduct near Parker Dam, elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 42,400 ft³/s Feb. 8, 1937; no flow at Parker Dam for parts of several days in 1942 when gates in dam were closed. An unregulated discharge of probably less than 1,350 ft³/s occurred Aug. 18, 1934 (lowest unregulated discharge since 1917 and probably since a much earlier date).

EXTREMES FOR CURRENT YEAR--Maximum daily discharge, 17,300 ft³/s July 23. Minimum daily discharge, 2,550 ft³/s Jan. 6.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10300	7260	7240	5260	8110	9870	16700	10800	13900	14200	11900	10400
2	9880	7300	7850	4850	8240	9280	14800	12100	8710	13300	11800	10900
3	8800	7250	8280	4890	8810	9250	13300	15400	14300	9300	11100	11400
4	8770	8040	5780	5240	8630	9270	15300	13100	12500	11800	7950	6980
5	9540	7500	5570	5530	8810	9670	15100	12800	11100	13900	15300	10500
6	10200	6410	5090	2550	7100	11200	15300	12000	11500	13700	14400	10800
7	10700	4540	5110	5880	7030	11400	14200	10500	15700	13700	7310	10200
8	10700	4440	5110	6100	7840	13500	14000	8720	13800	16700	12600	10900
9	9590	7020	4850	5440	8030	11500	12900	12400	14700	15100	13600	11800
10	8140	8360	5260	4750	6380	12100	11600	14000	13100	9330	12200	13500
11	9460	9300	6370	4730	6830	13600	16000	12500	11100	17100	12300	7670
12	9640	11200	5950	5030	5190	9360	15100	12700	10100	14200	10600	12900
13	10100	7540	6340	5480	3950	10700	15300	12200	10600	14000	14300	11600
14	9850	7430	6430	6830	3970	15100	14900	10400	12600	12600	7200	11600
15	9950	7540	6890	8970	6970	13600	13200	8520	12800	12300	11100	12400
16	9850	7720	6950	7840	6240	10200	13000	11300	13600	14600	14300	11300
17	8270	7950	6620	7110	6270	10600	11200	14400	14100	10000	10900	10700
18	7530	7960	6100	9360	5070	10500	12400	13200	13500	13200	9610	6880
19	8920	7990	4300	7860	5170	12500	14700	13000	11800	14000	9480	10500
20	7620	7750	5040	6900	7130	9150	14400	12700	12000	14100	10600	10800
21	7890	5100	4790	6650	8480	11800	12000	12500	13400	13300	7840	11100
22	7100	7150	3900	5340	8680	13000	12400	8570	13000	14700	10200	12300
23	6520	8500	4150	5280	9280	12900	11900	11400	13000	17300	12400	13000
24	6310	8240	4990	6370	8010	15000	11100	15300	16100	8090	10400	12300
25	9140	5790	4840	7540	3800	13700	12400	14400	11300	14400	8290	8430
26	9280	4670	3910	7590	3100	13500	14000	12800	9340	13100	9070	11500
27	9090	4140	5490	7600	5440	16300	14000	9020	12100	12500	9570	14200
28	8930	4350	4960	8620	10100	15900	15100	10700	13900	9870	7090	13500
29	7140	6620	4730	7000	---	16800	15200	9230	14000	11500	9690	12300
30	6470	6400	4970	6360	---	15800	12600	9730	15700	16300	10800	12400
31	6020	---	6210	7180	---	16100	---	15300	---	7900	11000	---
TOTAL	271700	211460	174070	196130	192660	383150	414100	371690	383350	406090	334900	334760
MEAN	8765	7049	5615	6327	6881	12360	13800	11990	12780	13100	10800	11160
MAX	10700	11200	8280	9360	10100	16800	16700	15400	16100	17300	15300	14200
MIN	6020	4140	3900	2550	3100	9150	11100	8520	8710	7900	7090	6880
AC-FT	538900	419400	345300	389000	382100	760000	821400	737200	760400	805500	664300	664000
CAL YR 2002	TOTAL 3814200	MEAN 10450	MAX 16400	MIN 3640	AC-FT 7565000							
WTR YR 2003	TOTAL 3674060	MEAN 10070	MAX 17300	MIN 2550	AC-FT 7287000							

COLORADO RIVER MAIN STEM
09427520 COLORADO RIVER BELOW PARKER DAM, AZ-CA—CONTINUED
WATER-QUALITY RECORDS

PERIOD OF RECORD.--Oct. 1963 to current year.

INSTRUMENTATION.--Water temperature recorder from Feb. 1954 to Aug. 1970. Specific conductance and water temperature recorder from Sept. 1982 to Sept. 2000.

REMARKS.--Prior to Oct. 1968, published as 09428000.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Turbidity, NTU (00076)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Noncarbohardness, water, unfltrd field, mg/L as CaCO3 (00904)
NOV													
26...	1100	9	4930	2.1	752	8.2	84	8.3	933	15.0	15.5	280	170
JAN													
30...	1300	9	5730	.80	753	8.0	77	8.3	953	12.0	13.0	290	160
30...	1305	7	--	.87	--	--	--	--	--	--	--	290	--
MAY													
28...	1045	9	22100	1.1	748	9.2	108	8.2	971	41.0	22.5	290	160
AUG													
26...	1100	9	10200	1.2	758	7.1	91	8.0	988	31.0	27.0	290	160
Date	Calcium water, fltrd, mg/L (00915)	Calcium water, unfltrd recover-able, mg/L (00916)	Magnesium, water, fltrd, mg/L (00925)	Magnesium, water, unfltrd recover-able, 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. 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)
NOV													
26...	70.0	69.0	26.0	27.0	4.30	2	86.0	116	138	2	78.0	.3	230
JAN													
30...	71.0	71.0	27.0	27.0	4.30	2	87.0	134	160	2	80.0	.3	240
30...	70.0	71.0	28.0	27.0	4.20	2	86.0	--	--	--	80.0	.3	230
MAY													
28...	70.0	71.0	27.0	26.0	4.30	2	88.0	132	157	<1	80.0	.3	230
AUG													
26...	70.0	70.0	27.0	28.0	4.30	2	88.0	126	153	<1	83.0	.3	230
Date	Residue water, fltrd, sum of constituents mg/L (70301)	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, unfltrd mg/L (71845)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate, water, unfltrd mg/L as N (00630)	Organic nitrogen, water, unfltrd mg/L (00605)	Phosphorus, water, unfltrd mg/L (00665)	Total nitrogen, water, unfltrd mg/L (00600)	Total nitrogen, water, unfltrd mg/L as NO3 (71887)	COD, high level, water, unfltrd mg/L (00340)
NOV													
26...	564	.83	610	4	.40	.05	.04	.180	.36	<.02	.58	2.6	6
JAN													
30...	588	.83	611	<1	<.20	.03	.02	.240	--	<.02	--	--	<5
30...	579	.83	612	2	.30	.03	.02	.240	.28	<.02	.54	2.4	<5
MAY													
28...	577	.86	629	<1	.20	.03	.02	.280	.18	<.02	.48	2.1	9
AUG													
26...	578	.85	623	<1	.20	.05	.04	.170	.16	<.02	.37	1.6	12
Date	E coli, m-TEC MF, water, col/100 mL (31633)	Fecal coliform, M-FC MF, water, col/100 mL (31625)	Antimony, water, fltrd, ug/L (01095)	Antimony, water, unfltrd, ug/L (01097)	Arsenic water, fltrd, ug/L (01000)	Arsenic water, unfltrd, ug/L (01002)	Barium, water, fltrd, ug/L (01005)	Barium, water, unfltrd recover-able, ug/L (01007)	Beryllium, water, unfltrd recover-able, ug/L (01010)	Beryllium, water, unfltrd recover-able, ug/L (01012)	Boron, water, fltrd, ug/L (01020)	Boron, water, unfltrd recover-able, ug/L (01022)	Cadmium water, fltrd, ug/L (01025)
NOV													
26...	Elk	Elk	<1	<1	3	6	110	110	<1	<1	123	122	<.5
JAN													
30...	<1k	<1k	<1	<1	2	4	110	110	<1	<1	123	121	<.5
30...	--	--	<1	<1	2	3	110	110	<1	<1	121	122	<.5
MAY													
28...	--	Elk	<1	<1	3	6	120	120	<1	<1	122	123	<.5
AUG													
26...	E13k	--	<1	<1	3	3	120	120	<1	<1	124	124	<.5

COLORADO RIVER MAIN STEM

09427520 COLORADO RIVER BELOW PARKER DAM, AZ-CA—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Cadmium water, unfltrd ug/L (01027)	Chrom- ium, water, fltrd, ug/L (01030)	Chrom- ium, water, recover- able, ug/L (01034)	Copper, water, fltrd, ug/L (01040)	Copper, water, recover- able, ug/L (01042)	Iron, water, fltrd, ug/L (01046)	Iron, water, recover- able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, recover- able, ug/L (01051)	Mangan- ese, water, fltrd, ug/L (01056)	Mangan- ese, water, recover- able, ug/L (01055)	Mercury water, fltrd, ug/L (71890)	Mercury water, recover- able, ug/L (71900)
NOV 26...	<.5	<1	<1	<2	<2	<2	76	<2	<2	<1	7	<.10	<.1
JAN 30...	<.5	<1	<1	<2	<2	<2	43	<2	<2	<1	4	<.10	<.1
30...	<.5	<1	<1	<2	<2	<2	43	<2	<2	<1	4	<.10	<.1
MAY 28...	<.5	<1	<1	<2	<2	<2	57	<2	<2	1	5	<.10	<.1
AUG 26...	<.5	<1	<1	<2	<2	<2	44	<2	<2	<1	8	<.10	<.1

Date	Nickel, water, fltrd, ug/L (01065)	Nickel, water, recover- able, ug/L (01067)	Selen- ium, water, fltrd, ug/L (01145)	Selen- ium, water, unfltrd ug/L (01147)	Silver, water, fltrd, ug/L (01075)	Silver, water, recover- able, ug/L (01077)	Stront- ium, water, unfltrd ug/L (01082)	Thall- ium, water, fltrd, ug/L (01057)	Thall- ium, water, unfltrd ug/L (01059)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, recover- able, ug/L (01092)
NOV 26...	1	1	2	2	<1	<1	1000	<2	<2	4	<2
JAN 30...	<1	<1	3	2	<1	<1	1010	<2	<2	<2	<2
30...	<1	<1	2	2	<1	<1	1010	<2	<2	<2	<2
MAY 28...	<1	<1	2	2	<1	<1	1020	<2	<2	<2	<2
AUG 26...	1	2	1	2	<1	<1	1040	<2	<2	3	5

Remark codes used in this report:
 < -- Less than
 Value qualifier codes used in this report:
 k -- Counts outside acceptable range

COLORADO RIVER MAIN STEM
09427520 COLORADO RIVER BELOW PARKER DAM, AZ-CA—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

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 2003 sampling period and are defined in the introductory text section titled "Water-Quality Control Data".

Date	Time	Sample type	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Sodium, water, fltrd, mg/L (00930)	Aluminum, water, fltrd, ug/L (01106)	Barium, water, fltrd, ug/L (01005)	Beryllium, water, fltrd, ug/L (01010)	Cadmium, water, fltrd, ug/L (01025)	Chromium, water, fltrd, ug/L (01030)	Copper, water, fltrd, ug/L (01040)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)
NOV 26...	1110	2	<.02	<.03	<.1	<3	<.5	<1	<.5	<1	<2	<2	<2

Date	Manganese, water, fltrd, ug/L (01056)	Nickel, water, fltrd, ug/L (01065)	Zinc, water, fltrd, ug/L (01090)
NOV 26...	<1	<1	<2

Remark codes used in this report:
 < -- Less than

DIVERSIONS AND RETURN FLOWS BETWEEN PARKER DAM AND PALO VERDE DAM

09428500 COLORADO RIVER INDIAN RESERVATION MAIN CANAL NEAR PARKER, AZ

LOCATION.--Two gages, lat 34°10'04", long 114°16'33", in SE1/4NW1/4 sec. 31, T.10 N., R.19 W., Gila and Salt River meridian, La Paz County, Hydrologic Unit 15030104. Forebay gage, on left wall of canal intake, 90 ft upstream from diversion gates at Arizona end of Headgate Rock Dam. Tailrace gage, on right bank of canal 250 ft downstream from gates. Both gages are on Colorado River Indian Reservation 1.7 mi northeast of Parker and 14 mi downstream from Parker Dam.

PERIOD OF RECORD.--Jan. 1915 to current year (prior to Jan. 1937, fiscal year diversions only; Jan. 1937 to Sept. 1954, monthly diversions only).

REVISED RECORDS.--WSP 1513: 1915-36.

GAGE.--Water-stage recorders above and below intake gates to record head, and recorder to show gate openings (Oct. 1, 1972, Nov. 30, 1992), with supplementary tape gages read daily and at time of each gate change (prior to Oct. 1, 1972, tape gages only). Datum of gages is 350.00 ft, datum in use locally, or 350.51 ft above sea level. Normal operating level of forebay is 364.3 ft; prior to July 9, 1962, normal operating level of forebay was 362.9 ft, datum in use locally. Prior to Oct. 1954, discharge computed by various methods as described in WSP 1313.

REMARKS.--No estimated daily discharges. Records good. Daily diversions computed on basis of head on intake gates and gate openings. Records show water diverted to project and surface return flows to Colorado River through two wasteways and two drains, 09428505, 09428510, 09429030, and 09429060; two of these are equipped with water-stage recorders, one is partially furnished by BIA and partially computed by a water-stage recorder, the other is prorated.

COOPERATION.--Log of canal intake gate opening (supplementary record) furnished by Bureau of Indian Affairs.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,950 ft³/s July 24, 1992; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	734	508	323	676	788	170	1110	1420	1230	1610	1200	699
2	784	416	252	793	593	188	1010	1190	1240	1540	981	824
3	782	308	248	867	563	228	1230	1010	1330	1480	908	1050
4	820	407	244	681	531	348	1350	969	1280	1460	915	1130
5	773	369	236	0.00	645	612	1420	1110	1180	1320	1240	1060
6	734	411	296	0.00	640	718	1380	1200	1180	1110	1250	961
7	766	428	272	0.00	442	875	1190	1290	1190	1190	1200	833
8	758	393	290	0.00	341	964	1130	1300	1120	1300	1280	917
9	856	368	425	0.00	388	662	1230	1360	1100	1290	1180	925
10	882	315	475	0.00	511	839	1270	1310	1230	1350	1200	915
11	850	407	459	0.00	623	911	1160	1230	1260	1390	1160	923
12	727	425	402	0.00	551	802	1190	1170	1310	1390	1230	1060
13	776	503	523	0.00	182	733	1210	1170	1390	1260	1280	959
14	778	507	428	0.00	99	749	1040	1230	1380	1310	1450	810
15	754	437	311	0.00	98	665	1060	1240	1210	1410	1450	858
16	736	342	186	0.00	127	359	1080	1240	1320	1460	1260	906
17	698	327	180	0.00	150	269	1170	1160	1380	1460	1030	960
18	500	343	169	0.00	176	392	1180	1040	1450	1300	1080	1080
19	511	416	203	150	154	516	1040	1160	1510	1170	1090	1130
20	507	477	267	699	197	527	772	1280	1390	1100	1170	1160
21	635	669	349	678	247	718	763	1310	1260	1160	1250	1110
22	558	524	454	517	366	880	771	1310	1080	1280	1190	1100
23	556	459	369	629	411	957	760	1210	1130	1470	1090	937
24	555	469	320	604	520	1130	850	1250	1140	1620	1070	902
25	633	532	251	617	370	1210	995	1110	1200	1460	1090	875
26	596	500	356	584	238	1130	1050	1110	1310	1260	1230	898
27	448	488	400	646	273	1180	1020	1120	887	988	1010	846
28	453	436	465	774	251	1160	1030	1160	552	971	958	759
29	440	530	402	913	---	1110	1290	1230	1200	989	802	714
30	492	424	587	941	---	993	1360	1300	1530	1140	717	816
31	509	---	609	861	---	939	---	1280	---	1280	613	---
TOTAL	20601	13138	10751	11630.00	10475	22934	33111	37469	36969	40518	34574	28117
MEAN	665	438	347	375	374	740	1104	1209	1232	1307	1115	937
MAX	882	669	609	941	788	1210	1420	1420	1530	1620	1450	1160
MIN	440	308	169	0.00	98	170	760	969	552	971	613	699
AC-FT	40860	26060	21320	23070	20780	45490	65680	74320	73330	80370	68580	55770
(*)	18940	14260	14660	14430	14270	15870	20340	21470	18980	20070	20020	19740

CAL YR 2002 TOTAL 304520.00 MEAN 834 MAX 1430 MIN 0.00 AC-FT 604000 (*) 386500
WTR YR 2003 TOTAL 300287.00 MEAN 823 MAX 1620 MIN 0.00 AC-FT 595600 (*) 213000

(*) Return surface flow, in acre-feet, to the Colorado River.

DIVERSIONS AND RETURN FLOWS BETWEEN PARKER DAM AND PALO VERDE DAM

09429000 PALO VERDE CANAL NEAR BLYTHE, CA

LOCATION.--Lat 33°43'55", long 114°30'40", in NW_{1/4}NE_{1/4} sec. 19, T.5 S., R.24 E., San Bernardino meridian, Riverside County, Hydrologic Unit 15030104, at canal intake structure on west side of Palo Verde diversion dam, 10 mi northeast of Blythe and 44 mi downstream from Headgate Rock Dam.

PERIOD OF RECORD.--Jan. 1922 to Dec. 1923, Jan. 1925 to current year (prior to Oct. 1950, monthly discharge only).

REVISED RECORD.--WSP 1213: 1946-48.

GAGE.--Water-stage recorders above and below intakes to record head and, since May 18, 1964, recorder to show gate openings. Datum of gage is: Forebay gage, sea level; tailrace gage, 274.13 ft, sea level. Aug. 7, 1950, to Nov. 30, 1952, water-stage recorder on tailrace and auxiliary recorder 0.5 mi downstream and Dec. 1, 1952, to Oct. 28, 1957, recording gage above and below former intake structure 0.2 mi upstream, at different datums.

REMARKS.--No estimated daily discharges. Records good. Daily diversions computed on basis of head on intake gates and gate openings. Records published herein represent flow diverted from Colorado River for irrigation. Return flows to Colorado River are measured by 10 wasteways and drains extending throughout the project: 09429130, 09429155, 09429160, 09429170, 09429180, 09429190, 09429200, 09429210, 09429220, 09429230, 5 of these are equipped with water-stage recorders and Parshall flumes, 3 are equipped with Sparling flowmeters. Return flows have not been subtracted; combined monthly return flows are given in table below.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,360 ft³/s July 30, 1981; no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1460	1030	550	0.00	946	686	1650	1730	1540	1770	1690	1590
2	1520	892	619	0.00	777	642	1770	1750	1790	1790	1560	1720
3	1570	656	678	0.00	871	884	1780	1720	1900	1880	1300	1650
4	1420	788	815	0.00	765	894	1880	1400	2140	1670	1570	1570
5	1320	878	773	0.00	1120	951	1640	1620	2120	1570	1650	1630
6	1050	1010	763	0.00	1130	1260	1320	1620	2210	1430	1710	1460
7	1200	984	667	0.00	1100	1230	1700	1810	2000	1630	1870	1190
8	1060	939	498	0.00	1090	1240	1480	1920	1870	1700	1870	1600
9	1210	861	742	0.00	911	977	1620	1840	1970	1800	1760	1710
10	1430	680	864	232	1090	1060	1750	1690	1980	1770	1510	1770
11	1390	969	872	383	1160	1030	1620	1380	1950	1840	1780	1670
12	1100	902	860	297	896	1300	1690	1700	1940	1760	1760	1530
13	1010	1030	731	347	638	1220	1460	1670	1830	1600	1880	1290
14	1140	982	686	326	540	1300	1380	1770	1730	1800	1870	1240
15	1240	1140	636	713	543	1210	1400	1840	1500	1860	1860	1560
16	1410	1020	694	1030	423	816	1420	1760	1760	1900	1840	1430
17	1380	781	715	964	500	856	1580	1590	1790	1890	1560	1530
18	1220	940	825	977	449	1030	1620	1430	1890	1920	1710	1610
19	1120	844	1110	826	551	1120	1300	1760	1920	1750	1700	1520
20	912	931	1260	1100	586	1260	931	1830	2040	1570	1860	1300
21	1150	1040	907	1060	713	1320	1410	1930	1830	1780	1840	1060
22	1120	975	860	927	679	1230	1550	1870	1530	1990	1880	1540
23	1080	929	906	1030	563	1040	1520	1820	1550	1880	1660	1460
24	1160	819	711	1010	746	1290	1590	1790	1510	1910	1400	1470
25	1250	996	567	933	529	1540	1700	1540	1600	1630	1690	1500
26	1140	1140	1270	724	405	1530	1520	1580	1770	1400	1660	1630
27	925	886	1440	969	480	1620	1330	1600	1660	1080	1660	1280
28	976	551	1300	1070	697	1750	1630	1660	1660	1580	1640	1140
29	990	646	800	1100	---	1640	1640	1850	1580	1700	1580	1450
30	988	719	47	1110	---	1390	1540	1850	1630	1730	1540	1390
31	1040	---	0.00	1130	---	1570	---	1840	---	1710	1430	---
TOTAL	36981	26958	24166.00	18258.00	20898	36886	46421	53160	54190	53290	52290	44490
MEAN	1193	899	780	589	746	1190	1547	1715	1806	1719	1687	1483
MAX	1570	1140	1440	1130	1160	1750	1880	1930	2210	1990	1880	1770
MIN	912	551	0.00	0.00	405	642	931	1380	1500	1080	1300	1060
AC-FT	73350	53470	47930	36210	41450	73160	92080	105400	107500	105700	103700	88250
(*)	41980	39400	37850	25180	30430	34820	38820	44090	47890	46820	47860	46190

CAL YR 2002 TOTAL 503521.00 MEAN 1380 MAX 2340 MIN 0.00 AC-FT 998700 (*) 457800
WTR YR 2003 TOTAL 467988.00 MEAN 1282 MAX 2210 MIN 0.00 AC-FT 928300 (*) 481400

(*) Surface return flow, in acre-feet, to the Colorado River.

COLORADO RIVER MAIN STEM

09429100 COLORADO RIVER BELOW PALO VERDE DAM, AZ-CA

LOCATION.--Lat 33°43'10", long 114°29'50", in NE¹/₄ sec. 2, T.4 N., R.22 W., Gila and Salt River meridian, in Riverside County, CA, Hydrologic Unit 15030104 on right bank 1.2 mi downstream from Palo Verde Diversion Dam, 9.5 mi northeast of Blythe, CA and 11 mi upstream from Ehrenberg, AZ.

DRAINAGE AREA.--186,200 mi², approximately, including 3,959 mi² in Great Divide basin in southern Wyoming, which is noncontributing.

PERIOD OF RECORD.--Mar. 1956 to Mar. 1969, Oct. 1988 to current year. If records for the two Colorado River Indian Reservation drains entering below Palo Verde Dam are subtracted from records for this station, records equivalent to those published 1969--1988 as "Colorado River at Palo Verde Dam" can be obtained.

GAGE.--Water-stage recorder. Datum of gage is 260.00 ft above sea level. Mar. 1956 to Mar. 1969, at site 120 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records fair. Many diversions above station for irrigation, municipal, and industrial uses. Flow regulated by Lake Mead, Lake Mohave, and Lake Havasu.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,300 ft³/s Mar. 21, 1958; maximum gage height, 17.94 ft May 4, 1958; minimum daily discharge, 875 ft³/s Jan. 9, 1995.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum daily discharge, 42,300 ft³/s June 30, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,300 ft³/s June 8 at 1100, gage height, 9.21 ft. Minimum daily discharge, 2,060 ft³/s Feb. 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8680	4890	5760	5400	5350	8390	12800	8270	11200	11800	6050	8200
2	7830	6310	6420	4730	6360	7590	13100	9410	8500	9680	8370	7610
3	7500	6680	7250	4610	6570	7270	9700	9660	6310	8850	8600	7840
4	6810	6550	7090	4350	7220	7330	10900	10500	9640	6470	7790	8120
5	6730	6970	5320	5140	6700	7110	11900	10200	8690	8640	7320	4530
6	7870	6400	5030	5670	6710	7140	11600	9210	7700	10200	9860	6770
7	8200	5610	4660	5970	5640	8770	12200	7890	8610	9690	9200	7380
8	8850	3360	4850	6580	5520	9810	10400	7220	11700	11500	5010	6590
9	8340	4350	4500	5270	6270	9770	10900	5790	10400	11400	8620	6980
10	7540	6220	4020	5410	6530	8360	9270	9380	9790	9680	9750	7910
11	6440	7030	4030	4260	4410	11400	9590	10200	9530	8780	8600	9220
12	7420	8390	4770	4580	5370	8890	12500	9220	7180	11000	8820	5130
13	8080	8650	5460	4660	4030	6620	11700	9780	6820	10100	8100	9140
14	8250	6590	5350	5040	3640	10100	12000	8490	7610	10800	9090	8480
15	7940	6190	5970	6060	3270	12100	11900	6960	9300	8270	4920	8460
16	7900	6710	5830	7130	5940	11100	10100	6580	9150	8860	7370	9170
17	8070	6850	6050	6520	5420	8350	9920	8230	9860	9870	10500	7960
18	6660	7010	5710	6470	5420	8940	9380	9870	10400	7400	7920	7220
19	6320	6850	4530	5950	3770	8430	9740	9700	9300	9240	7040	4450
20	7600	7010	3300	4620	4280	9000	12200	10100	7920	10300	6420	6890
21	6310	6400	4230	5410	6090	7700	11300	8500	8580	10300	6780	7660
22	6490	4290	3400	5230	7060	9640	9240	8280	9460	9880	5180	8150
23	5620	6090	2910	4000	7340	9750	9300	6480	9630	11700	6970	9030
24	5220	7540	3450	3830	7570	9870	9170	9110	10700	10200	9040	9400
25	4870	6630	4500	4760	6250	9800	8190	11100	11400	7030	7550	7650
26	7320	4800	3040	5960	2880	9640	9640	10500	7800	9980	5800	5700
27	7890	3920	2490	5910	2060	11500	10600	9500	6670	9660	6320	7240
28	7790	3340	3930	5790	4430	12100	10700	9040	9410	9450	6630	9800
29	7570	4060	3450	6350	---	12000	12400	7550	10400	6960	4910	8740
30	6120	5790	5400	5070	---	13000	10700	6490	10000	9800	7050	8270
31	5460	---	4750	4460	---	11500	---	7360	---	9720	8200	---
TOTAL	223690	181480	147450	165190	152100	292970	323040	270570	273660	297210	233780	229690
MEAN	7216	6049	4756	5329	5432	9451	10770	8728	9122	9587	7541	7656
MAX	8850	8650	7250	7130	7570	13000	13100	11100	11700	11800	10500	9800
MIN	4870	3340	2490	3830	2060	6620	8190	5790	6310	6470	4910	4450
AC-FT	443700	360000	292500	327700	301700	581100	640700	536700	542800	589500	463700	455600
CAL YR 2002	TOTAL 3042160	MEAN 8335	MAX 12900	MIN 1870	AC-FT 6034000							
WTR YR 2003	TOTAL 2790830	MEAN 7646	MAX 13100	MIN 2060	AC-FT 5536000							

COLORADO RIVER MAIN STEM

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA

LOCATION.--Lat 32°52'59", long 114°27'55", at Imperial Dam. The Arizona end of the dam is in SW¹/₄NW¹/₄ sec. 30, T.6 S., R.21 W., Gila and Salt River meridian, Yuma County, Hydrologic Unit 15030104; the California end is in NW¹/₄SW¹/₄ sec. 9, T.15 S., R.24 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030104. Imperial Dam is 5 mi upstream from Laguna Dam, 15 mi northeast of Yuma, AZ, 90 mi downstream from Palo Verde Dam, and 147 mi downstream from Parker Dam.

DRAINAGE AREA.--188,500 mi², approximately, including 3,959 mi² in Great Divide basin in southern Wyoming, which is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1903--34 (yearly discharge only, published in WSP 1313), July 1934 to current year (monthly discharge only Oct. 1942 to Sept. 1979). Prior to Oct. 1942 published as "near Picacho, Ca." Oct. 1942 to Sept. 1971 published as "at Imperial Dam" (monthly discharge shown as "flow reaching Imperial Dam," listed as supplement to "flow passing Imperial Dam").

GAGE.--None. This record is synthesized from records of several other stations (see REMARKS). July 13, 1934, to Sept. 30, 1942, water-stage recorder at site 14.5 mi upstream at datum 167.38 ft above sea level.

REMARKS.--Records show flow of Colorado River reaching Imperial Dam, and are based on combined daily total flow of Colorado River below Imperial Dam (sta 09429500), All-American Canal near Imperial Dam (sta 09523000), Gila Gravity Main Canal at Imperial Dam (sta 09522500), and diversions to Mittry Lake (sta 09522400). Records for 1903--34 and for Oct. 1942 to Sept. 1960 were computed as combined flow of Colorado River at Yuma (sta 09521000) and the canals diverting at Imperial and Laguna Dams, less the flow of Gila River near Dome (sta 09520500); for some of these periods drainage and waste return flows and channel losses between the gaging stations and Imperial Dam were considered, and for other periods they were neglected. Records for Oct. 1960 to Sept. 1979 are based on combined monthly total flow of same stations on which daily flows are currently based. Records for July 1934 to Sept. 1942 show daily discharge of Colorado River at gaging station near Picacho, CA, water withdrawals, and diversions for irrigation, municipal, and industrial uses, and return flows from irrigated areas. Diversions to Mittry Lake, which began June 23, 1970, are included in river records in table below. Additional regulation, beginning Jan. 31, 1966, to equalize supplies for downstream water users, is provided by pumped storage in reservoir on Senator Wash, about 2 mi upstream from Imperial Dam. Monthend contents of Senator Wash Reservoir—capacity, 13,840 acre-ft—is given in table below.

COOPERATION.--Records of Sparling meter readings of diversion to Mittry Lake furnished by Imperial Irrigation District and contents of Senator Wash Reservoir furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF 1934-2003.--Maximum discharge, 40,800 ft³/s Sept. 5, 1939; minimum, 538 ft³/s Aug. 3, 1934; minimum daily since regulation of Hoover Dam began, 1,450 ft³/s Feb. 17, 1935.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8250	6510	5510	4330	6150	5040	12800	11000	7630	10200	8890	7080
2	8120	5970	6140	4940	5540	5610	12300	10600	9190	10400	7810	7620
3	8200	5690	5610	5040	6900	7070	12400	8920	9610	10100	7240	7680
4	7800	6630	5590	4870	7240	8330	11900	9700	9670	9440	8580	7720
5	7500	6550	6050	4400	7360	8290	10700	10100	9300	8870	8620	7900
6	7060	6690	6230	5590	7240	9270	11300	10700	9820	8270	8660	7160
7	7790	7030	5420	5610	6860	9130	12200	10300	9050	9650	8840	6160
8	8130	6500	5480	5670	6210	8590	12300	10200	8030	9970	8920	7400
9	8280	6040	5440	5690	6000	8520	12400	9310	9670	10200	8070	7800
10	8370	5650	5250	5690	6870	10500	12000	7590	9990	10700	7050	7860
11	8340	6580	5240	5610	6820	10500	11700	7310	10200	10500	8700	7520
12	7390	6740	5390	5420	6310	10500	10500	9050	10200	9820	8820	7720
13	6780	7040	5520	5600	5610	10100	10100	9610	9920	9140	8960	7620
14	7650	7340	5320	5830	6140	9550	11600	9750	8690	10600	9160	7090
15	7800	7220	4930	5790	4780	9020	11900	9740	7790	10400	8580	8510
16	7920	6380	5650	5920	4770	8860	12300	9150	9060	10500	7270	8260
17	7520	5770	5910	5920	5120	10400	12300	7890	9550	9970	6550	8520
18	7480	6620	5880	6230	6320	10000	11100	7480	9800	9830	7760	8560
19	7680	6640	5810	6480	5930	9210	10400	9460	9920	8800	8960	8100
20	6860	6670	5550	6500	5850	9490	10200	9800	10000	8180	8290	7250
21	6950	6710	5510	6140	6090	9530	10800	9920	9080	9570	7820	6880
22	7190	6520	4590	6100	5680	9420	11700	10000	8350	10100	7460	8020
23	7000	6400	5190	6180	5750	8850	11400	9800	9450	10600	6780	8240
24	6820	5790	4100	5790	7510	10900	11100	8730	9610	10400	6300	8320
25	6510	6730	3320	5500	7770	11300	10500	7880	9530	10000	7260	8280
26	6010	6820	4520	4980	8230	11300	10000	9360	9880	8900	8120	8480
27	5540	6100	4650	6000	6280	11200	9780	10100	9990	8210	7720	7350
28	6660	4960	4380	6360	5060	10700	10900	10300	8980	9560	7540	7180
29	7460	5400	4470	6740	---	10800	11100	10100	8420	9450	7460	8040
30	7470	5270	5240	6970	---	11100	11100	9560	10300	9380	6510	8540
31	7330	---	4340	6780	---	12400	---	8430	---	9230	6140	---
TOTAL	229860	190960	162230	178670	176390	295480	340780	291840	280680	300940	244840	232860
MEAN	7415	6365	5233	5764	6300	9532	11360	9414	9356	9708	7898	7762
MAX	8370	7340	6230	6970	8230	12400	12800	11000	10300	10700	9160	8560
MIN	5540	4960	3320	4330	4770	5040	9780	7310	7630	8180	6140	6160
AC-FT	455900	378800	321800	354400	349900	586100	675900	578900	556700	596900	485600	461900
(*)	9042	5527	1968	5430	7674	2763	2763	7908	5268	6274	5149	5391
(**)	922	893	922	922	778	861	774	861	952	984	922	893

CAL YR 2002 TOTAL 3096000 MEAN 8482 MAX 12300 MIN 3320 AC-FT 6141000 (**) 9770
WTR YR 2003 TOTAL 2925530 MEAN 8015 MAX 12800 MIN 3320 AC-FT 5803000 (**) 10680

(*) Monthend contents, in acre-feet, for Senator Wash Reservoir.

(**) Diversion, in acre-feet, to Mittry Diversion (09522400)

COLORADO RIVER MAIN STEM
09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	E coli, m-TEC MF, water, col/ 100 mL (31633)	Fecal coli- form, M-FC MF 0.7u MF col/ 100 mL (31625)	Anti- mony, water, fltrd, ug/L (01095)	Anti- mony, water, unfltrd ug/L (01097)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd ug/L (01002)	Barium, water, fltrd, ug/L (01005)	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, fltrd, ug/L (01020)	Boron, water, unfltrd recover -able, ug/L (01022)	Cadmium water, fltrd, ug/L (01025)
NOV													
20...	E4k	E7k	<1	<1	2	2	96.0	100	<1	<1	148	150	<.5
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
28...	E3k	E10k	<1	<1	3	5	100	99.0	<1	<1	143	142	<.5
28...	--	--	<1	<1	2	5	99.0	99.0	<1	<1	145	141	<.5
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
22...	--	E7k	<1	<1	3	3	110	110	<1	<1	151	149	<.5
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
21...	E8k	--	<1	<1	3	3	110	110	<1	<1	166	163	<.5
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
Date	Cadmium water, unfltrd ug/L (01027)	Chrom- ium, water, fltrd, ug/L (01030)	Chrom- ium, water, unfltrd recover -able, ug/L (01034)	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover -able, ug/L (01042)	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recover -able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover -able, ug/L (01051)	Mangan- ese, water, fltrd, ug/L (01056)	Mangan- ese, water, unfltrd recover -able, ug/L (01055)	Mercury water, fltrd, ug/L (71890)	Mercury water, unfltrd recover -able, ug/L (71900)
NOV													
20...	<.5	<1	<1	<2	<2	<2	99	<2	<2	2	16	<.10	<.1
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
28...	<.5	<1	<1	<2	<2	<2	204	<2	<2	3	31	<.10	<.1
28...	<.5	<1	<1	<2	<2	<2	206	<2	<2	3	31	<.10	<.1
28...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
22...	<.5	<1	<1	<2	<2	<2	187	<2	<2	3	27	<.10	<.1
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
21...	<.5	<1	<1	<2	<2	<2	77	<2	<2	2	15	<.1	<.1
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
Date	Nickel, water, fltrd, ug/L (01065)	Nickel, water, unfltrd recover -able, ug/L (01067)	Selen- ium, water, fltrd, ug/L (01145)	Selen- ium, water, unfltrd ug/L (01147)	Silver, water, fltrd, ug/L (01075)	Silver, water, unfltrd recover -able, ug/L (01077)	Stront- ium, water, unfltrd recover -able, ug/L (01082)	Thall- ium, water, fltrd, ug/L (01057)	Thall- ium, water, unfltrd recover -able, ug/L (01059)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover -able, ug/L (01092)	Suspnd. sedi- ment, sieve diametr percent (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)
NOV													
20...	2	2	2	2	<1	<1	1130	<2	<2	3	2	--	4
20...	--	--	--	--	--	--	--	--	--	--	--	89	4
JAN													
28...	<1	<1	2	2	<1	<1	1140	<2	<2	<2	<2	98	8
28...	<1	<1	2	2	<1	<1	1140	<2	<2	3	<2	--	--
28...	--	--	--	--	--	--	--	--	--	--	--	96	9
MAY													
22...	<1	12	2	2	<1	<1	1110	<2	<2	<2	3	80	13
22...	--	--	--	--	--	--	--	--	--	--	--	79	15
AUG													
21...	<1	4	2	2	<1	<1	1150	<2	<2	4	5	--	--
21...	--	--	--	--	--	--	--	--	--	--	--	--	--
Date	Sus- pended sedi- ment load, tons/d (80155)												
NOV													
20...	12												
20...	--												
JAN													
28...	116												
28...	--												
28...	--												
MAY													
22...	283												
22...	--												
AUG													
21...	--												
21...	--												

Remark codes used in this report:

< -- Less than

Value qualifier codes used in this report:

k -- Counts outside acceptable range

COLORADO RIVER MAIN STEM

09429490 COLORADO RIVER ABOVE IMPERIAL DAM, AZ-CA—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

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 2003 sampling period and are defined in the introductory text section titled "Water-Quality Control Data".

Date	Time	Sample type	Calcium water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	Sodium, water, fltrd, mg/L (00930)	Aluminum, water, fltrd, ug/L (01106)	Barium, water, fltrd, ug/L (01005)	Beryllium, water, fltrd, ug/L (01010)	Cadmium, water, fltrd, ug/L (01025)	Chromium, water, fltrd, ug/L (01030)	Copper, water, fltrd, ug/L (01040)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)
NOV 20...	0808	2	<.02	<.03	<.1	<3	<.5	<1	<.5	<1	<2	<2	<2

Date	Manganese, water, fltrd, ug/L (01056)	Nickel, water, fltrd, ug/L (01065)	Zinc, water, fltrd, ug/L (01090)
NOV 20...	<1	2	<2

Remark codes used in this report:
 < -- Less than

COLORADO RIVER MAIN STEM

09429500 COLORADO RIVER BELOW IMPERIAL DAM, AZ-CA

LOCATION.--Forebay gage: Lat 32°52'59", long 114°27'57", in NW_{1/4}SW_{1/4} sec. 9, T.15 S., R.24 E., San Bernardino meridian, in Imperial County, CA, Hydrologic Unit 15030107, near All-American Canal headworks at east (revised) end of Imperial Dam, 5 mi upstream from Laguna Dam, 15 mi northeast of Yuma, AZ, 90 mi downstream from Palo Verde Dam, and 147 mi downstream from Parker Dam.

DRAINAGE AREA.--188,500 mi², approximately, including 3,959 mi² in Great Divide basin in southern Wyoming, which is noncontributing.

PERIOD OF RECORD.--Oct. 1960 to current year. Prior to Oct. 1971 published as "at Imperial Dam." Records of flow reaching Imperial Dam, formerly published with this station, are now published separately as sta 09429490, "Colorado River above Imperial Dam."

GAGE.--Water-stage recorder in forebay, 12 calibrated gates on California sluiceway, 8 calibrated gates on Gila sluiceway, and calibrated manometer on each discharge pipe from desilting basin. Datum of forebay gage is 162.00 ft, U.S. Bureau of Reclamation datum. Prior to Aug. 21, 1991, forebay gage located at west end of Imperial Dam at same datum.

REMARKS.--No estimated daily discharges. Records good. Records of daily discharge show flow of Colorado River passing Imperial Dam, and include water released to river through California and Gila sluiceways, sludge from desilting basins returned to river, and leakage through dam. For records of flow reaching Imperial Dam see sta 09429490. Flow of Colorado Rivers regulated by many reservoirs, principally Lake Mead, since 1935. Many diversions from Colorado River and tributaries above station. Diversion to Mittry Lake and monthend contents of Senator Wash Reservoir also are published with sta 09429490.

COOPERATION.--Records of gate openings and sludge return flow from desilting basins furnished by Imperial Irrigation District.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 30,200 ft³/s Aug. 18 and 19, 1983. Minimum daily discharge, 27 ft³/s Dec. 15--18, 1969.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	380	448	1020	902	260	230	350	532	350	340	554	340
2	380	370	1210	260	260	399	350	611	350	340	447	340
3	380	370	850	260	260	564	517	411	520	417	340	340
4	380	370	776	260	260	819	805	1860	350	406	340	340
5	746	370	1260	260	260	230	372	938	350	340	340	340
6	614	370	1830	260	260	230	1210	1070	350	340	340	412
7	370	536	1040	260	260	230	842	624	350	340	340	340
8	370	370	1490	260	260	230	905	350	422	340	340	330
9	370	370	879	260	260	230	1060	350	340	340	373	330
10	370	370	834	380	260	230	409	350	340	502	340	330
11	370	370	768	778	260	230	350	497	340	340	340	220
12	370	370	768	912	260	230	350	350	340	341	340	270
13	370	370	768	260	654	230	375	422	340	514	340	320
14	370	370	768	260	1930	350	350	410	340	1080	340	220
15	370	704	768	260	712	350	350	350	340	437	340	384
16	370	373	771	260	925	1150	584	400	340	615	476	220
17	370	370	768	264	771	2380	942	350	340	340	399	220
18	568	370	771	940	1800	1700	900	350	340	340	340	384
19	1200	370	495	1760	1120	600	1440	350	340	340	1040	220
20	904	370	267	938	618	367	1940	350	340	424	551	220
21	399	270	260	481	260	350	351	350	340	340	340	220
22	449	370	260	260	260	350	773	350	340	340	340	220
23	408	287	260	260	350	350	632	350	340	340	340	220
24	370	270	260	260	260	350	350	350	340	340	340	220
25	370	270	260	260	1170	350	350	350	340	582	340	220
26	370	270	260	260	2940	350	350	400	340	644	855	697
27	476	270	260	260	1300	350	350	501	424	407	548	261
28	607	270	260	260	260	350	350	810	340	340	340	220
29	1420	270	260	260	---	350	350	697	340	411	340	220
30	1140	270	260	260	---	350	350	503	340	340	340	220
31	895	---	260	260	---	350	---	350	---	340	340	---
TOTAL	16526	10798	20961	13075	18450	14829	18607	15936	10606	12900	12723	8838
MEAN	533	360	676	422	659	478	620	514	354	416	410	295
MAX	1420	704	1830	1760	2940	2380	1940	1860	520	1080	1040	697
MIN	370	270	260	260	260	230	350	350	340	340	340	220
AC-FT	32780	21420	41580	25930	36600	29410	36910	31610	21040	25590	25240	17530
CAL YR 2002	TOTAL 222510	MEAN 610	MAX 3580	MIN 260	AC-FT 441300							
WTR YR 2003	TOTAL 174249	MEAN 477	MAX 2940	MIN 220	AC-FT 345600							

COLORADO RIVER MAIN STEM

09429600 COLORADO RIVER BELOW LAGUNA DAM, AZ-CA

LOCATION--Lat 32°48'44", long 114°30'51", in SE1/4NE1/4 sec. 35, T.15 S., R.24 E., San Bernardino meridian, in Imperial County, CA, Hydrologic Unit 15030107, on right bank 1.4 mi downstream from Laguna Dam, 2.8 mi northeast of Bard, CA, and 10 mi northeast of Yuma, AZ.

DRAINAGE AREA--188,600 mi², approximately, including 3,959 mi² in Great Divide basin in southern Wyoming, which is noncontributing.

PERIOD OF RECORD--Dec. 1971 to current year.

GAGE--Water-stage recorder. Datum of gage is 120.81 ft above sea level (Bureau of Reclamation benchmark).

REMARKS--No estimated daily discharges. Records fair. Natural flow of Colorado River at this point is affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals, diversions for irrigation, municipal, and industrial uses, and return flows from irrigated areas. Flow past station consists mainly of water released through Imperial Dam, sludge from the desilting basins at Imperial Dam, seepage through Imperial Dam, and seepage from the All-American Canal and the Gila Gravity Main Canal.

EXTREMES FOR PERIOD OF RECORD--Maximum daily discharge, 30,900 ft³/s Aug. 19, 1983; minimum daily, 71 ft³/s May 29, 1973.

EXTREMES FOR CURRENT YEAR--Maximum daily discharge, 3,530 ft³/s Feb. 26. Minimum daily discharge, 244 ft³/s March 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	407	667	803	505	267	307	438	437	539	512	519	457
2	403	594	1290	312	265	357	434	491	519	508	800	448
3	402	562	920	278	274	663	370	558	514	507	536	443
4	399	521	929	269	269	884	403	1290	540	538	506	436
5	488	481	1020	270	271	432	564	1440	522	547	483	425
6	781	447	1900	268	274	351	998	1320	492	531	647	438
7	449	485	1630	278	285	613	976	1070	477	519	605	430
8	434	487	1210	281	283	470	904	601	472	506	451	423
9	431	453	1010	283	283	338	1000	697	491	494	526	416
10	385	442	902	298	284	292	625	604	477	507	510	410
11	331	438	906	577	285	244	447	448	473	513	494	393
12	376	435	906	1280	284	407	438	469	479	499	484	329
13	399	447	908	338	415	315	438	458	478	492	476	370
14	544	452	909	288	2200	400	444	519	482	750	469	330
15	542	439	918	288	1330	427	433	559	485	907	462	335
16	406	458	925	310	1060	505	529	530	683	648	494	326
17	419	455	932	299	719	2440	862	487	450	554	495	297
18	420	449	929	444	1990	2630	1090	463	423	518	484	317
19	996	446	715	1340	1680	744	1640	461	447	505	547	326
20	1200	436	411	1280	954	509	2310	455	451	499	795	320
21	520	414	386	741	342	427	697	449	460	504	625	318
22	457	363	367	286	308	419	718	451	475	502	689	315
23	474	368	347	275	320	416	861	451	481	498	463	312
24	437	349	332	279	337	468	615	451	480	497	450	310
25	430	328	318	275	711	508	774	451	469	513	444	309
26	428	316	309	274	3530	551	471	466	473	948	457	344
27	439	316	290	275	2380	451	453	501	482	571	732	441
28	570	318	289	270	381	411	445	606	509	556	524	388
29	1490	317	279	266	---	416	472	695	517	556	501	376
30	1630	317	258	270	---	418	448	729	513	537	481	365
31	1130	---	257	274	---	425	---	567	---	524	466	---
TOTAL	18217	13000	23505	12971	21981	18238	21297	19174	14753	17260	16615	11147
MEAN	588	433	758	418	785	588	710	619	492	557	536	372
MAX	1630	667	1900	1340	3530	2630	2310	1440	683	948	800	457
MIN	331	316	257	266	265	244	370	437	423	492	444	297
AC-FT	36130	25790	46620	25730	43600	36180	42240	38030	29260	34240	32960	22110
CAL YR 2002	TOTAL 253742	MEAN 695	MAX 4390	MIN 256	AC-FT 503300							
WTR YR 2003	TOTAL 208158	MEAN 570	MAX 3530	MIN 244	AC-FT 412900							

09432000 GILA RIVER BELOW BLUE CREEK, NEAR VIRDEN, NM

LOCATION.--Lat 32°38'53", long 108°50'43", in SE_{1/4}SW_{1/4} sec. 18, T.19 S., R.19 W., Grant County, Hydrologic Unit 15040002, on left bank at head of canyon, 1.4 mi downstream from Blue Creek, 10 mi east of Virden, and 16 mi upstream from New Mexico-Arizona State line.

DRAINAGE AREA.--3,203 mi², excluding Animas River basin.

PERIOD OF RECORD.--May to Nov. 1914, Mar. to Sept. 1915, July 1927 to current year. July 1927 to May 1931 monthly discharge only, published in WSP 1313, computed as sum of flow at Virden Bridge, 9 mi downstream, and in Sunset Canal. Published as "Gila River near Duncan, Ariz.," 1914--15 and as "Gila River at Fuller's Ranch, near Duncan, Ariz.," 1931--38.

REVISED RECORDS.--WSP 1283: Drainage area. WSP 1313: 1929, 1931--32(M).

GAGE.--Water-stage recorder. Elevation of gage is 3,875 ft above sea level, from river-profile map. May 11, 1914, to Sept. 30, 1915, at site 6 mi downstream, 1,000 ft upstream from intake of Sunset Canal. June 1 to July 7, 1931, nonrecording gage at present site and datum. Since Apr. 18, 1980, supplementary gage on left bank 800 ft downstream at same datum. Since June 1980, crest-stage gages at supplementary gage site. Since Nov. 1990, water-stage recorder at supplementary gage.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Station is above all Duncan Valley diversions. Diversions for irrigation of about 6,200 acres above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 58,700 ft³/s Dec. 19, 1978, gage height, 29.00 ft, from rating curve extended above 38,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 1 ft³/s July 14, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,900 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 7.....	1345	*7,920	*9.34

Minimum daily discharge, 3.8 ft³/s July 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	72	88	91	75	102	226	109	34	12	13	e98
2	53	72	88	91	74	106	200	107	33	12	12	e84
3	52	73	92	89	71	112	190	108	31	11	13	e65
4	51	74	92	89	68	113	188	105	29	11	12	57
5	51	75	94	89	68	114	184	103	27	11	11	54
6	50	75	95	87	69	115	184	101	25	11	9.9	46
7	1330	72	95	84	69	116	180	98	23	9.8	9.5	40
8	189	73	94	84	69	116	172	96	20	8.5	9.6	39
9	101	73	93	85	71	116	164	93	17	7.8	8.8	43
10	85	75	94	85	69	121	158	88	15	7.4	8.3	44
11	80	76	93	86	68	127	151	79	14	7.5	8.1	42
12	77	77	91	87	67	130	145	79	13	7.6	8.0	37
13	74	78	87	88	70	135	140	75	12	e7.7	8.7	41
14	71	77	88	88	75	139	141	68	11	e7.1	9.2	48
15	72	74	90	88	77	145	140	66	10	6.5	9.5	55
16	71	74	90	85	85	153	147	63	10	6.1	10	49
17	69	76	90	85	85	162	156	60	11	5.9	11	48
18	68	75	91	84	83	183	158	54	12	5.8	34	29
19	71	75	91	84	83	203	154	52	13	5.4	21	24
20	72	74	93	83	84	217	144	54	13	4.9	16	21
21	72	74	94	82	86	224	139	53	13	4.5	18	17
22	73	79	93	82	86	231	134	53	12	4.5	19	e14
23	72	84	95	83	93	227	128	51	11	4.2	20	e15
24	70	83	96	84	85	233	123	49	10	3.8	22	14
25	69	83	96	83	95	265	120	46	10	7.0	36	14
26	69	84	96	82	98	282	117	44	10	12	26	18
27	70	84	94	81	97	293	117	43	9.9	10	31	36
28	72	85	92	82	99	294	117	42	10	11	194	77
29	70	87	91	81	---	276	112	38	12	11	123	24
30	68	87	90	80	---	265	110	37	13	15	93	19
31	71	---	89	77	---	255	---	36	---	14	86	---
TOTAL	3518	2320	2855	2629	2219	5570	4539	2150	483.9	263.0	910.6	1212
MEAN	113	77.3	92.1	84.8	79.2	180	151	69.4	16.1	8.48	29.4	40.4
MAX	1330	87	96	91	99	294	226	109	34	15	194	98
MIN	50	72	87	77	67	102	110	36	9.9	3.8	8.0	14
AC-FT	6980	4600	5660	5210	4400	11050	9000	4260	960	522	1810	2400
CFSM	0.04	0.02	0.03	0.03	0.02	0.06	0.05	0.02	0.01	0.00	0.01	0.01
IN.	0.04	0.03	0.03	0.03	0.02	0.06	0.05	0.02	0.01	0.00	0.01	0.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2003, BY WATER YEAR (WY)

	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	161	138	244	302	347	418	266	147	49.6	74.1	199	200																																																												
MAX	1667	1040	2485	4158	1752	1464	1138	977	298	366	1164	1507																																																												
(WY)	1973	1995	1979	1993	1993	1973	1973	1992	1992	1986	1988	1975																																																												
MIN	5.39	34.9	47.6	64.0	61.1	45.1	27.7	13.5	4.43	4.85	9.35	4.89																																																												
(WY)	1957	1957	1957	1981	1971	1971	1955	1956	1956	1951	1951	1953																																																												

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1932 - 2003
ANNUAL TOTAL	30074.1	28669.5	
ANNUAL MEAN	82.4	78.5	207
HIGHEST ANNUAL MEAN			746
LOWEST ANNUAL MEAN			43.1
HIGHEST DAILY MEAN	2360	Sep 12	1330
LOWEST DAILY MEAN	3.0	Jul 13	3.8
ANNUAL SEVEN-DAY MINIMUM	3.2	Jul 1	4.7
ANNUAL RUNOFF (AC-FT)	59650	56870	149900
ANNUAL RUNOFF (CFSM)	0.026	0.025	0.065
ANNUAL RUNOFF (INCHES)	0.35	0.33	0.88
10 PERCENT EXCEEDS	98	144	439
50 PERCENT EXCEEDS	69	75	92
90 PERCENT EXCEEDS	9.8	10	22

e Estimated

GILA RIVER BASIN

09439000 GILA RIVER AT DUNCAN, AZ

LOCATION--Lat 32°43'29.3", long 109°05'54", in SW1/4NW1/4, sec. 20, T.08 S., R.32 E., Greenlee County, Hydrologic Units 15040001, 15040002.

DRAINAGE AREA--3,586 mi².

PERIOD OF RECORD--No previous record at this site.

REMARKS--Records poor.

EXTREMES FOR CURRENT YEAR--No valid base discharge has been determined.

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 6	2200	483	7.93

No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	72	93	86	71	e166	78	0.71	0.30	7.4	2.6
2	---	---	76	94	79	67	152	73	0.92	0.17	3.1	4.3
3	---	---	83	90	74	71	149	79	1.3	0.06	1.9	4.8
4	---	---	89	89	65	72	167	75	0.36	0.18	0.74	3.9
5	---	---	91	92	64	69	182	71	0.29	0.37	0.82	3.4
6	---	---	95	90	64	75	185	65	0.43	0.68	36	3.1
7	---	---	96	90	61	76	193	61	0.35	0.43	8.0	3.0
8	---	---	96	90	62	81	195	54	0.35	1.1	0.57	2.8
9	---	---	95	90	60	71	202	49	0.46	0.47	0.26	3.0
10	---	---	97	90	60	64	205	45	0.44	0.00	0.29	2.1
11	---	---	98	90	58	60	182	41	0.25	0.00	0.11	1.6
12	---	---	98	90	57	64	167	39	0.00	0.00	0.40	0.99
13	---	---	96	92	63	66	153	37	0.00	0.00	0.00	0.40
14	---	---	94	93	68	75	139	31	0.00	0.00	0.00	0.96
15	---	---	94	93	58	84	130	26	0.00	0.00	0.00	1.1
16	---	---	90	90	56	99	130	24	0.00	0.00	0.00	0.88
17	---	---	95	90	78	112	133	22	16	0.00	0.00	0.66
18	---	---	94	90	77	129	130	17	3.1	0.00	2.2	0.05
19	---	---	96	90	76	147	143	11	1.8	0.00	1.2	0.00
20	---	---	98	90	82	160	124	11	1.1	0.00	2.5	0.00
21	---	---	99	90	84	162	118	11	0.09	0.00	2.8	0.00
22	---	---	95	90	85	168	119	9.9	0.00	0.00	2.2	0.00
23	---	---	92	90	89	176	116	7.7	0.00	0.00	2.2	0.00
24	---	---	94	90	95	e170	106	5.4	0.00	12	2.5	0.00
25	---	---	94	90	94	e170	103	4.6	0.00	3.5	2.7	0.00
26	---	---	93	88	102	e170	101	3.9	0.00	1.5	3.4	0.10
27	---	67	96	87	91	e169	98	3.0	0.00	1.7	4.6	1.5
28	---	70	95	87	80	e168	99	1.3	0.00	0.86	17	2.8
29	---	70	96	87	---	e167	94	1.5	1.1	1.2	43	3.5
30	---	71	96	87	---	e167	89	0.87	0.48	6.2	4.3	4.5
31	---	---	95	87	---	e166	---	0.82	---	11	2.5	---
TOTAL	---	---	2888	2789	2068	3566	4270	958.99	29.53	41.72	152.69	52.04
MEAN	---	---	93.2	90.0	73.9	115	142	30.9	0.98	1.35	4.93	1.73
MAX	---	---	99	94	102	176	205	79	16	12	43	4.8
MIN	---	---	72	87	56	60	89	0.82	0.00	0.00	0.00	0.00
MED	---	---	95	90	75	99	136	24	0.32	0.17	2.2	1.3
AC-FT	---	---	5730	5530	4100	7070	8470	1900	59	83	303	103

e Estimated

GILA RIVER BASIN

09442000 GILA RIVER NEAR CLIFTON, AZ

LOCATION.--Lat 32°57'57", long 109°18'35", in NE1/4SE1/4 sec. 25, T.5 S., R.29 E., Greenlee County, Hydrologic Unit 15040002, on right bank 60 ft upstream from bridge on county road, 6 mi upstream from San Francisco River, and 6 mi south of Clifton.

DRAINAGE AREA.--4,010 mi².

PERIOD OF RECORD.--Nov. 1910 to July 1918 (published as "at Guthrie"), Oct. 1927 to Sept. 1989, Oct. 1989 to current year, operated as a crest-stage partial-record station, Oct. 1995 to Sept. 1996. Monthly discharge only for some periods, published in WSP 1313.

REVISED RECORDS.--WSP 1059: 1911--12, 1915, 1917. WSP 1179: 1929(M), 1934(M). WSP 1283: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,336.38 ft above sea level. Nov. 6, 1910, to July 11, 1918, nonrecording gage or water-stage recorder at two sites about 6 mi upstream at Guthrie at different datums. Mar. 1928 to June 1948 water-stage recorder at present site at datum 0.91 ft lower. June 1948 to Oct. 17, 1967, water-stage recorder at site 0.2 mi upstream at datum 3.12 ft higher. Oct. 18, 1967, to June 23, 1974, Apr. 10, 1978, to Feb. 6, 1979, at site 500 ft downstream at datum 0.44 ft higher. June 24, 1974, to Apr. 9, 1978, at present site and datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Diversions for irrigation of about 14,300 acres above station. Station is below all Duncan Valley diversions.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 57,000 ft³/s Dec. 19, 1978, gage height, 23.80 ft, from rating curve extended above 28,000 ft³/s; minimum daily, 3.7 ft³/s July 27, 1987.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 8.....	unknown	*5,240	*8.26

Minimum daily discharge, 16 ft³/s July 3.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	30	67	94	95	68	178	92	27	18	23	80
2	31	29	66	93	95	59	152	83	28	17	31	86
3	35	30	73	92	93	55	123	79	27	16	25	110
4	39	32	74	88	90	61	115	82	24	17	24	124
5	42	35	79	86	89	58	120	83	23	19	23	109
6	45	39	83	84	81	55	122	79	23	17	21	95
7	80	43	86	84	82	57	121	81	24	18	62	89
8	e1680	45	90	81	88	56	114	79	22	19	45	123
9	e145	45	88	87	87	55	115	79	22	19	27	73
10	e38	46	89	87	85	50	112	75	22	20	24	72
11	e26	46	91	88	82	53	121	72	23	20	28	61
12	e26	47	91	80	76	48	113	68	24	19	23	54
13	e27	49	88	79	78	50	106	e63	24	19	26	49
14	e27	51	86	82	83	49	92	e54	24	19	27	46
15	e27	53	83	86	91	51	87	e46	23	19	28	45
16	e29	52	80	86	75	57	89	e41	22	19	26	45
17	e28	54	79	87	81	66	96	e37	22	18	26	45
18	25	57	87	87	99	74	99	e33	25	18	26	44
19	26	58	88	87	99	93	96	e30	26	19	29	43
20	25	60	87	83	94	107	103	e28	27	17	25	43
21	24	60	89	80	92	124	92	e27	28	17	28	41
22	25	63	93	66	92	129	89	e26	24	20	24	41
23	26	63	98	58	95	137	93	e24	23	20	28	41
24	30	63	102	60	96	137	92	e24	23	21	25	40
25	28	63	98	62	99	139	86	e24	22	22	21	40
26	28	61	100	72	103	163	87	e25	22	23	21	39
27	27	61	101	75	105	182	90	e26	21	25	24	38
28	28	62	98	83	83	192	90	29	24	23	24	37
29	29	65	98	93	---	187	93	29	19	23	58	37
30	30	68	96	95	---	179	92	29	18	25	155	36
31	30	---	94	98	---	178	---	28	---	24	104	---
TOTAL	2735	1530	2722	2563	2508	2969	3178	1575	706	610	1081	1826
MEAN	88.2	51.0	87.8	82.7	89.6	95.8	106	50.8	23.5	19.7	34.9	60.9
MAX	1680	68	102	98	105	192	178	92	28	25	155	124
MIN	24	29	66	58	75	48	86	24	18	16	21	36
AC-FT	5420	3030	5400	5080	4970	5890	6300	3120	1400	1210	2140	3620

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 2003, BY WATER YEAR (WY)

MEAN	182	119	219	238	295	375	231	111	39.9	120	224	197
MAX	1754	806	2389	1355	1666	1765	1688	874	171	934	898	1208
(WY)	1973	2001	1915	1916	1915	1915	1915	1973	1973	1914	1988	1975
MIN	8.66	10.7	17.3	42.5	24.0	20.5	12.3	11.7	9.37	12.9	16.8	8.24
(WY)	1957	1957	1957	1954	1957	1957	1957	1954	1959	1963	1960	1956

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1911 - 2003

ANNUAL TOTAL	24666	24003	
ANNUAL MEAN	67.6	65.8	200
HIGHEST ANNUAL MEAN			930
LOWEST ANNUAL MEAN			42.5
HIGHEST DAILY MEAN	1680	Oct 8	1680
LOWEST DAILY MEAN	16	Jul 7	16
ANNUAL SEVEN-DAY MINIMUM	18	Jul 2	17
ANNUAL RUNOFF (AC-FT)	48930		47610
10 PERCENT EXCEEDS	92		102
50 PERCENT EXCEEDS	39		57
90 PERCENT EXCEEDS	23		22

e Estimated

GILA RIVER BASIN

09444200 BLUE RIVER NEAR CLIFTON, AZ

LOCATION--Lat 33°17'27", long 109°11'44", in sec. 6, T.2 S., R.31 E. (unsurveyed), Greenlee County, Hydrologic Unit 15040004, in Apache National Forest, on right bank 0.1 mi downstream from county road crossing, 0.9 mi upstream from Clear Creek, 8 mi upstream from mouth, and 17 mi northeast of Clifton.

DRAINAGE AREA--506 mi².

PERIOD OF RECORD--Nov. 1967 to Sept. 1991, Oct. 1992 to Sept. 1995 (annual maximum only), Oct. 1995 to current year.

GAGE--Water-stage recorder. Elevation of gage is 4,160 ft above sea level, from topographic map.

REMARKS--Records fair.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 30,000 ft³/s Oct. 20, 1972, gage height, 22.56 ft, from rating curve extended above 960 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 1.3 ft³/s July 24, 2003.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 800 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sept. 10	0530	*398	*6.39

Minimum daily discharge, 1.3 ft³/s July 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	3.5	9.1	e12	15	109	84	35	8.5	2.3	8.2	22
2	4.9	3.5	9.5	e12	15	101	81	33	6.6	2.0	8.2	17
3	4.5	3.5	17	13	15	99	80	32	4.9	2.0	11	14
4	4.5	3.8	15	13	16	102	78	30	4.4	2.0	10	12
5	4.3	3.7	13	13	16	104	74	29	4.4	2.0	8.1	11
6	4.3	3.6	12	13	16	102	69	27	4.5	1.9	6.8	13
7	9.4	3.6	12	13	16	97	64	26	4.4	1.8	6.0	14
8	7.1	3.6	12	13	17	100	60	24	4.3	1.6	5.2	19
9	5.4	3.7	12	14	17	109	56	23	4.7	1.6	4.8	22
10	4.6	4.2	12	14	16	121	54	21	4.6	1.4	4.9	129
11	4.3	3.7	12	14	16	132	51	20	4.2	1.4	4.8	77
12	4.1	3.6	12	15	16	138	51	19	3.9	1.9	4.3	36
13	4.1	3.6	12	14	43	132	52	17	3.7	1.9	4.1	25
14	4.2	3.6	12	14	156	131	54	16	3.5	1.7	18	19
15	4.0	3.6	11	14	120	127	65	14	3.3	1.6	20	15
16	3.8	3.9	12	14	93	123	63	13	3.3	1.5	15	12
17	3.5	4.1	13	14	75	173	58	11	3.5	1.7	12	9.6
18	3.7	4.1	14	15	63	184	55	9.9	3.6	1.7	13	7.7
19	3.8	4.3	13	14	56	180	52	9.5	3.4	1.5	20	6.0
20	3.7	4.5	13	14	51	159	50	8.6	3.1	1.5	17	5.1
21	3.9	4.5	12	15	50	147	46	8.1	3.0	1.7	14	4.3
22	4.2	4.7	12	15	46	144	44	7.1	2.9	1.9	9.7	3.9
23	4.1	5.2	18	15	42	141	42	6.5	2.6	1.7	8.4	3.4
24	3.7	6.2	19	15	39	142	42	5.9	2.6	1.3	8.0	3.2
25	3.5	6.8	19	15	38	139	41	5.6	2.4	1.4	8.4	3.1
26	3.6	7.4	15	14	88	130	39	5.3	2.3	1.4	8.9	5.0
27	3.7	7.9	14	14	101	123	38	5.2	2.3	29	9.9	7.5
28	3.8	8.3	13	15	110	119	38	5.2	2.8	21	33	6.1
29	3.7	8.7	13	14	---	112	37	4.8	3.0	14	50	4.6
30	3.6	9.0	e13	15	---	101	37	4.7	2.8	11	48	3.6
31	3.6	---	e12	15	---	92	---	8.3	---	9.9	33	---
TOTAL	134.0	144.4	407.6	434	1362	3913	1655	484.7	113.5	129.3	432.7	530.1
MEAN	4.32	4.81	13.1	14.0	48.6	126	55.2	15.6	3.78	4.17	14.0	17.7
MAX	9.4	9.0	19	15	156	184	84	35	8.5	29	50	129
MIN	3.5	3.5	9.1	12	15	92	37	4.7	2.3	1.3	4.1	3.1
AC-FT	266	286	808	861	2700	7760	3280	961	225	256	858	1050

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2003, BY WATER YEAR (WY)

	MEAN	88.2	49.2	75.0	83.5	114	154	116	54.3	14.9	26.3	45.5	45.3
MAX	1027	443	616	808	707	584	488	338	136	136	265	366	
(WY)	1973	1979	1979	1993	1980	1983	1983	1973	1994	1994	1999	1975	
MIN	2.58	0.000	3.69	0.000	8.04	8.94	6.69	3.85	1.56	0.000	0.000	2.94	
(WY)	1983	1994	1977	1992	1971	1971	1971	2000	2002	1992	1993	2000	

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1968 - 2003

ANNUAL TOTAL		4795.46		9740.3		
ANNUAL MEAN		13.1		26.7		71.8
HIGHEST ANNUAL MEAN						243
LOWEST ANNUAL MEAN						9.66
HIGHEST DAILY MEAN		1310	Sep 11	184	Mar 18	12400
LOWEST DAILY MEAN		0.91	Jun 21	1.3	Jul 24	0.00
ANNUAL SEVEN-DAY MINIMUM		1.1	Jun 15	1.6	Jul 20	0.00
ANNUAL RUNOFF (AC-FT)		9510		19320		52020
10 PERCENT EXCEEDS		13		92		154
50 PERCENT EXCEEDS		8.3		12		20
90 PERCENT EXCEEDS		1.8		3.1		4.6

e Estimated

GILA RIVER BASIN

09444500 SAN FRANCISCO RIVER AT CLIFTON, AZ

LOCATION--Lat 33°02'58", long 109°17'43", in SW1/4SE1/4 sec. 30, T.4 S., R.30 E., Greenlee County, Hydrologic Unit 15040004, on downstream side of right pier at Railroad Boulevard Bridge (U.S. Highway 191), at Clifton, 9.9 mi upstream from mouth.

DRAINAGE AREA--2,766 mi², of which 2 mi² is noncontributing.

PERIOD OF RECORD--Oct. 1910 to Mar. 1911, July 1911 to June 1912, Sept. 1912, Nov. 1912 to Mar. 1913, May 1913 to July 1918, July 1927 to current year. Monthly discharge only for some periods, published in WSP 1313. Published as "San Francisco River at dam above Clifton" in 1911 and under both names in 1912.

REVISED RECORDS--WSP 1049: 1911, 1913-15, 1917. WSP 1283: Drainage area. WSP 1313: 1927-30(M), 1932(M), 1934(M). WRD Ariz. 1972: 1917(M).

GAGE--Water-stage recorder. Datum of gage is 3,436.16 ft above sea level. See WSP 1713 or 1733 for history of changes prior to Apr. 7, 1959. Apr. 7, 1959, to Mar. 23, 1961, at site 1,140 ft downstream at datum 5.37 ft lower. July 18, 1980 to July 28, 1983, supplementary water-stage recorder 0.4 mi upstream on right bank at same datum and June 15, 1981, to Sept. 30, 1983, crest-stage gages at site. Aug. 4, 1983, to Mar. 1, 1985, supplementary water-stage recorder on right bank at main gage site at same datum, Oct. 1, 1992, at main gage site, at datum 10.00 ft higher.

REMARKS--Records fair, except for estimated daily discharges, which are poor. Diversions for mining, municipal use, and for irrigation of about 2,700 acres above station.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 90,900 ft³/s Oct. 2, 1983, gage height, 19.72 ft, from highwater mark, from rating curve extended above 30,000 ft³/s on basis of slope-area measurement at gage height 17.0 ft; minimum daily, 6.1 ft³/s June 21, 1971.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 2,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 19	1015	*336	*11.60

Minimum daily discharge, 12 ft³/s July 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	53	65	71	68	242	231	85	37	22	36	62
2	55	52	64	68	66	201	217	82	39	20	32	68
3	49	52	66	67	65	236	210	79	35	17	31	59
4	49	51	74	67	68	213	206	77	30	18	31	54
5	48	50	71	63	72	211	197	71	31	18	30	51
6	56	49	68	62	74	206	197	74	32	17	23	49
7	74	49	71	59	72	192	188	67	31	17	22	52
8	92	49	71	59	74	184	179	64	30	16	24	51
9	82	49	70	60	77	182	175	59	28	14	22	48
10	70	48	70	60	74	194	167	60	29	12	20	84
11	64	47	70	64	73	219	162	59	29	15	23	177
12	60	46	69	62	73	235	157	61	26	16	23	118
13	62	45	72	67	78	243	149	64	27	19	23	90
14	60	46	72	62	204	243	142	57	27	20	25	70
15	59	42	70	63	234	247	148	50	28	14	25	63
16	57	42	70	63	192	244	161	51	29	17	31	58
17	57	42	72	65	155	283	151	46	29	20	37	54
18	62	43	78	66	137	318	144	49	30	20	34	50
19	60	50	79	63	131	318	142	46	31	17	47	49
20	57	55	80	68	120	309	137	46	27	17	39	44
21	57	57	79	70	116	294	133	49	28	20	37	40
22	59	50	80	71	105	287	127	48	27	19	35	40
23	62	45	92	70	101	286	118	44	27	22	32	38
24	61	44	105	72	94	297	116	44	23	24	27	33
25	58	44	103	70	90	308	113	41	24	21	26	27
26	56	47	93	73	110	302	107	40	26	22	27	30
27	62	50	88	68	178	293	105	38	25	23	28	33
28	59	52	78	74	182	283	99	40	25	28	30	42
29	57	64	78	70	---	271	100	42	24	39	60	42
30	50	65	77	69	---	251	98	39	23	37	89	38
31	54	---	73	68	---	244	---	39	---	38	67	---
TOTAL	1858	1478	2368	2054	3083	7836	4576	1711	857	639	1036	1714
MEAN	59.9	49.3	76.4	66.3	110	253	153	55.2	28.6	20.6	33.4	57.1
MAX	92	65	105	74	234	318	231	85	39	39	89	177
MIN	48	42	64	59	65	182	98	38	23	12	20	27
AC-FT	3690	2930	4700	4070	6120	15540	9080	3390	1700	1270	2050	3400
CFSM	0.02	0.02	0.03	0.02	0.04	0.09	0.06	0.02	0.01	0.01	0.01	0.02
IN.	0.03	0.02	0.03	0.03	0.04	0.11	0.06	0.02	0.01	0.01	0.01	0.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2003, BY WATER YEAR (WY)

	MEAN	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	228	132	247	292	349	440	322	159	55.8	98.8	196	153																																																																															
MAX	4285	1450	2445	4204	2429	2136	2252	1244	310	657	1360	816																																																																															
(WY)	1984	1979	1979	1993	1993	1915	1915	1973	1992	1915	1967	1975																																																																															
MIN	23.3	28.2	33.5	37.0	38.8	43.9	36.3	23.7	11.0	20.6	33.4	21.5																																																																															
(WY)	1954	1957	1954	1954	1954	1951	1955	1956	1956	2003	2003	1956																																																																															

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1914 - 2003
ANNUAL TOTAL	26750.2	29210	
ANNUAL MEAN	73.3	80.0	220
HIGHEST ANNUAL MEAN			937
LOWEST ANNUAL MEAN			42.0
HIGHEST DAILY MEAN	3640	318	52200
LOWEST DAILY MEAN	6.8	12	6.1
ANNUAL SEVEN-DAY MINIMUM	8.4	15	8.1
ANNUAL RUNOFF (AC-FT)	53060	57940	159600
ANNUAL RUNOFF (CFSM)	0.027	0.029	0.080
ANNUAL RUNOFF (INCHES)	0.36	0.39	1.08
10 PERCENT EXCEEDS	80	193	426
50 PERCENT EXCEEDS	57	60	74
90 PERCENT EXCEEDS	15	24	34

09447000 EAGLE CREEK ABOVE PUMPING PLANT, NEAR MORENCI, AZ

LOCATION--Lat 33°03'52", long 109°26'30", in SW1/4SE1/4 sec. 23, T.4 S., R.28 E., Greenlee County, Hydrologic Unit 15040005, on right bank 2 mi upstream from Phelps Dodge Corp. pumping plant, 5 mi west of Morenci, and 12 mi upstream from mouth.

DRAINAGE AREA--622 mi².

PERIOD OF RECORD--Apr. 1944 to current year.

REVISED RECORDS--WSP 1850-C: 1966. WDR AZ-88-1: Drainage area.

GAGE--Water-stage recorder. Datum of gage is 3,673.5 ft above sea level. Oct. 25, 1984, to Mar. 6, 1986, at site 1 mi upstream at datum 24.1 ft higher. Prior to Oct. 25, 1984, at various sites within 1 mi upstream from present site at different datums. Aug. 23, 1950, to Aug. 1, 1981, and since Mar. 6, 1984, supplementary gages at various sites within 1 mi upstream from present site at different datums. Feb. 7, 1993, to July 2, 1993, on right bank at different datum.

REMARKS--Records good, except estimated daily discharges, which are poor. Diversions above station for irrigation of about 500 acres, mostly above Willow Creek. Water from Black River was pumped into Eagle Creek basin, 52 mi upstream from this station, and water was pumped from wells into Eagle Creek near Double Circle Ranch below Willow Creek. The monthly quantities pumped are shown in the table below. Diversion by pumping for industrial and municipal use in and near Morenci and Clifton are made from Eagle Creek, 3 mi downstream from this station and from San Francisco River near Clifton. Monthly quantities diverted are shown in the table below.

AVERAGE DISCHARGE (unadjusted)--58 years, 67.5 ft³/s, 48,870 acre-ft/yr; median of yearly mean discharges, 38 ft³/s, 27,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 36,800 ft³/s Jan. 18, 1993, on basis of slope-area measurement; minimum, 2.9 ft³/s June 25, 1982.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 800 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 17.....	1845	*638	*4.55

Minimum daily discharge, 14 ft³/s, July 17; Sept. 21,22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	24	20	22	25	77	72	29	e26	21	22	27
2	19	20	20	21	25	76	66	29	e23	19	22	25
3	18	19	23	21	24	77	62	30	e21	17	20	23
4	17	19	21	20	23	83	59	31	e21	18	17	22
5	17	19	18	20	24	145	56	32	e20	19	17	22
6	17	19	17	20	23	182	52	32	e19	19	19	24
7	33	18	16	22	23	168	50	32	21	18	21	25
8	43	20	17	27	27	169	45	32	23	19	17	25
9	32	21	18	28	29	172	42	32	23	19	17	26
10	24	21	18	26	26	170	42	31	24	19	17	33
11	20	21	18	26	25	167	42	33	23	19	19	34
12	19	19	19	25	25	167	41	31	22	24	19	25
13	19	20	19	24	31	156	41	31	22	29	19	18
14	19	20	19	24	41	141	41	31	22	30	24	19
15	19	20	19	24	52	129	41	30	22	24	26	19
16	19	20	19	24	44	119	41	30	21	17	24	18
17	19	19	21	24	39	247	41	29	23	14	21	19
18	22	17	24	23	33	312	40	30	24	18	29	18
19	33	18	23	23	27	227	40	29	24	20	27	16
20	30	18	22	23	22	218	40	30	22	21	24	15
21	22	18	24	25	19	179	39	30	21	24	25	14
22	22	17	20	26	17	159	38	30	22	26	21	14
23	21	17	25	25	16	151	37	30	22	22	19	15
24	21	18	27	26	16	152	36	29	22	18	19	16
25	24	18	26	25	15	143	36	28	22	20	20	18
26	27	18	23	25	24	124	35	28	21	19	20	18
27	23	19	20	25	45	108	34	29	23	23	22	17
28	23	19	19	25	60	98	33	30	26	21	23	17
29	22	18	20	25	---	90	32	25	24	20	27	15
30	22	19	22	25	---	83	33	21	22	19	32	15
31	22	---	23	25	---	77	---	27	---	22	30	---
TOTAL	705	573	640	744	800	4566	1307	921	671	638	679	612
MEAN	22.7	19.1	20.6	24.0	28.6	147	43.6	29.7	22.4	20.6	21.9	20.4
MAX	43	24	27	28	60	312	72	33	26	30	32	34
MIN	17	17	16	20	15	76	32	21	19	14	17	14
AC-FT	1400	1140	1270	1480	1590	9060	2590	1830	1330	1270	1350	1210
CFSM	0.04	0.03	0.03	0.04	0.05	0.24	0.07	0.05	0.04	0.03	0.04	0.03
IN.	0.04	0.03	0.04	0.04	0.05	0.27	0.08	0.06	0.04	0.04	0.04	0.04
(*)	170	243	235	347	116	0	377	605	1009	1110	1182	971
(**)	806	761	816	1086	842	903	1102	1161	1112	1428	1486	697

CAL YR 2002	TOTAL	8542	MEAN	23.36	MAX	260	MIN	15	AC-FT	16900	CFSM	.04	IN	.49
WTR YR 2003	TOTAL	12856	MEAN	35.05	MAX	312	MIN	14	AC-FT	25500	CFSM	.06	IN	.77

e Estimated

(*) Pumpage, in acre-feet, into Eagle Creek from Eagle Creek wells.

(**) Pumpage, in acre-feet, into Clifton-Morenci, from San Francisco River and Eagle Creek

GILA RIVER BASIN

09447800 BONITA CREEK NEAR MORENCI, AZ

LOCATION.--Lat 32°57'20", long 109°31'50", in SE1/4NW1/4 sec. 36, T.5 S., R.27 E., Graham County, Hydrologic Unit 15040005, on left bank 2 mi upstream from intake of city of Safford water supply, 6.3 mi upstream from mouth, and 12.8 mi southwest of Morenci.

DRAINAGE AREA.--302 mi².

PERIOD OF RECORD.--Aug. 1981 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,500 ft above sea level, from topographic map. Two crest-stage gages 440 ft upstream on right and left banks.

REMARKS.--No estimated daily discharges. Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,500 ft³/s Jan. 18, 1993, gage height, 16.5 ft, from slope-area measurement of peak flow; minimum daily, 0.66 ft³/s Aug. 31, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 20, 1972, 10,000 ft³/s, from slope-area measurement made by city of Safford at site about 2 mi downstream. Flood of June 27, 1981, 1,340 ft³/s, from slope-area measurement at present site, gage height, 5.6 ft, from floodmark.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 21.....	1530	*34	*5.53

Minimum daily discharge, 0.75 ft³/s, Sept. 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	3.0	2.6	3.0	4.4	2.8	3.6	3.9	2.6	2.1	1.9	1.5
2	2.5	2.9	2.7	3.0	4.5	3.0	3.3	3.9	2.6	2.1	1.9	1.5
3	2.5	2.8	2.7	3.0	4.4	3.0	3.2	3.9	2.5	2.1	1.8	1.4
4	2.5	2.8	2.7	3.0	4.4	3.0	3.2	3.8	2.5	2.1	1.8	1.4
5	2.5	2.8	2.8	3.0	4.4	3.1	3.2	3.8	2.5	2.1	1.8	1.4
6	2.5	2.5	2.8	3.0	4.2	3.2	3.0	3.8	2.4	2.1	1.8	1.4
7	2.7	2.5	2.7	3.1	4.2	3.4	3.0	3.7	2.4	2.1	1.8	1.3
8	2.5	2.5	2.8	3.1	4.3	3.7	2.9	3.7	2.4	2.1	1.8	1.3
9	2.4	2.5	2.8	3.1	3.9	4.4	2.9	3.8	2.4	2.0	1.8	1.3
10	2.4	2.6	2.7	3.1	4.0	5.1	2.9	3.9	2.3	2.0	1.8	1.3
11	2.6	2.6	2.7	3.1	3.9	5.8	2.8	3.8	2.3	2.0	1.8	1.3
12	2.6	2.6	2.8	3.1	3.8	6.2	2.7	3.8	2.3	2.0	1.8	1.3
13	2.7	2.5	2.8	3.1	3.9	6.0	2.6	3.6	2.3	2.0	1.8	1.2
14	2.7	2.5	2.8	3.1	3.9	5.7	2.6	3.5	2.3	2.0	1.8	1.2
15	2.8	2.6	2.8	3.1	3.7	5.5	2.8	3.5	2.2	2.0	1.8	1.2
16	2.8	2.5	2.8	3.1	3.6	5.8	2.9	3.5	2.2	2.0	1.8	1.1
17	2.8	2.5	2.9	3.2	3.6	6.1	2.8	3.4	2.2	2.0	1.7	1.1
18	2.9	2.5	2.9	3.2	3.5	12	2.9	3.4	2.2	2.0	1.7	1.1
19	2.8	2.4	2.8	3.2	3.5	16	2.9	3.3	2.2	2.0	1.7	1.0
20	2.8	2.4	2.9	3.2	3.6	20	2.9	3.2	2.2	2.0	1.7	1.0
21	2.9	2.4	3.0	3.2	3.4	26	2.9	3.1	2.2	2.0	e1.8	0.98
22	2.8	2.5	3.0	3.2	3.5	29	2.9	3.0	2.2	2.0	e1.7	0.95
23	2.9	2.5	3.0	3.2	3.4	21	3.0	2.9	2.2	2.0	e1.6	0.91
24	3.0	2.5	2.9	3.2	3.2	15	3.1	2.8	2.2	2.0	1.6	0.75
25	3.0	2.5	3.0	3.1	3.1	11	3.1	2.8	2.2	1.9	1.7	1.0
26	2.9	2.6	3.0	3.1	3.0	6.9	3.1	2.8	2.1	1.9	1.7	1.2
27	3.0	2.7	3.0	3.1	2.8	5.4	3.2	2.8	2.2	1.9	1.6	1.2
28	3.0	2.6	3.0	3.1	2.8	4.8	3.2	2.8	2.2	1.9	1.6	1.2
29	3.1	2.6	3.0	3.1	---	4.2	3.5	2.7	2.1	1.9	1.6	1.3
30	3.0	2.6	3.0	3.1	---	4.0	3.6	2.8	2.2	1.9	1.5	1.2
31	3.0	---	3.0	4.1	---	3.8	---	2.6	---	1.9	1.5	---
TOTAL	85.1	77.5	88.4	97.3	104.9	254.9	90.7	104.3	68.8	62.1	53.7	35.99
MEAN	2.75	2.58	2.85	3.14	3.75	8.22	3.02	3.36	2.29	2.00	1.73	1.20
MAX	3.1	3.0	3.0	4.1	4.5	29	3.6	3.9	2.6	2.1	1.9	1.5
MIN	2.4	2.4	2.6	3.0	2.8	2.8	2.6	2.6	2.1	1.9	1.5	0.75
AC-FT	169	154	175	193	208	506	180	207	136	123	107	71
CFSM	0.01	0.01	0.01	0.01	0.01	0.03	0.01	0.01	0.01	0.01	0.01	0.00
IN.	0.01	0.01	0.01	0.01	0.01	0.03	0.01	0.01	0.01	0.01	0.01	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 2003, BY WATER YEAR (WY)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
MEAN	14.0	6.59	9.47	50.1	25.9	13.5	4.98	3.91	3.16	6.85	7.63	7.50
MAX	176	21.7	29.6	769	165	53.6	10.7	6.33	5.86	44.5	14.6	28.6
(WY)	1984	1995	1983	1993	1993	1995	1998	1993	1995	1999	2000	1996
MIN	1.52	1.86	2.85	3.14	3.75	2.74	2.00	2.10	1.32	1.93	1.73	1.20
(WY)	1992	1992	2003	2003	2003	2001	1991	1991	1982	2002	2003	2003

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1982 - 2003
ANNUAL TOTAL	1071.5	1123.69	
ANNUAL MEAN	2.94	3.08	12.8
HIGHEST ANNUAL MEAN			83.7
LOWEST ANNUAL MEAN			3.08
HIGHEST DAILY MEAN	5.0	29	10200
LOWEST DAILY MEAN	1.7	0.75	0.66
ANNUAL SEVEN-DAY MINIMUM	1.7	0.94	0.76
ANNUAL RUNOFF (AC-FT)	2130	2230	9250
ANNUAL RUNOFF (CFSM)	0.010	0.010	0.042
ANNUAL RUNOFF (INCHES)	0.13	0.14	0.57
10 PERCENT EXCEEDS	4.1	3.9	8.9
50 PERCENT EXCEEDS	2.8	2.8	4.5
90 PERCENT EXCEEDS	2.0	1.6	2.4

e Estimated

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 mi².

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 ft³/s Oct. 2, 1983, gage height, 20.8 ft, from rating curve extended above 52,000 ft³/s on basis of slope-area measurements at 14.40 ft and 20.8 ft; minimum, 11 ft³/s June 25, 1956.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 8.....	1000	*2,780	*9.77

Minimum daily discharge, 38 ft³/s July 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94	101	144	184	179	348	476	201	74	43	57	106
2	93	102	145	181	177	367	447	194	74	42	55	97
3	94	101	152	180	176	372	416	187	74	42	54	94
4	94	102	149	178	176	370	396	182	70	41	51	93
5	93	101	154	177	179	393	385	179	66	42	50	88
6	92	103	154	175	180	418	374	176	65	42	49	83
7	122	107	154	173	181	416	364	172	63	43	50	79
8	1110	111	158	174	187	413	351	166	64	43	59	85
9	360	112	161	177	192	423	337	161	63	43	54	79
10	227	113	161	179	190	436	327	152	61	42	50	77
11	176	112	161	180	188	450	323	149	61	40	49	110
12	145	112	160	177	186	473	317	144	62	41	51	119
13	127	113	163	179	191	484	305	137	58	40	52	99
14	116	115	162	181	217	476	292	132	59	41	53	84
15	106	116	161	181	335	477	289	123	57	41	55	76
16	104	116	160	182	294	479	299	116	56	39	56	73
17	101	118	161	182	260	496	298	113	56	e41	59	70
18	102	120	166	179	242	1080	291	106	56	e43	63	68
19	103	122	170	178	232	899	286	103	56	40	84	67
20	107	122	170	177	225	871	290	99	55	38	77	64
21	105	121	172	178	218	762	278	95	53	44	69	61
22	103	123	175	177	212	702	265	94	53	44	68	60
23	103	126	184	173	210	662	256	92	51	45	64	61
24	105	128	191	171	206	684	254	89	50	44	64	62
25	104	128	197	172	206	712	247	86	48	45	61	60
26	102	130	197	173	216	685	238	83	46	44	60	60
27	101	133	193	175	258	645	230	82	46	45	58	60
28	101	133	190	174	284	613	221	80	48	44	59	63
29	102	134	189	174	---	580	214	78	48	47	62	65
30	101	136	188	175	---	541	208	77	45	54	114	64
31	99	---	187	177	---	504	---	75	---	55	120	---
TOTAL	4692	3511	5229	5493	5997	17231	9274	3923	1738	1338	1927	2327
MEAN	151	117	169	177	214	556	309	127	57.9	43.2	62.2	77.6
MAX	1110	136	197	184	335	1080	476	201	74	55	120	119
MIN	92	101	144	171	176	348	208	75	45	38	49	60
MED	103	116	162	177	206	484	295	116	56	43	58	74
AC-FT	9310	6960	10370	10900	11900	34180	18390	7780	3450	2650	3820	4620
CFSM	0.02	0.01	0.02	0.02	0.03	0.07	0.04	0.02	0.01	0.01	0.01	0.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 2003, BY WATER YEAR (WY)

	384	277	514	697	741	853	576	300	107	203	496	389
MEAN	384	277	514	697	741	853	576	300	107	203	496	389
MAX	7447	2230	5798	13990	5509	3629	2775	2038	716	736	2499	2081
(WY)	1984	1979	1979	1993	1993	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 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1921 - 2003

ANNUAL TOTAL		53577		62680								
ANNUAL MEAN		147		172						461		
HIGHEST ANNUAL MEAN										2229		1993
LOWEST ANNUAL MEAN										101		1951
HIGHEST DAILY MEAN			4040	Sep 12		1110	Oct 8		90000	Oct 2	1983	
LOWEST DAILY MEAN			30	Jun 26		38	Jul 20		13	Jun 25	1956	
ANNUAL SEVEN-DAY MINIMUM			31	Jun 26		40	Jul 11		15	Jun 22	1956	
ANNUAL RUNOFF (AC-FT)		106300		124300					334000			
ANNUAL RUNOFF (CFSM)		0.019		0.022					0.058			
10 PERCENT EXCEEDS		179		368					968			
50 PERCENT EXCEEDS		116		122					176			
90 PERCENT EXCEEDS		44		49					64			

e Estimated

GILA RIVER BASIN

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 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, NTU (00076)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, unfltrd field, std units (00400)	Specific conductance, uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, unfltrd CaCO3 (00900)	Noncarbohardness, unfltrd field, CaCO3 (00904)	Calcium water, fltrd, mg/L (00915)
NOV 13...	1210	108	7.3	686	10.8	114	8.5	1200	18.0	13.1	240	62	71.0
MAR 27...	1355	628	92	674	8.6	99	8.3	502	24.0	16.4	130	--	36.0
JUN 19...	1130	56	4.2	678	7.8	109	8.3	1410	31.5	26.0	240	110	69.0
SEP 10...	1110	74	560	683	7.0	95	8.2	1260	26.5	24.6	240	60	71.0
Date	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium water, unfltrd, mg/L (00925)	Magnesium water, recoverable, mg/L (00927)	Potassium water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium water, fltrd, mg/L (00930)	Alkalinity, unfltrd field, CaCO3 (39086)	Bicarbonate, unfltrd titr., mg/L (00453)	Carbonate, unfltrd titr., mg/L (00452)	Chloride, unfltrd, mg/L (00940)	Fluoride, unfltrd, mg/L (00950)	Sulfate water, unfltrd, mg/L (00945)	Residue water, unfltrd, sum of constituents mg/L (70301)
NOV 13...	73.0	15.0	15.0	7.30	4	140	176	200	8	220	1.3	85.0	646
MAR 27...	42.0	9.30	12.0	3.30	2	48.0	132	159	1	52.0	.8	29.0	258
JUN 19...	71.0	16.0	16.0	9.90	5	170	131	157	1	290	1.3	99.0	734
SEP 10...	89.0	14.0	21.0	8.90	4	150	174	203	5	230	1.4	83.0	663
Date	Residue water, fltrd, tons/acre-ft (70303)	Residue on evap. at 180degC, mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, unfltrd, mg/L as N (00625)	Ammonia water, unfltrd, mg/L (71845)	Ammonia water, unfltrd, mg/L as N (00610)	Nitrite + nitrate, unfltrd, mg/L as N (00630)	Organic nitrogen, unfltrd, mg/L (00605)	Phosphorus, unfltrd, mg/L (00665)	Total nitrogen, unfltrd, mg/L (00600)	Total nitrogen, unfltrd, mg/L as NO3 (71887)	COD, high level, unfltrd, mg/L (00340)	E coli, m-TEC MF, water, col/100 mL (31633)
NOV 13...	.96	709	15	<.20	--	<.01	.100	--	.04	--	--	6	E8k
MAR 27...	.43	316	143	1.4	.01	.01	.180	1.4	.24	1.6	7.0	6	73
JUN 19...	1.10	807	9	<.20	--	<.01	<.020	--	.02	--	--	<5	E14k
SEP 10...	1.01	743	400	.90	.06	.05	.470	.85	.62	1.4	6.1	6	E98k
Date	Antimony, water, unfltrd, ug/L (01095)	Antimony, water, unfltrd, ug/L (01097)	Arsenic water, unfltrd, ug/L (01000)	Arsenic water, unfltrd, ug/L (01002)	Barium water, unfltrd, ug/L (01005)	Barium, water, unfltrd recoverable, ug/L (01007)	Beryllium, water, unfltrd, ug/L (01010)	Beryllium, water, unfltrd recoverable, ug/L (01012)	Boron, water, unfltrd, ug/L (01020)	Boron, water, unfltrd recoverable, ug/L (01022)	Cadmium water, unfltrd, ug/L (01025)	Cadmium water, unfltrd, ug/L (01027)	Chromium, water, unfltrd, ug/L (01030)
NOV 13...	<1	<1	4	4	55.0	58.0	<1	<1	120	122	<.5	<.5	<1
MAR 27...	<1	<1	3	2	21.0	60.0	<1	<1	46	49	<.5	<.5	<1
JUN 19...	<1	<1	4	3	57.0	60.0	<1	<1	143	143	<.5	<.5	<1
SEP 10...	<1	<1	4	9	83.0	170	<1	<1	127	136	<.5	<.5	<1

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Chromium, water, unfltrd recover-able, ug/L (01034)	Copper, water, recover fltrd, ug/L (01040)	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)	Manganese, water, fltrd, ug/L (01056)	Manganese, water, unfltrd recover-able, ug/L (01055)	Mercury, water, fltrd, ug/L (71890)	Mercury, water, unfltrd recover-able, ug/L (71900)	Nickel, water, fltrd, ug/L (01065)	Nickel, water, unfltrd recover-able, ug/L (01067)
NOV 13...	<1	<2	4	<2	334	<2	<2	10	30	<.10	<.1	<1	1
MAR 27...	3	2	16	3	3060	<2	4	2	184	<.10	<.1	<1	6
JUN 19...	<1	<2	3	<2	177	<2	<2	11	23	<.10	<.1	1	<1
SEP 10...	8	<2	33	<2	8190	<2	8	<1	382	<.1	<.1	<1	16

Date	Selenium, water, fltrd, ug/L (01145)	Selenium, water, unfltrd, ug/L (01147)	Silver, water, fltrd, ug/L (01075)	Silver, water, unfltrd recover-able, ug/L (01077)	Strontium, water, unfltrd recover-able, ug/L (01082)	Thallium, water, fltrd, ug/L (01057)	Thallium, water, unfltrd, ug/L (01059)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)
NOV 13...	<1	<1	<1	<1	830	<2	<2	21	<2	14	4.1
MAR 27...	<1	<1	<1	<1	330	<2	<2	10	16	150	254
JUN 19...	<1	<1	<1	<1	930	<2	<2	3	2	7	1.1
SEP 10...	<1	1	<1	<1	1010	<2	<2	<2	35	473	95

Remark codes used in this report:
 < -- Less than
 E -- Estimated value

Value qualifier codes used in this report:
 k -- Counts outside acceptable range

09460150 FRYE CREEK NEAR THATCHER, AZ

LOCATION--Lat 32°44'38", long 109°50'15", in NE1/4 sec. 13, T.8 S., R.24 E. (unsurveyed), Graham County, Hydrologic Unit 15040005, in Coronado National Forest, on left bank 8.5 mi southwest of Thatcher.

DRAINAGE AREA--4.02 mi². (Area at site used 1966--76, 3.91 mi².)

PERIOD OF RECORD--Dec. 1966 to Sept. 1976, Dec. 1988 to current year.

REVISED RECORDS--WRD AZ 1968: Drainage area.

GAGE--Water-stage recorder and V-notch sharp-crested weir. Elevation of gage is 5,580 ft above sea level, from topographic map. Prior to Dec. 1988, at site 0.25 mi upstream at different datum.

REMARKS--Records fair, except estimated daily discharges, which are poor. No regulation or diversion above station. City of Safford diverts water from Frye Mesa Reservoir 1 mi downstream for municipal supply.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 577 ft³/s, Jan. 5, 1995, gage height, 2.90 ft, from floodmark and from rating curve extended above 45 ft³/s; no flow at times in most years.

EXTREMES FOR CURRENT YEAR--Peak discharge greater than base discharge of 8.0 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 29	0315	*3.7	*0.87

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	e0.09	0.07	0.11	0.11	0.30	0.55	3.2	0.75	0.04	0.01	0.00
2	0.00	e0.09	0.08	0.11	0.11	0.32	0.49	3.0	0.64	0.04	0.01	0.00
3	0.00	e0.09	0.10	0.11	0.10	0.31	0.51	3.0	0.55	0.04	0.01	0.00
4	0.00	e0.09	0.07	0.11	0.10	0.30	0.57	2.9	0.51	0.03	0.01	0.00
5	0.00	0.09	0.07	0.12	0.10	0.30	0.60	2.7	0.45	0.03	0.01	0.00
6	0.00	0.09	0.07	0.12	0.09	0.28	0.52	2.6	0.40	0.03	0.00	0.00
7	e0.05	0.10	0.08	0.11	0.09	0.28	0.51	2.4	0.37	0.02	0.01	0.00
8	e0.07	0.11	0.08	0.11	0.10	0.27	0.48	2.3	0.34	0.02	0.01	0.00
9	e0.06	0.11	0.08	0.11	0.09	0.28	0.48	2.1	0.31	0.02	0.00	0.00
10	e0.05	0.11	0.10	0.11	0.09	0.28	0.48	2.0	0.26	0.02	0.00	0.00
11	e0.05	0.11	0.12	0.11	0.09	0.28	0.48	1.8	0.24	0.02	0.00	0.00
12	e0.05	0.10	0.13	0.11	0.09	0.30	0.48	1.8	0.22	0.02	0.00	0.00
13	e0.05	0.09	0.13	0.11	0.11	0.40	0.53	1.8	0.21	0.02	0.00	0.00
14	e0.05	0.09	0.13	0.11	0.10	0.47	0.75	2.0	0.20	0.02	0.00	0.00
15	e0.05	0.09	0.13	0.12	0.09	0.55	1.1	2.3	0.18	0.01	0.00	0.00
16	e0.05	0.09	0.14	0.13	0.10	1.1	1.3	2.1	0.16	0.01	0.00	0.00
17	e0.05	0.09	0.16	0.13	0.19	1.5	1.2	2.0	0.14	0.01	0.00	0.00
18	e0.05	0.09	0.15	0.13	0.28	1.1	1.2	2.1	0.15	0.02	0.00	0.00
19	e0.06	0.09	0.13	0.13	0.32	0.91	1.2	1.9	0.11	0.02	0.00	0.00
20	e0.06	0.09	0.13	0.13	0.34	0.79	1.1	1.6	0.11	0.01	0.00	0.00
21	e0.07	0.11	0.13	0.13	0.34	0.61	1.1	1.6	0.10	0.02	0.00	0.00
22	e0.07	0.09	0.13	0.11	0.33	0.58	1.2	1.5	0.10	0.02	0.00	0.00
23	e0.08	0.09	0.14	0.11	0.31	0.57	1.2	1.3	0.09	0.02	0.00	0.00
24	e0.07	0.09	0.13	0.11	0.30	0.60	1.2	1.2	0.09	0.02	0.00	0.00
25	e0.08	0.09	0.13	0.11	0.30	0.66	1.3	1.1	0.08	0.01	0.00	0.00
26	e0.09	0.12	0.13	0.11	0.30	0.76	1.6	0.96	0.07	0.02	0.00	0.00
27	e0.09	0.09	0.13	0.11	0.26	0.80	2.1	0.85	0.07	0.02	0.00	0.00
28	e0.09	0.09	0.13	0.11	0.27	0.80	2.8	0.81	0.06	0.02	0.00	0.00
29	e0.09	0.09	0.13	0.11	---	0.78	3.2	0.73	0.05	0.01	0.00	0.01
30	e0.09	0.08	0.12	0.11	---	0.69	3.2	0.69	0.05	0.01	0.00	0.02
31	e0.09	---	0.11	0.11	---	0.68	---	0.75	---	0.01	0.00	---
TOTAL	1.66	2.84	3.56	3.56	5.10	17.85	33.43	57.09	7.06	0.63	0.07	0.03
MEAN	0.054	0.095	0.11	0.11	0.18	0.58	1.11	1.84	0.24	0.020	0.002	0.001
MAX	0.09	0.12	0.16	0.13	0.34	1.5	3.2	3.2	0.75	0.04	0.01	0.02
MIN	0.00	0.08	0.07	0.11	0.09	0.27	0.48	0.69	0.05	0.01	0.00	0.00
AC-FT	3.3	5.6	7.1	7.1	10	35	66	113	14	1.2	0.1	0.06
CFSM	0.01	0.02	0.03	0.03	0.05	0.14	0.28	0.46	0.06	0.01	0.00	0.00
IN.	0.02	0.03	0.03	0.03	0.05	0.17	0.31	0.53	0.07	0.01	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2003, BY WATER YEAR (WY)

MEAN	1.14	1.36	0.90	1.72	1.63	2.09	2.65	4.50	1.94	1.20	0.70	1.04
MAX	9.74	9.26	4.43	13.7	11.3	10.9	9.37	17.0	7.37	6.81	1.91	6.85
(WY)	2001	1995	1995	1995	1995	1995	1992	1992	1991	1999	1999	1990
MIN	0.054	0.095	0.11	0.11	0.17	0.13	0.042	0.008	0.000	0.000	0.002	0.000
(WY)	2003	2003	2003	2003	2000	1999	2002	2002	2002	1996	2003	2002

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1990 - 2003

ANNUAL TOTAL	30.08	132.88		
ANNUAL MEAN	0.082	0.36	1.74	
HIGHEST ANNUAL MEAN			5.02	1995
LOWEST ANNUAL MEAN			0.17	2002
HIGHEST DAILY MEAN	0.73	Aug 7	3.2	Apr 29
LOWEST DAILY MEAN	0.00	Apr 18	0.00	Oct 1
ANNUAL SEVEN-DAY MINIMUM	0.00	Apr 21	0.00	Aug 9
ANNUAL RUNOFF (AC-FT)	60	264	1260	
ANNUAL RUNOFF (CFSM)	0.021	0.091	0.43	
ANNUAL RUNOFF (INCHES)	0.28	1.23	5.88	
10 PERCENT EXCEEDS	0.25	1.2	3.9	
50 PERCENT EXCEEDS	0.05	0.11	0.43	
90 PERCENT EXCEEDS	0.00	0.00	0.02	

e Estimated

GILA RIVER BASIN
09466500 GILA RIVER AT CALVA, AZ

137

LOCATION--Lat 33°11'08", long 110°13'10", in SW¼ sec. 8, T.3 S., R.21 E. (unsurveyed), Graham County, Hydrologic Unit 15040005, in San Carlos Indian Reservation, on Southern Pacific Railroad bridge at head of San Carlos Reservoir, 2 mi west of Calva.

DRAINAGE AREA--11,470 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD--Oct. 1929 to current year.

GAGE--Water-stage recorder. Datum of gage is 2,517.29 ft above sea level. Prior to Oct. 1, 1954, and Aug. 25, 1958, to Dec. 31, 1962, at datum 2.52 ft lower. Oct. 1, 1954, to Aug. 24, 1958, at datum 5.52 ft lower. Dec. 31, 1962, to Oct. 20, 1972, at site 530 ft downstream at datum 3.65 ft lower. Oct. 20, 1972, to Sept. 30, 1974, supplementary gage at bridge on U.S. Highway 70, 6.2 mi upstream at datum 2,560.19 ft, NGVD.

REMARKS--Records fair. Diversion above station for irrigation of about 69,000 acres, metallurgical treatment of ores, and municipal uses.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 150,000 ft³/s Oct. 3, 1983, gage height, 23.1 ft, from rating curve extended above 87,000 ft³/s on basis of area-velocity and flow-over-road computations of peak flow; no flow at times.

EXTREMES OUTSIDE PERIOD OF RECORD--Maximum discharge since at least 1914, probably in excess of 100,000 ft³/s Jan. 20, 1916, determined on basis of peak discharge at stations near Solomon and at Kelvin.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 3,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 9.....	2145	*1120	*4.34

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	11	34	71	113	151	228	155	28	0.25	6.2	0.00
2	19	11	31	78	116	129	217	154	27	0.07	3.1	0.00
3	18	14	34	85	116	145	208	151	25	0.00	0.82	e1.8
4	18	12	32	90	118	121	196	147	22	0.00	0.24	e0.17
5	18	11	41	90	120	115	195	144	21	0.00	0.02	e0.00
6	18	8.6	43	89	120	103	195	143	21	0.00	0.00	e0.00
7	20	7.7	45	83	122	126	188	135	21	0.00	0.00	e0.00
8	65	8.0	45	84	127	131	184	128	19	0.00	0.00	e0.16
9	645	8.2	44	82	129	119	181	126	17	0.00	0.00	0.00
10	352	8.0	43	82	133	123	171	121	15	0.00	0.00	0.00
11	152	7.2	38	82	132	141	169	121	14	0.00	0.00	0.00
12	85	6.7	43	78	133	147	175	120	13	0.00	0.00	0.00
13	52	8.0	46	71	138	150	174	114	12	0.00	0.00	0.00
14	31	10	45	68	143	159	168	106	10	0.00	0.00	0.00
15	21	11	40	66	142	163	179	100	9.1	0.00	0.00	0.02
16	11	11	35	66	204	182	189	92	8.7	0.00	0.00	0.00
17	e22	11	38	62	178	181	204	85	6.1	0.00	0.00	0.00
18	e18	16	40	61	203	201	212	77	6.2	0.00	0.00	0.00
19	0.17	17	36	66	203	408	215	71	5.2	0.00	0.00	0.00
20	0.99	e18	40	68	199	421	203	65	3.9	0.00	0.00	0.00
21	3.1	e19	38	68	193	418	186	62	3.1	0.00	0.00	0.00
22	6.7	e20	31	62	184	387	179	60	2.8	0.00	0.00	0.00
23	10	e21	38	53	182	336	166	57	2.2	0.00	0.00	0.00
24	11	e22	39	51	182	301	171	56	1.2	0.00	0.00	0.00
25	10	e23	50	46	180	308	166	52	1.5	0.00	0.00	0.00
26	10	e24	62	42	190	321	166	48	0.81	113	0.00	0.00
27	12	24	68	40	199	325	160	45	0.74	84	0.00	0.00
28	12	21	65	43	206	308	163	38	0.94	24	0.00	0.00
29	12	21	65	63	---	295	157	34	0.42	10	0.00	0.00
30	13	32	69	100	---	274	156	32	0.22	9.0	0.00	0.00
31	13	---	72	109	---	253	---	31	---	2.6	0.00	---
TOTAL	1697.96	442.4	1390	2199	4405	6942	5521	2870	318.13	242.92	10.38	2.15
MEAN	54.8	14.7	44.8	70.9	157	224	184	92.6	10.6	7.84	0.33	0.072
MAX	645	32	72	109	206	421	228	155	28	113	6.2	1.8
MIN	0.17	6.7	31	40	113	103	156	31	0.22	0.00	0.00	0.00
AC-FT	3370	878	2760	4360	8740	13770	10950	5690	631	482	21	4.3
CFSM	0.00	0.00	0.00	0.01	0.01	0.02	0.02	0.01	0.00	0.00	0.00	0.00
IN.	0.01	0.00	0.00	0.01	0.01	0.02	0.02	0.01	0.00	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)	MEAN	MAX	(WY)	MIN	(WY)	MEAN	MAX	(WY)	MIN	(WY)	MEAN	MAX	(WY)	MIN	(WY)																																			
1930	345	8486	1984	0.000	1954	229	2468	2001	0.000	1954	444	5652	1979	0.000	1954	742	16310	1993	21.6	1956	712	6225	1993	28.5	1957	402	3757	1992	1.35	1957	220	3079	1992	1.25	1956	51.8	1272	1992	0.000	1946	78.0	838	1955	0.000	1989	295	1661	1967	0.000	1989	240	1681	1975	0.000	1956

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1930 - 2003
ANNUAL TOTAL	21221.99	26040.94	
ANNUAL MEAN	58.1	71.3	372
HIGHEST ANNUAL MEAN			2451
LOWEST ANNUAL MEAN			28.7
HIGHEST DAILY MEAN	1970	Sep 14	645
LOWEST DAILY MEAN	0.00	Jun 23	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Jun 23	0.00
ANNUAL RUNOFF (AC-FT)	42090	51650	269500
ANNUAL RUNOFF (CFSM)	0.005	0.006	0.032
ANNUAL RUNOFF (INCHES)	0.07	0.08	0.44
10 PERCENT EXCEEDS	149	187	771
50 PERCENT EXCEEDS	29	34	69
90 PERCENT EXCEEDS	0.03	0.00	2.4

e Estimated

GILA RIVER BASIN
09466500 GILA RIVER AT CALVA, AZ—CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD. --Oct. 1974 to Sept. 1994 and Aug. 1999 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, NTU (00076)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Noncarbohardness, water, unfltrd mg/L as CaCO3 (00904)	Calcium water, unfltrd, mg/L (00915)
NOV 14...	1155	9.9	19	698	10.5	105	8.4	4710	19.0	10.8	420	130	104
MAR 28...	1105	301	230	695	8.8	97	8.4	959	15.5	15.1	170	--	46.0
JUN 20...	0950	3.8	80	690	6.1	82	8.2	4740	23.0	24.4	370	120	85.0

Date	Calcium water, unfltrd recoverable, mg/L (00916)	Magnesium, water, unfltrd, mg/L (00925)	Magnesium, water, unfltrd recoverable, mg/L (00927)	Potassium, water, unfltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, unfltrd, mg/L (00930)	Alkalinity, water, unfltrd, mg/L as CaCO3 (39086)	Bicarbonate, water, unfltrd, mg/L (00453)	Carbonate, water, unfltrd, mg/L (00452)	Chloride, water, unfltrd, mg/L (00940)	Fluoride, water, unfltrd, mg/L (00950)	Sulfate, water, unfltrd, mg/L (00945)	Residue water, unfltrd, sum of constituents, mg/L (70301)
NOV 14...	111	39.0	43.0	9.70	18	830	288	333	9	1130	2.1	460	2750
MAR 28...	58.0	13.0	17.0	4.00	4	120	169	192	7	140	1.0	76.0	502
JUN 20...	96.0	39.0	44.0	11.0	19	830	249	297	4	1130	2.2	450	2700

Date	Residue water, unfltrd, tons/acre-ft (70303)	Residue evap. at 180degC, 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, unfltrd, mg/L (71845)	Ammonia water, unfltrd, mg/L as N (00610)	Nitrite + nitrate, water, unfltrd, mg/L as N (00630)	Organic nitrogen, water, unfltrd, mg/L (00605)	Phosphorus, water, unfltrd, mg/L (00665)	Total nitrogen, water, unfltrd, mg/L (00600)	Total nitrogen, water, unfltrd, mg/L as NO3 (71887)	COD, high level, water, unfltrd, mg/L (00340)	E coli, m-TEC MF, water, unfltrd, col/100 mL (31633)
NOV 14...	3.93	2890	25	.50	--	<.01	.030	--	.04	.53	2.3	17	E2k
MAR 28...	.79	579	289	<.20	.03	.02	.700	--	.38	--	--	9	E10k
JUN 20...	3.85	2830	112	.70	.09	.07	<.020	.63	.13	--	--	15	E18k

Date	Antimony, water, unfltrd, ug/L (01095)	Antimony, water, unfltrd, ug/L (01097)	Arsenic, water, unfltrd, ug/L (01000)	Arsenic, water, unfltrd, ug/L (01002)	Barium, water, unfltrd, ug/L (01005)	Barium, water, unfltrd recoverable, ug/L (01007)	Beryllium, water, unfltrd, ug/L (01010)	Beryllium, water, unfltrd recoverable, ug/L (01012)	Boron, water, unfltrd, ug/L (01020)	Boron, water, unfltrd recoverable, ug/L (01022)	Cadmium, water, unfltrd, ug/L (01025)	Cadmium, water, unfltrd, ug/L (01027)	Chromium, water, unfltrd, ug/L (01030)
NOV 14...	<1	<1	14	14	98.0	110	<1	<1	875	943	<.5	<.5	<1
MAR 28...	<1	<1	5	4	32.0	90.0	<1	<1	133	143	<.5	<.5	<1
JUN 20...	<1	<1	9	11	100	130	<1	<1	906	942	<.5	<.5	<1

GILA RIVER BASIN

09466500 GILA RIVER AT CALVA, AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Chromium, water, unfltrd recover-able, ug/L (01034)	Copper, water, unfltrd recover-able, ug/L (01040)	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, unfltrd recover-able, ug/L (01046)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, unfltrd recover-able, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)	Manganese, water, unfltrd recover-able, ug/L (01056)	Manganese, water, unfltrd recover-able, ug/L (01055)	Mercury water, unfltrd recover-able, ug/L (71890)	Mercury water, unfltrd recover-able, ug/L (71900)	Nickel, water, unfltrd recover-able, ug/L (01065)	Nickel, water, unfltrd recover-able, ug/L (01067)
NOV 14...	<1	<2	3	<2	667	<2	<2	20	82	<.10	<.1	2	2
MAR 28...	6	3	27	<2	5940	<2	6	2	317	<.10	<.1	<1	10
JUN 20...	2	<2	8	<2	2870	<2	2	41	288	<.1	<.1	2	5

Date	Selenium, water, unfltrd recover-able, ug/L (01145)	Selenium, water, unfltrd recover-able, ug/L (01147)	Silver, water, unfltrd recover-able, ug/L (01075)	Silver, water, unfltrd recover-able, ug/L (01077)	Strontium, water, unfltrd recover-able, ug/L (01082)	Thallium, water, unfltrd recover-able, ug/L (01057)	Thallium, water, unfltrd recover-able, ug/L (01059)	Zinc, water, unfltrd recover-able, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)
NOV 14...	4	4	<1	<1	1520	<2	<2	2	3	31	.83
MAR 28...	1	<1	<1	<1	500	<2	<2	3	26	329	267
JUN 20...	<1	<1	<1	<1	1470	<2	<2	2	15	107	1.1

Remark codes used in this report:

- < -- Less than
- E -- Estimated value

Value qualifier codes used in this report:

- k -- Counts outside acceptable range

09468500 SAN CARLOS RIVER NEAR PERIDOT, AZ

LOCATION--Lat 33°17'47", long 110°27'03", in SE_{1/4} sec. 36, T.1 S., R.18 E. (unsurveyed), Gila County, Hydrologic Unit 15040007, in San Carlos Indian Reservation, on U.S. Highway 70 bridge, 0.9 mi south of Peridot.

DRAINAGE AREA--1,026 mi².

PERIOD OF RECORD--Aug. 1910 to Jan. 1911 (gage heights only), Apr. 1914 to July 1915, Aug. to Sept. 1915 (monthly discharge only), Oct. 1929 to current year. Prior to Oct. 1929 published as "at San Carlos."

REVISED RECORDS--WSP 1283: Drainage area.

GAGE--Water-stage recorder. Datum of gage is 2,542.29 ft above sea level (AZ Highway Department benchmark). See WSP 1713 or 1733 for history of changes prior to Feb. 1, 1942. Feb. 1, 1942, to Aug. 13, 1970, at sites 1.9 mi upstream at different datums. Aug 14, 1970, to Sept. 30, 1980, at site 1.8 mi upstream at datum 2,578.90 ft, above sea level. Supplementary water-stage recorder Dec. 21, 1967, to July 2, 1968, at site 2.2 mi downstream at datum in use prior to Feb. 1, 1942; Jan. 31, 1979, to Sept. 30, 1980, at present site and datum.

REMARKS--Records fair except for estimated daily discharges, which are poor. Diversions above station for irrigation of about 600 acres. Small inflow from sewage treatment system about 3.6 mi upstream. Flow regulated to some extent since June 15, 1979, by Talkalai Reservoir; capacity, about 6,000 acre-ft.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 54,800 ft³/s Jan. 8, 1993, gage height, 12.12 ft, from rating curve extended above 23,000 ft³/s on basis of rate of change in storage in San Carlos Reservoir; maximum gage height 14.8 ft, Dec. 22, 1965, site and datum then in use; no flow at times in most years.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 2,200 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sept. 10.....	0555	*7,970	*8.47

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	3.5	12	12	1340	19	2.0	0.00	0.00	0.00	0.00
2	0.00	0.00	4.3	11	13	316	14	2.0	0.00	0.00	0.00	0.00
3	0.00	0.00	5.3	11	11	346	7.6	1.8	0.00	0.00	0.00	0.00
4	0.00	0.00	5.5	11	11	246	4.9	1.4	0.00	0.00	0.00	0.00
5	0.00	0.00	5.5	12	10	242	4.3	1.3	0.00	0.00	0.00	0.00
6	0.00	0.00	4.9	13	9.8	342	3.8	1.2	0.00	0.00	0.00	0.00
7	0.00	0.00	4.2	15	11	212	3.5	1.2	0.00	0.00	0.00	0.00
8	0.00	0.00	4.1	13	12	170	3.2	0.95	0.00	0.00	0.00	0.00
9	0.00	0.00	4.8	13	13	149	3.1	0.91	0.00	0.00	0.00	72
10	0.00	0.00	5.1	14	13	134	2.9	0.80	0.00	0.00	0.00	2040
11	0.00	0.00	4.3	13	14	123	3.0	0.81	0.00	0.00	0.00	905
12	0.00	0.00	3.8	13	14	105	3.0	0.65	0.00	0.00	0.00	80
13	0.00	0.00	4.5	14	18	91	2.9	0.47	0.00	0.00	0.00	33
14	0.00	0.00	6.3	13	28	67	3.1	0.55	0.00	0.00	0.00	18
15	0.00	0.00	6.7	12	29	55	3.3	0.27	0.00	0.00	0.00	16
16	0.00	0.00	6.5	12	25	47	3.1	0.09	0.00	0.00	0.00	20
17	0.00	0.00	7.1	12	23	296	3.0	0.00	0.00	0.00	0.00	16
18	0.00	0.00	7.7	12	21	759	3.1	0.00	0.00	0.00	0.00	8.9
19	0.00	0.29	8.0	12	19	339	3.2	0.00	0.00	0.00	0.00	e4.9
20	0.00	0.56	8.2	12	17	224	3.1	0.00	0.00	0.00	0.00	e2.4
21	0.00	0.95	7.9	14	15	146	3.6	0.00	0.00	0.00	0.00	e1.6
22	0.00	1.2	8.2	16	13	111	3.5	0.00	0.00	0.00	6.8	e1.2
23	0.00	1.4	9.2	16	12	94	2.9	0.00	0.00	0.00	0.00	e0.92
24	0.00	1.7	11	17	12	84	2.6	0.00	0.00	e0.00	0.00	e0.79
25	0.00	2.0	11	16	12	84	2.6	0.00	0.00	e0.00	0.89	e0.64
26	0.00	2.3	11	15	34	95	2.6	0.00	0.00	e0.00	0.00	e0.64
27	0.00	2.6	11	14	304	81	2.5	0.00	0.00	e0.00	0.41	e0.45
28	0.00	3.1	11	15	743	66	2.4	0.00	0.00	e0.00	0.36	e0.42
29	0.00	2.7	11	15	---	41	2.1	0.00	0.00	56	0.62	e0.42
30	0.00	3.1	12	14	---	28	1.9	0.00	0.00	0.07	0.00	e0.39
31	0.00	---	13	13	---	24	---	0.00	---	17	0.00	---
TOTAL	0.00	21.90	226.6	415	1468.8	6457	123.8	16.40	0.00	73.07	9.08	3223.67
MEAN	0.000	0.73	7.31	13.4	52.5	208	4.13	0.53	0.000	2.36	0.29	107
MAX	0.00	3.1	13	17	743	1340	19	2.0	0.00	56	6.8	2040
MIN	0.00	0.00	3.5	11	9.8	24	1.9	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	43	449	823	2910	12810	246	33	0.00	145	18	6390
CFSM	0.00	0.00	0.01	0.01	0.05	0.20	0.00	0.00	0.00	0.00	0.00	0.10
IN.	0.00	0.00	0.01	0.02	0.05	0.23	0.00	0.00	0.00	0.00	0.00	0.12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 2003, BY WATER YEAR (WY)

MEAN	28.3	19.8	102	138	161	142	23.7	7.64	3.55	18.0	50.9	24.4
MAX	519	178	1581	3208	1500	1262	170	41.8	19.8	84.6	320	166
(WY)	1973	1979	1966	1993	1980	1941	1941	1980	1993	1930	1990	1983
MIN	0.000	0.73	5.07	5.80	7.03	4.83	2.17	0.029	0.000	0.000	0.29	0.000
(WY)	2003	2003	1951	1958	1953	1959	1959	1959	1948	1947	2003	1956

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1930 - 2003
ANNUAL TOTAL	2050.64	12035.32	
ANNUAL MEAN	5.62	33.0	
HIGHEST ANNUAL MEAN			59.7
LOWEST ANNUAL MEAN			426
HIGHEST DAILY MEAN	137 Aug 7	2040 Sep 10	6.61 2002
LOWEST DAILY MEAN	0.00 May 14	0.00 Oct 1	20000 Jan 8 1993
ANNUAL SEVEN-DAY MINIMUM	0.00 May 17	0.00 Oct 1	0.00 Jun 16 1930
ANNUAL RUNOFF (AC-FT)	4070	23870	0.00 Jun 24 1930
ANNUAL RUNOFF (CFSM)	0.005	0.032	43260
ANNUAL RUNOFF (INCHES)	0.07	0.44	0.058
10 PERCENT EXCEEDS	14	37	0.79
50 PERCENT EXCEEDS	1.1	1.2	65
90 PERCENT EXCEEDS	0.00	0.00	9.6
			0.90

e Estimated

09469000 SAN CARLOS RESERVOIR AT COOLIDGE DAM, AZ

LOCATION--Lat 33°10'32", long 110°31'38", in NW_{1/4} sec. 17, T.3 S., R.18 E. (unsurveyed), Gila County, Hydrologic Unit 15040005, in San Carlos Indian Reservation, at right intake tower of Coolidge Dam on Gila River.

DRAINAGE AREA--12,886 mi².

REVISED RECORDS--WSP 1049: 1929, 1934, 1937--38. WSP 1283: Drainage area.

PERIOD OF RECORD--Nov. 1928 to current year.

GAGE--Water-stage recorder. Datum of gage is 2,539.54 ft above sea level. Prior to Jan. 15, 1937, series of stakes with tops at known elevations for reference points on right bank about 1,000 ft upstream from dam. Jan. 15, 1937, to Dec. 31, 1947, water-stage recorder at present site at datum 0.72 ft lower.

REMARKS--Records good. Reservoir is formed by concrete multiple-dome dam. Dam completed Oct. 25, 1928; storage began Nov. 15, 1928. Usable capacity (from capacity table computed by San Carlos Irrigation District, based on an estimate of sediment deposited since 1966; used since Jan. 1, 1991) 866,600 acre-ft between elevations 2,382.63 ft, sill of lowest outlet gate, and 2,510.4 ft (revised), crest of spillway. No dead storage. Figures given herein represent usable contents. Reservoir is used to store water for irrigation of San Carlos project and for power development, dependent on irrigation demands. In 1997 laws were passed that prohibited water users from using storage below 29,559 acre-ft. Spill over Coolidge Dam because of capacity storage has occurred Apr. 22 to May 5, 1979, Feb. 24 to Mar. 13, 1980, Oct. 4--23, 28--31, Dec. 3--13, 1983, Jan. 2 to June 5, 1985, Jan. 11 to Mar. 18, 1993.

COOPERATION--Wire-weight gage readings furnished by Bureau of Indian Affairs.

EXTREMES FOR PERIOD OF RECORD--Maximum contents, 1,090,000 acre-ft Feb. 26 to Mar. 6, 1980; maximum elevation observed, 2,521.36 ft Jan. 20, 1993; no usable contents at times.

EXTREMES FOR CURRENT YEAR--Maximum contents, 48,660 acre-ft Oct. 1, elevation, 2,421.92 ft; minimum, 29,330 acre-ft Sept. 8, elevation, 2,415.22 ft.

RESERVOIR STORAGE, in (ACRE-FEET) WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48660	43250	41710	36690	36130	38820	41650	38790	36470	34230	30980	29630
2	48230	43220	41380	36690	36020	39670	41500	38790	36350	34120	30980	29600
3	47910	43190	41040	36640	36070	40060	41470	38670	36190	34070	30900	29560
4	47620	43160	40740	36640	36100	40200	41440	38670	36050	34020	30850	29510
5	47300	43130	40380	36690	36070	40260	41350	38670	35960	33940	30800	29430
6	46980	43060	40060	36720	36050	40260	41320	38640	35910	33880	30650	29410
7	46660	43100	39670	36580	36050	40290	41320	38610	35800	33800	30650	29360
8	46370	43160	39340	36640	36020	40320	41070	38500	35800	33720	30630	29330
9	46080	42940	39020	36640	36020	40320	40860	38380	35710	33720	30580	29410
10	46400	42940	38730	36610	36050	40350	40620	38320	35570	33640	30500	29430
11	46430	42910	38470	36550	36070	40350	40380	38290	35540	33450	30500	29460
12	46270	42790	38240	36490	36070	40350	40140	38180	35460	33400	30430	29700
13	45830	42820	38000	36440	36300	40380	39880	38120	35410	33400	30280	30030
14	45730	42820	37830	36440	36470	40350	39580	38060	35350	33290	30300	30100
15	45420	42790	37660	36380	36470	40350	39280	37920	35300	33320	30250	30150
16	45130	42790	37400	36350	36490	40380	39230	37890	35210	33030	30280	30130
17	44780	42790	37230	36350	36610	40380	39080	37830	35190	32920	30250	30100
18	44620	42720	37170	36330	36640	40890	39020	37690	35130	32690	30080	30050
19	44470	42720	37000	36330	36660	41320	39020	37630	35080	32450	30050	30030
20	44340	42690	36950	36330	36640	41920	39110	37540	34940	32270	30030	30000
21	44190	42690	36920	36330	36610	42260	39020	37460	34860	32110	29980	29900
22	43970	42690	36890	36330	36580	42540	38870	37340	34800	31930	29950	29900
23	43690	42690	36920	36330	36640	42630	38760	37290	34750	31720	29880	29850
24	43440	42690	36920	36330	36580	42570	38760	37090	34640	31470	29830	29880
25	43340	42690	36890	36300	36690	42480	38820	37060	34580	31390	29780	29900
26	43340	42790	36860	36240	36920	42380	38840	36950	34530	31310	29800	29900
27	43310	42660	36830	36210	37000	42230	38840	36920	34480	31160	29780	29880
28	43310	42660	36800	36190	37600	42230	38870	36970	34500	30960	29750	29850
29	43280	42420	36800	36160	---	41860	38820	36750	34340	30980	29700	29830
30	43250	42080	36750	36160	---	41740	38820	36610	34290	31080	29650	29780
31	43250	---	36780	36130	---	41680	---	36580	---	31010	29650	---
MAX	48660	43250	41710	36720	37600	42630	41650	38790	36470	34230	30980	30150
MIN	43250	42080	36750	36130	36020	38820	38760	36580	34290	30960	29650	29330
(*)	2420.22	2419.84	2418.04	2417.81	2418.33	2419.71	2418.75	2417.97	2417.14	2415.89	2415.35	2415.40
(**)	-5250	-1170	-5300	-650	+1470	+4080	-2860	-2240	-2290	-3280	-1360	+130

CAL YR 2002 MAX 71220 MIN 36750 (**) -30,310
WTR YR 2003 MAX 48660 MIN 29330 (**) -18,720

(*) Elevation, at end of month, in feet
(**) Change in contents, in acre-feet

09469500 GILA RIVER BELOW COOLIDGE DAM, AZ

LOCATION--Lat 33°10'10", long 110°31'50", in SW $\frac{1}{4}$ sec. 17, T.3 S., R.18 E. (unsurveyed), Pinal County, Hydrologic Unit 15050100, on left bank 2,200 ft downstream from Coolidge Dam.

DRAINAGE AREA--12,886 mi².

PERIOD OF RECORD--July to Oct. 1899, Apr. 1900 to Mar. 1902, July to Sept. 1902, Dec. 1902 to Dec. 1904, Jan. to May 1905 (gage heights only), June to Nov. 1905; Aug. 1910 to Feb. 1911 (gage heights only); Apr. 1914 to current year. Published as "at San Carlos" 1899–1911, as "near San Carlos" 1914–26, and as "at Coolidge Dam" 1927–38.

REVISED RECORDS--WSP 629: 1915–16. WSP 1049: 1899–1904. WSP 1149: 19M), 1921, 1922(M), 1923, 1924(M). WSP 1283: Drainage area.

GAGE--Water-stage recorder and Parshall flume. Datum of gage is 2,309.33 ft above sea level. Prior to Feb. 5, 1911, nonrecording gage at various sites and datums upstream from mouth of San Carlos River. Apr. 29, 1914, to Mar. 8, 1937, water-stage recorder at various sites within 1 mi upstream from present site at different datums. Mar. 27, 1979 to Oct. 10, 1980, and since Oct. 4, 1983, supplementary water-stage recorder at site on left bank 1,000 ft upstream at datum 2,309.5 ft above sea level, used above discharges at approximately 2,000 ft³/s, maximum capacity of parshall flume.

REMARKS--Records good except for estimated daily discharges and those below 20 ft³/s, which are fair. Flow regulated by San Carlos Reservoir since Nov. 15, 1928. (See sta 09469000.) Record includes flow of Warm Springs, which enters between the dam and gage. Large diversions above San Carlos Reservoir for irrigation, metallurgical treatment of ore, and municipal supply; about 69,000 acres of land was irrigated, a considerable portion by pumping from ground water.

AVERAGE DISCHARGE (adjusted for storage in San Carlos Reservoir)--91 years (water years 1901, 1904, 1915–2003) 398 ft³/s, 288,400 acre-ft/yr; median of yearly mean discharges, 230 ft³/s, 166,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD--1914–28: Maximum discharge, 130,000 ft³/s Jan. 20, 1916, estimated on basis of peak discharge near Solomon and at Kelvin; no flow at times.

1928–2000: Maximum discharge, 32,800 ft³/s Jan. 20, 21, 1993 from calculated discharge over Coolidge Dam; no flow at times prior to 1938; minimum daily since 1938, 0.18 ft³/s Oct. 5–9 and 19–21, 2000.

EXTREMES FOR CURRENT YEAR--Maximum daily discharge, 410 ft³/s Mar. 20–26; minimum daily discharge, 0.81 ft³/s Nov. 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	136	1.5	208	71	101	213	280	132	44	1.3	1.3	1.3
2	144	1.7	208	71	106	213	255	132	44	1.0	1.3	1.3
3	144	1.7	189	71	108	257	236	131	44	0.81	1.2	1.3
4	144	1.7	179	71	109	343	217	130	44	0.81	1.1	1.3
5	144	1.7	179	71	115	329	210	117	17	0.81	1.1	1.3
6	144	1.7	198	84	120	374	211	115	1.6	0.81	0.96	1.3
7	158	1.5	210	93	120	365	212	126	1.5	0.81	0.81	1.3
8	168	1.3	210	92	120	321	261	126	1.5	0.81	0.81	1.1
9	188	1.2	187	92	120	267	296	126	1.5	0.91	0.81	1.5
10	203	1.1	166	92	123	246	296	126	1.6	1.0	0.81	1.5
11	203	1.1	157	92	126	245	294	126	1.5	1.1	0.81	1.3
12	203	1.1	141	92	135	244	293	126	1.3	1.1	0.81	1.3
13	177	1.1	132	92	145	246	293	119	1.3	1.3	0.81	1.3
14	154	1.1	133	80	147	246	293	108	1.3	1.3	0.81	1.3
15	154	1.1	135	71	146	246	306	99	1.3	1.3	0.81	1.3
16	154	1.1	124	71	147	246	219	101	1.3	71	0.81	1.3
17	154	1.1	104	71	148	245	235	101	1.3	78	0.81	1.3
18	105	1.1	96	64	148	318	218	101	1.1	78	0.81	1.3
19	71	1.1	95	60	183	388	183	95	1.1	78	0.92	1.3
20	71	1.1	61	60	204	410	183	92	1.1	78	1.1	1.3
21	71	1.1	41	60	204	410	208	85	1.1	78	1.1	1.3
22	106	1.1	41	60	191	410	221	79	1.1	79	1.1	1.3
23	125	1.1	17	61	182	410	186	69	1.2	79	1.1	1.2
24	126	1.1	24	61	181	410	148	61	1.3	51	1.3	1.1
25	46	1.1	39	61	198	410	132	56	1.3	41	1.3	1.1
26	1.4	1.1	49	60	211	410	132	53	1.3	82	1.3	1.1
27	1.3	0.85	56	60	213	409	132	49	1.3	79	1.3	1.1
28	1.3	0.81	65	54	213	409	132	46	1.3	78	1.3	1.1
29	1.3	136	70	50	---	397	132	45	1.3	47	1.3	1.1
30	1.3	208	70	78	---	365	132	45	1.3	2.0	1.3	0.99
31	1.3	---	71	95	---	320	---	44	---	1.6	1.3	---
TOTAL	3500.9	378.36	3655	2261	4264	10122	6546	2961	225.8	1015.77	32.40	37.59
MEAN	113	12.6	118	72.9	152	327	218	95.5	7.53	32.8	1.05	1.25
MAX	203	208	210	95	213	410	306	132	44	82	1.3	1.5
MIN	1.3	0.81	17	50	101	213	132	44	1.1	0.81	0.81	0.99
AC-FT	6940	750	7250	4480	8460	20080	12980	5870	448	2010	64	75

CAL YR 2002 TOTAL 26769.45 MEAN 73.3 MAX 341 MIN 0.40 AC-FT 53100
WTR YR 2003 TOTAL 34999.82 MEAN 95.9 MAX 410 MIN 0.81 AC-FT 69420

09470500 SAN PEDRO RIVER AT PALOMINAS, AZ

LOCATION.--Lat 31°22'48", long 110°06'38", in SW1/4, SE1/4, sec. 33, T.23 S., R.22 E., Cochise County, Hydrologic Unit 15050202, near left bank on downstream side of pier of bridge on State Highway 92, 0.7 mi east of Palominas, 2.5 mi upstream from Green Brush Draw, 4.5 mi downstream from international boundary, and 12 mi southwest of Bisbee.

DRAINAGE AREA.--737 mi², of which 649 mi² is in Mexico.

PERIOD OF RECORD.--May 1930 to Oct. 1933, May 1935 to July 1941, July 1950 to Sept. 30, 1981 (discontinued as a continuous-record station; converted to a crest-stage partial-record station). Oct. 1995 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,187.62 ft above sea level (State Highway Department benchmark). See WSP 1733 for history of changes prior to Nov. 24, 1955.

REMARKS.--Records good except for estimated daily discharges, which are poor. Small diversions for irrigation of a few hundred acres above station, mostly in Mexico. Records show approximate flow of river at international boundary.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,000 ft³/s Aug. 14, 1940, gage height, 16.16 ft, present datum, from rating curve extended above 5,600 ft³/s on basis of slope-area measurement of peak flow; no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Greatest flood since at least 1906 occurred Sept. 28, 1926, gage height, about 23.9 ft, present datum, from floodmarks; discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,400 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 26	2115	*3,180	*9.00
Aug. 13	0145	3,020	8.79

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.15	0.15	1.2	1.8	1.6	0.16	0.00	e0.00	0.00	2.4
2	0.00	0.00	0.13	0.15	1.2	1.8	1.7	0.18	0.00	e0.00	0.00	0.38
3	0.00	0.00	0.16	0.15	1.1	1.8	2.0	0.17	0.00	e0.00	0.00	0.11
4	0.00	0.00	0.15	0.17	1.2	1.7	2.4	0.20	0.00	e0.00	0.00	0.09
5	0.00	0.00	0.13	0.22	1.2	1.6	2.1	0.21	0.00	e0.00	0.00	0.10
6	0.00	0.00	0.12	0.27	1.3	1.3	1.8	0.24	0.00	e0.00	0.00	0.10
7	0.00	0.00	0.11	0.29	1.3	1.3	1.8	0.25	0.00	e0.00	0.00	0.10
8	0.00	0.00	0.10	0.38	1.5	1.3	1.7	0.23	0.00	e0.00	15	0.10
9	0.00	0.00	0.08	0.45	1.3	1.3	1.1	0.23	0.00	e0.00	0.09	16
10	0.00	0.00	0.07	0.46	1.3	1.3	0.75	0.24	0.00	e0.00	0.00	4.3
11	0.00	0.00	0.07	0.52	1.3	1.3	0.56	0.25	0.00	e0.00	0.00	0.05
12	0.00	0.00	0.07	0.58	1.2	1.2	0.54	0.29	0.00	e0.00	22	0.00
13	0.00	0.00	0.07	0.61	1.1	0.97	0.69	0.31	0.00	e0.00	444	0.00
14	0.00	0.00	0.07	0.62	1.1	1.0	0.70	0.24	0.00	e0.00	2.1	0.00
15	0.00	0.01	0.07	0.70	1.1	1.0	0.75	0.00	0.00	e0.00	0.00	0.00
16	0.00	0.00	0.07	0.67	1.0	1.1	0.54	0.00	0.00	e0.00	3.6	0.00
17	0.00	0.01	0.08	0.70	1.0	1.4	0.45	0.00	0.00	e0.00	0.10	0.00
18	0.00	0.01	0.09	0.79	0.96	1.7	0.42	0.00	0.00	e0.00	0.00	0.00
19	0.00	0.01	0.09	0.84	0.95	1.5	0.39	0.00	0.00	e0.00	201	0.00
20	0.00	0.01	0.09	0.92	1.0	1.4	0.32	0.00	0.00	e0.00	3.6	0.00
21	0.00	0.02	0.09	0.98	1.1	1.3	0.20	0.00	0.00	e0.00	0.04	0.00
22	0.00	0.02	0.10	1.0	0.97	1.2	0.21	0.00	0.00	e0.00	244	0.00
23	0.00	0.03	0.11	1.0	1.1	1.2	0.24	0.00	0.00	122	2.0	0.00
24	0.00	0.03	0.10	1.0	1.3	1.1	0.30	0.00	0.00	0.05	0.05	0.53
25	0.00	0.06	0.12	1.1	1.5	1.0	0.30	0.00	e0.00	17	15	0.00
26	0.00	0.07	0.13	1.1	2.5	1.1	0.22	0.00	e0.00	754	2.5	0.00
27	0.00	0.10	0.12	1.1	1.9	1.1	0.19	0.00	e0.00	38	246	0.00
28	0.01	0.11	0.12	1.2	1.8	1.1	0.17	0.00	e0.00	129	41	0.00
29	0.01	0.12	0.13	1.2	---	1.1	0.15	0.00	e0.00	40	3.1	0.00
30	0.01	0.14	0.13	1.2	---	1.4	0.15	0.00	e0.00	2.5	0.77	0.00
31	0.01	---	0.14	1.2	---	1.4	---	0.00	---	0.05	2.0	---
TOTAL	0.04	0.75	3.26	21.72	35.48	40.77	24.44	3.20	0.00	1102.60	1247.95	24.26
MEAN	0.001	0.025	0.11	0.70	1.27	1.32	0.81	0.10	0.000	35.6	40.3	0.81
MAX	0.01	0.14	0.16	1.2	2.5	1.8	2.4	0.31	0.00	754	444	16
MIN	0.00	0.00	0.07	0.15	0.95	0.97	0.15	0.00	0.00	0.00	0.00	0.00
AC-FT	0.08	1.5	6.5	43	70	81	48	6.3	0.00	2190	2480	48

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2003, BY WATER YEAR (WY)

	1978	1979	1979	1978	1979	1979	2000	2000	2000	1997	1997	2000
MEAN	39.7	6.42	20.0	19.4	8.58	7.19	1.94	0.63	3.86	85.3	126	23.2
MAX	770	133	414	452	73.5	75.8	14.6	4.63	55.3	280	591	275
(WY)	1978	2001	1979	1979	1979	1978	1979	1979	2000	1959	1954	1958
MIN	0.000	0.000	0.097	0.035	0.071	0.22	0.000	0.000	0.000	0.26	2.68	0.027
(WY)	1966	1966	1954	1954	1954	1972	1969	1965	1962	1997	1962	2000

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1950 - 2003

ANNUAL TOTAL	3567.47	2504.47	
ANNUAL MEAN	9.77	6.86	29.2
HIGHEST ANNUAL MEAN			93.3 1979
LOWEST ANNUAL MEAN			4.16 1997
HIGHEST DAILY MEAN	612 Aug 6	754 Jul 26	10300 Oct 9 1977
LOWEST DAILY MEAN	0.00 Jul 6	0.00 Oct 1	0.00 Jun 16 1951
ANNUAL SEVEN-DAY MINIMUM	0.00 Aug 24	0.00 Oct 1	0.00 Jun 6 1953
ANNUAL RUNOFF (AC-FT)	7080	4970	21160
10 PERCENT EXCEEDS	4.4	1.7	28
50 PERCENT EXCEEDS	0.14	0.10	1.2
90 PERCENT EXCEEDS	0.00	0.00	0.00

e Estimated

GILA RIVER BASIN

09470520 GREENBUSH DRAW NEAR PALOMINAS, AZ

LOCATION--Lat 31°22'49", long 110°04'18", in NW1/4NE1/4NE1/4, sec. 2, T.24 S., R.22 E., Cochise County, Hydrologic Unit 15050202, on left bank on downstream side of State Highway 92 bridge, approximately 2.7 mi east of Palominas, and approximately 3.4 mi upstream from the confluence of the San Pedro River.

DRAINAGE AREA--Undetermined.

PERIOD OF RECORD--June 2000 to current year.

GAGE--Water-stage recorder. Elevation of gage is 4,280 ft above sea level, from topographic map.

REMARKS--Records good.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 2,400 ft³/s, Aug. 12, 2003, gage height, 9.58 ft.

EXTREMES FOR CURRENT YEAR--Maximum discharge, 2,400 ft³/s Aug. 12 at 1930, gage height, 9.58 ft. Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	126	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	26	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.85	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.5	0.00	0.37
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	11	0.00	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.77	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77	0.00	14.35	152.20	0.37
MEAN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.025	0.000	0.46	4.91	0.012
MAX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.77	0.00	11	126	0.37
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MED	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.5	0.00	28	302	0.7

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

	2000	2001	2002	2003
MEAN	5.24	0.70	0.000	0.000
MAX	15.7	2.09	0.000	0.000
(WY)	2001	2001	2001	2001
MIN	0.000	0.000	0.000	0.000
(WY)	2002	2002	2001	2001

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 2000 - 2003

ANNUAL TOTAL	77.69	167.69		
ANNUAL MEAN	0.21	0.46	0.73	
HIGHEST ANNUAL MEAN			1.51	2001
LOWEST ANNUAL MEAN			0.21	2002
HIGHEST DAILY MEAN	43	Aug 4	126	Aug 12
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 1
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Oct 1
ANNUAL RUNOFF (AC-FT)	154		333	526
10 PERCENT EXCEEDS	0.00		0.00	0.00
50 PERCENT EXCEEDS	0.00		0.00	0.00
90 PERCENT EXCEEDS	0.00		0.00	0.00

09470700 BANNING CREEK NEAR BISBEE, AZ

LOCATION--Lat 31°30'12.5", long 110°00'19", Cochise County, Hydrologic Unit 15050202, 6 mi (approx.) northeast of Bisbee, AZ. Gage is on the right bank, 8 mi (approx.) above the confluence with the San Pedro River.

DRAINAGE AREA--Undetermined.

PERIOD OF RECORD--Feb. 8, 2001, to current year.

GAGE--Water-stage recorder and concrete control. Elevation of gage is 4,767.81 ft above sea level.

REMARKS--Records poor.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 1,288 ft³/s Aug. 4, 2002 at 1130, gage height, 5.04 ft.

EXTREMES FOR CURRENT YEAR--Maximum discharge, 0.04 ft³/s Oct. 1 at 0415, gage height 1.71 ft. Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MAX	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MED	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2003, BY WATER YEAR (WY)

	2001	2002	2003	2001	2002	2003	2001	2002	2003	2001	2002	2003
MEAN	0.000	0.000	0.000	0.000	0.043	0.028	0.047	0.018	0.000	0.76	4.08	0.089
MAX	0.001	0.000	0.000	0.000	0.16	0.085	0.14	0.054	0.000	2.29	6.59	0.18
(WY)	2003	2002	2002	2002	2001	2001	2001	2001	2001	2001	2001	2002
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	2002	2002	2002	2002	2002	2002	2002	2002	2001	2002	2003	2003

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2001 - 2003	
ANNUAL TOTAL	180.29		0.02			
ANNUAL MEAN	0.49		0.000		0.49	
HIGHEST ANNUAL MEAN					1.24 2001	
LOWEST ANNUAL MEAN					0.000 2003	
HIGHEST DAILY MEAN	78	Aug 4	0.02	Oct 1	78	Aug 4 2002
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 2	0.00	May 13 2001
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Oct 2	0.00	May 13 2001
ANNUAL RUNOFF (AC-FT)	358		0.04		353	
10 PERCENT EXCEEDS	0.26		0.00		0.22	
50 PERCENT EXCEEDS	0.00		0.00		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

GILA RIVER BASIN

09470750 RAMSEY CANYON NEAR SIERRA VISTA, AZ

LOCATION.--Lat 31°26'48", long 110°18'21", in NW $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 10, T.23 S., R.20 E., Cochise County, Hydrologic Unit 15050202, on left bank 3.4 mi northwest of Nicksville, in the Coronado National Forest, and approximately 8.7 mi upstream from the confluence of the San Pedro River.

DRAINAGE AREA.--Undetermined.

PERIOD OF RECORD.--May 2000 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,525 ft above sea level from topographic map.

REMARKS.--Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 117 ft³/s Oct. 22, 2000, gage height 3.44 ft; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 0.20 ft³/s Jan. 7 at 1115, gage height 1.34 ft. No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.05	0.02	0.04	0.09	0.04	0.05	0.07	0.06	0.01	0.00	0.00	0.00
2	0.05	0.02	0.04	0.09	0.04	0.06	0.07	0.06	0.01	0.00	0.00	0.00
3	0.04	0.02	0.04	0.09	0.04	0.06	0.07	0.06	0.01	0.00	0.00	0.00
4	0.04	0.02	0.04	0.09	0.04	0.06	0.07	0.05	0.01	0.00	0.00	0.00
5	0.04	0.02	0.04	0.08	0.04	0.06	0.08	0.05	0.01	0.00	0.00	0.01
6	0.04	0.02	0.04	0.08	0.04	0.06	0.07	0.05	0.01	0.00	0.00	0.01
7	0.04	0.02	0.04	0.08	0.04	0.06	0.07	0.05	0.01	0.00	0.00	0.01
8	0.05	0.02	0.04	0.04	0.05	0.06	0.07	0.05	0.01	0.00	0.00	0.01
9	0.04	0.02	0.04	0.05	0.05	0.06	0.07	0.05	0.01	0.00	0.01	0.01
10	0.04	0.03	0.04	0.05	0.04	0.06	0.08	0.05	0.01	0.00	0.00	0.01
11	0.04	0.03	0.04	0.05	0.04	0.06	0.08	0.04	0.01	0.00	0.00	0.01
12	0.03	0.03	0.04	0.05	0.04	0.06	0.07	0.04	0.01	0.00	0.00	0.01
13	0.03	0.03	0.04	0.04	0.05	0.06	0.07	0.04	0.01	0.00	0.00	0.01
14	0.03	0.03	0.05	0.04	0.05	0.06	0.08	0.04	0.00	0.00	0.00	0.01
15	0.03	0.03	0.05	0.04	0.05	0.06	0.08	0.03	0.00	0.00	0.00	0.00
16	0.03	0.03	0.05	0.04	0.05	0.06	0.08	0.03	0.00	0.00	0.00	0.00
17	0.03	0.03	0.05	0.04	0.05	0.07	0.08	0.03	0.00	0.00	0.00	0.00
18	0.03	0.03	0.06	0.04	0.05	0.07	0.08	0.03	0.00	0.00	0.00	0.00
19	0.03	0.03	0.06	0.04	0.05	0.07	0.08	0.03	0.00	0.00	0.00	0.00
20	0.03	0.03	0.06	0.04	0.05	0.06	0.08	0.03	0.00	0.00	0.00	0.00
21	0.03	0.03	0.05	0.05	0.05	0.06	0.08	0.02	0.00	0.00	0.00	0.00
22	0.03	0.02	0.06	0.05	0.05	0.06	0.07	0.02	0.00	0.00	0.00	0.00
23	0.03	0.03	0.06	0.04	0.05	0.07	0.07	0.02	0.00	0.00	0.00	0.00
24	0.03	0.03	0.05	0.04	0.05	0.07	0.07	0.02	0.00	0.00	0.00	0.01
25	0.03	0.03	0.05	0.04	0.05	0.07	0.07	0.02	0.00	0.00	0.00	0.01
26	0.03	0.03	0.05	0.04	0.09	0.07	0.07	0.01	0.00	0.00	0.00	0.02
27	0.03	0.03	0.05	0.04	0.07	0.07	0.06	0.01	0.00	0.00	0.00	0.02
28	0.03	0.03	0.05	0.04	0.06	0.07	0.06	0.01	0.00	0.00	0.00	0.03
29	0.03	0.04	0.08	0.04	---	0.06	0.06	0.01	0.00	0.00	0.00	0.01
30	0.03	0.04	0.08	0.04	---	0.06	0.06	0.01	0.00	0.00	0.00	0.01
31	0.03	---	0.08	0.04	---	0.07	---	0.01	---	0.00	0.00	---
TOTAL	1.07	0.82	1.56	1.62	1.37	1.95	2.17	1.03	0.13	0.00	0.01	0.21
MEAN	0.035	0.027	0.050	0.052	0.049	0.063	0.072	0.033	0.004	0.000	0.000	0.007
MAX	0.05	0.04	0.08	0.09	0.09	0.07	0.08	0.06	0.01	0.00	0.01	0.03
MIN	0.03	0.02	0.04	0.04	0.04	0.05	0.06	0.01	0.00	0.00	0.00	0.00
MED	0.03	0.03	0.05	0.04	0.05	0.06	0.07	0.03	0.00	0.00	0.00	0.01
AC-FT	2.1	1.6	3.1	3.2	2.7	3.9	4.3	2.0	0.3	0.00	0.02	0.4

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

	2000	2001	2002	2003	2000	2001	2002	2003	2000	2001	2002	2003
MEAN	3.13	2.04	0.58	0.27	0.23	0.28	0.42	0.15	0.059	0.074	0.46	0.22
MAX	9.24	5.97	1.54	0.63	0.46	0.63	1.14	0.53	0.17	0.20	1.41	0.62
(WY)	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001
MIN	0.035	0.027	0.050	0.052	0.049	0.063	0.049	0.013	0.000	0.000	0.000	0.007
(WY)	2003	2003	2003	2003	2003	2003	2002	2000	2002	2002	2003	2003

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 2000 - 2003

ANNUAL TOTAL	21.60	11.94	
ANNUAL MEAN	0.059	0.033	0.67
HIGHEST ANNUAL MEAN			1.89 2001
LOWEST ANNUAL MEAN			0.033 2003
HIGHEST DAILY MEAN	0.41 Feb 4	0.09 Jan 1	48 Oct 23 2000
LOWEST DAILY MEAN	0.00 May 13	0.00 Jun 14	0.00 Jun 4 2000
ANNUAL SEVEN-DAY MINIMUM	0.00 May 25	0.00 Jun 14	0.00 Jun 8 2000
ANNUAL RUNOFF (AC-FT)	43	24	483
10 PERCENT EXCEEDS	0.13	0.07	1.1
50 PERCENT EXCEEDS	0.04	0.03	0.08
90 PERCENT EXCEEDS	0.00	0.00	0.00

GILA RIVER BASIN

09470800 GARDEN CANYON NEAR FORT HUACHUCA, AZ

LOCATION--Lat 31°28'22", long 110°20'50", in NW1/4SE1/4 sec. 31, T.22 S., R.20 E. (unsurveyed), on right bank in Fort Huachuca (U.S. Army) Military Reservation, 2.4 mi southeast of Huachuca Peak, 5.5 mi south of Fort Huachuca, and 6.4 mi northwest of Miller Peak.

DRAINAGE AREA--8.38 mi².

PERIOD OF RECORD--Oct. 1959 to June 1965, Dec. 1993 to current year.

GAGE--Water-stage recorder and concrete control with 90° V-notch weir. Elevation of gage is 5,400 ft above sea level from topographic map.

REMARKS--Records good.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 382 ft³/s Oct. 23, 2000, gage height 3.69 ft; no flow at times.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 20 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 26	0045	*0.46	*1.46

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.04	0.02	0.02	0.07	0.03	0.15	0.13	0.01	0.00	0.00	0.00	0.08
2	0.04	0.02	0.03	0.07	0.03	0.14	0.12	0.00	0.00	0.00	0.00	0.11
3	0.05	0.02	0.04	0.07	0.03	0.14	0.12	0.00	0.00	0.00	0.00	0.11
4	0.04	0.02	0.04	0.07	0.03	0.13	0.12	0.00	0.00	0.00	0.00	0.11
5	0.03	0.02	0.04	0.07	0.03	0.13	0.11	0.00	0.00	0.00	0.00	0.10
6	0.03	0.02	0.05	0.06	0.03	0.12	0.11	0.00	0.00	0.00	0.00	0.10
7	0.03	0.02	0.05	0.06	0.03	0.12	0.10	0.00	0.00	0.00	0.00	0.08
8	0.04	0.02	0.05	0.06	0.03	0.11	0.09	0.00	0.00	0.00	0.00	0.07
9	0.03	0.02	0.06	0.06	0.03	0.11	0.09	0.00	0.00	0.00	0.00	0.08
10	0.03	0.02	0.05	0.06	0.03	0.10	0.08	0.00	0.00	0.00	0.00	0.07
11	0.03	0.02	0.06	0.06	0.03	0.09	0.07	0.00	0.00	0.00	0.00	0.05
12	0.02	0.02	0.06	0.06	0.03	0.09	0.06	0.00	0.00	0.00	0.00	0.02
13	0.02	0.02	0.05	0.06	0.04	0.09	0.06	0.00	0.00	0.00	0.00	0.00
14	0.02	0.02	0.05	0.06	0.05	0.09	0.06	0.00	0.00	0.00	0.00	0.00
15	0.01	0.03	0.05	0.06	0.05	0.09	0.05	0.00	0.00	0.00	0.00	0.00
16	0.01	0.03	0.05	0.06	0.05	0.11	0.05	0.00	0.00	0.00	0.00	0.00
17	0.01	0.03	0.05	0.05	0.05	0.14	0.04	0.00	0.00	0.00	0.00	0.00
18	0.03	0.03	0.06	0.05	0.05	0.16	0.04	0.00	0.00	0.00	0.00	0.00
19	0.02	0.03	0.06	0.05	0.05	0.17	0.04	0.00	0.00	0.00	0.00	0.00
20	0.02	0.03	0.07	0.05	0.05	0.16	0.04	0.00	0.00	0.00	0.00	0.00
21	0.03	0.03	0.07	0.05	0.07	0.15	0.03	0.00	0.00	0.00	0.00	0.00
22	0.02	0.03	0.07	0.05	0.07	0.15	0.03	0.00	0.00	0.00	0.00	0.00
23	0.02	0.02	0.09	0.05	0.07	0.14	0.03	0.00	0.00	0.00	0.00	0.00
24	0.02	0.03	0.08	0.05	0.07	0.14	0.02	0.00	0.00	0.00	0.00	0.00
25	0.02	0.02	0.09	0.04	0.07	0.14	0.02	0.00	0.00	0.00	0.00	0.00
26	0.02	0.01	0.09	0.04	0.19	0.14	0.03	0.00	0.00	0.00	0.02	0.00
27	0.02	0.01	0.08	0.04	0.15	0.15	0.02	0.00	0.00	0.00	0.00	0.00
28	0.03	0.01	0.08	0.04	0.15	0.15	0.02	0.00	0.00	0.00	0.00	0.00
29	0.03	0.02	0.07	0.03	---	0.15	0.01	0.00	0.00	0.00	0.00	0.00
30	0.03	0.02	0.08	0.03	---	0.15	0.01	0.00	0.00	0.00	0.00	0.00
31	0.03	---	0.08	0.03	---	0.15	---	0.00	---	0.00	0.01	---
TOTAL	0.82	0.66	1.87	1.66	1.59	4.05	1.80	0.01	0.00	0.00	0.03	0.98
MEAN	0.026	0.022	0.060	0.054	0.057	0.13	0.060	0.000	0.000	0.000	0.001	0.033
MAX	0.05	0.03	0.09	0.07	0.19	0.17	0.13	0.01	0.00	0.00	0.02	0.11
MIN	0.01	0.01	0.02	0.03	0.03	0.09	0.01	0.00	0.00	0.00	0.00	0.00
AC-FT	1.6	1.3	3.7	3.3	3.2	8.0	3.6	0.02	0.00	0.00	0.06	1.9
CFSM	0.00	0.00	0.01	0.01	0.01	0.02	0.01	0.00	0.00	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
	2.35	28.1	2001	0.000	1998
	1.35	11.9	2001	0.000	1998
	1.15	7.03	1995	0.060	2003
	1.91	11.5	1960	0.054	2003
	1.86	12.1	1995	0.021	2000
	1.45	6.15	1998	0.039	2000
	1.04	5.18	1998	0.001	2000
	0.44	1.94	1998	0.000	2000
	0.17	0.74	1995	0.000	1961
	0.54	2.23	1998	0.000	1994
	2.43	11.4	1963	0.001	1997
	1.99	14.5	1963	0.033	2003

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1960 - 2003
ANNUAL TOTAL	79.00	13.47	
ANNUAL MEAN	0.22	0.037	1.46
HIGHEST ANNUAL MEAN			5.06 2001
LOWEST ANNUAL MEAN			0.037 2003
HIGHEST DAILY MEAN	5.2 Aug 19	0.19 Feb 26	260 Oct 23 2000
LOWEST DAILY MEAN	0.00 May 15	0.00 May 2	0.00 May 29 1961
ANNUAL SEVEN-DAY MINIMUM	0.00 May 15	0.00 May 2	0.00 May 29 1961
ANNUAL RUNOFF (AC-FT)	157	27	1050
ANNUAL RUNOFF (CFSM)	0.026	0.004	0.17
10 PERCENT EXCEEDS	0.53	0.11	3.6
50 PERCENT EXCEEDS	0.05	0.02	0.25
90 PERCENT EXCEEDS	0.00	0.00	0.00

GILA RIVER BASIN

09471000 SAN PEDRO RIVER AT CHARLESTON, AZ

LOCATION.--Lat 31°37'33", long 110°10'26", in NE¹/₄NE¹/₄ sec. 11, T.21 S., R.21 E., Cochise County, Hydrologic Unit 15050202, in Spanish land grant of San Juan de las Boquillas y Nogales, at downstream side of pier near center of highway bridge, 0.3 mi south of Charleston, 1.5 mi upstream from Charleston damsite, and 9 mi upstream from Babocomari River.

DRAINAGE AREA.--1,234 mi², of which 696 mi² is in Mexico.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Jan. and Feb. 1904 (gage heights only); Mar. 1904 to Aug. 1906; Nov. 1910 to Dec. 1911 (gage heights only); Sept. 1912 to current year. Monthly discharge only Oct. 1926 to May 1928 and Dec. 1933 to Apr. 1935, published in WSP 1313. Published as "near Lewis Springs" 1910--11, and as "near Fairbank" 1911--26.

REVISED RECORDS.--WSP 1119: 1939(M). WSP 1213: 1914, 1916(M), 1918(M), 1919, 1920(M), 1922--23(M), WDR AZ--90--1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,954.01 ft above sea level. Prior to Dec. 1, 1942, nonrecording gage or water-stage recorder at various sites within 6.5 mi downstream at different datums.

REMARKS.--Records fair, except for high-flow records and estimated daily discharges, which are poor. Diversions above station, mostly by pumping from ground water, for irrigation of 3,200 acres in 1978, excluding an unknown amount in Mexico. Record shows flow available at Charleston damsite.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 98,000 ft³/s Sept. 28, 1926, gage height, 21.9 ft, site and datum then in use, by slope-area measurement of peak flow; minimum daily discharge since 1928, 0.05 ft³/s June 14--16, 1994, gage height, 2.02 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 25.....	2030	*2,950	*6.77

Minimum daily discharge, 0.43 ft³/s, July 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	3.6	5.0	5.9	9.0	11	9.7	5.9	2.7	0.63	6.6	13
2	2.0	3.6	5.0	6.1	9.3	11	9.3	5.7	2.4	0.64	5.2	13
3	2.1	3.7	5.0	6.1	9.6	11	9.1	5.5	2.0	0.57	4.7	11
4	2.2	3.8	4.9	6.1	9.7	11	9.0	5.6	1.8	0.51	4.3	9.5
5	2.2	3.9	5.0	6.3	9.8	11	9.0	5.6	1.7	0.54	4.0	8.7
6	2.1	4.1	4.8	6.6	9.9	11	8.9	5.4	1.5	0.57	3.8	74
7	2.6	4.1	4.8	6.7	9.9	11	8.8	5.4	1.5	0.56	4.2	11
8	2.6	4.3	4.8	6.8	10	11	8.8	4.9	1.4	0.61	3.7	8.2
9	2.5	4.5	4.8	7.0	10	11	8.7	4.9	1.4	0.61	9.6	12
10	2.3	4.8	4.9	7.2	10	11	8.2	4.9	1.3	0.43	5.4	12
11	2.2	4.6	5.0	7.2	11	11	8.1	4.7	1.2	0.47	4.2	10
12	2.2	4.7	5.0	7.2	11	11	7.9	4.5	1.2	0.69	3.7	7.1
13	2.3	4.8	5.0	7.4	11	11	7.6	4.5	1.2	0.73	200	5.9
14	2.4	4.9	5.0	7.5	11	11	7.4	4.3	1.1	1.0	23	5.2
15	2.4	4.9	5.5	7.5	11	12	7.4	4.2	1.0	1.5	10	4.6
16	2.4	4.7	4.5	7.6	11	11	7.5	4.0	0.98	1.0	7.5	4.3
17	2.4	4.8	4.8	8.0	11	11	7.4	3.8	1.1	0.94	7.7	4.0
18	2.6	4.8	5.0	8.0	11	12	7.3	3.7	1.8	10	9.7	3.6
19	2.8	4.8	5.0	8.0	11	12	7.3	3.6	1.1	3.7	61	3.5
20	2.8	4.7	5.0	8.1	11	12	7.2	3.5	0.92	1.5	42	3.2
21	2.9	4.6	5.1	8.5	11	12	7.2	3.4	0.74	9.7	11	3.2
22	2.8	4.5	5.4	8.5	11	11	7.1	3.3	0.69	2.0	80	3.0
23	2.9	4.5	5.5	8.5	11	11	7.0	3.1	0.65	11	23	3.4
24	3.0	4.5	5.4	8.6	11	11	7.0	3.0	0.60	7.3	9.6	4.5
25	3.0	4.4	5.4	8.7	11	11	6.9	2.7	0.65	190	12	4.0
26	3.1	4.6	5.4	8.5	11	11	6.8	2.6	0.67	117	56	3.7
27	3.2	4.6	5.5	8.5	11	11	6.6	2.5	0.68	109	203	3.4
28	3.5	4.7	5.7	8.6	11	10	6.2	2.4	0.72	11	96	3.0
29	3.6	4.9	5.8	8.8	---	9.9	6.1	2.8	0.74	144	36	2.9
30	3.6	5.0	5.8	9.1	---	9.8	5.9	5.1	0.67	28	20	2.8
31	3.6	---	5.8	8.9	---	9.8	---	3.2	---	8.4	16	---
TOTAL	82.4	134.4	159.6	236.5	295.2	341.5	231.4	128.7	36.11	664.60	982.9	257.7
MEAN	2.66	4.48	5.15	7.63	10.5	11.0	7.71	4.15	1.20	21.4	31.7	8.59
MAX	3.6	5.0	5.8	9.1	11	12	9.7	5.9	2.7	190	203	74
MIN	2.0	3.6	4.5	5.9	9.0	9.8	5.9	2.4	0.60	0.43	3.7	2.8
MED	2.6	4.6	5.0	7.6	11	11	7.4	4.2	1.1	1.0	9.7	4.6
AC-FT	163	267	317	469	586	677	459	255	72	1320	1950	511
CFSM	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.00	0.02	0.03	0.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1904 - 2003, BY WATER YEAR (WY)

MEAN	41.8	18.2	45.9	39.5	27.6	23.9	13.2	8.28	11.7	137	207	79.2
MAX	1087	132	1230	507	217	160	66.5	37.2	167	876	968	1887
(WY)	1978	2001	1915	1979	1915	1915	1905	1917	1925	1921	1954	1926
MIN	2.66	4.48	5.15	5.81	7.18	8.04	3.03	2.42	1.19	0.55	9.97	3.22
(WY)	2003	2003	2003	1999	1923	1999	1913	1918	1990	1997	1962	2002

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1904 - 2003

ANNUAL TOTAL	3417.68	3551.01	
ANNUAL MEAN	9.36	9.73	54.3
HIGHEST ANNUAL MEAN			206
LOWEST ANNUAL MEAN			9.73
HIGHEST DAILY MEAN	216	203	28800
LOWEST DAILY MEAN	0.81	0.43	0.05
ANNUAL SEVEN-DAY MINIMUM	0.95	0.54	0.06
ANNUAL RUNOFF (AC-FT)	6780	7040	39340
ANNUAL RUNOFF (CFSM)	0.008	0.008	0.044
10 PERCENT EXCEEDS	16	11	67
50 PERCENT EXCEEDS	5.0	5.4	13
90 PERCENT EXCEEDS	1.8	1.4	3.5

09471000 SAN PEDRO RIVER AT CHARLESTON, AZ—CONTINUED

(NATIONAL WATER-QUALITY ASSESSMENT STATION)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1963 to Sept. 1975, Dec. 1986 to Sept. 1993, Feb. 1996 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Oct. 1964 to Sept. 1975, Oct. 1996 to Sept. 1998.

WATER TEMPERATURE: July 1963 to Sept. 1975, Oct. 1996 to Sept. 1998.

SUSPENDED-SEDIMENT DISCHARGE: July 1963 to Sept. 1975.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd std units (00400)	Specific conductance, wat unfiltered, uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	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)
OCT													
18...	1320	9	4.0	660	7.4	94	8.3	521	31.0	19.8	228	265	6
NOV													
29...	1405	9	8.1	656	8.8	93	8.4	548	14.5	11.1	242	283	6
DEC													
13...	1315	9	10	661	9.6	97	8.3	562	7.0	9.2	240	284	5
JAN													
22...	1340	9	17	655	10.2	105	8.4	548	20.5	9.9	230	268	6
FEB													
21...	1050	9	27	665	9.8	103	8.3	533	18.5	11.2	231	271	5
APR													
18...	1340	9	8.1	657	9.1	125	8.4	496	28.5	23.5	215	246	8
JUN													
05...	1355	9	2.3	658	9.0	133	8.4	441	33.0	27.5	182	209	6
JUL													
25...	1335	9	1.5	661	8.8	138	8.6	425	31.5	30.9	192	214	10
25...	1336	7	1.5	--	--	--	8.6	425	--	--	194	220	8
AUG													
14...	1330	9	13	662	5.8	86	8.2	397	34.5	28.1	163	193	3

Date	Chloride, water, fltrd, mg/L (00940)	Sulfate, water, fltrd, mg/L (00945)	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)	Nitrite, water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)
OCT										
18...	9.49	39.5	.14	<.04	<.05	<.008	.02	.037	5	.05
NOV										
29...	10.4	45.0	.14	<.04	<.05	<.008	E.01	.034	9	.20
DEC										
13...	10.5	48.0	.12	<.04	<.05	<.008	E.01	.033	20	.54
JAN										
22...	9.15	48.8	E.10	<.04	<.05	<.008	E.02	.013	9	.41
FEB										
21...	9.42	48.6	.10	<.04	<.05	<.008	<.02	.016	8	.58
APR										
18...	8.64	38.0	.18	<.04	<.05	<.008	E.01	.031	14	.31
JUN										
05...	8.45	24.9	.20	<.04	.13	<.008	E.01	.039	14	.09
JUL										
25...	7.94	20.9	.32	<.04	E.03	<.008	<.02	.067	23	.09
25...	7.92	20.1	.29	<.04	<.05	<.008	<.02	.067	25	.10
AUG										
14...	6.33	29.5	.52	<.04	.35	.009	.05	.22	240	8.4

Remark codes used in this report:

- < -- Less than
- E -- Estimated value

GILA RIVER BASIN
09471000 SAN PEDRO RIVER AT CHARLESTON, AZ—CONTINUED
(NATIONAL WATER-QUALITY ASSESSMENT STATION)

Water-quality measurements in the following table were made as part of the National Water-Quality Assessment Program. The following analyses are quality-assurance samples processed during the 2002 sampling period and are defined in the introductory text section titled "Water-Quality Control Data."

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

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)	Chlor- ide, water, fltrd, mg/L (00940)	Sulfate water, fltrd, mg/L (00945)	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)	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phosphate, water, fltrd, mg/L as P (00671)
JUN 05...	1230	2	5.7	1	34.0	31.5	<.30	<.1	<.10	<.04	<.05	<.008	<.02

Date	Phos- phorus, water, unfltrd mg/L (00665)
JUN 05...	<.004

Remark codes used in this report:
 < -- Less than

09471000 SAN PEDRO RIVER AT CHARLESTON, AZ—CONTINUED

(NATIONAL WATER-QUALITY ASSESSMENT STATION)

PERIOD OF RECORD--July 1963 to Sept. 1975, Dec. 1986 to Sept. 1993, Feb. 1996 to current year.

PERIOD OF DAILY RECORD--

SPECIFIC CONDUCTANCE: Oct. 1964 to Sept. 1975, Oct. 1996 to Sept. 1998.

WATER TEMPERATURE: July 1963 to Sept. 1975, Oct. 1996 to Sept. 1998.

SUSPENDED-SEDIMENT DISCHARGE: July 1963 to Sept. 1975.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	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)
OCT													
23...	1350	9	3.0	659	7.6	96	8.3	466	22.0	19.6	208	246	4
NOV													
29...	1245	9	5.0	665	7.9	86	8.2	477	17.0	12.6	223	266	3
JAN													
08...	1355	9	6.9	663	9.6	108	8.5	480	18.5	14.5	223	260	6
FEB													
04...	1425	9	9.7	659	9.8	109	8.5	498	21.5	13.3	220	250	9
26...	1305	9	11	657	9.2	107	8.5	496	14.0	15.0	204	240	5
APR													
16...	1315	9	7.6	661	9.0	115	8.5	492	25.0	20.5	214	250	5
JUL													
01...	1255	9	.59	660	8.4	129	8.4	448	35.0	29.9	201	236	4
30...	1610	9	14	661	6.0	82	8.1	234	28.5	23.6	108	132	<1
SEP													
05...	1300	9	8.7	662	7.0	104	8.4	444	32.5	28.4	197	226	7
05...	1301	7	8.7	--	--	--	8.4	444	--	--	200	223	10

Date	Chloride, water, fltrd, mg/L (00940)	Sulfate, water, fltrd, mg/L (00945)	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)	Nitrite, water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd mg/L (00665)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)
OCT										
23...	7.32	21.4	.13	<.015	<.022	<.002	.018	.045	9	.07
NOV										
29...	7.55	21.6	.12	E.04	<.06	<.008	<.02	.035	9	.12
JAN										
08...	7.51	27.1	.10	<.04	<.06	<.008	<.02	.023	20	.37
FEB										
04...	7.60	33.0	E.08	<.04	<.06	<.008	<.02	.021	14	.37
26...	8.81	34.4	.10	<.04	<.06	<.008	<.02	.025	8	.24
APR										
16...	8.53	29.4	.10	<.04	<.06	<.008	E.01	.025	8	.16
JUL										
01...	7.73	20.4	.16	<.04	<.06	<.008	E.02	.040	11	.02
30...	2.83	14.4	3.8	E.03	.78	.067	.10	1.76	1880	69
SEP										
05...	7.29	19.9	.34	<.41d	<.06	<.008	<.18d	.103	32	.75
05...	7.30	19.9	.39	<.41d	<.06	<.008	<.36d	.103	37	.87

Remark codes used in this report:

< -- Less than
E -- Estimated value

Value qualifier codes used in this report:

d -- Diluted sample: method hi range exceeded

GILA RIVER BASIN
09471000 SAN PEDRO RIVER AT CHARLESTON, AZ—CONTINUED
(NATIONAL WATER-QUALITY ASSESSMENT STATION)

Water-quality measurements in the following table were made as part of the National Water-Quality Assessment Program. The following analyses are quality-assurance samples processed during the 2002 sampling period and are defined in the introductory text section titled "Water-Quality Control Data."

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

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)	Chlor- ide, water, fltrd, mg/L (00940)	Sulfate, water, fltrd, mg/L (00945)	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)	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)
JUL 30...	1425	2	5.7	1	32.5	29.6	<.20	<.2	<.10	<.04	<.06	<.008	<.02

Date	Phos- phorus, water, unfltrd mg/L (00665)
JUL 30...	E.002

JUL 30... E.002

Remark codes used in this report:
 < -- Less than
 E -- Estimated value

GILA RIVER BASIN

09471310 HUACHUCA CANYON NEAR FORT HUACHUCA, AZ

LOCATION--Lat 31°31'01", long 110°23'13", in NE1/4SW1/4 sec.14, T.22 S., R.19 E. (unsurveyed), Cochise County, Hydrologic Unit 15050202, on right bank in Fort Huachuca (U.S. Army) Military Reservation, 1.9 mi north of Huachuca Peak, 9.5 mi above confluence with the Babocomari River.

DRAINAGE AREA--Undetermined.

PERIOD OF RECORD--Apr. 2000 to current year.

GAGE--Water-stage recorder and concrete control with 90° V-notch weir. Elevation of gage is 5,600 ft above sea level from topographic map.

REMARKS--Records good except for estimated daily discharges, which are fair.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 98 ft³/s Oct. 23, 2000.

EXTREMES FOR CURRENT YEAR--Maximum discharge, 0.22 ft³/s Oct. 7 at 1545, gage height 2.37 ft. Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.04	0.02	0.02	0.02	0.02	0.02	0.04	0.03	0.00	0.00	0.00	0.00
2	0.04	0.02	0.03	0.02	0.02	0.03	0.03	0.03	0.00	0.00	0.00	0.00
3	0.03	0.02	0.02	0.02	0.03	0.02	0.03	0.03	0.00	0.00	0.00	0.00
4	0.03	0.02	0.02	0.02	0.03	0.02	0.03	0.04	0.00	0.00	0.00	0.00
5	0.03	0.02	0.02	0.02	0.02	0.02	0.03	0.04	0.00	0.00	0.00	0.00
6	0.03	0.02	0.02	0.02	0.02	0.02	0.03	0.04	0.00	0.00	0.00	0.00
7	0.04	0.02	0.02	0.02	0.02	0.02	0.03	0.04	0.00	0.00	0.00	0.00
8	0.04	0.02	0.02	0.02	0.02	0.02	0.03	0.04	0.00	0.00	0.00	0.00
9	0.03	0.01	e0.02	0.02	0.02	0.02	0.02	0.04	0.00	0.00	0.00	0.00
10	0.03	0.02	0.01	0.02	0.02	0.02	0.02	0.04	0.00	0.00	0.00	0.00
11	0.03	0.02	0.01	0.02	0.02	0.02	0.01	0.04	0.00	0.00	0.00	0.00
12	0.03	0.02	0.01	0.02	0.02	0.02	0.02	0.03	0.00	0.00	0.00	0.00
13	0.03	0.02	0.01	0.02	0.03	0.02	0.02	0.03	0.00	0.00	0.00	0.00
14	0.03	0.01	0.01	0.02	0.03	0.02	0.02	0.02	0.00	0.00	0.00	0.00
15	0.02	0.01	0.01	0.02	0.03	0.03	0.02	0.02	0.00	0.00	0.00	0.00
16	0.02	0.01	0.01	0.02	0.03	0.03	0.02	0.02	0.00	0.00	0.00	0.00
17	0.02	0.01	0.02	0.02	0.02	0.04	0.02	0.02	0.00	0.00	0.00	0.00
18	0.03	0.01	0.02	0.02	0.02	0.04	0.02	0.02	0.00	0.00	0.00	0.00
19	0.03	0.01	0.02	0.02	0.02	0.03	0.02	0.02	0.00	0.00	0.00	0.00
20	0.03	0.01	0.01	0.03	0.02	0.03	0.02	0.02	0.00	0.00	0.00	0.00
21	0.04	0.01	0.02	0.03	0.03	0.03	0.02	0.01	0.00	0.00	0.00	0.00
22	0.03	0.01	0.02	0.03	0.02	0.03	0.02	0.00	0.00	0.00	0.00	0.00
23	0.03	0.01	0.02	0.02	0.02	0.03	0.02	0.00	0.00	0.00	0.00	0.00
24	0.03	0.01	0.02	0.02	0.02	0.03	0.02	0.00	0.00	0.00	0.00	0.00
25	0.03	0.01	0.02	0.02	0.03	0.03	0.02	0.00	0.00	0.00	0.00	0.00
26	0.03	0.01	0.02	0.04	0.05	0.03	0.03	0.00	0.00	0.00	0.00	0.00
27	0.02	0.02	0.02	0.04	0.03	0.02	0.03	0.00	0.00	0.00	0.00	0.00
28	0.03	0.02	0.02	0.04	0.02	0.02	0.03	0.00	0.00	0.00	0.00	0.00
29	0.02	0.02	0.02	0.03	---	0.03	0.03	0.00	0.00	0.00	0.00	0.00
30	0.02	0.03	0.02	0.02	---	0.03	0.03	0.00	0.00	0.00	0.00	0.00
31	0.02	---	0.02	0.02	---	0.04	---	0.00	---	0.00	0.00	---
TOTAL	0.91	0.47	0.55	0.72	0.68	0.81	0.73	0.62	0.00	0.00	0.00	0.00
MEAN	0.029	0.016	0.018	0.023	0.024	0.026	0.024	0.020	0.000	0.000	0.000	0.000
MAX	0.04	0.03	0.03	0.04	0.05	0.04	0.04	0.04	0.00	0.00	0.00	0.00
MIN	0.02	0.01	0.01	0.02	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00
MED	0.03	0.02	0.02	0.02	0.02	0.03	0.02	0.02	0.00	0.00	0.00	0.00
AC-FT	1.8	0.9	1.1	1.4	1.3	1.6	1.4	1.2	0.00	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

	2000	2001	2002	2003	2000	2001	2002	2003	2000	2001	2002	2003
MEAN	1.85	1.18	0.49	0.24	0.16	0.15	0.16	0.13	0.057	0.070	0.23	0.20
MAX	5.40	3.42	1.34	0.60	0.33	0.32	0.39	0.35	0.16	0.21	0.44	0.44
(WY)	2001	2001	2001	2001	2001	2001	2001	2001	2001	2001	2002	2000
MIN	0.029	0.016	0.018	0.023	0.024	0.026	0.024	0.020	0.000	0.000	0.000	0.000
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 2000 - 2003

ANNUAL TOTAL	30.45	5.49	
ANNUAL MEAN	0.083	0.015	0.40
HIGHEST ANNUAL MEAN			1.09 2001
LOWEST ANNUAL MEAN			0.015 2003
HIGHEST DAILY MEAN	6.6 Aug 5	0.05 Feb 26	50 Oct 23 2000
LOWEST DAILY MEAN	0.00 Jun 19	0.00 May 22	0.00 Jun 19 2002
ANNUAL SEVEN-DAY MINIMUM	0.00 Jun 19	0.00 May 22	0.00 Jun 19 2002
ANNUAL RUNOFF (AC-FT)	60	11	293
10 PERCENT EXCEEDS	0.12	0.03	0.43
50 PERCENT EXCEEDS	0.04	0.02	0.09
90 PERCENT EXCEEDS	0.00	0.00	0.00

e Estimated

GILA RIVER BASIN

09471380 UPPER BABOCOMARI RIVER NEAR HUACHUCA CITY, AZ

LOCATION--Lat 31°38'06", long 110°25'29", sec. 10, T.23 S., R.20 E. (unsurveyed), Cochise County, Hydrologic Unit 15050202, San Ignacio del Babocomari Land Grant, approximately 5.3 mi west of Huachuca City, on the left bank, approximately 18.1 mi from the confluence with the San Pedro River.

DRAINAGE AREA--Undetermined.

PERIOD OF RECORD--July 2000 to current year.

GAGE--Water-stage recorder.

REMARKS--Records poor.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 2,870 ft³/s Oct. 23, 2000, gage height, 8.22 ft.

EXTREMES FOR CURRENT YEAR--Maximum discharge, 2,440 ft³/s July 31 at 2100, gage height, 8.00 ft. Minimum daily discharge, 0.09 ft³/s Aug. 3, 4, Sept. 29, 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.28	0.32	0.24	0.49	0.71	0.98	1.0	0.58	0.38	0.20	224	0.13
2	0.29	0.31	0.25	0.49	0.73	0.98	1.0	0.58	0.38	0.19	0.44	0.13
3	0.29	0.30	0.26	0.49	0.77	0.95	1.0	0.59	0.37	0.18	0.09	0.13
4	0.29	0.29	0.26	0.49	0.78	0.99	1.00	0.56	0.35	0.18	0.09	0.13
5	0.29	0.28	0.27	0.53	0.78	0.99	0.97	0.58	0.35	0.18	0.10	0.12
6	0.29	0.26	0.28	0.55	0.81	0.96	0.94	0.57	0.34	0.18	0.15	0.13
7	6.4	0.26	0.28	0.55	0.85	0.97	0.98	0.54	0.33	0.17	0.17	0.13
8	0.51	0.25	0.28	0.56	1.0	0.95	0.96	0.54	0.32	0.16	0.15	0.13
9	0.59	0.25	0.29	0.60	1.0	0.96	0.98	0.55	0.31	0.16	4.5	0.13
10	0.61	0.25	0.30	0.61	1.1	0.94	0.97	0.52	0.31	0.15	0.15	0.12
11	0.61	0.25	0.30	0.61	1.1	0.90	0.93	0.53	0.30	0.15	0.14	0.13
12	0.60	0.24	0.31	0.63	1.1	0.90	0.86	0.53	0.29	0.15	0.15	0.12
13	0.59	0.24	0.32	0.62	0.95	0.91	0.87	0.50	0.29	0.15	0.15	0.12
14	0.58	0.23	0.33	0.60	1.0	0.93	0.88	0.50	0.28	0.15	0.16	0.11
15	0.57	0.23	0.34	0.63	1.1	0.95	0.84	0.51	0.28	0.15	0.16	0.11
16	0.56	0.22	0.35	0.61	1.0	1.1	0.83	0.50	0.27	0.15	0.16	0.12
17	0.55	0.22	0.37	0.57	1.0	1.5	0.83	0.49	0.27	0.14	0.16	0.13
18	0.53	0.21	0.40	0.59	1.0	1.5	0.78	0.49	0.26	0.15	0.16	0.13
19	0.51	0.21	0.40	0.61	1.0	1.4	0.77	0.48	0.26	0.14	0.17	0.11
20	0.50	0.22	0.41	0.63	1.0	1.3	0.75	0.46	0.25	0.15	0.17	0.12
21	0.49	0.23	0.44	0.66	1.4	1.1	0.71	0.47	0.25	0.16	0.17	0.10
22	0.48	0.22	0.45	0.69	1.1	1.1	0.68	0.45	0.24	0.15	0.17	0.10
23	0.46	0.22	0.45	0.67	1.1	1.0	0.68	0.44	0.24	0.15	0.18	0.11
24	0.44	0.21	0.46	0.67	1.1	0.99	0.65	0.45	0.24	0.16	0.17	0.12
25	0.42	0.21	0.45	0.65	1.2	0.94	0.64	0.44	0.23	63	0.17	0.12
26	0.41	0.20	0.45	0.64	1.4	0.91	0.64	0.42	0.23	25	0.15	0.12
27	0.40	0.21	0.45	0.68	1.2	0.93	0.61	0.42	0.22	0.27	0.15	0.11
28	0.39	0.21	0.46	0.68	1.0	0.95	0.60	0.42	0.22	0.27	0.15	0.10
29	0.36	0.22	0.48	0.70	---	0.99	0.60	0.40	0.22	0.28	0.37	0.09
30	0.34	0.23	0.50	0.71	---	0.98	0.59	0.41	0.20	0.30	0.31	0.09
31	0.33	---	0.50	0.72	---	0.96	---	0.40	---	240	0.13	---
TOTAL	19.96	7.20	11.33	18.93	28.28	31.91	24.54	15.32	8.48	332.97	233.54	3.54
MEAN	0.64	0.24	0.37	0.61	1.01	1.03	0.82	0.49	0.28	10.7	7.53	0.12
MAX	6.4	0.32	0.50	0.72	1.4	1.5	1.0	0.59	0.38	240	224	0.13
MIN	0.28	0.20	0.24	0.49	0.71	0.90	0.59	0.40	0.20	0.14	0.09	0.09
MED	0.48	0.23	0.35	0.61	1.0	0.97	0.84	0.50	0.27	0.16	0.16	0.12
AC-FT	40	14	22	38	56	63	49	30	17	660	463	7.0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

MEAN	22.4	8.44	4.69	4.47	3.58	4.28	3.43	1.73	1.36	9.69	7.72	4.27
MAX	61.5	21.2	9.61	9.67	7.77	10.7	8.67	4.15	3.41	13.9	16.4	12.6
(WY)	2001	2001	2001	2001	2001	2001	2001	2001	2001	2002	2000	2002
MIN	0.64	0.24	0.37	0.61	1.01	1.03	0.80	0.49	0.28	4.43	2.92	0.061
(WY)	2003	2003	2003	2003	2003	2003	2002	2003	2003	2001	2002	2000

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 2000 - 2003
ANNUAL TOTAL	1175.93	736.00	
ANNUAL MEAN	3.22	2.02	6.26
HIGHEST ANNUAL MEAN			12.5
LOWEST ANNUAL MEAN			2.02
HIGHEST DAILY MEAN	260	240	1160
LOWEST DAILY MEAN	0.20	0.09	0.00
ANNUAL SEVEN-DAY MINIMUM	0.21	0.11	0.02
ANNUAL RUNOFF (AC-FT)	2330	1460	4530
10 PERCENT EXCEEDS	2.6	1.0	9.7
50 PERCENT EXCEEDS	0.53	0.42	1.0
90 PERCENT EXCEEDS	0.26	0.14	0.23

GILA RIVER BASIN

09471400 BABOCOMARI RIVER NEAR TOMBSTONE, AZ

LOCATION--Lat 31°42'01", long 110°13'35", in NW1/4NE1/4NW1/4 sec. 17, T.20 S., R.21 E., Cochise County, Hydrologic Unit 15050202, gage is on the left bank, approximately 2.4 mi southwest of Fairbanks, and approximately 3.1 mi upstream from confluence with the San Pedro River.

DRAINAGE AREA--Undetermined.

PERIOD OF RECORD--Mar. 1999 to current year.

GAGE--Water-stage recorder.

REMARKS--Records good.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge 862 ft³/s, Oct. 23, 2000, gage height 5.28 ft.

EXTREMES FOR CURRENT YEAR--Maximum discharge, 570 ft³/s July 25 at 1910, gage height 4.78 ft. Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.20	0.41	0.81	1.2	1.2	1.2	0.80	0.47	0.22	0.00	59	0.41
2	0.20	0.40	0.87	1.3	1.1	1.3	0.78	0.50	0.17	0.00	15	0.35
3	0.21	0.40	0.91	1.3	1.1	1.2	0.77	0.49	0.13	0.00	1.1	0.30
4	0.22	0.41	0.87	1.3	1.2	1.2	0.79	0.53	0.12	0.00	0.69	0.25
5	0.22	0.45	0.84	1.4	1.1	1.3	0.81	0.59	0.11	0.00	0.52	0.21
6	0.21	0.44	0.84	1.4	1.2	1.3	0.78	0.58	0.09	0.00	0.41	0.21
7	0.27	0.47	0.92	1.4	1.2	1.3	0.79	0.61	0.09	0.00	0.35	0.21
8	3.9	0.49	0.96	1.5	1.1	1.3	0.76	0.59	0.08	0.00	0.35	0.20
9	0.61	0.48	1.0	1.6	1.1	1.3	0.70	0.63	0.09	0.00	0.31	0.47
10	0.40	0.51	0.96	1.6	1.2	1.3	0.69	0.67	0.06	0.00	0.25	0.28
11	0.32	0.52	0.89	1.6	1.2	1.3	0.64	0.65	0.06	0.00	0.22	0.27
12	0.31	0.55	0.92	1.6	1.2	1.4	0.64	0.60	0.05	0.00	0.22	0.23
13	0.31	0.56	0.98	1.6	1.2	1.4	0.63	0.48	0.05	0.00	0.20	0.17
14	0.33	0.59	1.0	1.7	1.2	1.4	0.60	0.45	0.04	0.00	0.25	0.14
15	0.32	0.60	1.0	1.7	1.2	1.4	0.61	0.41	0.03	0.00	0.31	0.10
16	0.27	0.63	0.99	1.6	1.2	1.4	0.60	0.40	0.01	0.00	0.30	0.09
17	0.26	0.67	0.97	1.6	1.2	1.4	0.57	0.37	0.00	0.00	0.24	0.06
18	0.30	0.68	1.0	1.6	1.2	1.5	0.60	0.32	0.01	0.00	0.21	0.06
19	0.33	0.69	e0.96	1.6	1.2	1.5	0.62	0.32	0.02	0.00	0.22	0.06
20	0.35	0.68	e0.75	1.6	1.9	1.4	0.62	0.26	0.01	3.7	0.21	0.05
21	0.34	0.68	e1.0	1.6	1.4	1.4	0.57	0.25	0.00	0.79	17	0.04
22	0.33	0.70	1.1	1.6	1.2	1.3	0.58	0.22	0.00	0.03	9.1	0.04
23	0.31	0.71	1.1	1.5	1.2	1.3	0.57	0.21	0.00	0.02	0.64	0.09
24	0.31	0.72	1.1	1.4	1.1	1.2	0.56	0.19	0.00	0.02	0.56	2.1
25	0.33	0.73	1.2	1.4	1.1	1.2	0.55	0.19	0.00	20	3.6	0.39
26	0.30	0.75	1.2	1.3	1.3	1.1	0.52	0.19	0.00	28	1.2	0.27
27	0.32	0.75	1.2	1.3	1.2	1.0	0.51	0.15	0.00	0.51	4.1	0.25
28	0.36	0.77	1.2	1.2	1.2	0.98	0.46	0.13	0.00	3.0	0.69	0.23
29	0.36	0.79	1.2	1.2	---	0.93	0.46	0.16	0.00	0.61	0.53	0.23
30	0.38	0.77	1.2	1.2	---	0.90	0.47	7.9	0.00	4.1	0.48	0.22
31	0.39	---	1.2	1.2	---	0.88	---	0.38	---	0.43	0.44	---
TOTAL	13.27	18.00	31.14	45.1	33.9	38.99	19.05	19.89	1.44	61.21	118.70	7.98
MEAN	0.43	0.60	1.00	1.45	1.21	1.26	0.64	0.64	0.048	1.97	3.83	0.27
MAX	3.9	0.79	1.2	1.7	1.9	1.5	0.81	7.9	0.22	28	59	2.1
MIN	0.20	0.40	0.75	1.2	1.1	0.88	0.46	0.13	0.00	0.00	0.20	0.04
MED	0.32	0.62	0.99	1.5	1.2	1.3	0.61	0.41	0.02	0.00	0.44	0.22
AC-FT	26	36	62	89	67	77	38	39	2.9	121	235	16

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

	2000	2001	2002	2003
MEAN	6.42	3.15	1.84	2.21
MAX	17.8	8.09	3.48	3.92
(WY)	2001	2001	2001	2001
MIN	0.43	0.60	1.00	1.26
(WY)	2003	2003	2003	2002

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 2000 - 2003

ANNUAL TOTAL	518.64	408.67		
ANNUAL MEAN	1.42	1.12	2.06	
HIGHEST ANNUAL MEAN			3.89	2001
LOWEST ANNUAL MEAN			1.12	2003
HIGHEST DAILY MEAN	73	Jul 27	59	Aug 1
LOWEST DAILY MEAN	0.00	Jun 14	0.00	Jun 17
ANNUAL SEVEN-DAY MINIMUM	0.00	Jun 14	0.00	Jun 21
ANNUAL RUNOFF (AC-FT)	1030		811	1490
10 PERCENT EXCEEDS	1.4		1.4	4.0
50 PERCENT EXCEEDS	0.77		0.60	0.71
90 PERCENT EXCEEDS	0.05		0.03	0.13

e Estimated

GILA RIVER BASIN

09471550 SAN PEDRO RIVER NEAR TOMBSTONE, AZ

LOCATION.--Lat 31°45'03", long 110°12'02", in SE1/4 sec. 28, T.19 S., R.21 E. (unsurveyed), Cochise County, Hydrologic Unit 15050202, in Spanish land grant of San Juan de las Boquillas y Nogales, on right bank 0.5 mi downstream from Willow Wash, 2.6 mi north of Fairbank, and 8 mi northwest of Tombstone.

DRAINAGE AREA.--1,740 mi² approximately, of which 696 mi² is in Mexico.

PERIOD OF RECORD.--Apr. 1967 to Sept. 1986, Oct. 1996 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,780 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Diversions above station, mostly by pumping from ground water.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,200 ft³/s Oct. 9, 1977, gage height, 11.40 ft, from rating curve extended above 4,900 ft³/s on basis of slope-area measurements at gage heights 8.89 ft and 11.40 ft; no flow at times during most summers.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 25	2330	*2,770	*7.26

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	2.8	6.8	9.2	7.8	2.2	0.03	0.00	68	6.6
2	0.00	0.00	0.05	4.6	6.9	9.3	7.2	2.1	0.00	0.00	e16	5.3
3	0.00	0.00	0.56	5.2	7.0	9.4	7.1	1.9	0.00	0.00	e0.00	4.1
4	0.00	0.00	0.00	3.4	7.0	9.7	6.9	1.7	0.00	0.00	e0.00	2.0
5	0.00	0.00	0.32	3.5	7.0	9.6	6.6	1.9	0.00	0.00	e0.00	0.82
6	0.00	0.00	0.55	3.5	7.0	9.8	6.7	1.8	0.00	0.00	e0.00	141
7	0.00	0.00	0.85	3.4	7.2	9.9	6.6	1.7	0.00	0.00	e0.00	68
8	0.00	0.00	0.88	3.7	7.7	9.9	6.5	1.7	0.00	0.00	e21	4.0
9	0.00	0.00	0.92	3.9	7.5	9.9	6.4	1.5	0.00	0.00	e22	6.0
10	0.00	0.00	1.0	4.0	7.5	10	6.0	1.4	0.00	0.00	e23	e0.00
11	0.00	0.00	1.1	4.2	7.7	10	5.8	1.4	0.00	0.00	e25	e0.00
12	0.00	0.00	1.3	4.3	8.0	9.6	5.5	1.3	0.00	0.00	e26	e0.00
13	0.00	0.00	1.6	4.4	8.9	9.4	5.2	1.1	0.00	0.00	359	e0.00
14	0.00	0.00	1.5	4.5	8.4	9.8	4.6	0.87	0.00	0.00	45	e0.00
15	0.00	0.00	1.5	4.6	8.4	9.8	4.5	0.50	0.00	0.00	10	e0.00
16	0.00	0.00	2.8	4.5	8.3	11	4.4	0.14	0.00	0.00	3.9	e0.00
17	0.00	0.00	1.8	4.7	8.4	10	4.3	0.03	0.00	0.00	2.1	e0.00
18	0.00	0.00	2.0	4.7	8.3	10	4.0	0.00	0.00	0.00	3.1	e0.00
19	0.00	0.00	2.4	4.9	8.3	11	3.9	0.00	0.00	0.00	74	e0.00
20	0.00	0.00	3.0	5.2	9.5	11	3.6	0.00	0.00	0.00	65	e0.00
21	0.00	0.00	2.9	5.5	12	11	3.5	0.00	0.00	0.10	184	e0.00
22	0.00	0.00	2.3	5.7	8.4	11	3.4	0.00	0.00	0.00	174	e0.00
23	0.00	0.00	2.7	5.9	8.3	9.9	3.3	0.00	0.00	0.00	64	e0.00
24	0.00	0.00	2.2	6.0	8.2	9.8	3.3	0.00	0.00	0.53	27	e0.00
25	0.00	0.00	3.1	6.0	8.3	9.6	3.2	0.00	0.00	191	18	e0.00
26	0.00	0.00	3.6	6.0	10	9.1	3.0	0.00	0.00	439	68	e0.00
27	0.00	0.00	4.0	6.1	9.2	8.9	2.7	0.00	0.00	222	404	e0.00
28	0.00	0.00	4.0	6.1	9.4	8.3	2.5	0.00	0.00	18	175	e0.00
29	0.00	0.00	2.7	6.2	---	7.8	2.3	0.00	0.00	270	39	e0.00
30	0.00	0.00	2.6	6.3	---	7.8	2.3	6.2	0.00	84	17	e0.00
31	0.00	---	4.0	6.9	---	7.9	---	0.20	---	34	10	---
TOTAL	0.00	0.00	58.23	150.7	229.6	299.4	143.1	29.64	0.03	1258.63	1943.10	237.82
MEAN	0.000	0.000	1.88	4.86	8.20	9.66	4.77	0.96	0.001	40.6	62.7	7.93
MAX	0.00	0.00	4.0	6.9	12	11	7.8	6.2	0.03	439	404	141
MIN	0.00	0.00	0.00	2.8	6.8	7.8	2.3	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	115	299	455	594	284	59	0.06	2500	3850	472

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2003, BY WATER YEAR (WY)

MEAN	96.9	19.0	49.8	44.4	36.1	30.6	13.1	6.42	4.45	96.3	147	47.5
MAX	998	185	375	450	214	179	43.7	20.8	45.2	369	820	177
(WY)	1978	2001	1979	1979	1983	1983	1985	1985	2000	1974	1984	1982
MIN	0.000	0.000	1.87	2.35	4.80	6.17	4.16	0.35	0.000	0.000	6.86	0.085
(WY)	1974	1999	1999	1999	1999	1999	1982	1999	1974	1997	1997	1973

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1967 - 2003

ANNUAL TOTAL	3671.59	4350.25	
ANNUAL MEAN	10.1	11.9	49.9
HIGHEST ANNUAL MEAN			157 1984
LOWEST ANNUAL MEAN			10.1 1997
HIGHEST DAILY MEAN	354 Aug 6	439 Jul 26	17100 Oct 9 1977
LOWEST DAILY MEAN	0.00 May 20	0.00 Oct 1	0.00 Jun 22 1967
ANNUAL SEVEN-DAY MINIMUM	0.00 May 20	0.00 Oct 1	0.00 Jun 22 1967
ANNUAL RUNOFF (AC-FT)	7280	8630	36120
10 PERCENT EXCEEDS	14	10	71
50 PERCENT EXCEEDS	2.0	1.8	11
90 PERCENT EXCEEDS	0.00	0.00	0.00

e Estimated

09472050 SAN PEDRO RIVER AT REDINGTON BRIDGE NEAR REDINGTON, AZ

LOCATION.--Lat 32°26'46", long 110°29'16", in SW_{1/4}NE_{1/4}SE_{1/4} sec. 34, T.11 S., R.18 E., Pima County, Hydrologic Unit 15050203, on left bank of bridge 1.5 mi downstream from the Cochise/Pima County line, 0.5 mi east of Redington and 6.4 mi downstream from former gage, sta 09472000.

DRAINAGE AREA.--3,096 mi², of which 696 mi² is in Mexico.

PERIOD OF RECORD.--July 1998 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,820 ft above sea level.

REMARKS.--Records fair except for discharges below 10 ft³/s and estimated discharges, which are poor. Diversions above station for irrigation of about 10,800 acres in 1978, excluding an unknown amount in Mexico.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,900 ft³/s, Oct. 24, 2000, gage height, 14.18 ft. No flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 22.....	2015	*5,990	*14.93	July 29.....	1930	2,050	11.77
July 24.....	1855	5,870	14.85	Aug. 18.....	1510	4,480	13.87
July 25.....	2330	4,630	13.98				

Minimum daily discharge, no flow for most of year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	e0.00	0.00	0.00	0.00	6.9	0.00	0.00	0.00	0.00	e0.16	0.00
2	0.00	e0.00	0.00	0.00	0.00	e3.0	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	17	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	e1.0	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e52
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	61
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e27	e32
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e2.4
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	e25	0.00	0.00	0.00	0.00	e102	51	0.00
14	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00	0.00	e1.3	109	0.00
15	0.00	0.00	0.00	0.00	e1.9	0.00	0.00	0.00	0.00	e46	36	0.00
16	0.00	0.00	0.00	0.00	0.00	e36	0.00	0.00	0.00	e0.02	e12	0.00
17	0.00	0.00	0.00	0.00	0.00	103	0.00	0.00	0.00	0.00	11	0.00
18	0.00	0.00	0.00	0.00	0.00	192	0.00	0.00	0.00	0.00	e70	0.00
19	0.00	0.00	0.00	0.00	0.00	49	0.00	0.00	0.00	0.00	13	0.00
20	0.00	0.00	0.00	0.00	0.00	e1.5	0.00	0.00	0.00	0.00	12	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e34	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e547	e127	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e78	112	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e404	88	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e153	58	0.00
26	0.00	0.00	0.00	0.00	137	0.00	0.00	0.00	0.00	e242	e22	0.00
27	0.00	0.00	0.00	0.00	41	0.00	0.00	0.00	0.00	338	e40	0.00
28	0.00	0.00	0.00	0.00	17	0.00	0.00	0.00	0.00	129	234	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	e63	186	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	154	97	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	91	51	---
TOTAL	0.00	0.00	0.00	0.00	231.90	409.40	0.00	0.00	0.00	2348.32	1390.16	147.40
MEAN	0.000	0.000	0.000	0.000	8.28	13.2	0.000	0.000	0.000	75.8	44.8	4.91
MAX	0.00	0.00	0.00	0.00	137	192	0.00	0.00	0.00	547	234	61
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MED	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22	0.00
AC-FT	0.00	0.00	0.00	0.00	460	812	0.00	0.00	0.00	4660	2760	292
CFSM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)	1998	1999	2000	2001	2002	2003
MEAN	87.9	439	2001	0.000	0.000	1.58	7.89	1.74	8.28	2.64	13.2
MAX	439	117	2001	0.000	0.000	7.89	2003	2003	2003	1999	1999
(WY)	2001	2001	1999	2001	2003	2003	1999	1999	2000	1999	1999
MIN	0.000	0.000	1999	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	2000

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1998 - 2003
ANNUAL TOTAL	1172.20	4527.18	
ANNUAL MEAN	3.21	12.4	24.0
HIGHEST ANNUAL MEAN			54.5
LOWEST ANNUAL MEAN			3.23
HIGHEST DAILY MEAN	350 Aug 4	547 Jul 22	2600 Oct 24 2000
LOWEST DAILY MEAN	0.00 Jan 1	0.00 Oct 1	0.00 Aug 19 1998
ANNUAL SEVEN-DAY MINIMUM	0.00 Jan 1	0.00 Oct 1	0.00 Sep 6 1998
ANNUAL RUNOFF (AC-FT)	2330	8980	17410
ANNUAL RUNOFF (CFSM)	0.001	0.004	0.008
10 PERCENT EXCEEDS	0.00	26	13
50 PERCENT EXCEEDS	0.00	0.00	0.00
90 PERCENT EXCEEDS	0.00	0.00	0.00

e Estimated

GILA RIVER BASIN

09473000 ARAVAIPA CREEK NEAR MAMMOTH, AZ

LOCATION--Lat 32°50'37", long 110°37'09", in NW1/4NW1/4 sec. 9, T.7 S., R.17 E., Pinal County, Hydrologic Unit 15050203, on right bank 6 mi upstream from mouth and 9 mi north of Mammoth.

DRAINAGE AREA--537 mi².

PERIOD OF RECORD--May 1931 to Dec. 1942 (published as "near Feldman"), May 1966 to current year. Monthly discharge only July 1941 to Sept. 1941, published in WSP 1313.

REVISED RECORDS--WDR AZ--68--1: 1967. WDR AZ--82--1: 1968, 1969, 1973, 1979 (M). WDR AZ--90--1: Drainage area.

GAGE--Water-stage recorder and, since Mar. 1980, crest-stage gage. Elevation of gage is 2,345 ft above sea level, from topographic map. Oct. 1, 1981, to Oct. 1, 1983, gage at site 300 ft upstream at datum 4.19 ft higher. Prior to Oct. 1, 1981, at datum 1.00 ft higher. May 1931 to Dec. 1942 at site 0.3 mi downstream at different datum.

REMARKS--Records good except for estimated daily discharges, which are poor. Diversions for irrigation of several hundred acres above station.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge since at least 1919, 70,800 ft³/s Oct. 1, 1983, from slope-area measurement of peak flow, gage height, 16.76 ft, from profile past gage; minimum, 0.3 ft³/s Aug. 30, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD--A discharge of 20,000 ft³/s occurred Aug. 2, 1919, at site of former gaging station 6 mi downstream, operated Apr. 1919 to Sept. 1921, gage height, 6.3 ft, from floodmark, site and datum then in use, from rating curve extended above 5,100 ft³/s on basis of velocity-area study.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 2,500 ft³/s and (or) maximum (*), from rating curve extended above 130 ft³/s on the basis of slope-area measurement at gage height 16.76 ft:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 30.....	2045	*6,990	*7.41

Minimum daily discharge, 2.7 ft³/s July 10, 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	9.7	13	14	21	48	15	8.7	4.7	3.3	27	21
2	8.4	9.6	13	14	21	48	15	8.4	4.6	3.4	24	20
3	8.4	9.7	14	14	21	53	15	8.3	4.5	3.5	22	19
4	8.5	9.9	14	14	22	37	15	8.2	4.3	3.4	20	19
5	8.4	10	14	14	22	30	15	8.1	4.3	3.0	19	18
6	8.6	10	13	14	22	27	14	8.0	4.1	3.0	18	19
7	8.9	10	14	14	22	25	14	7.7	4.1	3.0	17	19
8	9.1	10	14	14	23	24	14	7.7	3.9	2.9	17	20
9	8.7	10	14	14	23	23	14	7.7	3.9	2.8	17	22
10	7.7	10	14	15	24	23	14	7.4	3.8	2.7	16	26
11	7.0	11	14	15	24	22	13	7.5	3.7	2.7	17	22
12	7.2	11	14	15	24	22	13	7.2	3.8	2.8	16	e21
13	7.3	11	13	15	25	21	12	7.0	3.6	3.4	16	e20
14	7.3	11	13	15	30	21	12	6.7	3.6	3.6	21	e19
15	7.5	11	13	16	35	20	13	6.6	3.5	3.6	19	e16
16	7.7	11	13	16	31	21	12	6.5	3.5	3.6	18	16
17	7.9	11	14	16	29	35	12	6.2	3.4	3.5	18	14
18	8.3	12	15	17	28	31	12	6.1	3.4	3.3	19	12
19	8.6	12	14	17	29	37	12	6.0	3.4	3.0	20	11
20	8.6	12	14	17	29	27	12	5.9	3.5	3.0	19	11
21	8.6	12	14	18	29	23	11	5.6	3.3	2.9	18	9.6
22	8.6	12	14	18	29	21	11	5.6	3.2	2.9	18	9.3
23	8.4	12	14	18	29	20	11	5.4	3.2	3.0	18	9.1
24	8.4	12	14	18	30	19	11	5.3	3.2	3.0	18	9.7
25	8.5	13	14	19	30	18	11	5.2	3.2	4.0	18	9.3
26	8.7	13	14	19	158	17	10	5.3	3.2	3.9	25	8.5
27	9.5	13	14	19	145	17	9.5	5.2	3.1	3.8	30	7.8
28	10	13	14	20	63	16	9.3	5.0	3.2	73	25	7.1
29	10	13	14	20	---	16	8.8	4.8	3.2	12	23	6.5
30	9.8	13	14	20	---	16	8.7	4.7	3.2	344	22	5.7
31	9.7	---	14	20	---	16	---	4.7	---	52	21	---
TOTAL	262.3	337.9	428	509	1018	794	369.3	202.7	109.6	568.0	616	447.6
MEAN	8.46	11.3	13.8	16.4	36.4	25.6	12.3	6.54	3.65	18.3	19.9	14.9
MAX	10	13	15	20	158	53	15	8.7	4.7	344	30	26
MIN	7.0	9.6	13	14	21	16	8.7	4.7	3.1	2.7	16	5.7
AC-FT	520	670	849	1010	2020	1570	733	402	217	1130	1220	888
CFSM	0.02	0.02	0.03	0.03	0.07	0.05	0.02	0.01	0.01	0.03	0.04	0.03
IN.	0.02	0.02	0.03	0.04	0.07	0.06	0.03	0.01	0.01	0.04	0.04	0.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2003, BY WATER YEAR (WY)

	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	45.2	23.6	46.7	52.2	64.1	57.6	20.9	14.6	11.8	24.0	31.2	23.9																																																												
MAX	1098	91.1	474	682	215	349	53.1	44.8	40.1	115	133	55.8																																																												
(WY)	1984	1979	1979	1993	1983	1991	1993	1979	1940	1942	1935	1984																																																												
MIN	6.19	8.70	9.69	10.1	11.1	9.49	7.17	4.33	1.90	4.71	7.81	5.35																																																												
(WY)	1939	1940	1971	1940	1977	1976	1976	1972	1939	1997	1975	1973																																																												

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1932 - 2003

ANNUAL TOTAL	4440.0	5662.4
ANNUAL MEAN	12.2	15.5
HIGHEST ANNUAL MEAN		34.6
LOWEST ANNUAL MEAN		140
HIGHEST DAILY MEAN	485 Sep 10	1976
LOWEST DAILY MEAN	2.0 Jul 7	9.62
ANNUAL SEVEN-DAY MINIMUM	2.1 Jul 3	16000 Oct 1 1983
ANNUAL RUNOFF (AC-FT)	8810	11230
ANNUAL RUNOFF (CFSM)	0.023	0.029
ANNUAL RUNOFF (INCHES)	0.31	0.39
10 PERCENT EXCEEDS	16	24
50 PERCENT EXCEEDS	11	13
90 PERCENT EXCEEDS	2.9	3.5
		6.0

e Estimated

09474000 GILA RIVER AT KELVIN, AZ

LOCATION--Lat 33°06'10", long 110°58'33", in NE1/4NW1/4 sec. 12, T.4 S., R.13 E., Pinal County, Hydrologic Unit 15050100, on left bank at Kelvin, 500 ft downstream from Mineral Creek, 18 mi downstream from San Pedro River, and 19 mi upstream from Ashurst-Hayden Dam.

DRAINAGE AREA--18,011 mi², of which 5,125 mi² is below Coolidge Dam.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD--Jan. 1911 to current year.

REVISED RECORDS--WSP 329: 1911. WSP 609: 1916(M). WSP 629: 1914-17. WSP 1119: 1913, 1915, 1917(M), 1921(M), 1922-23, 1927(M). WSP 1283: Drainage area.

GAGE--Water-stage recorder. Datum of gage is 1,745.02 ft above sea level. Prior to June 15, 1914, and Dec. 1, 1914, to Aug. 31, 1915, nonrecording gages at several sites within 2 mi of present site at different datums. Sept. 1, 1915, to Sept. 30, 1963, water-stage recorder at site 900 ft downstream at datum 1.80 ft lower. Jan. 16, 1985, to June 1990, supplementary water-stage recorder at same site and datum.

REMARKS--Records fair, except estimated daily discharges, which are poor. Large diversions above station for irrigation, of which about 90 percent is above Coolidge Dam. About 82,000 acres irrigated, a considerable portion by pumping from ground water. Flow regulated by San Carlos Reservoir 49 mi upstream since Nov. 15, 1928. (See sta 09469000.) San Pedro River contributes major portion of unregulated inflow.

AVERAGE DISCHARGE (adjusted for storage in San Carlos Reservoir)--92 years, 516 ft³/s, 373,800 acre-ft/yr; median of yearly mean discharges, 314 ft³/s, 227,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD--1911-28: Maximum discharge, about 132,000 ft³/s Jan. 20, 1916, gage height, 19.5 ft, site and datum then in use, from rating curve extended above slope-area measurement at gage height, 16.2 ft for flood of Sept. 28, 1926; no flow Feb. 25, 1913.

1929-2000: Maximum discharge, 100,000 ft³/s Oct. 2, 1983, gage height, 33.0 ft from floodmark, from rating curve extended above 12,000 ft³/s on basis of peak discharge computed by step-backwater method at Hayden Railroad Bridge, 17.8 mi upstream, and by flood-routing; minimum daily, 0.0 ft³/s Aug. 4, 2000.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 4,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 27	1000	*2,070	*7.19

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	3.8	105	61	74	529	305	117	17	0.11	86	e55
2	92	2.7	137	61	81	409	267	114	17	0.18	22	e30
3	102	2.2	150	61	89	351	250	112	16	0.18	13	e10
4	105	3.8	138	62	93	334	231	111	15	0.26	8.5	e5.0
5	107	5.1	135	62	94	361	219	113	14	0.30	6.8	e0.50
6	108	5.8	136	62	97	348	212	108	14	0.44	5.9	0.05
7	110	7.7	151	64	105	374	208	98	12	0.50	5.1	27
8	118	7.2	162	75	105	353	204	107	8.3	0.36	4.3	27
9	127	7.1	166	80	106	305	240	107	6.2	0.31	4.3	5.1
10	138	8.3	147	81	105	253	272	108	4.2	0.31	5.4	13
11	151	3.6	134	81	106	234	276	107	2.7	0.41	2.2	10
12	156	2.1	127	81	109	229	272	104	1.8	0.46	1.6	9.7
13	157	1.7	120	83	117	228	275	102	1.2	0.35	1.5	7.2
14	140	0.89	114	83	140	227	275	97	0.60	0.24	1.6	6.7
15	123	0.74	115	78	133	229	287	88	0.27	0.29	367	e6.1
16	124	0.63	116	66	126	233	304	79	0.08	0.24	70	e5.5
17	123	0.53	114	63	126	274	226	81	0.01	0.29	24	e1.5
18	124	0.61	104	63	127	290	231	83	0.01	0.34	16	0.00
19	104	0.68	91	61	127	377	213	81	0.04	0.31	14	0.00
20	62	0.82	89	57	152	440	179	71	0.11	0.19	14	0.00
21	56	0.70	81	58	182	446	177	65	0.12	0.18	14	0.00
22	53	0.81	51	55	182	434	197	62	0.17	0.41	13	0.00
23	66	0.89	46	54	170	426	212	55	0.20	0.34	22	0.00
24	97	1.0	43	54	164	415	184	50	0.02	12	97	0.01
25	102	1.0	27	54	167	413	156	37	0.19	52	40	0.11
26	82	1.1	21	53	333	409	126	33	0.28	100	136	0.02
27	28	1.7	27	53	775	409	117	28	0.25	243	668	0.00
28	16	5.3	38	53	851	397	116	25	0.40	278	171	0.00
29	11	10	46	53	---	399	113	22	0.29	413	160	0.00
30	7.5	16	57	47	---	381	121	19	0.10	451	e180	0.00
31	5.2	---	60	49	---	356	---	18	---	586	e85	---
TOTAL	2873.7	104.50	3048	1968	5036	10863	6465	2402	132.54	2142.00	2259.2	219.49
MEAN	92.7	3.48	98.3	63.5	180	350	216	77.5	4.42	69.1	72.9	7.32
MAX	157	16	166	83	851	529	305	117	17	586	668	55
MIN	5.2	0.53	21	47	74	227	113	18	0.01	0.11	1.5	0.00
AC-FT	5700	207	6050	3900	9990	21550	12820	4760	263	4250	4480	435
CAL YR 2002	TOTAL 25244.53	MEAN 69.2	MAX 524	MIN 0.00	AC-FT 50070							
WTR YR 2003	TOTAL 37513.43	MEAN 103	MAX 851	MIN 0.00	AC-FT 74410							

e Estimated

GILA RIVER BASIN
09474000 GILA RIVER AT KELVIN, AZ—CONTINUED

WATER-QUALITY RECORDS

LOCATION.--Water samples collected between Florence-Kelvin road bridge and Mineral Creek, and 700 ft to 500 ft upstream from gaging station.

PERIOD OF RECORD.--Dec. 1950 to Sept. 1994, Feb. 1996 to Feb. 1998, Sept. 2001 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Oct. 1964 to Sept. 1976, Oct. 1996 to Feb. 1998.

WATER TEMPERATURE: Dec. 1950 to Sept. 1976, Oct. 1996 to Feb. 1998.

SUSPENDED-SEDIMENT DISCHARGE: Jan. 1958 to Sept. 1976.

REMARKS.--No inflow from Mineral Creek between sampling point and gaging station except during infrequent periods of heavy local rains. Unpublished daily specific conductance measurements for period December 1950 to September 1964 available from District Office in Tucson, AZ.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, NTU (00076)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, unfltrd field, units (00400)	Specific conductance, wat unfltrd 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Noncarbohydrate, wat fltrd field, mg/L as CaCO3 (00904)	Calcium water, fltrd, mg/L (00915)
NOV 12...	1250	3.2	2.1	720	10.0	111	8.3	2290	24.0	17.3	460	190	119
MAR 26...	1400	408	170	715	9.0	101	8.4	1780	28.0	17.7	240	36	56.0
JUN 23...	1210	.20	3.7	706	8.1	118	7.8	2860	36.5	30.4	1000	730	236
SEP 09...	1140	3.2	1600	713	6.2	84	8.1	469	32.0	27.8	180	52	61.0
Date	Calcium water, unfltrd recover-able, mg/L (00916)	Magnesium, water, unfltrd, mg/L (00925)	Magnesium, unfltrd recover-able, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat fltrd inc tit field, mg/L as CaCO3 (39086)	Bicarbonate, wat fltrd incrm. titr., mg/L (00453)	Carbonate, wat fltrd incrm. titr., 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)
NOV 12...	124	39.0	41.0	7.50	6	290	269	305	11	380	1.1	320	1320
MAR 26...	75.0	24.0	29.0	6.70	7	240	202	237	5	340	1.2	150	940
JUN 23...	235	102	102	8.30	3	250	283	345	<1	320	1.8	830	1920
SEP 09...	72.0	7.10	13.0	11.0	.5	15.0	130	154	2	14.0	.2	49.0	235
Date	Residue water, fltrd, tons/acre-ft (70303)	Residue evap. at 180degC, wat fltrd, mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd, mg/L (00625)	Ammonia water, unfltrd, mg/L (71845)	Ammonia water, unfltrd, mg/L as N (00610)	Nitrite + nitrate, water, unfltrd, mg/L as N (00630)	Organic nitrogen, water, unfltrd, mg/L (00605)	Phosphorus, water, unfltrd, mg/L (00665)	Total nitrogen, water, unfltrd, mg/L (00600)	Total nitrogen, water, unfltrd, mg/L as NO3 (71887)	COD, high level, water, unfltrd, mg/L (00340)	E coli, m-TEC MF, water, col/100 mL (31633)
NOV 12...	1.96	1440	2	.40	--	<.01	<.020	--	.06	--	--	11	23
MAR 26...	1.37	1010	253	1.2	.03	.02	<.020	1.2	.28	--	--	14	E10k
JUN 23...	2.76	2030	8	.30	--	<.01	<.020	--	.03	--	--	8	65
SEP 09...	.45	328	672	3.5	.44	.34	6.70	3.2	1.40	10	45.2	37	<1k
Date	Antimony, water, unfltrd, ug/L (01095)	Antimony, water, unfltrd, ug/L (01097)	Arsenic, water, unfltrd, ug/L (01000)	Arsenic, water, unfltrd, ug/L (01002)	Barium, water, unfltrd, ug/L (01005)	Barium, water, unfltrd recover-able, ug/L (01007)	Beryllium, water, unfltrd, ug/L (01010)	Beryllium, water, unfltrd recover-able, ug/L (01012)	Boron, water, unfltrd, ug/L (01020)	Boron, water, unfltrd recover-able, ug/L (01022)	Cadmium, water, unfltrd, ug/L (01025)	Cadmium, water, unfltrd, ug/L (01027)	Chromium, water, unfltrd, ug/L (01030)
NOV 12...	<1	<1	5	6	100	110	<1	<1	289	302	<.5	<.5	<1
MAR 26...	<1	<1	6	5	68.0	140	<1	<1	253	270	<.5	<.5	<1
JUN 23...	<1	<1	4	4	110	130	<1	<1	260	279	<.5	<.5	<1
SEP 09...	<1	<1	4	7	83.0	260	<1	1	70	76	<.5	<.5	<1

GILA RIVER BASIN

09474000 GILA RIVER AT KELVIN, AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Chromium, water, unfltrd recover-able, ug/L (01034)	Copper, water, unfltrd recover-able, ug/L (01040)	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, unfltrd recover-able, ug/L (01046)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, unfltrd recover-able, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)	Manganese, water, unfltrd recover-able, ug/L (01056)	Manganese, water, unfltrd recover-able, ug/L (01055)	Mercury water, unfltrd recover-able, ug/L (71890)	Mercury water, unfltrd recover-able, ug/L (71900)	Nickel, water, unfltrd recover-able, ug/L (01065)	Nickel, water, unfltrd recover-able, ug/L (01067)
NOV 12...	<1	2	3	<2	90	<2	<2	552	592	<.10	<.1	1	1
MAR 26...	4	3	33	<2	5320	<2	8	4	473	<.10	<.1	1	7
JUN 23...	<1	<2	<2	3	175	<2	<2	2480	2680	<.10	<.1	2	2
SEP 09...	11	14	53	3	15000	<2	29	44	826	<.10	<.1	2	18

Date	Selenium, water, fltrd, ug/L (01145)	Selenium, water, unfltrd, ug/L (01147)	Silver, water, fltrd, ug/L (01075)	Silver, water, unfltrd recover-able, ug/L (01077)	Strontium, water, unfltrd recover-able, ug/L (01082)	Thallium, water, fltrd, ug/L (01057)	Thallium, water, unfltrd, ug/L (01059)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)
NOV 12...	2	2	<1	<1	1190	<2	<2	49	<2	7	.06
MAR 26...	2	2	<1	<1	760	<2	<2	3	28	915	1010
JUN 23...	3	<1	<1	<1	1310	<2	<2	<2	<2	59	.03
SEP 09...	<1	<1	<1	<1	340	<2	<2	<2	71	658	5.7

Remark codes used in this report:

< -- Less than
E -- Estimated value

Value qualifier codes used in this report:

k -- Counts outside acceptable range

**GILA RIVER BASIN
DIVERSION FROM GILA RIVER**

09475500 FLORENCE-CASA GRANDE CANAL, NEAR FLORENCE, AZ

LOCATION.--Lat 33°05'15", long 111°17'10", in NE¹/₄NE¹/₄ sec. 14, T.4 S., R.10 E., Pinal County, Hydrologic Unit 15050100, on left bank at China Wash, 2.6 mi downstream from head at Ashurst-Hayden Dam and 7.5 mi northeast of Florence.

PERIOD OF RECORD.--Jan. 1928 to current year (monthly diversions only). Published as a supplement to records for Gila River at Ashurst-Hayden Dam, 1928--80.

GAGE.--Water-stage recorder and Parshall flume. Prior to Jan. 12, 1937, water-stage recorder 900 ft downstream from Ashurst-Hayden Dam.

REMARKS.--Records show monthly diversion from the Gila River at Ashurst-Hayden Dam for irrigation of land under the 100,000 acre San Carlos Project. Diversion records are those at the canal gaging station at the flume 2.6 mi downstream from dam; values are adjusted for sluicing through the dam or from the canal and pumping of water into the canal between the dam and the flume, but are not adjusted for natural losses. Adjusted values show water available at Ashurst-Hayden Dam, except for spill over the dam or water sluiced through the dam during times of flood runoff.

COOPERATION.--Pumping records furnished by Bureau of Indian Affairs.

MONTHLY DIVERSIONS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Month	Discharge, in cubic feet per second			Diversions in acre-feet	Water sluiced above flume, in acre-feet
	Maximum	Minimum	Mean		
October	143	0	82.6	336	0
November	0	0	0	0	0
December	173	0	104	267	0
CAL YR 2002	326	0	63.5	3,165	0
January	96	56	76.5	0	0
February	670	68	173	238	0
March	603	251	357	166	0
April	326	109	209	431	0
May	122	16	80.7	738	0
June	16	0	1.80	105	0
July	387	0	38.6	0	65
August	290	0	30.7	0	0
September	132	0	5.97	0	0
WTR YR 2003	670	0	96.5	1,701	65

GILA RIVER BASIN

09477570 GILA RIVER AT ATTAWAY ROAD, FLORENCE, AZ

LOCATION.--Lat 33°01'10", long 111°31'41", in NE1/4NE1/4 NE1/4, sec. 12, T.5 S., R.8 E. on left bank at Attaway Rd. bridge, 8.25 mi downstream from Ashurst-Hayden Dam.

DRAINAGE AREA.--Undetermined.

PERIOD OF RECORD.--Sept. 1, 2002--present.

GAGE.--Water-stage recorder. Datum of gage 1,418 ft above sea level.

REMARKS.--Records fair.

EXTREMES FOR CURRENT YEAR.--No flow for entire year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MAX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MED	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WTR YR 2003	TOTAL	0.00	MEAN	0.000	MAX	0.00	MIN	0.00	MED	0.00	AC-FT	0.00

GILA RIVER BASIN

09478500 QUEEN CREEK BELOW WHITLOW DAM NEAR SUPERIOR, AZ

LOCATION.--Lat 33°17'57", long 111°16'37", in NW1/4SE1/4 sec. 36, T.1 S., R.10 E., Pinal County, Hydrologic Unit 15050100, 1 mi upstream from Queen Valley and 10 mi west of Superior. Gage is located on the outlet box structure below Whitlow Ranch Dam.

DRAINAGE AREA.--144 mi².

PERIOD OF RECORD.--Jan. 1896 to Dec. 1897, Jan. 1898 to Aug. 1899 (fragmentary), Feb. to Sept. 1915 (gage-heights only), Oct. 1915 to Sept. 1920, May 1948 to Jan. 1959. Apr. 2001 to current year. Published as "at Whitlow's Ranch" 1896--99, "near Superior" 1915--20 and as "at Whitlow Dam Site near Superior" 1948--59.

GAGE.--Water-stage recorder. Elevation of gage is 2,040 ft above sea level, from topographic map. From Jan. 25, 1896, to Aug. 11, 1899, and Feb. 14, 1915 to Sept. 30, 1920, staff gages were operated in the vicinity of the present gage at different datums. Stilling-well gages were operated from May 1, 1948, to Aug. 19, 1954, and Jan. 6, 1955, to Jan. 1959 at sites about 1,100 ft and 800 ft upstream and datums of 2,048.96 and 2,045.70 ft above mean sea level, respectively.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--1915--20, 1948--59: Maximum discharge, 42,900 ft³/s Aug. 19, 1954. No flow at times in each year. 2001--present: Maximum discharge, 620 ft³/s Aug. 14, 2001, estimated. Minimum daily discharge, 0.63 ft³/s June 26--27, Sept. 2--5, 2002.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 265 ft³/s Feb. 28 (estimated). Minimum daily discharge, 0.32 ft³/s Nov. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.87	0.87	0.80	0.63	e0.38	10	e1.5	1.9	1.5	1.2	0.74	e0.74
2	0.87	0.87	0.63	0.64	e0.38	0.63	e1.5	1.8	1.4	1.3	0.73	0.64
3	0.87	0.74	0.63	0.63	e0.36	0.73	e1.5	1.7	1.4	1.3	0.74	0.68
4	0.88	0.64	0.63	0.63	e0.35	0.93	e1.5	1.5	1.5	1.4	0.68	0.76
5	0.96	0.63	0.63	0.63	e0.35	0.99	e1.5	1.3	1.5	1.5	0.75	0.81
6	1.1	0.63	0.63	0.65	0.32	0.99	e1.5	e1.3	1.6	1.5	0.79	0.82
7	1.1	0.63	0.63	0.67	0.35	0.96	e1.5	e1.3	1.6	1.5	0.75	0.77
8	1.1	0.63	0.63	0.75	0.40	1.2	e1.5	e1.3	e1.6	1.5	0.69	0.75
9	0.87	0.63	0.63	0.84	0.43	1.3	e1.5	e1.2	1.4	1.3	0.71	0.85
10	0.87	0.64	0.63	0.85	0.43	1.4	e1.5	e1.2	1.6	1.1	0.66	0.88
11	0.63	0.63	0.63	0.87	0.43	1.4	1.4	1.1	e1.6	e1.1	0.56	0.88
12	0.63	0.63	0.44	0.76	0.43	1.5	1.4	1.1	e1.6	1.2	0.57	0.87
13	0.63	0.63	0.43	0.63	0.48	1.6	1.5	1.1	e1.6	1.2	0.58	0.89
14	0.63	0.63	0.43	0.63	0.59	1.8	1.7	1.1	e1.5	1.1	0.60	0.86
15	0.52	0.46	0.43	0.64	0.63	e1.8	1.6	1.1	e1.5	1.1	0.59	0.88
16	0.54	0.33	0.43	0.63	e0.44	e1.8	1.4	1.2	1.4	1.1	0.58	0.85
17	0.64	0.35	0.43	0.63	e0.43	e1.8	1.5	1.4	1.4	0.93	0.58	0.79
18	0.67	0.32	0.43	0.63	e0.43	e1.7	1.5	1.4	1.5	0.92	0.58	0.63
19	0.85	0.38	0.43	0.63	e0.42	e1.7	1.7	1.2	1.4	0.99	0.60	0.85
20	0.87	0.43	0.44	0.63	0.43	e1.7	1.7	1.3	1.4	e0.93	0.60	0.88
21	0.87	0.46	0.43	0.64	0.43	e1.7	1.7	1.3	1.3	0.89	0.61	0.62
22	0.87	0.45	0.44	0.44	0.43	e1.7	1.7	1.2	1.4	0.89	0.62	0.63
23	0.79	0.45	0.46	0.54	0.44	e1.6	1.7	1.1	1.3	0.87	0.67	0.63
24	0.85	0.43	0.46	0.63	0.44	1.5	1.8	0.95	1.1	0.89	0.70	0.67
25	0.85	0.43	0.59	0.51	0.64	1.6	1.8	0.98	1.2	0.92	0.71	10
26	0.87	0.43	0.63	e0.49	10	1.7	1.6	0.88	1.3	0.85	0.77	0.64
27	0.87	0.44	0.64	e0.47	0.80	1.6	1.7	0.88	1.3	0.87	0.87	0.68
28	0.87	0.51	0.64	e0.44	10	1.5	1.7	0.92	1.2	0.72	0.88	0.68
29	0.87	0.68	0.63	e0.42	---	e1.6	1.8	0.97	1.1	0.76	0.84	0.65
30	0.87	0.87	0.63	e0.40	---	e1.5	1.9	1.4	1.1	0.75	e0.92	0.63
31	0.87	---	0.64	e0.39	---	e1.5	---	1.5	---	0.67	e0.88	---
TOTAL	25.55	16.85	17.18	18.97	31.64	53.43	47.8	38.58	42.3	33.25	21.55	31.91
MEAN	0.82	0.56	0.55	0.61	1.13	1.72	1.59	1.24	1.41	1.07	0.70	1.06
MAX	1.1	0.87	0.80	0.87	10	10	1.9	1.9	1.6	1.5	0.92	10
MIN	0.52	0.32	0.43	0.39	0.32	0.63	1.4	0.88	1.1	0.67	0.56	0.62
MED	0.87	0.63	0.63	0.63	0.43	1.6	1.5	1.2	1.4	1.1	0.69	0.76
AC-FT	51	33	34	38	63	106	95	77	84	66	43	63
CFSM	0.01	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.01
CAL YR 2002	TOTAL 442.21	MEAN 1.21	MAX 2.5	MIN 0.32	MED 0.98	AC-FT 877	CFSM 0.01					
WTR YR 2003	TOTAL 379.01	MEAN 1.04	MAX 10	MIN 0.32	MED 0.86	AC-FT 752	CFSM 0.01					

e Estimated

GILA RIVER BASIN

09479350 GILA RIVER NEAR MARICOPA, AZ

LOCATION--Lat 33°10'07", long 112°00'24", in NW1/4NE1/4SW1/4, sec. 13, T.3 S., R.3 E., Pinal County, Hydrologic Unit 15050100, in Gila River Indian Reservation, on the downstream side of the highway bridge 8 mi north of Maricopa, AZ.

DRAINAGE AREA--19,915 mi².

PERIOD OF RECORD--Occasional medium range to high range flow measurements were made in 1993--1994 water year. Established as a continuous-record station May 1995 to current year.

GAGE--Water-stage recorder. Elevation of gage 1,113.87 ft above sea level, from topographic map.

REMARKS--Records good, except for estimated daily discharges, which are poor. Many diversions above station for irrigation. Most low flow is wastewater from irrigated lands from Chandler, AZ, treatment plant. Flow regulated by storage in San Carlos Reservoir. This station replaces Gila River near Laveen (09479501), which was discontinued in the 1995 water year. Flood Jan. 20, 1993, discharge 49,350 ft³/s, measured from bridge, no gage height recorded. Flood Jan. 22, 1993, discharge 46,300 ft³/s, measured from bridge, approximate gage height, 6.80 ft.

EXTREMES FOR CURRENT YEAR--No flow for entire year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MAX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CFSM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2003, BY WATER YEAR (WY)

MEAN	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009	0.17
MAX	0.40	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.065	1.56
(WY)	2001	1996	1996	1996	1996	1996	1996	1996	1995	1995	1997	1996
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1996	1996	1996	1996	1996	1996	1996	1996	1995	1995	1996	1995

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1995 - 2003

ANNUAL TOTAL	0.00	0.00
ANNUAL MEAN	0.000	0.000
HIGHEST ANNUAL MEAN		0.021
LOWEST ANNUAL MEAN		0.13
HIGHEST DAILY MEAN	0.00 Jan 1	0.00 Oct 1
LOWEST DAILY MEAN	0.00 Jan 1	0.00 Oct 1
ANNUAL SEVEN-DAY MINIMUM	0.00 Jan 1	0.00 Oct 1
ANNUAL RUNOFF (AC-FT)	0.00	15
ANNUAL RUNOFF (CFSM)	0.000	0.000
10 PERCENT EXCEEDS	0.00	0.00
50 PERCENT EXCEEDS	0.00	0.00
90 PERCENT EXCEEDS	0.00	0.00

GILA RIVER BASIN

09480000 SANTA CRUZ RIVER NEAR LOCHIEL, AZ

LOCATION--Lat 31°21'19", long 110°35'20", in SW¹/₄ sec. 11, T.24 S., R.17 E. (unsurveyed), Santa Cruz County, Hydrologic Unit 15050301, on southern border of Spanish land grant of San Rafael, near left bank on downstream side of pier of bridge on county road, 1.7 mi upstream from international boundary, and 2.5 mi northeast of Lochiel.

DRAINAGE AREA--82.2 mi².

PERIOD OF RECORD--Jan. 1949 to current year.

REVISED RECORDS--WSP 1733: 1951. WDR AZ-94-1: 1993.

GAGE--Water-stage recorder. Elevation of gage is 4,620 ft above sea level, from topographic map.

REMARKS--Records fair. Small diversions for irrigation of 200 acres above station, mostly by pumping from ground water.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 12,000 ft³/s Oct. 9, 1977 and Aug. 15, 1984, gage height, 10.21 ft and 10.2 ft, respectively, from rating curve extended above 1,600 ft³/s on basis of slope-area measurement at gage height 10.21 ft; no flow at times in most years.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 500 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 14	0115	*22	*7.50

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.10	0.20	0.30	0.33	0.34	0.39	0.33	0.26	0.12	0.00	0.07	0.03
2	0.10	0.20	0.31	0.33	0.34	0.39	0.32	0.26	0.11	0.00	0.07	0.02
3	0.09	0.21	0.31	0.33	0.34	0.39	0.32	0.26	0.09	0.00	0.06	0.02
4	0.10	0.22	0.30	0.33	0.34	0.39	0.31	0.26	0.08	0.00	0.05	0.02
5	0.10	0.22	0.30	0.33	0.35	0.39	0.29	0.26	0.07	0.00	0.05	0.02
6	0.10	0.22	0.30	0.33	0.34	0.39	0.28	0.26	0.07	0.00	0.04	0.02
7	0.11	0.23	0.31	0.33	0.35	0.39	0.26	0.26	0.07	0.00	0.04	0.02
8	0.12	0.23	0.31	0.34	0.36	0.39	0.25	0.25	0.07	0.00	0.03	0.02
9	0.12	0.24	0.31	0.33	0.36	0.39	0.23	0.25	0.08	0.00	0.03	0.03
10	0.12	0.25	0.31	0.33	0.36	0.39	0.22	0.25	0.08	0.00	0.03	0.03
11	0.12	0.25	0.31	0.33	0.37	0.38	0.22	0.25	0.08	0.00	0.03	0.03
12	0.12	0.25	0.31	0.33	0.37	0.38	0.23	0.25	0.07	0.00	0.03	0.02
13	0.13	0.25	0.31	0.33	0.38	0.38	0.24	0.24	0.07	0.00	0.00	0.02
14	0.13	0.25	0.31	0.33	0.38	0.38	0.25	0.23	0.05	0.00	1.3	0.02
15	0.13	0.25	0.31	0.33	0.37	0.38	0.26	0.22	0.03	0.00	0.06	0.02
16	0.14	0.26	0.32	0.33	0.37	0.38	0.25	0.20	0.03	0.00	0.05	0.02
17	0.16	0.26	0.32	0.33	0.37	0.39	0.23	0.19	0.01	0.00	0.03	0.02
18	0.16	0.26	0.32	0.33	0.37	0.40	0.24	0.20	0.01	0.00	0.03	0.02
19	0.17	0.26	0.32	0.34	0.37	0.38	0.25	0.20	0.00	0.01	0.04	0.03
20	0.17	0.26	0.32	0.34	0.38	0.38	0.26	0.19	0.00	0.01	0.04	0.02
21	0.17	0.27	0.32	0.34	0.40	0.37	0.26	0.16	0.00	0.03	0.04	0.02
22	0.17	0.26	0.32	0.34	0.38	0.37	0.27	0.13	0.00	0.02	0.05	0.02
23	0.17	0.26	0.33	0.34	0.38	0.36	0.27	0.13	0.00	0.03	0.05	0.04
24	0.15	0.27	0.32	0.34	0.38	0.36	0.27	0.13	0.00	0.03	0.04	0.06
25	0.14	0.27	0.32	0.34	0.38	0.35	0.27	0.13	0.00	0.02	0.05	0.06
26	0.16	0.27	0.32	0.34	0.42	0.35	0.27	0.15	0.00	0.03	0.05	0.05
27	0.17	0.28	0.32	0.34	0.39	0.34	0.28	0.15	0.00	0.04	0.06	0.05
28	0.18	0.28	0.33	0.34	0.39	0.34	0.27	0.14	0.00	0.04	0.05	0.05
29	0.19	0.29	0.33	0.35	---	0.33	0.27	0.14	0.00	0.07	0.05	0.05
30	0.19	0.30	0.33	0.35	---	0.33	0.26	0.16	0.00	0.06	0.04	0.05
31	0.20	---	0.33	0.35	---	0.33	---	0.15	---	0.06	0.04	---
TOTAL	4.38	7.52	9.78	10.40	10.33	11.56	7.93	6.31	1.19	0.45	2.60	0.90
MEAN	0.14	0.25	0.32	0.34	0.37	0.37	0.26	0.20	0.040	0.015	0.084	0.030
MAX	0.20	0.30	0.33	0.35	0.42	0.40	0.33	0.26	0.12	0.07	1.3	0.06
MIN	0.09	0.20	0.30	0.33	0.34	0.33	0.22	0.13	0.00	0.00	0.00	0.02
MED	0.14	0.25	0.32	0.33	0.37	0.38	0.26	0.20	0.03	0.00	0.04	0.02
AC-FT	8.7	15	19	21	20	23	16	13	2.4	0.9	5.2	1.8
CFSM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2003, BY WATER YEAR (WY)

MEAN	4.65	1.27	1.84	4.08	1.77	1.78	0.88	0.44	0.33	7.66	14.5	4.63
MAX	77.0	16.2	17.8	94.7	18.0	34.2	8.68	2.77	2.83	69.4	187	44.3
(WY)	1978	2001	1979	1993	1985	1983	1993	1983	1973	1950	1984	1964
MIN	0.000	0.000	0.000	0.023	0.032	0.013	0.000	0.000	0.000	0.015	0.000	0.000
(WY)	1954	1954	1954	1963	1963	1963	1963	1954	1949	2003	1962	1953

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1949 - 2003

ANNUAL TOTAL	109.81	73.35	
ANNUAL MEAN	0.30	0.20	3.71
HIGHEST ANNUAL MEAN			29.0
LOWEST ANNUAL MEAN			0.20
HIGHEST DAILY MEAN	1.2	Mar 3	1770
LOWEST DAILY MEAN	0.00	Jun 24	0.00
ANNUAL SEVEN-DAY MINIMUM	0.02	Jun 22	0.00
ANNUAL RUNOFF (AC-FT)	218	145	2690
ANNUAL RUNOFF (CFSM)	0.004	0.002	0.045
10 PERCENT EXCEEDS	0.60	0.37	4.1
50 PERCENT EXCEEDS	0.25	0.23	0.50
90 PERCENT EXCEEDS	0.09	0.02	0.00

09480500 SANTA CRUZ RIVER NEAR NOGALES, AZ

LOCATION--Lat 31°20'40", long 110°51'03", in NW¹/₄ sec. 18, T.24 S., R.15 E. (unsurveyed), Santa Cruz County, Hydrologic Unit 15050301, in Spanish land grant of Maria Santisima del Carmen, on left bank 0.8 mi downstream from international boundary and 5.5 mi east of Nogales.

DRAINAGE AREA--533 mi², of which 348 mi² is in Mexico.

PERIOD OF RECORD--Mar. to Nov. 1907 and Apr. 1909 to Dec. 1912 (discharge measurements and fragmentary gage-height record), Jan. 1913 to June 1922 (Oct. 1915 to Sept. 1916 monthly discharge only), May 1930 to Dec. 1933, July 1935 to current year. Water-year estimates for 1913, 1915--16, 1920--22, 1930, 1934--35, published in WSP 1733.

REVISED RECORDS--WSP 959: 1935(M). WSP 1213: 1915--16, 1930--32(M), 1934(M), 1936--37(M). WSP 1283: Drainage area.

GAGE--Water-stage recorder. Datum of gage is 3,702.54 ft above sea level (levels by International Boundary and Water Commission). Prior to June 30, 1922, nonrecording gage or water-stage recorder at various sites 5 to 6 mi downstream at different datums.

REMARKS--Records fair, except for estimated daily discharges, which are poor. Diversions above station of about 4,300 acre-ft/yr for irrigation of about 2,150 acres in Mexico in 1977. Diversion 19 mi upstream for municipal supply of city of Nogales, Sonora, began in 1949; diversion in 1968 totaled 3,500 acre-ft/yr.

EXTREMES FOR PERIOD 1930--2000--Maximum discharge, 31,000 ft³/s Oct. 9, 1977, gage height, 15.5 ft, from rating curve extended above 1,660 ft³/s on basis of slope-area measurement of peak flow; no flow at times in most years.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 2,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 14.....	0000	*1,780	*4.87

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	37	0.84
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.7	0.39
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.25
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18
5	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.00	0.00	0.00	0.00	0.15
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.17
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.28
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.24
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	98	0.24
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	95	0.09
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.02
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.8	0.06	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.8	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.5	99	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.7	27	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	7.4	1.3	0.00
30	0.00	0.00	0.00	0.00	---	e0.00	0.00	0.00	0.00	32	0.82	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	19	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.00	0.00	48.64	419.23	3.59
MEAN	0.000	0.000	0.000	0.000	0.000	0.022	0.000	0.000	0.000	1.57	13.5	0.12
MAX	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.00	0.00	32	99	0.84
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	1.3	0.00	0.00	0.00	96	832	7.1
CFSM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00
IN.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2003, BY WATER YEAR (WY)

	MEAN	26.8	10.2	33.4	39.5	32.2	23.3	7.85	1.78	1.29	38.9	83.5	25.0
MAX	904	164	542	492	370	318	58.1	16.8	24.4	254	745	158	
(WY)	1978	2001	1979	1979	1985	1983	1992	1983	1984	1950	1955	1983	
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.15	0.000	
(WY)	1914	1919	1919	1974	1974	1914	1914	1914	1914	1914	1918	1991	1918

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1914 - 2003
ANNUAL TOTAL	316.78	472.13	
ANNUAL MEAN	0.87	1.29	26.4
HIGHEST ANNUAL MEAN			123
LOWEST ANNUAL MEAN			1.14
HIGHEST DAILY MEAN	83	99	13200
LOWEST DAILY MEAN	0.00	0.00	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	0.00	0.00
ANNUAL RUNOFF (AC-FT)	628	936	19110
ANNUAL RUNOFF (CFSM)	0.002	0.002	0.050
ANNUAL RUNOFF (INCHES)	0.02	0.03	0.67
10 PERCENT EXCEEDS	0.72	0.04	41
50 PERCENT EXCEEDS	0.00	0.00	2.2
90 PERCENT EXCEEDS	0.00	0.00	0.00

e Estimated

09482000 SANTA CRUZ RIVER AT CONTINENTAL, AZ

LOCATION--Lat 31°52'17", long 110°58'46", in SE_{1/4}SE_{1/4} sec. 11, T.18 S., R.13 E. (unsurveyed), Pima County, Hydrologic Unit 15050301, in Spanish land grant of San Ignacio de la Canoa, on right bank 0.8 mi northeast of Green Valley Post Office, and 1.5 mi north of Continental. Prior to Feb. 13, 1981, at site 1.5 mi upstream.

DRAINAGE AREA--1,682 mi², of which 395 mi² is in Mexico.

PERIOD OF RECORD--May 1940 to Dec. 1946, Oct. 1951 to Sept. 1984, Oct. 1991 to current year (monthly discharge only for 1985–86), (crest-stage partial record station for 1987–1990). Low-flow records not equivalent prior to Feb. 13, 1981, owing to undetermined amount of underflow between sites.

REVISED RECORDS--WSP 1283: Drainage area. WDR AZ–81–1: Drainage area.

GAGE--Water-stage recorder. Datum of gage is 2,806.61 ft above sea level. Prior to Feb. 13, 1981, at site 1.5 mi upstream. July 21, 1940 to Sept. 8, 1965 at datum 17.28 ft higher; Sept. 8, 1965 to present at datum 13.21 ft higher. Old site used as supplementary gage until Oct. 29, 1985.

REMARKS--Records poor. Irrigation above station of about 12,500 acres including about 2,300 acres in Mexico, mostly by pumping ground water.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 45,000 ft³/s Oct. 2, 1983, gage height, 16.34 ft from rating curve extended above 530 ft³/s on basis of slope-area measurement at gage height 7.75 ft and slope-area measurement of peak flow, maximum gage height 16.70 ft Oct. 9, 1977, site and datum then in use; no flow for most of each year.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 2,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 28.....	2045	*3,580	*7.25

Minimum daily discharge, no flow for most of year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.02	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.1	e0.03	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e5.3	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	24	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.67	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.2	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23	0.18	0.03
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23	13	3.4
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	84	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	27	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	362	13	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	e100	0.00	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	521.06	179.20	3.57
MEAN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	16.8	5.78	0.12
MAX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	362	84	3.4
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1030	355	7.1

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2003, BY WATER YEAR (WY)

MEAN	51.8	5.41	34.4	44.9	12.0	10.2	0.71	0.027	0.40	29.0	77.3	18.2
MAX	1525	133	658	1386	207	181	31.5	1.32	6.18	227	753	285
(WY)	1984	1979	1968	1993	1966	1983	1992	1992	1978	1954	1955	1964
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1943	1941	1942	1942	1942	1941	1941	1941	1941	1993	1956	1953

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1941 - 2003

ANNUAL TOTAL	193.85	703.83	
ANNUAL MEAN	0.53	1.93	24.0
HIGHEST ANNUAL MEAN			206
LOWEST ANNUAL MEAN			0.26
HIGHEST DAILY MEAN	51	Sep 6	362
LOWEST DAILY MEAN	0.00	Jan 1	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00
ANNUAL RUNOFF (AC-FT)	385	1400	17360
10 PERCENT EXCEEDS	0.00	0.00	1.5
50 PERCENT EXCEEDS	0.00	0.00	0.00
90 PERCENT EXCEEDS	0.00	0.00	0.00

e Estimated

09482500 SANTA CRUZ RIVER AT TUCSON, AZ

LOCATION--Lat 32°13'19", long 110°58'52", in SE1/4SE1/4 sec. 11, T.14 S., R.13 E., Pima County, Hydrologic Unit 15050301, on right bank, 300 ft downstream from Congress Street Bridge, in Tucson.

DRAINAGE AREA--2,222 mi², of which 395 mi² is in Mexico, adjusted for 15.2 mi² of Tucson Arroyo drainage area contributing to this station effective July 1956.

PERIOD OF RECORD--Oct. 1905 to Sept. 1981 (monthly discharge only, Jan. 1907 to Sept. 1912, Jan. to Sept. 1914), June 1986 to Sept. 1995 (discharge above 500 ft³/s only), Oct. 1995 to current year.

REVISED RECORDS--WSP 859: 1915(M). WSP 1283: Drainage area. WSP 1313: 1939(M). WDR AZ--88--1: 1986--87(M).

GAGE--Water-stage recorder and crest-stage gage. Datum of gage is 2,320.68 ft above sea level. Prior to Nov. 27, 1929, nonrecording gages or reference points for measuring to water surface at various places on Congress Street bridge at various datums. Nov. 27, 1929 to Sept. 30, 1981, water-stage recorder at Congress Street bridge: at datum 6.22 ft higher Nov. 27, 1929 to June 18, 1958; at datum 2.22 ft higher June 18, 1958 to May 21, 1963; at datum 3.48 ft lower May 21, 1963 to Oct. 27, 1970; at datum 2.86 ft lower Oct. 1, 1971, to Sept. 30, 1981. No gage Oct. 27, 1970 to Oct. 1, 1971, and Oct. 10, 1977, to Feb. 14, 1978.

REMARKS--Records fair, except for estimated daily discharges, which are poor. Irrigation above station of about 26,000 acres, including about 2,300 acres in Mexico, mostly by pumping from ground water. Ground water is also pumped above the station for municipal supply and mining. From Oct. 1969 to Sept. 1981, all flow past station was published, including waste water when known.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 37,400 ft³/s Jan. 19, 1993, gage height, 11.67 ft; no flow for most of each year.

EXTREMES OUTSIDE PERIOD OF RECORD--Maximum discharge since at least 1892, 52,700 ft³/s, from slope-area measurement of peak flow, Oct. 2, 1983; gage height, 22.2 ft, from floodmark, at site and datum used in 1981.

Maximum discharge during the 1985 water year was 10,000 ft³/s Dec. 28, 1984; gage height, 12.5 ft, at site and datum used in 1981.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 1,700 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 29.....	1815	2,130	4.14	Aug. 22.....	2130	*4,820	*5.53
Aug. 8.....	1945	1,740	3.84	Aug. 24.....	2215	3,590	5.02

Minimum daily discharge, no flow for most of year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e81	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.68	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e65	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e2.7	e0.08
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	e0.26	0.00	0.00	e9.8	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	e7.5	e4.4	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	14	0.00	0.00	0.00	e5.8	0.00
15	0.00	0.00	0.00	0.00	0.66	0.00	0.00	0.00	0.00	0.00	e0.26	0.00
16	0.00	0.00	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.03	0.00	0.00	2.6	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.76	0.00	0.00	0.00	e1.3	e0.12	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.12	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e421	0.00
23	0.00	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00	e0.18	142	e2.1
24	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e282	182
25	0.00	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.00	0.00	e124	1.7
26	0.00	0.00	0.00	0.00	0.59	0.00	0.00	0.00	0.00	0.00	232	0.00
27	6.2	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	155	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e94	24	0.00
29	0.00	0.08	0.00	0.00	---	0.00	0.00	0.00	0.00	e325	e0.04	0.00
30	0.00	0.31	0.00	0.00	---	0.00	0.00	0.00	0.00	e11	0.00	0.02
31	0.00	---	0.00	0.00	---	0.00	---	e0.30	---	0.00	0.00	---
TOTAL	6.20	0.39	0.47	0.00	34.76	3.66	0.26	37.30	0.00	448.78	1540.12	185.90
MEAN	0.20	0.013	0.015	0.000	1.24	0.12	0.009	1.20	0.000	14.5	49.7	6.20
MAX	6.2	0.31	0.42	0.00	19	2.6	0.26	37	0.00	325	421	182
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MED	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00
AC-FT	12	0.8	0.9	0.00	69	7.3	0.5	74	0.00	890	3050	369
CFSM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)	1997	1998	1999	2000	2001	2002	2003
MEAN	71.2	356	2001	0.000	1999	1.85	1.24	0.49	0.69	1.03	0.24	3.80
MAX	356	85.0	2001	0.000	1999	9.23	1.24	2.73	3.63	1.20	18.8	84.2
(WY)	2001	2001	2001	2000	2001	2001	2003	2001	1999	2003	2000	1999
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1999	2000	2000	2000	2001	2002	2000	1999	2000	1999	2001	2001

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1997 - 2003
ANNUAL TOTAL	1690.29	2257.84	
ANNUAL MEAN	4.63	6.19	13.6
HIGHEST ANNUAL MEAN			39.0
LOWEST ANNUAL MEAN			4.63
HIGHEST DAILY MEAN	567	421	7360
LOWEST DAILY MEAN	0.00	0.00	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	0.00	0.00
ANNUAL RUNOFF (AC-FT)	3350	4480	9860
ANNUAL RUNOFF (CFSM)	0.002	0.003	0.006
10 PERCENT EXCEEDS	0.00	0.26	1.1
50 PERCENT EXCEEDS	0.00	0.00	0.00
90 PERCENT EXCEEDS	0.00	0.00	0.00

e Estimated

GILA RIVER BASIN

09484000 SABINO CREEK NEAR TUCSON, AZ

LOCATION.--Lat 32°19'00", long 110°48'35", in SE1/4NE1/4 sec. 9, T.13 S., R.15 E., Pima County, Hydrologic Unit 15050302, on left bank, 30 ft upstream from Lower Sabino Dam, 0.5 mi north of Coronado National Forest boundary and 12 mi northeast of Tucson City Hall.

DRAINAGE AREA.--35.5 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1904 to June 1912 (monthly discharge only); June 1932 to Sept. 1974 (continuous-record station); Oct. 1974 to Sept. 1989 (crest-stage partial-record station); Oct. 1989 to current year.

REVISED RECORDS.--WSP 1213: 1938, 1946. WSP 1283: Drainage area.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 2,720 ft above sea level, from topographic map. July 1904 to June 1912, water-stage recorder and sharp-crested weir at site 0.7 mi upstream at different datum. June 1932 to Sept. 1974 (water-stage recorder) and Oct. 1974 to Aug. 1981 (crest-stage gage) at site 1,000 ft upstream at different datum.

REMARKS.--Records fair, except for estimated daily discharges, which are poor. No diversion above station except for domestic supply.

AVERAGE DISCHARGE.--60 years (water years 1905--11, 1933--74, 1990--2000), 14.6 ft³/s, 10,580 acre-ft/yr; median of yearly mean discharges 8.9 ft³/s, 6,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,400 ft³/s July 15, 1999, gage height 8.25 ft from highwater marks, from rating curve extended above 3,000 ft³/s on basis of slope-area measurement at gage height 9.65 ft; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 13.....	1300	501	2.14	Aug. 23	1945	*3,140	*4.43
Mar. 16.....	2015	350	1.93	Aug. 26	1650	1,480	3.21
July 22.....	2115	822	2.55	Sept. 9	1815	938	2.68
July 24.....	2005	2,470	4.00	Sept. 25	0500	201	1.69
Aug. 18.....	1715	248	1.77				

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.45	0.00	0.00	e0.46	0.55	25	6.4	0.54	0.00	0.00	11	7.1
2	0.45	0.00	0.00	e0.45	0.60	21	6.4	0.53	0.00	0.00	3.6	3.6
3	0.38	0.00	0.00	e0.45	0.74	19	6.0	0.50	0.00	0.00	1.1	1.9
4	0.36	0.00	0.00	e0.44	0.74	24	5.3	0.49	0.00	0.00	0.67	1.8
5	0.27	0.00	0.00	e0.51	0.72	27	3.3	0.48	0.00	0.00	0.53	1.5
6	0.22	0.00	0.00	e1.5	0.69	25	2.9	0.47	0.00	0.00	0.48	1.2
7	0.17	0.00	0.00	e1.0	0.70	30	2.0	0.44	0.00	0.00	9.7	1.2
8	0.14	0.00	0.00	e1.3	0.64	35	1.8	0.41	0.00	0.00	9.7	7.2
9	0.12	0.00	0.00	e3.7	0.58	38	1.8	0.35	0.00	0.00	2.3	96
10	0.11	0.00	0.00	e6.5	0.51	39	1.8	0.34	0.00	0.00	1.8	e39
11	0.12	0.00	0.00	e1.3	0.47	40	1.7	0.28	0.00	0.00	0.74	e14
12	0.10	0.00	0.00	1.8	0.38	35	1.4	0.21	0.00	0.00	0.64	e7.1
13	0.08	0.00	0.00	1.7	99	31	1.1	0.19	0.00	0.00	0.50	e7.5
14	0.03	0.00	0.00	1.1	120	28	1.1	0.16	0.00	0.00	0.51	e5.0
15	0.02	0.00	0.00	0.80	49	25	1.1	0.14	0.00	0.00	3.5	e3.1
16	0.02	0.00	0.00	0.74	25	76	1.7	0.08	0.00	0.00	1.1	1.1
17	0.01	0.00	0.00	0.73	14	99	1.1	0.04	0.00	0.00	0.63	1.7
18	0.01	0.00	0.00	0.72	9.2	50	0.95	0.02	0.00	0.00	e17	1.1
19	0.01	0.00	0.00	0.70	6.5	38	0.84	0.01	0.00	0.00	e7.4	0.73
20	0.00	0.00	0.00	0.70	5.6	35	0.85	0.00	0.00	0.00	2.1	0.79
21	0.00	0.00	e0.12	0.80	3.7	36	0.90	0.00	0.00	0.00	0.93	1.2
22	0.00	0.00	e0.24	0.91	2.3	33	0.74	0.00	0.00	48	11	0.57
23	0.00	0.00	e0.38	e1.0	1.8	30	0.73	0.00	0.00	e22	e190	0.65
24	0.00	0.00	e0.48	e0.69	1.8	27	0.73	0.00	0.00	171	e48	43
25	0.00	0.00	e0.37	0.61	1.8	22	0.71	0.00	0.00	64	e56	69
26	0.00	0.00	e0.30	0.60	27	17	0.68	0.00	0.00	11	e131	21
27	0.00	0.00	e0.30	0.59	28	13	0.60	0.00	0.00	3.1	e159	10
28	0.01	0.00	e0.43	0.59	27	12	0.58	0.00	0.00	2.0	e34	6.9
29	0.01	0.00	e0.54	0.56	---	11	0.55	0.00	0.00	e6.8	26	5.9
30	0.01	0.00	e0.55	0.56	---	10	0.54	0.00	0.00	e7.5	26	3.6
31	0.00	---	e0.51	0.55	---	7.7	---	0.00	---	3.7	13	---
TOTAL	3.10	0.00	4.22	34.06	429.02	958.7	56.30	5.68	0.00	339.10	769.93	364.44
MEAN	0.10	0.000	0.14	1.10	15.3	30.9	1.88	0.18	0.000	10.9	24.8	12.1
MAX	0.45	0.00	0.55	6.5	120	99	6.4	0.54	0.00	171	190	96
MIN	0.00	0.00	0.00	0.44	0.38	7.7	0.54	0.00	0.00	0.00	0.48	0.57
MED	0.02	0.00	0.00	0.72	1.8	28	1.1	0.08	0.00	0.00	3.6	3.6
AC-FT	6.1	0.00	8.4	68	851	1900	112	11	0.00	673	1530	723
CFSM	0.00	0.00	0.00	0.03	0.43	0.87	0.05	0.01	0.00	0.31	0.70	0.34
IN.	0.00	0.00	0.00	0.04	0.45	1.00	0.06	0.01	0.00	0.36	0.81	0.38

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2003, BY WATER YEAR (WY)

	MEAN	6.07	9.45	23.6	46.5	47.1	55.5	23.5	4.44	0.46	12.9	20.2	11.3
MAX	72.8	39.7	114	441	211	311	97.1	40.2	6.37	85.1	84.4	60.8	
(WY)	2001	1995	1993	1993	1995	1991	1991	1988	1992	1999	1995	1995	
MIN	0.000	0.000	0.000	0.000	0.000	0.11	0.005	0.000	0.000	0.000	1.13	0.009	
(WY)	1989	1990	1990	1989	2000	2002	2002	1989	1988	1988	1991	1989	

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1988 - 2003

ANNUAL TOTAL		631.05		2964.55								
ANNUAL MEAN		1.73		8.12						21.6		
HIGHEST ANNUAL MEAN										64.6		1993
LOWEST ANNUAL MEAN										0.86		2000
HIGHEST DAILY MEAN			132	Aug 6		190	Aug 23		3180	Jan 8	1993	
LOWEST DAILY MEAN			0.00	Jan 1		0.00	Oct 20		0.00	Oct 2	1987	
ANNUAL SEVEN-DAY MINIMUM			0.00	Apr 5		0.00	Oct 20		0.00	Jun 3	1988	
ANNUAL RUNOFF (AC-FT)		1250		5880		15670						
ANNUAL RUNOFF (CFSM)		0.049		0.23		0.61						
ANNUAL RUNOFF (INCHES)		0.66		3.11		8.28						
10 PERCENT EXCEEDS		1.6		27		52						
50 PERCENT EXCEEDS		0.06		0.53		0.74						
90 PERCENT EXCEEDS		0.00		0.00		0.00						

e Estimated

GILA RIVER BASIN
09484000 SABINO CREEK NEAR TUCSON, AZ—CONTINUED
WATER-QUALITY RECORDS

171

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, NTU (00076)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Noncarb hardness, wat flt field, mg/L as CaCO3 (00904)	Calcium water, unfltrd recover, mg/L (00915)	Calcium water, unfltrd recover, mg/L (00916)	Magnesium, water, unfltrd, mg/L (00925)	
JUL	23...	1230	9.8	2800	687	5.9	7.5	333	38.0	160	63	46.0	102	9.90
Date	Time	Magnesium, water, unfltrd recover, 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., mg/L (00453)	Carbonate, wat flt incrm. titr., mg/L (00452)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Sulfate water, fltrd, mg/L (00945)	Residue sum of constituents, mg/L (70301)	Residue water, fltrd, mg/L (70303)	Residue on evap. at 180degC wat flt, mg/L (70300)
JUL	23...	21.0	11.0	.1	4.0	93	113	<1	6.00	.2	56.0	192	.41	303
Date	Time	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)	Ammonia water, unfltrd, mg/L as N (71845)	Ammonia water, unfltrd, mg/L as N (00610)	Nitrate water, fltrd, mg/L as N (71851)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate, fltrd, mg/L as N (00631)	Nitrite + nitrate, unfltrd, mg/L as N (00630)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitrogen, water, unfltrd, mg/L (00605)	Orthophosphate, water, fltrd, mg/L (00660)	Orthophosphate, water, fltrd, mg/L as P (00671)
JUL	23...	1590	15	.04	.45	.35	.531	.12	.15	.070	.030	15	1.04	.34
Date	Time	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd, mg/L (00665)	Total nitrogen, water, unfltrd, mg/L as NO3 (00600)	Total nitrogen, water, unfltrd, mg/L as NO3 (71887)	Organic carbon, water, fltrd, mg/L (00681)	Organic carbon, water, unfltrd, mg/L (00680)	COD, high level, water, unfltrd, mg/L (00340)	Antimony, water, fltrd, ug/L (01095)	Antimony, water, unfltrd, ug/L (01097)	Arsenic water, fltrd, ug/L (01000)	Arsenic water, unfltrd, ug/L (01002)	Barium, water, fltrd, ug/L (01005)	Barium, water, unfltrd recover, ug/L (01007)
JUL	23...	.27	6.80	15	66.7	38.5	147	108	2	1	5	20	57.0	720
Date	Time	Beryllium, water, fltrd, ug/L (01010)	Beryllium, water, unfltrd recover, ug/L (01012)	Boron, water, fltrd, ug/L (01020)	Boron, water, unfltrd recover, ug/L (01022)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd, ug/L (01027)	Chromium, water, fltrd, ug/L (01030)	Chromium, water, unfltrd recover, ug/L (01034)	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover, ug/L (01042)	Cyanide water, fltrd, mg/L (00723)	Cyanide water, unfltrd, mg/L (00720)	Iron, water, fltrd, ug/L (01046)
JUL	23...	<1	4	97	137	<.5	2.2	<1	32	12	304	.09	.12	63
Date	Time	Iron, water, unfltrd recover, ug/L (01045)	Lead, water, unfltrd recover, ug/L (01049)	Lead, water, unfltrd recover, ug/L (01051)	Manganese, water, unfltrd recover, ug/L (01056)	Manganese, water, unfltrd recover, ug/L (01055)	Mercury water, fltrd, ug/L (71890)	Mercury water, unfltrd recover, ug/L (71900)	Nickel, water, fltrd, ug/L (01065)	Nickel, water, unfltrd recover, ug/L (01067)	Selenium, water, fltrd, ug/L (01145)	Selenium, water, unfltrd, ug/L (01147)	Silver, water, fltrd, ug/L (01075)	Silver, water, unfltrd recover, ug/L (01077)
JUL	23...	36600	<2	202	780	7820	<.10	<.1	1	39	2	4	<1	<1

GILA RIVER BASIN
09484000 SABINO CREEK NEAR TUCSON, AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Strontium, water, unfltrd recover -able, ug/L (01082)	Thallium, water, fltrd, ug/L (01057)	Thallium, water, unfltrd ug/L (01059)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover -able, ug/L (01092)	Phenolic com- pounds, water, unfltrd ug/L (32730)
JUL 23...	650	<2	<2	<2	366	E16n

Remark codes used in this report:

< -- Less than
 E -- Estimated value

Value qualifier codes used in this report:

n -- Below the NDV

09484500 TANQUE VERDE CREEK AT TUCSON, AZ

LOCATION--Lat 32°15'55", long 110°50'26", in NE1/4NE1/4NE1/4 sec. 31, T.13 S., R.15 E., Pima County, Hydrologic Unit 15050302, at Sabino Canyon Road, 0.8 mi downstream from Sabino Creek.

DRAINAGE AREA--219 mi².

PERIOD OF RECORD--June 1940 to Oct. 1945; water years 1966--81, 1988--90 (annual maximums only); Oct. 1990 to current year. Prior to 1945, published as "Rillito Creek near Wrightstown."

GAGE--Water-stage recorder. Elevation of gage is 2,470 ft above sea level, from topographic map. Prior to Oct. 1945, at same location at different datum. Oct. 1965 to Sept. 1981, nonrecording gage at same site at different datum. Oct. 1987 to Sept. 1990, nonrecording gage at same site and datum.

REMARKS--Records fair.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 24,500 ft³/s, Jan. 8, 1993, gage height, 11.85 ft; no flow most of each year.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 500 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 24	2200	1,610	7.75
Aug. 23.....	2100	*2,160	*8.02
Aug. 26.....	1800	1,520	7.70

Minimum daily discharge, no flow for most of year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e2.3
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.02
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	56
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	66
11	0.00	0.00	0.00	0.00	0.00	e1.3	0.00	0.00	0.00	0.00	0.00	14
12	0.00	0.00	0.00	0.00	0.00	e1.7	0.00	0.00	0.00	0.00	0.00	e2.4
13	0.00	0.00	0.00	0.00	0.00	e2.0	0.00	0.00	0.00	0.00	0.00	e0.26
14	0.00	0.00	0.00	0.00	e15	e0.62	0.00	0.00	0.00	0.00	6.1	e0.00
15	0.00	0.00	0.00	0.00	e13	e0.00	0.00	0.00	0.00	0.00	32	0.00
16	0.00	0.00	0.00	0.00	0.00	e10	0.00	0.00	0.00	0.00	e1.9	0.00
17	0.00	0.00	0.00	0.00	0.00	125	0.00	0.00	0.00	0.00	e0.03	0.00
18	0.00	0.00	0.00	0.00	0.00	54	0.00	0.00	0.00	0.00	e9.7	0.00
19	0.00	0.00	0.00	0.00	0.00	40	0.00	0.00	0.00	0.00	e9.7	0.00
20	0.00	0.00	0.00	0.00	0.00	23	0.00	0.00	0.00	0.00	e0.02	0.00
21	0.00	0.00	0.00	0.00	0.00	24	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	19	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	13	0.00	0.00	0.00	42	122	0.00
24	0.00	0.00	0.00	e0.00	0.00	8.6	0.00	0.00	0.00	e114	72	32
25	0.00	0.00	0.00	0.00	0.00	e4.6	0.00	0.00	0.00	e144	85	e75
26	0.00	0.00	0.00	0.00	0.00	e1.9	0.00	0.00	0.00	e1.4	e269	e7.9
27	0.00	0.00	0.00	0.00	0.00	e0.51	0.00	0.00	0.00	e0.00	e204	e0.42
28	0.00	0.00	0.00	0.00	0.00	e0.09	0.00	0.00	0.00	0.00	53	e0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	e21	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	39	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	e18	---
TOTAL	0.00	0.00	0.00	0.00	28.00	329.32	0.00	0.00	0.00	301.40	942.45	256.30
MEAN	0.000	0.000	0.000	0.000	1.00	10.6	0.000	0.000	0.000	9.72	30.4	8.54
MAX	0.00	0.00	0.00	0.00	15	125	0.00	0.00	0.00	144	269	75
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	56	653	0.00	0.00	0.00	598	1870	508
CFSM	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.04	0.14	0.04
IN.	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.05	0.16	0.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)	6.79	6.68	30.0	90.4	55.0	50.5	15.9	0.70	0.000	12.6	5.09	1.09
MAX	144	92.9	248	1295	329	277	125	3.90	0.009	121	30.4	9.17					
(WY)	2001	2001	1941	1993	1998	1991	1998	1941	1988	1990	2003	1998					
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1941	1943	1943	1943	1943	1996	1943	1944	1941	1942	1991	1943					

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1941 - 2003
ANNUAL TOTAL	5.89	1857.47	
ANNUAL MEAN	0.016	5.09	22.7
HIGHEST ANNUAL MEAN			147
LOWEST ANNUAL MEAN			0.013
HIGHEST DAILY MEAN	3.4	Aug 6	9840
LOWEST DAILY MEAN	0.00	Jan 1	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00
ANNUAL RUNOFF (AC-FT)	12		16430
ANNUAL RUNOFF (CFSM)	0.000		0.023
ANNUAL RUNOFF (INCHES)	0.00		0.32
10 PERCENT EXCEEDS	0.00		2.1
50 PERCENT EXCEEDS	0.00		22
90 PERCENT EXCEEDS	0.00		0.00

e Estimated

GILA RIVER BASIN

09484550 CIENEGA CREEK NEAR SONOITA, AZ

LOCATION.--Lat 31°51'56", long 110°34'12", in SW1/4NW1/4SW1/4 sec. 13. Pima County, Hydrologic Unit 15050302, north of Sonoita.

DRAINAGE AREA.--Undetermined.

PERIOD OF RECORD.--Oct. 2001 to current year.

GAGE.--Water-stage recorder and concrete weir. Elevation of gage is 4,180 ft above sea level, from topographic map.

REMARKS.--Records fair. No known diversion above station.

EXTREMES FOR CURRENT YEAR.--Peak discharge above 300 ft³/s and (or) maximum (*):.

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 26	0110	*165	*5.76

Minimum daily discharge, 0.12 ft³/s, July 9, 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.30	0.40	0.73	0.81	0.84	e1.0	0.75	0.57	0.31	0.15	e2.9	0.42
2	0.31	0.41	0.77	0.81	0.84	e1.0	0.76	0.55	0.29	0.14	0.64	0.37
3	0.33	0.43	0.78	0.81	0.84	e0.99	0.76	0.55	0.27	0.14	0.46	0.36
4	0.38	0.44	0.74	0.81	0.84	e0.99	0.78	0.56	0.28	0.13	0.42	0.35
5	0.40	0.45	0.74	0.81	0.85	0.98	0.78	0.57	0.27	0.15	0.37	0.35
6	0.39	0.46	0.74	0.80	0.84	0.96	0.79	0.56	0.27	0.15	0.37	0.35
7	0.42	0.47	0.74	0.82	0.85	0.95	0.79	0.55	0.27	0.15	0.36	0.34
8	0.43	0.49	0.74	0.87	0.90	0.95	0.77	0.55	0.27	0.13	0.35	1.4
9	0.41	e0.49	0.74	0.85	0.89	0.93	0.73	0.53	0.27	0.12	13	0.47
10	0.40	e0.50	0.74	0.83	0.90	0.93	0.71	0.54	0.24	0.12	0.47	0.37
11	0.35	e0.51	0.75	0.82	0.90	0.93	0.70	0.52	0.24	0.15	0.38	0.35
12	0.31	0.53	0.74	0.81	0.92	0.92	0.69	0.48	0.23	0.15	0.43	0.33
13	0.31	0.54	0.74	0.81	1.0	0.90	0.68	0.46	0.22	0.14	0.45	0.31
14	0.32	0.55	0.75	0.81	0.91	0.89	0.69	0.48	0.21	10	0.39	0.29
15	0.31	0.56	0.77	0.81	0.89	0.90	0.73	0.46	0.20	0.70	0.42	0.29
16	0.31	0.57	0.77	0.81	0.88	0.96	0.72	0.46	0.18	0.23	0.39	0.28
17	0.33	0.58	0.78	0.81	0.86	1.0	0.69	0.44	0.21	0.22	0.36	0.27
18	0.34	0.59	0.81	0.81	0.87	1.1	0.71	0.42	0.23	0.26	1.5	0.28
19	0.34	0.60	0.77	0.82	0.85	1.0	0.72	0.42	0.21	0.25	0.42	0.27
20	0.35	0.61	0.77	0.83	0.90	0.99	0.70	0.40	0.20	0.22	0.39	0.26
21	0.36	0.61	0.78	0.84	0.99	0.97	0.67	0.40	0.20	0.23	0.51	0.25
22	0.35	0.61	0.81	0.85	1.0	0.94	0.67	0.38	0.20	5.1	1.3	0.25
23	0.35	0.63	0.82	0.85	0.91	0.92	0.69	0.37	0.19	e13	0.38	0.31
24	0.35	0.64	0.81	0.83	0.90	0.90	0.68	0.36	0.19	e0.72	0.41	2.7
25	0.36	0.64	0.81	0.83	0.91	0.88	0.66	0.34	0.19	e0.59	1.8	0.67
26	0.37	0.67	0.80	0.83	1.0	0.85	0.63	0.32	0.18	e5.4	54	0.48
27	0.40	0.67	0.80	0.83	1.0	0.84	0.61	0.30	0.18	0.94	3.6	0.39
28	0.39	0.68	0.81	0.84	1.0	0.83	0.60	0.28	0.17	0.57	0.65	0.37
29	0.39	0.74	0.81	0.84	---	0.79	0.58	0.29	0.16	e0.81	3.9	0.36
30	0.39	0.77	0.82	0.83	---	0.80	0.59	0.36	0.15	0.65	0.68	0.35
31	0.40	---	0.81	0.82	---	0.78	---	0.36	---	e2.0	0.47	---
TOTAL	11.15	16.84	23.99	25.55	25.28	28.77	21.03	13.83	6.68	43.71	92.17	13.84
MEAN	0.36	0.56	0.77	0.82	0.90	0.93	0.70	0.45	0.22	1.41	2.97	0.46
MAX	0.43	0.77	0.82	0.87	1.0	1.1	0.79	0.57	0.31	13	54	2.7
MIN	0.30	0.40	0.73	0.80	0.84	0.78	0.58	0.28	0.15	0.12	0.35	0.25
MED	0.35	0.57	0.77	0.82	0.90	0.93	0.70	0.46	0.21	0.23	0.45	0.35
AC-FT	22	33	48	51	50	57	42	27	13	87	183	27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2003, BY WATER YEAR (WY)

MEAN	0.62	0.76	0.94	1.08	1.21	1.22	0.98	0.57	0.28	1.00	2.13	0.60
MAX	0.89	0.95	1.10	1.33	1.51	1.51	1.26	0.69	0.33	1.41	2.97	0.97
(WY)	2002	2002	2002	2002	2002	2002	2002	2002	2002	2003	2003	2001
MIN	0.36	0.56	0.77	0.82	0.90	0.93	0.70	0.45	0.22	0.60	1.28	0.37
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2002	2002	2002

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 2001 - 2003

ANNUAL TOTAL	320.55	322.84	
ANNUAL MEAN	0.88	0.88	0.93
HIGHEST ANNUAL MEAN			0.98
LOWEST ANNUAL MEAN			0.88
HIGHEST DAILY MEAN	15 Aug 5	54 Aug 26	54 Aug 26 2003
LOWEST DAILY MEAN	0.18 Sep 26	0.12 Jul 9	0.12 Jul 9 2003
ANNUAL SEVEN-DAY MINIMUM	0.25 Jun 27	0.14 Jul 4	0.14 Jul 4 2003
ANNUAL RUNOFF (AC-FT)	636	640	676
10 PERCENT EXCEEDS	1.5	0.94	1.5
50 PERCENT EXCEEDS	0.66	0.61	0.75
90 PERCENT EXCEEDS	0.31	0.24	0.28

e Estimated

09484600 PANTANO WASH NEAR VAIL, AZ

LOCATION--Lat 32°02'09", long 110°40'37", in SW1/4SE1/4 sec. 14, T.16 S., R.16 E., Pima County, Hydrologic Unit 15050302, on right bank 60 ft upstream from dam, 2.2 mi southeast of Vail, and 20 mi southeast of Tucson City Hall.

DRAINAGE AREA--457 mi².

PERIOD OF RECORD--Jan. 1959 to Sept. 1974, water years 1975--89 (annual maximums only), Oct. 1989 to current year.

GAGE--Water-stage recorder and concrete weir. Elevation of gage is 3,205 ft above sea level, from topographic map. Jan. 1959 to Sept. 1974 (water-stage recorder) and Oct. 1974 to Sept. 1989 (crest-stage gage) at same site and datum.

REMARKS--Records fair, except for estimated daily discharges, which are poor. No known diversion above station. Records published herein represent flow by gage. Infiltration flow is not included. Base runoff past gage station consists of downvalley underflow that is brought to the surface by the concrete dam 60 ft downstream, which extends to bedrock.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 12,000 ft³/s Oct. 1 or 2, 1983, gage height, 15.25 ft, from inside highwater mark, from rating curve extended above 2,000 ft³/s on basis of slope-area measurements at gage heights 10.9 and 24 ft; no flow June 26 to July 13, Aug. 7, 1971 (result of work on infiltration gallery), June 27 to July 13, 1973 (result of ponding during construction work on dam), May 28 to June 12, and July 12, 13, 17, and 18, 1974.

EXTREMES OUTSIDE PERIOD OF RECORD--Maximum discharge since at least 1930, about 38,000 ft³/s, Aug. 11, 1958, gage height, about 24 ft, from floodmark, from slope-area measurement.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 2,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 24.....	1845	*1,420	*7.49

Minimum daily discharge, 0.04 ft³/s, June 5, 9, 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0.40	0.24	0.18	0.11	0.14	0.51	0.48	0.49	0.13	0.16	0.89	e0.53
2	0.42	0.21	0.16	0.09	0.15	0.54	0.48	0.45	0.10	0.17	0.73	e0.51
3	0.42	0.20	0.16	0.09	0.19	0.57	0.42	0.48	0.10	0.18	0.66	0.52
4	0.43	0.20	0.18	0.08	0.24	0.60	0.48	0.50	0.06	0.19	0.63	0.53
5	0.41	0.18	0.19	0.08	0.28	0.60	0.58	0.50	0.04	0.28	0.63	0.54
6	0.40	0.16	0.16	0.06	0.35	0.58	0.60	0.53	0.05	0.14	0.66	0.54
7	0.41	0.16	0.13	0.07	0.36	0.56	0.55	0.46	0.05	0.14	0.71	0.55
8	0.41	0.16	0.13	0.07	0.35	0.57	0.48	0.44	0.06	0.14	0.77	0.55
9	0.40	0.13	0.10	0.07	0.36	0.59	0.48	0.46	0.04	0.14	0.78	0.54
10	0.38	0.14	0.09	0.09	0.38	0.53	0.48	0.47	0.04	0.15	0.77	0.56
11	0.38	0.15	0.08	0.09	0.35	0.59	0.48	0.47	0.05	5.0	0.75	0.55
12	0.38	0.13	0.08	0.08	0.32	0.65	0.50	0.44	0.05	e0.39	34	0.53
13	0.38	0.12	0.09	0.07	0.34	0.63	0.49	0.42	0.06	e3.8	95	0.52
14	0.38	0.13	0.09	0.08	0.35	0.62	0.48	0.38	0.06	e0.31	4.4	0.52
15	0.38	0.11	0.09	0.08	0.34	0.63	0.49	0.37	0.06	e0.31	0.25	0.51
16	0.37	0.10	0.12	0.09	0.38	0.65	0.51	0.36	0.06	0.30	0.20	0.50
17	0.38	0.10	0.12	0.10	0.39	0.60	0.48	0.36	0.06	0.32	0.20	0.48
18	0.43	0.11	0.10	0.10	0.37	0.60	0.50	0.34	0.06	0.38	0.20	0.48
19	0.45	0.10	0.10	0.10	0.39	0.55	0.52	0.33	0.06	0.36	0.20	e0.46
20	0.36	0.10	0.10	0.10	0.35	0.51	0.45	0.32	0.06	0.32	0.20	0.45
21	0.35	0.11	0.09	0.09	0.38	0.49	0.44	0.24	0.08	0.33	0.20	0.44
22	0.36	0.10	0.10	0.10	0.34	0.53	0.46	0.23	0.08	2.7	0.20	0.44
23	0.34	0.11	0.12	0.09	0.38	0.51	0.52	0.23	0.09	0.47	0.19	0.47
24	0.31	0.13	0.09	0.08	0.39	0.48	0.54	0.22	0.09	95	1.00	15
25	0.31	0.11	0.05	0.07	0.40	0.43	0.56	0.23	0.10	24	0.20	0.80
26	0.30	0.12	0.06	0.07	0.41	0.44	0.51	0.24	0.11	49	118	0.68
27	0.30	0.14	0.07	0.06	0.42	0.39	0.50	0.23	0.12	e23	e59	0.63
28	0.30	0.15	0.08	0.08	0.44	0.39	0.50	0.19	0.13	e59	e0.97	0.62
29	0.30	0.15	0.10	0.08	---	0.45	0.49	0.22	0.15	119	e0.64	0.61
30	0.23	0.16	0.11	0.10	---	0.49	0.51	0.23	0.17	e3.2	e0.56	0.60
31	0.23	---	0.13	0.14	---	0.48	---	0.17	---	0.97	e0.54	---
TOTAL	11.30	4.21	3.45	2.66	9.54	16.76	14.96	11.00	2.37	389.85	324.13	30.66
MEAN	0.36	0.14	0.11	0.086	0.34	0.54	0.50	0.35	0.079	12.6	10.5	1.02
MAX	0.45	0.24	0.19	0.14	0.44	0.65	0.60	0.53	0.17	119	118	15
MIN	0.23	0.10	0.05	0.06	0.14	0.39	0.42	0.17	0.04	0.14	0.19	0.44
AC-FT	22	8.4	6.8	5.3	19	33	30	22	4.7	773	643	61
CFSM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.02	0.00
IN.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2003, BY WATER YEAR (WY)

	2001	2001	1966	1993	1998	1998	1965	2000	1967	1971	1964	
MEAN	3.13	2.40	5.27	6.62	6.34	3.53	2.21	1.13	1.73	13.0	18.6	9.61
MAX	45.6	38.7	50.3	111	75.1	21.2	12.0	1.95	20.8	49.6	92.6	105
(WY)	2001	2001	1966	1993	1998	1998	1965	2000	1967	1971	1964	
MIN	0.10	0.10	0.10	0.086	0.10	0.12	0.32	0.19	0.070	0.22	0.52	0.16
(WY)	1974	1974	1974	2003	1974	1974	1974	1974	1974	1997	1973	1973

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1960 - 2003
ANNUAL TOTAL	717.91	820.89	
ANNUAL MEAN	1.97	2.25	6.16
HIGHEST ANNUAL MEAN			15.7 1998
LOWEST ANNUAL MEAN			1.44 1997
HIGHEST DAILY MEAN	112 Aug 5	119 Jul 29	2230 Sep 10 1964
LOWEST DAILY MEAN	0.00 Aug 25	0.04 Jun 5	0.00 Jun 26 1971
ANNUAL SEVEN-DAY MINIMUM	0.06 Jun 12	0.05 Jun 5	0.00 Jun 26 1971
ANNUAL RUNOFF (AC-FT)	1420	1630	4460
ANNUAL RUNOFF (CFSM)	0.004	0.005	0.013
ANNUAL RUNOFF (INCHES)	0.06	0.07	0.18
10 PERCENT EXCEEDS	1.7	0.63	4.3
50 PERCENT EXCEEDS	0.54	0.35	1.2
90 PERCENT EXCEEDS	0.10	0.08	0.32

e Estimated

GILA RIVER BASIN

09485000 RINCON CREEK NEAR TUCSON, AZ

LOCATION--Lat 32°07'46.5", long 110°37'31.4", in NW1/4NE1/4 sec. 17, T.15 S., R.17 E., Pima County, Hydrologic Unit 15050302, on left bank 0.2 mi north of Sentinel Butte, 9 mi upstream from mouth, and 22 mi southeast of Tucson City Hall.

DRAINAGE AREA--44.8 mi².

PERIOD OF RECORD--Oct. 1952 to Sept. 1974, Oct. 1974 to Sept. 1989 (crest-stage partial-record station), Oct. 1989 to current year.

GAGE--Water-stage recorder and concrete control. Elevation of gage is 3,120 ft above sea level, from topographic map. Oct. 1952 to Sept. 1974 (water-stage recorder) and Oct. 1974 to Sept. 1989 (crest-stage gage) at same site and datum.

REMARKS--Records good.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 9,660 ft³/s Aug. 19, 1971, gage height, 10.5 ft, from inside highwater mark, from rating curve extended above 1,800 ft³/s on basis of slope-area measurement at gage heights 6.50 ft and 9.90 ft; no flow for many days in each year.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 300 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 22.....	0430	*23	*2.93

Minimum daily discharge, no flow for most of year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	7.0	1.2	0.13	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	5.8	0.92	0.12	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	7.7	0.78	0.10	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	7.1	0.68	0.10	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	6.5	0.56	0.09	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	5.4	0.49	0.08	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	5.3	0.48	0.06	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	7.3	0.48	0.05	0.00	0.00	0.10	0.00
9	0.00	0.00	0.00	0.00	0.00	9.4	0.46	0.03	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	9.5	0.44	0.03	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	9.0	0.41	0.03	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	7.1	0.40	0.01	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	5.8	0.38	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	2.6	4.5	0.35	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	14	3.6	0.35	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	6.3	2.8	0.34	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	2.7	4.4	0.28	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	1.1	9.5	0.26	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.60	11	0.25	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.38	11	0.23	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.75	17	0.22	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.63	20	0.20	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.45	19	0.20	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.32	16	0.20	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.28	11	0.18	0.00	0.00	0.00	0.36	0.00
26	0.00	0.00	0.00	0.00	3.7	7.4	0.17	0.00	0.00	0.00	0.01	0.00
27	0.00	0.00	0.00	0.00	13	5.3	0.17	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	9.9	3.3	0.15	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	---	2.3	0.15	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	---	1.8	0.13	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	1.5	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.00	0.00	0.00	56.71	244.3	11.51	0.83	0.00	0.00	0.47	0.00
MEAN	0.000	0.000	0.000	0.000	2.03	7.88	0.38	0.027	0.000	0.000	0.015	0.000
MAX	0.00	0.00	0.00	0.00	14	20	1.2	0.13	0.00	0.00	0.36	0.00
MIN	0.00	0.00	0.00	0.00	0.00	1.5	0.13	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	112	485	23	1.6	0.00	0.00	0.9	0.00
CFSM	0.00	0.00	0.00	0.00	0.05	0.18	0.01	0.00	0.00	0.00	0.00	0.00
IN.	0.00	0.00	0.00	0.00	0.05	0.20	0.01	0.00	0.00	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 2003, BY WATER YEAR (WY)

	2.35	2.01	8.51	15.9	14.7	12.8	3.83	0.18	0.054	1.15	9.53	2.69
MEAN	2.35	2.01	8.51	15.9	14.7	12.8	3.83	0.18	0.054	1.15	9.53	2.69
MAX	42.9	44.4	130	247	85.8	74.4	42.0	1.95	1.48	12.6	64.0	19.1
(WY)	2001	2001	1966	1993	1998	1973	1998	1973	1971	1955	1955	1970
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1953	1953	1953	1953	1953	1955	1955	1953	1953	1960	1956	1953

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1953 - 2003

ANNUAL TOTAL	99.35	313.82	
ANNUAL MEAN	0.27	0.86	6.24
HIGHEST ANNUAL MEAN			33.4 1993
LOWEST ANNUAL MEAN			0.072 1956
HIGHEST DAILY MEAN	38 Aug 6	20 Mar 22	1400 Jan 8 1993
LOWEST DAILY MEAN	0.00 Jan 1	0.00 Oct 1	0.00 Oct 1 1952
ANNUAL SEVEN-DAY MINIMUM	0.00 Jan 1	0.00 Oct 1	0.00 Oct 1 1952
ANNUAL RUNOFF (AC-FT)	197	622	4520
ANNUAL RUNOFF (CFSM)	0.006	0.019	0.14
ANNUAL RUNOFF (INCHES)	0.08	0.26	1.89
10 PERCENT EXCEEDS	0.00	2.0	10
50 PERCENT EXCEEDS	0.00	0.00	0.00
90 PERCENT EXCEEDS	0.00	0.00	0.00

09485450 PANTANO WASH AT BROADWAY BOULEVARD, AT TUCSON, AZ

LOCATION.--Lat 32-13'14", long 110-49'44", in NW1/4NE1/4 sec. 17, T.14 S., R.15 E., Pima County, Hydrologic Unit 15050302, near right bank on downstream side of eastbound bridge on Broadway Blvd., 4.6 mi upstream from mouth, and 8.3 mi east of intersection with Stone Avenue in Tucson.

DRAINAGE AREA.--599 mi².

PERIOD OF RECORD.--Water years 1979-81, 1984, 1988-90 (annual maximums only), Oct. 1990 to current year.

REVISED RECORDS.--WDR AZ-88-1: 1984(M).

GAGE.--Water-stage recorder. Datum of gage is 2,568.83 ft above sea level.

REMARKS.--Records fair, except for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft³/s Oct. 1, 1983, gage height, 8.60 ft; no flow for many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 12, 1958, reached a discharge of 20,000 ft³/s at Tanque Verde Road, 2.3 mi downstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 29.....	1830	*436	*3.06

Minimum daily discharge, no flow for most of year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.2	e0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.1
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.93
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	e2.2	0.00	0.00	0.00	0.00	0.00	29	0.00
14	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00	1.8	0.00
15	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00	2.9	0.00
16	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
17	0.00	0.00	0.00	0.00	e0.00	2.5	0.00	0.00	0.00	0.00	e0.00	0.00
18	0.00	0.00	0.00	0.00	e0.00	1.3	0.00	0.00	0.00	0.17	e0.00	0.00
19	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
20	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
21	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
22	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00	1.2	0.00
23	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00	1.5	0.00
24	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	3.8	0.03	11
25	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	6.9	5.9	0.50
26	0.00	0.00	0.00	0.00	1.5	0.00	0.00	0.00	0.00	0.00	14	0.00
27	1.6	0.00	0.00	0.00	0.76	0.00	0.00	0.00	0.00	0.00	17	0.00
28	0.03	0.00	0.00	0.00	0.39	0.00	0.00	0.00	0.00	0.00	e0.04	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	e52	e0.00	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	e9.2	e0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	e0.00	---
TOTAL	1.63	0.00	0.00	0.00	4.85	3.80	0.00	0.00	0.00	72.07	74.57	13.53
MEAN	0.053	0.000	0.000	0.000	0.17	0.12	0.000	0.000	0.000	2.32	2.41	0.45
MAX	1.6	0.00	0.00	0.00	2.2	2.5	0.00	0.00	0.00	52	29	11
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MED	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	3.2	0.00	0.00	0.00	9.6	7.5	0.00	0.00	0.00	143	148	27
CFSM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2003, BY WATER YEAR (WY)

	1998	1999	2000	2001	2002	2003	1998	1999	2000	2001	2002	2003
MEAN	10.6	3.84	0.000	0.004	0.034	0.028	0.001	0.000	3.93	6.74	11.0	1.79
MAX	52.8	19.1	0.000	0.021	0.17	0.12	0.005	0.000	19.6	30.4	34.8	6.48
(WY)	2001	2001	1999	2001	2003	2003	1999	1999	2000	1999	1999	1999
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.026	0.000
(WY)	1999	2000	1999	1999	1999	1999	2000	1999	1999	2001	2001	2001

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1998 - 2003

ANNUAL TOTAL	149.02	170.45	
ANNUAL MEAN	0.41	0.47	3.36
HIGHEST ANNUAL MEAN			6.08 1999
LOWEST ANNUAL MEAN			0.41 2002
HIGHEST DAILY MEAN	44 Sep 10	52 Jul 29	1050 Jul 20 1998
LOWEST DAILY MEAN	0.00 Jan 1	0.00 Oct 1	0.00 Jul 24 1998
ANNUAL SEVEN-DAY MINIMUM	0.00 Jan 1	0.00 Oct 1	0.00 Jul 24 1998
ANNUAL RUNOFF (AC-FT)	296	338	2430
ANNUAL RUNOFF (CFSM)	0.001	0.001	0.006
10 PERCENT EXCEEDS	0.00	0.00	0.00
50 PERCENT EXCEEDS	0.00	0.00	0.00
90 PERCENT EXCEEDS	0.00	0.00	0.00

e Estimated

GILA RIVER BASIN

09485700 RILLITO CREEK AT DODGE BOULEVARD, AT TUCSON, AZ

LOCATION.--Lat 32°16'17", long 110°54'50", in NE1/4NW1/4SE1/4 sec. 28, T.13 S., R.14 E., Pima County, Hydrologic Unit 15050302, on right bank, at downstream side of bridge on Dodge Boulevard, 0.4 mi north of intersection of Ft. Lowell Road and Dodge Boulevard in Tucson.

DRAINAGE AREA.--871 mi².

PERIOD OF RECORD.--Water years 1988--90 (annual maximums only), Oct. 1990 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 2,380 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,100 ft³/s Jan. 8, 1993, gage height, 14.84 ft; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 24.....	2230	3,110	6.45	Aug. 26	1730	*6,060	*7.66
Aug. 23.....	2200	3,420	6.58	Sept. 9	2215	869	5.29

Minimum daily discharge, no flow for most of year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.6
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.7
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e7.9
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10	0.00	0.00
13	0.00	0.00	0.00	0.00	e20	0.00	0.00	0.00	0.00	e0.04	e32	0.00
14	0.00	0.00	0.00	0.00	e0.82	0.00	0.00	0.00	0.00	0.00	e0.24	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	e0.16	0.00	0.00	0.00	51	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e1.7	0.00
17	0.00	0.00	0.00	0.00	0.00	e0.16	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	e0.03	0.00	0.00	0.00	e2.0	1.7	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e3.3	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.64	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e12	176	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	68	90	69
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	134	e41	53
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e2.9	568	e0.74
27	e1.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	192	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e29	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	36	0.00	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	e36	e18	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	e14	---
TOTAL	1.40	0.00	0.00	0.00	20.82	0.19	0.16	0.00	0.00	300.94	1235.58	222.94
MEAN	0.045	0.000	0.000	0.000	0.74	0.006	0.005	0.000	0.000	9.71	39.9	7.43
MAX	1.4	0.00	0.00	0.00	20	0.16	0.16	0.00	0.00	134	568	69
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	2.8	0.00	0.00	0.00	41	0.4	0.3	0.00	0.00	597	2450	442
CFSM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.05	0.01
IN.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.05	0.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)	MEAN	MAX	(WY)	MIN	(WY)	MEAN	MAX	(WY)	MIN	(WY)
	14.0	182	2001	0.000	1991	7.51	48.7	1995	0.000	1991	34.9	278	1993	0.000	1994
	134	1443	1993	0.000	1994	56.7	214	1998	0.000	1994	44.1	263	1991	0.000	1996
	12.5	78.8	1991	0.000	1993	1.21	15.3	2000	0.000	1991	11.0	109	1999	0.000	1991
	0.000	0.000	1991	0.000	1991	13.7	39.9	2003	0.000	1991	7.66	64.5	1996	0.000	1991

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1991 - 2003

ANNUAL TOTAL	812.82	1782.03	
ANNUAL MEAN	2.23	4.88	30.4
HIGHEST ANNUAL MEAN			164 1993
LOWEST ANNUAL MEAN			0.12 1994
HIGHEST DAILY MEAN	366 Aug 5	568 Aug 26	11300 Jan 8 1993
LOWEST DAILY MEAN	0.00 Jan 1	0.00 Oct 1	0.00 Oct 1 1990
ANNUAL SEVEN-DAY MINIMUM	0.00 Jan 1	0.00 Oct 1	0.00 Oct 1 1990
ANNUAL RUNOFF (AC-FT)	1610	3530	22040
ANNUAL RUNOFF (CFSM)	0.003	0.006	0.035
ANNUAL RUNOFF (INCHES)	0.03	0.08	0.47
10 PERCENT EXCEEDS	0.00	0.16	8.0
50 PERCENT EXCEEDS	0.00	0.00	0.00
90 PERCENT EXCEEDS	0.00	0.00	0.00

e Estimated

09486055 RILLITO CREEK AT LA CHOLLA BOULEVARD, NEAR TUCSON, AZ

LOCATION--Lat 32°18'12", long 111°00'41", in SW1/4SW1/4NW1/4 sec. 15, T.13 S., R.13 E., Pima County, Hydrologic Unit 15050301, on right bank, 200 ft upstream from bridge on La Cholla Boulevard, 1.8 mi downstream from former gage, Rillito Creek near Tucson, 3.0 mi upstream from mouth, and 5.8 mi north of Tucson City Hall.

DRAINAGE AREA--922 mi².

PERIOD OF RECORD--June 1990 to Sept. 1995 (published mean daily discharges over 200 ft³/s), Oct. 1995 to current year.

GAGE--Water-stage recorder and crest-stage gages. Elevation of gage is 2,260 ft above sea level, from topographic map.

REMARKS--Records fair, except for estimated daily discharges, which are poor. Only discharges above 25 ft³/s are recorded. Several small diversions above station for irrigation and for municipal and domestic supply, mostly by pumping from ground water.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 24,400 ft³/s Jan. 8, 1993, gage-height 11.39 ft; no flow for most of each year.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 500 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 26.....	1845	*6,200	*6.36

Minimum daily discharge, no flow for most of year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e17	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e3.1	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e22	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e11	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e44
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e1.4	0.00	0.00
13	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	e0.06	e53	0.00
14	0.00	0.00	0.00	0.00	e9.4	0.00	0.00	0.00	0.00	e0.00	e33	0.00
15	0.00	0.00	0.00	0.00	e1.1	0.00	0.00	0.00	0.00	e0.54	e47	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e5.8	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e24	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e16	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e122	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e16	224	e94
25	0.00	0.00	0.00	0.00	e1.7	0.00	0.00	0.00	0.00	e197	e77	e17
26	0.00	0.00	0.00	0.00	e2.0	0.00	0.00	0.00	0.00	e27	580	e0.00
27	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00	194	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e34	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	e32	0.00	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	e86	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	e15	0.00	---
TOTAL	0.00	0.00	0.00	0.00	14.20	0.00	0.00	0.00	0.00	375.00	1462.90	155.00
MEAN	0.000	0.000	0.000	0.000	0.51	0.000	0.000	0.000	0.000	12.1	47.2	5.17
MAX	0.00	0.00	0.00	0.00	9.4	0.00	0.00	0.00	0.00	197	580	94
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2003, BY WATER YEAR (WY)

	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	37.3	8.12	0.077	0.028	18.4	1.25	3.97	0.000
MAX	299	64.9	0.61	0.23	148	10.0	31.3	0.000
(WY)	2001	2001	2002	2002	1998	1998	1996	2000
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1996	1996	1996	1996	1996	1996	1996	1996

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1996 - 2003

ANNUAL TOTAL	1739.58	2007.10	
ANNUAL MEAN	4.77	5.50	9.75
HIGHEST ANNUAL MEAN			30.8
LOWEST ANNUAL MEAN			0.000
HIGHEST DAILY MEAN	788 Aug 5	580 Aug 26	5290 Oct 23 2000
LOWEST DAILY MEAN	0.00 Jan 1	0.00 Oct 1	0.00 Oct 1 1995
ANNUAL SEVEN-DAY MINIMUM	0.00 Jan 1	0.00 Oct 1	0.00 Oct 1 1995
10 PERCENT EXCEEDS	0.00	0.00	0.00
50 PERCENT EXCEEDS	0.00	0.00	0.00
90 PERCENT EXCEEDS	0.00	0.00	0.00

e Estimated

GILA RIVER BASIN

09486350 CANADA DEL ORO BELOW INA ROAD, NEAR TUCSON, AZ

LOCATION.--Lat 32°20'10", long 111°02'29", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 5, T.13 S., R.13 E., Pima County, Hydrologic Unit 15050301, on left bank, 0.125 mi downstream from Ina Road, 0.25 mi upstream from Thornydale Rd., 1.5 mi upstream from mouth, and 7.3 mi north of Tucson.

DRAINAGE AREA.--255 mi².

PERIOD OF RECORD.--May 1990 to Sept. 1995 (discharge above 200 ft³/s only), Oct. 1995 to current year.

GAGE.--Water-stage recorder and crest-stage gages. Elevation of gage is 2,240 ft above sea level, from topographic map.

REMARKS.--Records poor. Lago del Oro—capacity 9,400 acre-ft—19.6 mi upstream, has contained no storage since May 4, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 24	2230	3,320	11.12	Aug. 24	1715	543	8.48
Aug. 1	1940	2,180	10.53	Aug. 26	0210	*7,980	*13.24
Aug. 14	2230	3,800	11.20	Aug. 27	2000	3,840	10.75

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e51	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e3.4	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e265	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e9.6	e361	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.01	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e283	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e25	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.01	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e178	0.00	e28
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e122	e0.00	e36
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	e927	e0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	e487	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	e0.17	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	e12	0.00	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	e38	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	e0.00	0.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	359.60	2402.59	64.00
MEAN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	11.6	77.5	2.13
MAX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	178	927	36
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2003, BY WATER YEAR (WY)

	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	4.51	0.027	0.004	0.14	0.90	0.019	0.015	0.073
MAX	33.9	0.22	0.035	1.13	4.72	0.15	0.070	0.58
(WY)	2001	1997	1999	1997	1998	2000	1998	1997
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1996	1996	1996	1996	1996	1996	1996	1996

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1996 - 2003

ANNUAL TOTAL	19.85	2826.19	
ANNUAL MEAN	0.054	7.74	1.80
HIGHEST ANNUAL MEAN			7.74
LOWEST ANNUAL MEAN			0.054
HIGHEST DAILY MEAN	12	Aug 28	927
LOWEST DAILY MEAN	0.00	Jan 1	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00
10 PERCENT EXCEEDS	0.00		0.00
50 PERCENT EXCEEDS	0.00		0.00
90 PERCENT EXCEEDS	0.00		0.00

e Estimated

09486500 SANTA CRUZ RIVER AT CORTARO, AZ

LOCATION--Lat 32°21'04", long 111°05'38", in NW1/4NW1/4NW1/4 sec. 35, T.12 S., R.12 E., Pima County, Hydrologic Unit 15050302, at center column of bridge pier on left bank, 0.5 mi southwest of Cortaro, 1 mi downstream from Ina Road treatment plant, 2.6 mi downstream from Canada del Oro, and 3.7 mi downstream from Rillito Creek.

DRAINAGE AREA--3,503 mi², of which 395 mi² is in Mexico.

PERIOD OF RECORD--Oct. 1939 to June 1947 (published as "at Rillito"), July 1950 to Sept. 1984, Mar. to June 1990, July to Sept. 1990 (fragmentary record), Oct. 1990 to current year.

REVISED RECORDS--WSP 1283: Drainage area.

GAGE--Water-stage recorder. Datum of gage is 2,100.00 ft, above sea level. Prior to June 30, 1947, at site 5.5 mi downstream at different datum. July 8, 1950, to Jan. 20, 1966, at present site at datum 19.11 ft lower. Jan. 20, 1966, to Sept. 30, 1984, at present site and datum 23.11 ft lower. Aug. 1 to Oct. 19, 1990, at site on right bank 0.33 mi downstream from bridge at datum 30.20 ft lower. Apr. 10 to May 17, 1991, at site on bridge, 200 ft toward right bank, at different datum. Supplementary water-stage recorder on downstream site on left bridge pier at datum 19.11 ft lower Aug. 29, 1969, to Sept. 30, 1984. Temporary water-stage recorder on right bank Oct. 27, 1983, to Sept. 30, 1984, at datum 20.80 ft lower. Prior to May 8 at site 300 ft upstream at different datum.

REMARKS--Records good, except for estimated daily discharges, which are poor. Many diversions above station, mostly by pumping from ground water, for irrigation of about 34,000 acres. Waste water from irrigation and from sewage-disposal plants is included in flow past station in water years 1951, 1952, 1970-82, 1990-97.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 65,000 ft³/s Oct. 2, 1983, gage height 16.57 ft from floodmark, computed by flood-routing method from Santa Cruz River at Tucson and Rillito Creek at Tucson; no natural flow for most of each year. (See REMARKS)

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 2,700 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 29.....	0450	4,220	8.68	Aug. 25.....	0200	5,340	9.39
Aug. 23.....	0145	4,200	8.91	Aug. 26.....	2030	*9,000	*10.62

Minimum daily discharge, 53 ft³/s on Oct. 1.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	69	75	80	78	77	69	67	69	67	169	71
2	54	69	74	82	72	73	71	72	69	71	116	72
3	57	70	72	85	72	76	70	68	69	66	68	66
4	59	69	72	83	72	76	74	68	69	67	73	68
5	58	68	76	79	74	76	70	71	67	66	72	70
6	61	68	74	76	75	77	71	73	70	60	77	67
7	59	72	78	78	79	77	72	72	69	65	83	62
8	56	71	78	71	75	76	71	70	68	68	80	68
9	55	73	76	78	77	71	73	70	71	67	119	72
10	58	72	76	79	76	75	74	65	71	69	66	93
11	62	71	78	77	76	71	76	61	71	75	64	71
12	59	73	79	73	77	73	74	62	74	73	66	75
13	63	72	75	77	109	73	72	67	73	87	74	67
14	66	75	79	70	96	74	70	63	77	74	123	64
15	62	74	80	72	88	73	71	65	73	68	251	68
16	62	74	76	77	79	71	74	67	75	61	72	63
17	62	77	78	76	80	71	78	70	76	67	70	59
18	67	73	74	74	76	72	78	64	77	77	94	66
19	68	77	79	76	79	68	77	66	77	77	92	67
20	69	77	81	72	77	74	73	64	78	68	82	60
21	68	80	80	80	81	78	71	66	73	75	81	60
22	69	78	77	81	80	77	73	64	71	69	89	60
23	70	79	86	78	72	73	69	70	68	64	971	67
24	70	75	84	78	73	69	71	66	77	74	625	578
25	69	72	75	77	76	72	71	59	69	473	925	137
26	70	76	80	71	82	71	69	66	71	249	1870	73
27	74	74	79	73	79	74	66	70	74	68	1310	69
28	73	73	84	74	83	75	70	71	75	100	204	67
29	72	68	81	73	---	78	68	72	73	772	78	67
30	70	79	81	78	---	71	67	74	72	287	70	62
31	73	---	81	80	---	72	---	77	---	71	64	---
TOTAL	1988	2198	2418	2378	2213	2284	2153	2100	2166	3695	8198	2609
MEAN	64.1	73.3	78.0	76.7	79.0	73.7	71.8	67.7	72.2	119	264	87.0
MAX	74	80	86	85	109	78	78	77	78	772	1870	578
MIN	53	68	72	70	72	68	66	59	67	60	64	59
AC-FT	3940	4360	4800	4720	4390	4530	4270	4170	4300	7330	16260	5170
CFSM	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.08	0.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)

MEAN	51.2	31.2	81.8	99.3	48.7	41.1	21.5	20.2	21.6	76.4	118	61.2
MAX	744	228	1044	2485	252	496	104	67.7	84.9	393	868	358
(WY)	1978	2001	1979	1993	1995	1978	1998	2003	2000	1954	1955	1964
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.69	1.97	0.000
(WY)	1940	1943	1943	1943	1943	1940	1940	1940	1941	1960	1962	1953

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1940 - 2003

ANNUAL TOTAL		28835		34400		
ANNUAL MEAN		79.0		94.2		57.0
HIGHEST ANNUAL MEAN						262
LOWEST ANNUAL MEAN						2.59
HIGHEST DAILY MEAN	1320	Sep 10		1870	Aug 26	40000
LOWEST DAILY MEAN	47	Aug 24		53	Oct 1	0.00
ANNUAL SEVEN-DAY MINIMUM	52	Sep 22		57	Oct 1	0.00
ANNUAL RUNOFF (AC-FT)	57190			68230		41260
ANNUAL RUNOFF (CFSM)		0.023		0.027		0.016
10 PERCENT EXCEEDS		79		81		71
50 PERCENT EXCEEDS		68		73		15
90 PERCENT EXCEEDS		57		65		0.00

GILA RIVER BASIN

09486520 SANTA CRUZ RIVER AT TRICO ROAD, NEAR MARANA, AZ

LOCATION--Lat 32°28'17", long 111°18'25", in NE $\frac{1}{4}$ SE $\frac{1}{4}$, sec. 15, T.11 S., R.10 E., in Pima County, Hydrologic Unit 15050303, on right bank 750 ft upstream from Trico Road bridge, 5 mi west of Marana, and 24 mi northwest of Tucson.

DRAINAGE AREA--3,641 mi².

PERIOD OF RECORD--Apr. 1989 to current year.

GAGE--Water-stage recorder. Elevation of gage is 1,910 ft above sea level, from topographic map.

REMARKS--Records good except for estimated daily discharges, which are poor. Base flow is effluent from combined municipal sewage treatment plants at Ina Road, 17.6 mi upstream and Roger Rd., 20 mi upstream.

EXTREMES FOR PERIOD OF RECORD--Maximum mean daily discharge, 15,000 ft³/s Jan. 19, 1993; no flow for many days some years.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 2,700 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 27	0150	*5,490	*9.66

Minimum daily discharge, 7.0 ft³/s, Oct. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	34	38	44	33	31	19	17	e19	21	68	20
2	16	29	38	42	29	34	16	20	18	20	109	33
3	14	33	36	45	36	35	18	17	20	15	36	21
4	17	35	34	43	33	35	20	20	23	12	38	28
5	14	34	34	42	33	34	17	22	23	13	34	32
6	17	33	39	40	35	37	21	19	23	13	32	26
7	23	35	37	36	40	32	21	24	23	13	41	29
8	15	36	41	36	32	31	19	22	24	11	40	34
9	14	31	42	34	34	28	19	21	20	14	61	39
10	7.0	35	38	38	37	34	19	18	18	14	38	55
11	16	31	42	34	34	28	20	21	20	18	34	37
12	15	31	41	34	34	31	18	19	23	19	29	44
13	17	30	42	39	38	28	20	21	21	23	27	31
14	22	32	38	32	47	29	22	20	21	21	61	26
15	16	33	42	32	50	25	19	19	21	20	121	35
16	12	28	45	34	39	28	22	21	18	13	63	30
17	21	35	39	35	38	30	22	21	20	11	31	25
18	20	35	39	29	35	30	26	21	22	19	36	22
19	21	32	41	36	32	30	27	16	21	21	61	25
20	25	42	45	36	31	29	25	15	e21	24	41	19
21	25	41	43	38	35	32	22	15	21	24	42	17
22	24	41	46	40	37	27	19	12	19	23	44	23
23	27	37	51	39	31	27	18	15	16	19	358	23
24	24	37	49	37	32	24	18	17	17	18	344	172
25	30	39	44	31	33	18	20	13	18	160	500	187
26	27	38	39	31	38	19	18	14	20	170	436	43
27	30	35	46	32	37	20	18	22	24	36	1210	24
28	33	34	43	33	37	23	17	20	25	34	353	28
29	33	36	45	29	---	25	19	19	22	289	31	33
30	26	40	45	32	---	23	17	20	25	425	19	29
31	35	---	42	33	---	23	---	21	---	52	18	---
TOTAL	652.0	1042	1284	1116	1000	880	596	582	626	1585	4356	1190
MEAN	21.0	34.7	41.4	36.0	35.7	28.4	19.9	18.8	20.9	51.1	141	39.7
MAX	35	42	51	45	50	37	27	24	25	425	1210	187
MIN	7.0	28	34	29	29	18	16	12	16	11	18	17
AC-FT	1290	2070	2550	2210	1980	1750	1180	1150	1240	3140	8640	2360

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2003, BY WATER YEAR (WY)

MEAN	37.8	24.7	36.4	149	61.9	26.5	15.2	9.24	8.51	45.1	31.8	33.5
MAX	337	73.0	157	1509	294	82.1	41.1	19.4	22.8	318	141	207
(WY)	2001	2001	1995	1993	1998	1991	1998	2002	2000	1990	2003	1996
MIN	0.000	1.76	3.83	9.60	0.000	0.000	0.000	0.000	0.000	0.000	2.00	0.000
(WY)	1996	1996	2001	1992	1993	1993	1991	1991	1991	1991	1991	1995

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1990 - 2003

ANNUAL TOTAL	12212.2	14909.0	
ANNUAL MEAN	33.5	40.8	40.0
HIGHEST ANNUAL MEAN			135 1993
LOWEST ANNUAL MEAN			9.71 1997
HIGHEST DAILY MEAN	771 Sep 11	1210 Aug 27	15000 Jan 19 1993
LOWEST DAILY MEAN	2.3 Aug 9	7.0 Oct 10	0.00 Jul 28 1990
ANNUAL SEVEN-DAY MINIMUM	6.2 Aug 8	13 Jul 4	0.00 Jul 28 1990
ANNUAL RUNOFF (AC-FT)	24220	29570	29000
10 PERCENT EXCEEDS	45	43	39
50 PERCENT EXCEEDS	27	29	13
90 PERCENT EXCEEDS	13	17	0.00

e Estimated

09486590 ARIVACA CREEK NEAR ARIVACA, AZ

LOCATION--Lat, long undetermined. 1.5 mi west of Arivaca, on the Arivaca/Sasabe Hwy.

DRAINAGE AREA--Undetermined.

PERIOD OF RECORD--Apr. 30, 2002, to current year.

GAGE--Water-stage recorder and data collection platform. Datum of gage is undetermined. U.S. Fish and Wildlife Service has taken measurements 1.5 mi upstream since 1991. U.S. Geological Survey operated a gage 2.5 mi downstream (09486600) from 1967 to 1972. U.S. Geological Survey operated a gage 1.5 mi upstream (09486580) from 1996 to 2002.

REMARKS--Records good. No known regulation except for a few small stock ponds.

EXTREMES FOR PERIOD OF RECORD--At site 2.5 mi downstream (09486600), maximum discharge 3,550 ft³/s Dec. 20, 1967 (gage height 7.18 ft from highwater mark in gage well), from rating curve extended above 260 ft³/s on basis of slope-area measurement at gage height 13.32 ft.

EXTREMES OUTSIDE PERIOD OF RECORD--Flood of Dec. 24, 1965, reached a stage of 13.32 ft from a profile past gage (4 mi downstream) (discharge 15,900 ft³/s, by slope-area measurement of peak flow); flood resulted from storm runoff and failure of two earth dams, which were storing an estimated 2,000 acre ft.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 100 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 26.....	0100	*82	*3.16

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.13	0.29	0.02	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.01	0.13	0.28	0.01	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.03	0.12	0.27	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.04	0.13	0.27	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.05	0.14	0.32	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.05	0.13	0.36	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.06	0.15	0.28	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.07	0.17	0.24	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.09	0.15	0.24	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.09	0.16	0.24	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.10	0.19	0.19	0.01	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.09	0.27	0.16	0.01	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.10	0.60	0.14	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.11	1.3	0.16	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.08	0.73	0.16	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.07	0.26	0.31	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.09	0.22	0.41	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.09	0.21	0.45	0.00	0.00	0.00	0.00	7.5	0.00
19	0.00	0.00	0.00	0.10	0.20	0.25	0.00	0.00	0.00	0.00	5.9	0.00
20	0.00	0.00	0.00	0.11	0.21	0.18	0.00	0.00	0.00	0.00	0.16	0.00
21	0.00	0.00	0.00	0.13	0.23	0.16	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.12	0.19	0.14	0.00	0.00	0.00	0.00	6.7	0.00
23	0.00	0.00	0.00	0.12	0.19	0.14	0.00	0.00	0.00	0.00	0.12	0.00
24	0.00	0.00	0.00	0.12	0.18	0.12	0.00	0.00	0.00	0.00	0.50	0.01
25	0.00	0.00	0.00	0.12	0.23	0.08	0.00	0.00	0.00	0.00	1.1	0.00
26	0.00	0.00	0.00	0.12	0.76	0.08	0.00	0.00	0.00	0.00	17	0.00
27	0.00	0.00	0.00	0.12	0.65	0.08	0.00	0.00	0.00	6.4	1.5	0.00
28	0.00	0.00	0.00	0.11	0.37	0.06	0.00	0.00	0.00	1.4	1.3	0.00
29	0.00	0.00	0.00	0.12	---	0.04	0.00	0.00	0.00	0.00	0.64	0.00
30	0.00	0.00	0.00	0.12	---	e0.02	0.00	0.00	0.00	0.00	0.08	0.00
31	0.00	---	0.00	0.12	---	0.04	---	0.00	---	0.00	0.01	---
TOTAL	0.00	0.00	0.00	2.75	8.40	6.16	0.05	0.00	0.00	7.80	42.51	0.01
MEAN	0.000	0.000	0.000	0.089	0.30	0.20	0.002	0.000	0.000	0.25	1.37	0.000
MAX	0.00	0.00	0.00	0.13	1.3	0.45	0.02	0.00	0.00	6.4	17	0.01
MIN	0.00	0.00	0.00	0.00	0.12	0.02	0.00	0.00	0.00	0.00	0.00	0.00
MED	0.00	0.00	0.00	0.10	0.19	0.18	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	5.5	17	12	0.1	0.00	0.00	15	84	0.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

	2002	2003	2003	2003	2003	2003	2003	2002	2002	2002	2003	2003
MEAN	0.000	0.000	0.000	0.089	0.30	0.20	0.002	0.004	0.000	0.33	1.37	0.000
MAX	0.000	0.000	0.000	0.089	0.30	0.20	0.002	0.008	0.000	0.41	1.37	0.000
(WY)	2003	2003	2003	2003	2003	2003	2003	2002	2002	2002	2003	2003
MIN	0.000	0.000	0.000	0.089	0.30	0.20	0.002	0.000	0.000	0.25	1.36	0.000
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2002	2003	2002	2002

SUMMARY STATISTICS

	FOR 2003 WATER YEAR	WATER YEARS 2002 - 2003
ANNUAL TOTAL	67.68	
ANNUAL MEAN	0.19	0.19
HIGHEST ANNUAL MEAN		0.19 2003
LOWEST ANNUAL MEAN		0.19 2003
HIGHEST DAILY MEAN	17 Aug 26	29 Aug 2 2002
LOWEST DAILY MEAN	0.00 Oct 1	0.00 May 6 2002
ANNUAL SEVEN-DAY MINIMUM	0.00 Oct 1	0.00 May 11 2002
ANNUAL RUNOFF (AC-FT)	134	134
10 PERCENT EXCEEDS	0.21	0.21
50 PERCENT EXCEEDS	0.00	0.00
90 PERCENT EXCEEDS	0.00	0.00

e Estimated

GILA RIVER BASIN

09486800 ALTAR WASH NEAR THREE POINTS, AZ

LOCATION.--Lat 31°50'20", long 111°24'13", in SE1/4NE1/4NE1/4 sec. 27, T.18 S., R.9 E., Pima County, Hydrologic Unit 15050304, on right bank attached to downstream side of bridge on State Highway 286, 0.3 mi below mouth of Chiltipines Wash and 18 mi south of Three Points.

DRAINAGE AREA.--463 mi².

PERIOD OF RECORD.--Jan. 1966 to Sept. 1975, May 1992 to current year.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 2,975.15 ft above sea level.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,000 ft³/s Sept. 4, 1970, gage height 13.85 ft at site 2 mi upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 25.....	2315	1,530	3.88	Aug. 1.....	2200	1,990	4.30
July 28.....	0145	*3,160	*5.50	Aug. 26.....	0130	1,270	3.61
July 30.....	0015	1,240	3.59				

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	e118	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e7.2	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e4.9
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e2.5	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.29	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e30	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
20	0.00	0.00	0.00	0.00	e3.5	0.00	0.00	0.00	0.00	0.00	e5.7	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e10	e7.9	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e27	e5.1	2.4
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e1.6	e25
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e45	e24	e0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e25	e88	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e145	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e837	0.00	0.00
29	0.00	2.4	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	e94	0.00
30	0.00	4.2	0.00	0.00	---	0.00	0.00	0.00	0.00	e95	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.00	6.60	0.00	0.00	3.50	0.00	0.00	0.00	0.00	1280.79	287.50	32.30
MEAN	0.000	0.22	0.000	0.000	0.12	0.000	0.000	0.000	0.000	41.3	9.27	1.08
MAX	0.00	4.2	0.00	0.00	3.5	0.00	0.00	0.00	0.00	837	118	25
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	13	0.00	0.00	6.9	0.00	0.00	0.00	0.00	2540	570	64

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)
	0.85	6.74	0.000	1967	0.22	3.22	0.000	1967	2.06	38.6	0.000	1967
	0.001	0.021	0.000	1967	0.19	3.62	0.000	1967	0.87	15.3	0.000	1967
	0.005	0.077	0.000	1968	2.99	58.9	0.000	1968	17.2	102	0.000	1968
	0.005	0.077	0.000	1968	17.2	102	0.000	1968	21.0	73.5	0.68	1968
	0.005	0.077	0.000	1968	2.99	58.9	0.000	1968	17.2	102	0.68	1968
	0.005	0.077	0.000	1968	2.99	58.9	0.000	1968	17.2	102	0.68	1968
	0.005	0.077	0.000	1968	2.99	58.9	0.000	1968	17.2	102	0.68	1968

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1967 - 2003

ANNUAL TOTAL	248.03	1610.69	
ANNUAL MEAN	0.68	4.41	5.63
HIGHEST ANNUAL MEAN			20.0
LOWEST ANNUAL MEAN			0.16
HIGHEST DAILY MEAN	61	Jul 25	837
LOWEST DAILY MEAN	0.00	Jan 1	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00
ANNUAL RUNOFF (AC-FT)	492		3190
10 PERCENT EXCEEDS	0.00		0.00
50 PERCENT EXCEEDS	0.00		0.00
90 PERCENT EXCEEDS	0.00		0.00

e Estimated

09487000 BRAWLEY WASH NEAR THREE POINTS, AZ

LOCATION--Lat 32°04'32", long 111°20'17", in SE1/4NE1/4SW1/4 sec. 32, T.15 S., R.10 E., Pima County, Hydrologic Unit 15050302, on right bank downstream side of State Highway 86 bridge, 1.6 mi west of Three Points, and 23 mi west of Tucson.

DRAINAGE AREA--776 mi².

PERIOD OF RECORD--Oct. 1966 to Sept. 1981 (crest-stage gage) at site 1,000 ft downstream, May 1992 to current year.

GAUGE--Water-stage recorder and crest-stage gages. Elevation of gage is 2,540 ft above sea level, from topographic map. Prior to May 19, 1992, gage was located 1,000 ft downstream from current location.

REMARKS--Records poor.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge 13,700 ft³/s Sept. 4, 1970, gage height 15.8 ft site and datum then in use; no flow for most of each year.

EXTREMES OUTSIDE PERIOD OF RECORD--Maximum discharge, 19,100 ft³/s Oct. 1, 1983, from contracted opening measurement of peak flow, gage height 12.07 ft from floodmarks.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 500 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 28	0545	1,930	9.60	Aug. 1	2100	*3,160	*10.60
July 29	2230	1,120	8.96	Aug. 18	2015	615	8.19

Minimum daily discharge, no flow for most of year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e205	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e57	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.15	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e11	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e7.5	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e28	0.00	0.00
14	0.00	0.00	0.00	0.00	e0.11	0.00	0.00	0.00	0.00	e0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	e2.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e52	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e11	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e17	e28	e0.30
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.62	e14	e20
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	e8.1	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e15	e63	0.00
27	e0.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	e19	0.00
28	e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e430	0.00	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	e173	0.00	0.00
30	0.00	e3.9	0.00	0.00	---	0.00	0.00	0.00	0.00	e82	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	e0.00	0.00	---
TOTAL	0.67	3.90	0.00	0.00	3.01	0.00	0.00	0.00	0.00	764.27	457.10	20.30
MEAN	0.022	0.13	0.000	0.000	0.11	0.000	0.000	0.000	0.000	24.7	14.7	0.68
MAX	0.67	3.9	0.00	0.00	2.9	0.00	0.00	0.00	0.00	430	205	20
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	1.3	7.7	0.00	0.00	6.0	0.00	0.00	0.00	0.00	1520	907	40

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2003, BY WATER YEAR (WY)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	
MEAN	3.44	0.90	0.88	1.22	0.011	0.001	0.000	0.011	1.39	16.3	20.6	17.1
MAX	26.8	4.83	9.73	10.6	0.11	0.016	0.000	0.12	15.2	110	63.9	87.6
(WY)	2001	1997	1995	1995	2003	2001	1993	1993	2000	1999	1997	1999
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1993	1993	1993	1994	1994	1993	1993	1994	1993	1993	1994	1993

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1993 - 2003
ANNUAL TOTAL	82.06	1249.25	
ANNUAL MEAN	0.22	3.42	5.20
HIGHEST ANNUAL MEAN			18.8
LOWEST ANNUAL MEAN			0.028
HIGHEST DAILY MEAN	20 Jul 26	430 Jul 28	1610 Aug 27 1993
LOWEST DAILY MEAN	0.00 Jan 1	0.00 Oct 1	0.00 Oct 1 1992
ANNUAL SEVEN-DAY MINIMUM	0.00 Jan 1	0.00 Oct 1	0.00 Oct 1 1992
ANNUAL RUNOFF (AC-FT)	163	2480	3760
10 PERCENT EXCEEDS	0.00	0.00	0.00
50 PERCENT EXCEEDS	0.00	0.00	0.00
90 PERCENT EXCEEDS	0.00	0.00	0.00

e Estimated

GILA RIVER BASIN

09489000 SANTA CRUZ RIVER NEAR LAVEEN, AZ

LOCATION.--Lat 33°13'56", long 112°10'08", in NE₁/₄NE₁/₄ sec. 29, T.2 S., R.2 E., Pinal County, Hydrologic Unit 15050303, in Gila River Indian Reservation, on downstream side of highway bridge, 3.4 mi upstream from mouth, 4.3 mi south of Komatke, and 9 mi south of Laveen.

DRAINAGE AREA.--8,581 mi².

PERIOD OF RECORD.--Jan. 1940 to Sept. 1946, Dec. 1947 to current year.

REVISED RECORDS.--WSP 1283: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,020.86 ft above sea level.

REMARKS.--No estimated daily discharge. Records good. Many diversions above station, mostly by pumping from ground water, for municipal uses and for irrigation of about 240,000 acres, not including San Carlos Project. Much of the low flow passing this station is drainage and wasteway return from irrigated lands upstream and pumpage from ground water.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,000 ft³/s Oct. 4, 1983, gage height, 19.74 ft, from flow-routing computation; no flow for many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 380 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 28.....	2115	*410	*11.35

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	5.9	0.00	0.00	0.85	0.00	0.00	0.00	0.00	0.31	5.0
2	0.00	0.00	0.87	0.00	0.00	0.49	0.00	0.00	0.00	0.00	0.06	1.1
3	0.00	0.00	0.44	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.63
4	0.00	0.00	0.25	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.45
5	0.00	0.00	0.17	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.35
6	0.00	0.00	0.11	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.28
7	0.00	0.00	0.07	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.23
8	0.00	0.00	0.04	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.18
9	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	77	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	11	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	1.8	3.9	0.00	0.00	0.00	0.00	0.40	0.00
17	0.00	0.00	0.00	0.00	0.78	45	0.00	0.00	0.00	0.00	0.27	0.00
18	0.00	0.00	0.00	0.00	0.46	3.6	0.00	0.00	0.00	0.00	0.06	0.00
19	0.00	0.00	0.00	0.00	0.29	0.93	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.23	0.50	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.15	0.30	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.10	0.23	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.07	0.17	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.02	0.14	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.20	0.08	0.00	0.00	0.00	0.00	0.21	0.00
26	16	0.00	0.00	0.00	53	0.08	0.00	0.00	0.00	0.00	0.27	0.00
27	3.2	0.00	0.00	0.00	14	0.05	0.00	0.00	0.00	0.00	0.57	0.00
28	0.36	0.00	0.00	0.00	2.7	0.02	0.00	0.00	0.00	0.00	169	0.00
29	0.16	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	93	0.00
30	0.08	14	0.00	0.00	---	0.00	0.00	0.00	0.00	63	40	0.00
31	0.01	---	0.00	0.00	---	0.00	---	0.00	---	4.2	40	---
TOTAL	19.81	14.00	7.86	0.00	161.82	57.33	0.00	0.00	0.00	67.20	344.15	8.29
MEAN	0.64	0.47	0.25	0.000	5.78	1.85	0.000	0.000	0.000	2.17	11.1	0.28
MAX	16	14	5.9	0.00	77	45	0.00	0.00	0.00	63	169	5.0
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	39	28	16	0.00	321	114	0.00	0.00	0.00	133	683	16
CFSM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)

MEAN	37.5	7.18	21.8	33.8	13.7	12.0	3.55	1.63	1.20	13.0	50.4	28.1
MAX	1812	200	435	1182	186	229	75.6	13.8	10.8	193	597	570
(WY)	1984	1958	1968	1993	1983	1941	1941	1941	1967	1990	1955	1946
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1959	1957	1959	1959	1961	1964	1963	1961	1961	1963	1973	1968

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1940 - 2003
ANNUAL TOTAL	252.78	680.46	
ANNUAL MEAN	0.69	1.86	19.0
HIGHEST ANNUAL MEAN			170 1984
LOWEST ANNUAL MEAN			0.47 1977
HIGHEST DAILY MEAN	83 Sep 12	169 Aug 28	18000 Oct 4 1983
LOWEST DAILY MEAN	0.00 Jan 1	0.00 Oct 1	0.00 Jul 17 1940
ANNUAL SEVEN-DAY MINIMUM	0.00 Jan 1	0.00 Oct 1	0.00 Jul 17 1940
ANNUAL RUNOFF (AC-FT)	501	1350	13800
ANNUAL RUNOFF (CFSM)	0.000	0.000	0.002
10 PERCENT EXCEEDS	0.00	0.32	8.0
50 PERCENT EXCEEDS	0.00	0.00	0.00
90 PERCENT EXCEEDS	0.00	0.00	0.00

09489500 BLACK RIVER BELOW PUMPING PLANT, NEAR POINT OF PINES, AZ

LOCATION.--Lat 33°28'36", long 109°45'48", in W sec. 32, T.2 N., R.25 E. (unsurveyed), Graham County, Hydrologic Unit 15060101, in San Carlos Indian Reservation, on left bank 0.9 mi downstream from Phelps Dodge Corp. pumping plant, 1.3 mi downstream from Freezeout Creek, 8 mi northwest of Point of Pines, and 63 mi upstream from confluence with White River.

DRAINAGE AREA.--560 mi².

PERIOD OF RECORD.--June 1953 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 5,725 ft above sea level, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are poor. Water is diverted at pumping plant 0.9 mi upstream and pumped into headwaters of Willow Creek (tributary of Eagle Creek) for mining, metallurgical treatment of ores, and domestic supply in vicinity of Morenci. (See sta 09445000.)

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,900 ft³/s Oct. 19, 1972, gage height, 18.0 ft, from floodmarks, from rating curve extended above 5,000 ft³/s; minimum daily, 2.6 ft³/s July 5, 1974.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 15	0545	687	4.24
Mar. 17	0600	*1,160	*4.90
Sept. 11	0530	794	4.41

Minimum daily discharge, 20 ft³/s July 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	34	38	56	55	156	563	216	61	25	34	91
2	26	33	39	51	55	151	615	198	49	24	37	75
3	26	33	47	56	54	146	658	182	43	23	38	95
4	26	33	48	48	51	184	604	167	39	23	34	66
5	26	34	47	49	44	237	543	156	36	23	35	57
6	25	35	40	42	47	238	486	149	35	23	33	63
7	30	35	38	43	40	313	445	141	35	22	34	81
8	37	33	39	48	42	426	423	134	34	21	36	99
9	36	37	42	61	49	505	422	129	34	20	39	111
10	31	55	37	80	42	626	441	119	35	21	34	410
11	27	148	36	83	37	745	456	112	34	24	36	709
12	26	109	35	82	45	823	473	106	33	25	34	416
13	25	83	36	76	65	791	482	99	33	24	31	257
14	25	69	34	72	500	814	491	94	32	27	36	176
15	25	60	34	69	617	820	515	90	30	27	38	134
16	29	54	36	66	455	746	501	87	28	25	38	108
17	25	45	38	59	356	1050	449	83	24	27	37	90
18	25	43	49	60	297	854	406	80	24	29	35	77
19	30	41	44	57	255	830	377	79	26	e28	33	70
20	28	39	33	56	226	688	356	77	26	e31	34	59
21	28	39	37	61	208	708	331	75	24	e34	36	50
22	31	39	41	62	175	704	311	73	22	49	37	43
23	34	37	42	64	158	844	296	68	23	43	34	41
24	28	37	43	62	146	937	288	67	25	36	35	39
25	27	36	39	64	141	881	272	63	25	37	37	39
26	26	36	37	66	169	832	256	59	25	34	40	40
27	29	35	38	65	151	837	249	59	24	35	40	38
28	30	38	43	62	167	804	245	56	24	37	48	36
29	30	36	46	62	---	690	235	54	24	36	95	33
30	33	38	44	62	---	590	228	50	26	38	146	30
31	34	---	51	57	---	554	---	56	---	37	125	---
TOTAL	884	1424	1251	1901	4647	19524	12417	3178	933	908	1379	3633
MEAN	28.5	47.5	40.4	61.3	166	630	414	103	31.1	29.3	44.5	121
MAX	37	148	51	83	617	1050	658	216	61	49	146	709
MIN	25	33	33	42	37	146	228	50	22	20	31	30
AC-FT	1750	2820	2480	3770	9220	38730	24630	6300	1850	1800	2740	7210
CFSM	0.05	0.08	0.07	0.11	0.30	1.12	0.74	0.18	0.06	0.05	0.08	0.22
IN.	0.06	0.09	0.08	0.13	0.31	1.30	0.82	0.21	0.06	0.06	0.09	0.24
CAL YR 2002	TOTAL 14358	MEAN 39.3	MAX 434	MIN 19	AC-FT 28480	CFSM 0.07	IN. 0.95					
WTR YR 2003	TOTAL 52079	MEAN 143	MAX 1050	MIN 20	AC-FT 103300	CFSM 0.25	IN. 3.46					

e Estimated

GILA RIVER BASIN

09490500 BLACK RIVER NEAR FORT APACHE, AZ

LOCATION--Lat 33°42'46", long 110°12'40", in NW $\frac{1}{4}$ sec. 12, T.4 N., R.20 E. (unsurveyed), Gila County, Hydrologic Unit 15060101, on downstream side of first pier from right bank on highway bridge, 5 mi upstream from confluence with White River and 14 mi west of Fort Apache.

DRAINAGE AREA--1,232 mi².

PERIOD OF RECORD--Oct. 1912 to Dec. 1915, Sept. 1916, Oct. 1917 to Jan. 1918, Apr. 1918, Oct. 1957 to current year. Monthly discharge only for some periods, published in WSP 1313.

REVISED RECORDS--WSP 1313: 1914--15, drainage area.

GAGE--Water-stage recorder. Elevation of gage is 4,345 ft above sea level, from river-profile map. Nov. 1912 to July 1918, nonrecording gages or water-stage recorders at several sites within 1 mi of present site at various datums.

REMARKS--No estimated daily discharges. Records good. One transbasin diversion for industrial and municipal use (see record of Willow Creek diversion from Black River, near Morenci). Negligible storage in several small recreational lakes.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 54,700 ft³/s, Jan. 8, 1993, gage height, 28.10 ft, from rating curve extended above 8,500 ft³/s on basis of slope-area measurements at gage heights 22.33 ft and 24.80 ft; minimum daily, 11 ft³/s July 6, 1974.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 3,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 17	1045	3,970	7.93
Sept. 10	0415	*5,270	*9.11

Minimum daily discharge, 23 ft³/s, July 12, 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	51	67	65	96	676	870	358	81	29	58	141
2	41	53	69	64	94	471	910	333	82	30	53	115
3	39	52	75	65	92	473	999	312	76	30	48	98
4	39	50	80	68	91	572	998	294	69	28	57	98
5	39	49	85	76	88	886	890	278	62	26	52	91
6	39	49	82	76	85	981	785	265	57	25	45	75
7	39	50	77	82	78	1000	685	253	54	25	41	77
8	40	51	71	85	76	1180	628	239	51	25	39	83
9	53	51	69	96	83	1400	589	227	49	25	44	172
10	58	53	70	124	79	1400	607	216	46	24	43	2710
11	55	90	69	147	76	1470	648	198	46	24	45	1660
12	49	204	64	146	75	1510	689	181	48	23	43	901
13	44	177	61	137	81	1450	732	168	46	23	42	494
14	41	140	58	127	110	1370	750	157	45	30	43	330
15	40	117	60	119	1010	1390	791	151	43	33	53	245
16	39	103	60	114	891	1320	815	148	41	33	59	187
17	38	94	63	109	630	3300	719	145	39	35	67	153
18	42	87	69	105	493	2490	643	138	38	35	64	129
19	42	79	72	100	406	2040	581	133	35	34	58	111
20	40	76	75	99	347	1970	538	128	31	37	50	97
21	45	73	60	99	305	1430	492	123	32	36	49	85
22	47	70	51	101	279	1370	458	117	32	47	58	78
23	46	69	64	100	246	1410	444	111	32	42	57	71
24	45	67	75	102	226	1590	429	106	29	87	57	65
25	54	65	75	100	212	1590	410	100	27	57	56	63
26	45	63	60	101	298	1490	390	94	27	48	66	64
27	44	61	46	103	499	1440	382	89	30	62	66	64
28	44	62	41	103	656	1410	383	87	29	91	68	59
29	51	62	59	101	---	1240	384	84	29	59	81	54
30	52	66	77	100	---	1040	375	80	29	56	92	50
31	50	---	79	99	---	905	---	81	---	57	143	---
TOTAL	1381	2334	2083	3113	7702	42264	19014	5394	1335	1216	1797	8620
MEAN	44.5	77.8	67.2	100	275	1363	634	174	44.5	39.2	58.0	287
MAX	58	204	85	147	1010	3300	999	358	82	91	143	2710
MIN	38	49	41	64	75	471	375	80	27	23	39	50
AC-FT	2740	4630	4130	6170	15280	83830	37710	10700	2650	2410	3560	17100
CFSM	0.04	0.06	0.05	0.08	0.22	1.11	0.51	0.14	0.04	0.03	0.05	0.23
IN.	0.04	0.07	0.06	0.09	0.23	1.28	0.57	0.16	0.04	0.04	0.05	0.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 2003, BY WATER YEAR (WY)

MEAN	206	156	347	401	574	1037	1104	471	104	85.3	181	145
MAX	2725	769	2449	4904	3145	3864	4423	3109	448	763	659	650
(WY)	1984	1995	1979	1993	1980	1978	1915	1973	1973	1915	1959	1988
MIN	30.6	36.7	38.4	36.8	52.9	50.2	42.9	28.2	16.9	23.3	34.9	30.5
(WY)	1974	1976	1977	1976	2002	1999	2002	2002	1974	1994	1975	1960

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1915 - 2003

ANNUAL TOTAL	22775	96253	
ANNUAL MEAN	62.4	264	403
HIGHEST ANNUAL MEAN			1200
LOWEST ANNUAL MEAN			52.6
HIGHEST DAILY MEAN	787	Sep 11	3300
LOWEST DAILY MEAN	20	Jun 22	23
ANNUAL SEVEN-DAY MINIMUM	21	Jun 22	24
ANNUAL RUNOFF (AC-FT)	45170	190900	291900
ANNUAL RUNOFF (CFSM)	0.051	0.21	0.33
ANNUAL RUNOFF (INCHES)	0.69	2.91	4.44
10 PERCENT EXCEEDS	84	876	1100
50 PERCENT EXCEEDS	51	77	98
90 PERCENT EXCEEDS	24	39	38

09492400 EAST FORK WHITE RIVER NEAR FORT APACHE, AZ

LOCATION--Lat 33°49'20", long 109°48'50", in SE¹/₄ sec. 16, T.5 N., R.24 E. (unsurveyed), Apache County, Hydrologic Unit 15060102, in Fort Apache Indian Reservation, on left bank 600 ft downstream from highway bridge, 0.1 mi upstream from Rock Creek, and 10 mi east of Fort Apache.

DRAINAGE AREA--38.8 mi².

PERIOD OF RECORD--Aug. 1957 to current year.

GAGE--Water-stage recorder. Elevation of gage is 6,050 ft above sea level. Prior to Dec. 29, 1960, at site 600 ft upstream at datum 12.78 ft higher. Dec. 29, 1960, to Sept. 28, 1962, at site 600 ft upstream at datum 12.92 ft higher.

REMARKS--Records good except for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 2,700 ft³/s Oct. 1, 1983, gage height, 5.40 ft, from rating curve extended above 1,000 ft³/s; minimum daily, 3.5 ft³/s June 24, 25, 29, July 7, 2002.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 100 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 10.....	0945	109	1.74	May 17.....	2130	134	1.86
Apr. 15.....	0945	148	1.93	Sept. 10.....	2015	*203	*2.15
Apr. 28.....	2000	159	1.98				

Minimum daily discharge, 7.0 ft³/s Nov. 6, 7 and Dec. 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.6	7.5	11	13	14	16	75	131	46	e9.9	16	21
2	9.0	7.5	9.8	13	14	16	88	120	40	e9.5	23	20
3	8.4	7.4	12	12	13	17	83	116	35	e9.4	17	17
4	8.2	7.6	9.6	13	13	17	72	115	32	e9.2	15	16
5	7.9	7.5	9.1	13	14	16	66	114	30	e9.2	13	16
6	7.6	7.0	9.8	14	12	16	59	111	28	e8.7	12	17
7	8.9	7.0	9.8	14	14	18	56	108	25	e8.3	13	16
8	9.6	7.3	10	15	13	23	56	108	23	e7.9	15	15
9	8.1	9.7	8.5	20	12	30	64	105	21	e7.9	13	19
10	7.6	7.1	9.2	18	12	41	75	100	20	e7.4	13	103
11	7.4	43	9.1	16	13	51	89	95	19	e7.3	12	126
12	7.3	26	9.3	15	12	58	108	94	17	e8.2	12	76
13	7.2	21	9.7	14	27	60	122	99	17	e7.7	11	56
14	7.2	18	9.2	14	51	70	134	110	16	e7.2	14	42
15	7.2	16	8.7	14	37	71	138	119	15	e7.3	21	33
16	7.2	14	8.3	14	33	68	112	120	14	7.3	19	28
17	7.5	14	9.0	13	30	64	99	127	14	7.3	17	25
18	8.0	13	8.2	13	26	50	92	128	15	7.4	15	23
19	8.7	12	8.0	13	23	45	83	119	e14	8.0	15	20
20	8.0	12	e14	13	22	40	73	110	e13	11	19	19
21	7.5	11	10	14	20	40	76	103	e13	14	18	18
22	7.5	11	9.8	13	19	43	87	97	e12	16	17	17
23	7.5	10	9.1	13	18	55	91	95	e12	17	16	16
24	7.6	9.8	8.9	13	18	67	87	95	e12	13	18	16
25	7.4	9.8	e8.0	14	17	73	92	91	e11	12	18	18
26	7.3	9.5	e7.0	14	15	80	108	80	e11	14	25	17
27	9.2	11	e8.0	14	17	90	133	73	e10	19	22	15
28	8.5	8.8	e10	14	16	79	149	67	e11	17	20	14
29	8.2	10	e12	14	---	67	152	62	e10	20	20	14
30	7.9	11	e13	13	---	60	147	58	e10	17	20	13
31	7.6	---	e13	13	---	65	---	52	---	15	20	---
TOTAL	245.8	430.4	301.1	433	545	1506	2866	3122	566	340.1	519	866
MEAN	7.93	14.3	9.71	14.0	19.5	48.6	95.5	101	18.9	11.0	16.7	28.9
MAX	9.6	7.1	14	20	51	90	152	131	46	20	25	126
MIN	7.2	7.0	7.0	12	12	16	56	52	10	7.2	11	13
AC-FT	488	854	597	859	1080	2990	5680	6190	1120	675	1030	1720
CFSM	0.20	0.37	0.25	0.36	0.50	1.25	2.46	2.60	0.49	0.28	0.43	0.74
IN.	0.24	0.41	0.29	0.42	0.52	1.44	2.75	2.99	0.54	0.33	0.50	0.83

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)	2003	2002	2002	2002	2002	2000	1989
MEAN	21.4	16.5	16.1	16.2	20.4	39.0	79.9	99.9	43.8	18.0	27.9	23.2
MAX	128	43.6	57.1	84.8	66.2	103	192	284	172	45.7	90.5	65.9
(WY)	1984	1987	1979	1993	1980	1978	1993	1973	1973	1973	1992	1983
MIN	7.93	7.04	7.31	7.09	7.45	8.11	10.9	5.78	3.99	7.17	10.9	6.91
(WY)	2003	2002	2002	1994	2000	2002	2002	2002	2002	2000	1960	1989

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1957 - 2003
ANNUAL TOTAL	3493.2	11740.4	
ANNUAL MEAN	9.57	32.2	35.2
HIGHEST ANNUAL MEAN			75.1
LOWEST ANNUAL MEAN			8.80
HIGHEST DAILY MEAN	77	Sep 11	1120
LOWEST DAILY MEAN	3.5	Jun 24	7.0
ANNUAL SEVEN-DAY MINIMUM	3.6	Jun 19	7.3
ANNUAL RUNOFF (AC-FT)	6930	23290	25500
ANNUAL RUNOFF (CFSM)	0.25	0.83	0.91
ANNUAL RUNOFF (INCHES)	3.35	11.26	12.32
10 PERCENT EXCEEDS	14	94	87
50 PERCENT EXCEEDS	8.0	15	18
90 PERCENT EXCEEDS	4.5	7.9	8.5

e Estimated

GILA RIVER BASIN

09494000 WHITE RIVER NEAR FORT APACHE, AZ

LOCATION.--Lat 33°44'11", long 110°09'58", in SE1/4 sec. 32, T.4 N., R.21 E. (unsurveyed), Gila County, Hydrologic Unit 15060102, in Fort Apache Indian Reservation, on right bank 2,200 ft downstream from highway bridge, 4.5 mi upstream from confluence with Black River, and 11 mi west of Fort Apache.

DRAINAGE AREA.--632 mi².

PERIOD OF RECORD.--Oct. 1917 to Sept. 1918 (published as "at Wanslee's Ranch"), Oct. 1957 to current year. Monthly discharge only for some periods, published in WSP 1313.

REVISED RECORDS.--WRD AZ 1971: 1967(M).

GAGE.--Water-stage recorder. Datum of gage is 4,365.99 ft above sea level. Oct. 12, 1917, to Aug. 31, 1918, nonrecording gage at site 2,100 ft upstream at different datum.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Small diversions above station for irrigation of about 1,460 acres. Negligible storage above station in several small recreational lakes.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,600 ft³/s Dec. 18, 1978, gage height, 15.71 ft, from rating curve extended above 7,800 ft³/s on basis of slope-area measurement of peak flow; no flow July 18--21, 1963.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 17.....	0415	1,360	4.81	Sept. 10	0130	*1,900	*5.66
Sept. 4.....	2215	1,100	4.37	Sept. 10	1615	1,810	5.53
Sept. 9.....	0415	1,270	4.66				

Minimum daily discharge, 3.0 ft³/s estimated, July 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	29	47	36	50	128	528	482	148	e15	64	e78
2	31	32	40	35	50	133	606	444	135	e15	137	e80
3	32	31	57	34	50	118	652	416	121	e15	84	e60
4	32	29	55	36	43	137	583	402	100	e14	43	e100
5	30	30	40	38	42	138	524	391	86	e13	32	e63
6	31	31	36	39	48	125	469	381	71	e12	26	46
7	30	28	37	41	40	135	427	372	63	e10	25	52
8	33	31	40	44	48	179	400	370	58	e9.0	39	42
9	34	29	41	59	51	235	422	347	49	e7.0	32	262
10	31	64	33	81	40	307	481	315	43	e6.0	28	726
11	30	148	35	71	44	367	547	301	41	e5.0	25	802
12	30	94	34	65	49	416	606	293	34	e4.0	24	470
13	28	70	30	57	58	429	649	300	31	e4.0	25	332
14	28	64	29	54	231	524	702	311	31	e3.0	27	257
15	28	53	33	54	303	587	783	325	29	e5.0	27	204
16	27	46	35	52	236	547	665	331	27	e7.0	37	167
17	23	40	37	50	204	924	640	342	25	e8.0	32	140
18	24	44	42	51	181	603	563	351	26	e9.0	30	122
19	26	43	36	49	165	496	513	336	27	e10	26	107
20	29	36	30	48	149	434	460	315	25	e10	67	93
21	29	38	27	52	141	459	439	300	23	e18	61	84
22	27	35	36	56	127	413	447	289	23	19	91	78
23	27	36	44	55	116	466	460	275	22	18	141	75
24	26	35	42	53	109	584	441	270	20	41	122	73
25	27	33	36	57	105	648	421	264	19	21	94	76
26	28	32	31	57	153	725	433	252	19	18	76	80
27	29	34	e30	52	129	787	465	224	15	29	68	68
28	32	36	e32	51	148	697	509	203	15	25	95	62
29	29	34	37	53	---	565	533	187	16	26	133	57
30	29	41	39	50	---	487	518	174	16	63	e150	52
31	29	---	38	49	---	482	---	167	---	55	e85	---
TOTAL	902	1326	1159	1579	3110	13275	15886	9730	1358	514.0	1946	4908
MEAN	29.1	44.2	37.4	50.9	111	428	530	314	45.3	16.6	62.8	164
MAX	34	148	57	81	303	924	783	482	148	63	150	802
MIN	23	28	27	34	40	118	400	167	15	3.0	24	42
AC-FT	1790	2630	2300	3130	6170	26330	31510	19300	2690	1020	3860	9740
CFSM	0.05	0.07	0.06	0.08	0.18	0.68	0.84	0.50	0.07	0.03	0.10	0.26
IN.	0.05	0.08	0.07	0.09	0.18	0.78	0.94	0.57	0.08	0.03	0.11	0.29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 2003, BY WATER YEAR (WY)

	100	83.5	113	124	169	358	570	434	147	68.1	118	101
MEAN	774	218	715	1125	787	1159	1448	2073	602	187	388	293
(WY)	1984	1987	1979	1993	1980	1985	1979	1973	1973	1973	1967	1988
MIN	26.8	26.1	31.7	32.0	32.1	35.5	41.3	12.2	4.35	3.90	26.5	19.0
(WY)	2002	2002	2000	1964	2002	2002	2002	2002	2002	1963	1962	1989

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1957 - 2003

ANNUAL TOTAL	13849.0	55693.0										
ANNUAL MEAN	37.9	153								199		
HIGHEST ANNUAL MEAN										487		1993
LOWEST ANNUAL MEAN										32.5		2000
HIGHEST DAILY MEAN	1180	Sep 11	924	Mar 17	7180	Dec 18	1978					
LOWEST DAILY MEAN	2.5	Jun 25	3.0	Jul 14	0.00	Jul 18	1963					
ANNUAL SEVEN-DAY MINIMUM	2.9	Jun 23	4.9	Jul 9	0.46	Jul 16	1963					
ANNUAL RUNOFF (AC-FT)	27470		110500		143900							
ANNUAL RUNOFF (CFSM)	0.060		0.24		0.31							
ANNUAL RUNOFF (INCHES)	0.82		3.28		4.27							
10 PERCENT EXCEEDS	53		469		523							
50 PERCENT EXCEEDS	32		52		80							
90 PERCENT EXCEEDS	6.0		24		32							

e Estimated

09495000 FORESTDALE CREEK DIVERSION FROM SHOW LOW CREEK, NEAR SHOW LOW, AZ

LOCATION--Lat 34°10'40", long 110°00'56", in SE¹/₄NW¹/₄ sec. 16, T.9 N., R.22 E., Navajo County, Hydrologic Unit 15020005, in Sitgreaves National Forest, on right bank 170 ft downstream from terminal structure of Show Low Creek diversion works, 4,350 ft west of pumping plant on Show Low Lake, and 5 mi south of Show Low.

PERIOD OF RECORD--May 1953 to current year.

GAGE--Water-stage recorders and V-notch sharp-crested weir. Datum of gage is 6,621.57 ft above sea level (Bureau of Reclamation benchmark).

REMARKS--No estimated daily discharges. Records excellent. No diversion this water year, the one day of flow is from runoff. Entire flow consists of water pumped from Show Low Lake in Little Colorado River basin, into Forestdale Creek in the Gila River basin.

EXTREMES FOR PERIOD OF RECORD--Maximum daily discharge, 28 ft³/s, June 2, 3, 5, 1973, Mar. 17--25, 27--30, Apr. 2--15, Apr. 18 to May 5, 1975; minimum daily discharge, no flow for most of time.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.00	---	
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	
MEAN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
MAX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	
CAL YR 2002	TOTAL 0.00	MEAN 0.000	MAX 0.00	MIN 0.00	AC-FT 0.00								
WTR YR 2003	TOTAL 0.01	MEAN 0.000	MAX 0.01	MIN 0.00	AC-FT 0.02								

GILA RIVER BASIN

09496500 CARRIZO CREEK NEAR SHOW LOW, AZ

LOCATION--Lat 33°59'09", long 110°16'49", in sec. 24, T.7 N., R.19 E. (unsurveyed), Gila County, Hydrologic Unit 15060104, in Fort Apache Indian Reservation, on right bank 500 ft upstream from bridge on U.S. Highway 60, 1 mi downstream from Corduroy Creek, 23 mi southwest of Show Low, and 24 mi upstream from mouth.

DRAINAGE AREA--439 mi².

PERIOD OF RECORD--June 1951 to June 1961, June 1967 to June 1976, Oct. 1975 to June 1976 (monthly discharges only), Apr. 1977 to current year.

REVISED RECORDS--WRD Ariz. 1968: Drainage area.

GAGE--Water-stage recorder. Datum of gage is 4,749.52 ft above sea level. Prior to June 1976 at site on bridge pier 400 ft downstream at same datum.

REMARKS--Records fair except for estimated daily discharges, which are poor. Diversions for irrigation above station of less than 300 acres. Records include transbasin diversion from Show Low Creek into headwaters of Carrizo Creek. (See sta 09495000.)

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 20,500 ft³/s Jan. 18, 1952, gage height, 12.08 ft, at site then in use, from rating curve extended above 2,000 ft³/s on basis of slope-area measurement of peak flow; maximum gage height, 15.1 ft Dec. 18, 1978, from highwater mark; minimum daily discharge, no flow, estimated, June 17, 2002.

EXTREMES OUTSIDE PERIOD OF RECORD--Maximum discharge since at least 1951, about 23,000 ft³/s Dec. 30, 1965, gage height, 13.0 ft, from floodmark at previous site, from rating curve extended above 2,000 ft³/s on basis of slope-area measurement at gage height 12.08 ft.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 1,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 30.....	2145	3,050	7.29	Aug. 19.....	1815	1,240	4.99
July 21.....	2045	2,190	6.34	Aug. 22.....	0015	1,460	5.34
July 28.....	1830	1,230	4.98	Sept. 1.....	2045	3,070	7.31
July 31.....	2340	1,510	5.42	Sept. 7.....	2215	*4,330	*8.48
Aug. 14.....	2030	4,270	8.43	Sept. 9.....	0845	2,220	6.37

Minimum daily discharge, 0.49 ft³/s, July 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	e4.6	33	e4.9	4.2	28	e15	5.3	e24	0.82	e122	e178
2	6.9	e5.0	e10	e4.7	4.1	27	e14	5.3	e6.8	0.75	14	e44
3	4.6	e4.3	e36	e5.5	4.0	24	e13	5.2	e4.7	0.63	6.4	e7.9
4	4.4	e4.2	e18	e5.6	4.0	32	11	5.0	e4.5	0.50	4.3	7.5
5	4.3	e4.0	e7.8	e5.8	4.1	48	11	5.1	e4.7	0.56	3.4	7.0
6	4.1	e4.3	e6.8	e5.8	4.1	67	10	5.0	4.5	0.62	2.8	13
7	4.1	e4.1	e6.8	e5.7	4.1	91	9.8	4.9	4.5	0.54	8.3	247
8	4.2	e4.0	e6.8	e5.6	4.8	139	9.3	4.7	4.1	0.54	62	e106
9	3.9	e4.1	e6.3	e6.1	4.7	173	8.9	4.5	3.6	0.53	e26	e484
10	3.8	e60	e6.1	e5.2	4.3	e214	8.6	4.6	3.4	0.49	e5.9	e115
11	3.7	e15	e5.9	e5.1	4.3	e212	8.4	4.7	3.2	0.51	e25	e21
12	3.8	e5.7	e5.8	e5.1	4.5	e186	8.1	4.5	3.1	0.66	e7.9	e9.2
13	4.0	e5.7	e5.6	e5.2	6.8	e148	7.8	4.4	2.8	0.77	e6.2	e6.8
14	4.0	e5.6	e5.6	e5.2	9.7	e102	7.5	4.5	2.6	0.76	e288	e5.7
15	3.9	e5.6	e5.6	e5.1	17	e85	11	4.4	2.3	0.80	e193	e4.8
16	3.9	e5.4	e5.4	e5.1	28	e95	9.8	4.2	2.1	0.91	e13	4.1
17	52	e5.3	e6.5	e4.9	16	e541	8.3	4.0	2.1	0.83	e7.9	3.7
18	e27	e5.2	e6.3	e4.9	10	e300	7.7	3.8	2.3	0.88	e5.6	3.4
19	e7.5	e5.2	e5.6	e4.8	8.1	e330	8.0	3.9	2.2	0.96	e96	3.4
20	e5.5	e5.2	e4.9	e4.6	7.0	e290	7.8	3.7	1.8	1.1	e21	3.2
21	e4.3	e5.0	e5.7	e4.6	6.4	e230	7.2	3.7	1.6	122	e5.6	3.0
22	e4.2	4.9	e5.5	e4.6	5.7	e194	6.8	3.6	1.6	e63	e213	2.8
23	e4.4	4.9	e5.3	e4.5	5.5	e160	6.8	3.5	1.4	e22	e19	2.9
24	e4.3	4.9	e5.5	e4.4	5.3	e120	6.7	3.2	1.2	e77	e13	3.1
25	e4.3	5.0	e5.2	e4.3	6.9	e71	6.2	3.0	1.2	e48	e11	e38
26	e4.5	5.0	e4.6	e4.4	19	e52	6.0	2.9	1.2	e5.2	23	e19
27	e33	5.0	e4.7	e4.3	23	e43	5.8	2.8	1.1	e3.3	23	e4.3
28	e20	5.0	e5.0	e4.4	32	e35	5.5	2.8	1.1	e138	26	e2.9
29	e7.1	5.1	e5.8	4.3	---	e26	5.3	2.7	0.99	e87	33	e2.5
30	e4.9	72	e5.8	4.3	---	e19	5.2	212	0.93	e12	e18	e2.2
31	e4.7	---	e4.8	4.2	---	e17	---	e78	---	54	e47	---
TOTAL	259.8	279.3	252.7	153.2	257.6	4099	256.5	409.9	101.62	645.66	1350.3	1355.4
MEAN	8.38	9.31	8.15	4.94	9.20	132	8.55	13.2	3.39	20.8	43.6	45.2
MAX	52	72	36	6.1	32	541	15	212	24	138	288	484
MIN	3.7	4.0	4.6	4.2	4.0	17	5.2	2.7	0.93	0.49	2.8	2.2
AC-FT	515	554	501	304	511	8130	509	813	202	1280	2680	2690
CFSM	0.02	0.02	0.02	0.01	0.02	0.30	0.02	0.03	0.01	0.05	0.10	0.10
IN.	0.02	0.02	0.02	0.01	0.02	0.35	0.02	0.03	0.01	0.05	0.11	0.11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)	26.0	20.5	65.1	86.1	111	135	45.1	18.2	11.2	12.9	19.3	11.3
MEAN	26.0	20.5	65.1	86.1	111	135	45.1	18.2	11.2	12.9	19.3	11.3					
MAX	397	147	762	1031	965	698	350	154	41.3	41.1	83.4	45.2					
(WY)	1973	1960	1979	1993	1980	1978	1973	1973	1973	1973	2002	2003					
MIN	1.63	2.53	3.86	4.94	5.13	4.81	4.31	1.75	0.30	1.35	2.96	0.91					
(WY)	1957	1957	1957	2003	2002	2002	2002	2002	2002	1971	1997	1956					

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1951 - 2003
ANNUAL TOTAL	6339.61	9420.98	
ANNUAL MEAN	17.4	25.8	47.7
HIGHEST ANNUAL MEAN			201
LOWEST ANNUAL MEAN			5.22
HIGHEST DAILY MEAN	818	541	10900
LOWEST DAILY MEAN	0.00	0.49	0.00
ANNUAL SEVEN-DAY MINIMUM	0.09	0.54	0.09
ANNUAL RUNOFF (AC-FT)	12570	18690	34550
ANNUAL RUNOFF (CFSM)	0.040	0.059	0.11
ANNUAL RUNOFF (INCHES)	0.54	0.80	1.48
10 PERCENT EXCEEDS	21	69	69
50 PERCENT EXCEEDS	4.9	5.3	10
90 PERCENT EXCEEDS	0.70	2.3	2.6

e Estimated

09497500 SALT RIVER NEAR CHRYSOTILE, AZ

LOCATION.--Lat 33°47'53", long 110°29'57", in sec. 25, T.5 N., R.17 E. (unsurveyed), Gila County, Hydrologic Unit 15060103, in San Carlos Indian Reservation, on left bank 1,200 ft upstream from bridge on U.S. Highway 60, 5.7 mi northeast of Chrysotile, 8 mi upstream from Cibecue Creek, and 33 mi downstream from confluence of Black and White Rivers.

DRAINAGE AREA.--2,849 mi².

PERIOD OF RECORD.--Sept. 1924 to current year (monthly discharge only July to Dec. 1954).

REVISED RECORDS.--WSP 859: 1926--27, 1929--30, 1934, 1936. WSP 899: 1927, 1932, 1937, 1938(M). WSP 1313: 1925--26(M), 1929--30(M), 1935--36(M), 1944(M). WSP 1343: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,354.57 ft above sea level.

REMARKS.--Records good, except for estimated daily discharges, which are poor. Several diversions for irrigation above station of about 3,100 acres, one diversion into the basin (see record of Forestdale Creek diversion from Show Low Creek, near Show Low), and one diversion out of the basin (see record of Willow Creek diversion from Black River, near Morenci).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 76,600 ft³/s Jan. 8, 1993, gage height, 18.33 ft, from rating curve extended above 52,000 ft³/s; minimum, 49 ft³/s July 6, 7, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood peak of 74,000 ft³/s occurred prior to 1924 and is believed to be the peak of the flood of Jan. 19, 1916, gage height, 18 ft, from floodmarks, from rating curve extended above 52,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 17	1745	5,540	6.08	Sept. 10	1030	*5,750	*6.18
Mar. 20	1815	3,570	5.00	Sept. 10	2245	4,160	5.36

Minimum daily discharge, 73 ft³/s July 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	131	134	214	173	207	916	1390	906	332	e100	281	334
2	130	136	194	159	206	697	1460	847	301	95	235	438
3	129	141	192	158	201	668	1600	792	284	92	264	e290
4	127	138	220	159	199	662	1630	747	264	92	199	e230
5	126	133	204	168	192	981	1460	717	244	91	178	e270
6	124	132	187	172	190	1210	1320	686	229	88	157	e230
7	124	131	178	174	192	1170	1190	656	214	85	138	e220
8	125	131	177	184	179	1370	1090	648	205	85	133	488
9	128	138	173	199	191	1660	1050	620	197	80	193	717
10	143	144	168	223	191	1760	1080	578	185	78	179	3340
11	143	251	163	267	179	1880	1180	557	175	76	148	2910
12	137	294	162	272	183	1970	1270	527	169	73	152	1600
13	131	333	155	260	196	1980	1360	521	161	76	150	e1000
14	122	274	147	246	255	1910	1420	516	155	88	147	e740
15	122	239	146	235	910	1980	1520	523	152	85	511	e570
16	119	213	153	227	1260	1910	1530	526	148	92	226	e460
17	116	197	156	221	952	3780	1400	526	143	88	194	e390
18	141	186	165	215	764	4170	1270	533	e135	95	187	e330
19	144	182	174	212	648	2960	1160	525	e130	94	170	294
20	128	175	166	208	568	3000	1080	504	e128	93	226	269
21	124	167	160	216	506	2120	994	480	e120	192	221	246
22	128	167	145	213	460	1990	955	465	e115	582	324	232
23	126	161	155	216	421	1930	945	445	e110	170	309	222
24	124	160	179	214	390	2210	934	435	e108	165	292	213
25	122	158	177	216	375	2330	895	423	e102	260	249	214
26	133	154	167	214	448	2260	871	412	e100	184	274	255
27	132	153	140	216	637	2230	880	386	e98	140	249	229
28	149	152	131	213	796	2180	916	358	e95	180	237	203
29	152	156	137	213	---	1930	948	339	e92	314	313	189
30	140	161	164	211	---	1630	944	325	e95	335	360	176
31	136	---	176	209	---	1430	---	530	---	226	312	---
TOTAL	4056	5291	5225	6483	11896	58874	35742	17053	4986	4494	7208	17299
MEAN	131	176	169	209	425	1899	1191	550	166	145	233	577
MAX	152	333	220	272	1260	4170	1630	906	332	582	511	3340
MIN	116	131	131	158	179	662	871	325	92	73	133	176
AC-FT	8050	10490	10360	12860	23600	116800	70890	33820	9890	8910	14300	34310
CFSM	0.05	0.06	0.06	0.07	0.15	0.67	0.42	0.19	0.06	0.05	0.08	0.20
IN.	0.05	0.07	0.07	0.08	0.16	0.77	0.47	0.22	0.07	0.06	0.09	0.23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 2003, BY WATER YEAR (WY)

	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957			
MEAN	331	278	481	622	869	1460	1671	890	305	220	398	338																									
MAX	3777	1300	3983	7939	6181	6029	4850	5070	1185	547	1249	1181																									
(WY)	1984	1979	1966	1993	1980	1978	1979	1973	1941	1941	1967	1946																									
MIN	79.1	112	113	130	145	155	149	101	72.2	91.0	135	68.5																									
(WY)	1957	1957	1957	1954	1964	2002	2002	2002	2002	1963	1962	1956																									

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1924 - 2003
ANNUAL TOTAL	64734	178607	
ANNUAL MEAN	177	489	654
HIGHEST ANNUAL MEAN			2091
LOWEST ANNUAL MEAN			160
HIGHEST DAILY MEAN	3070	Sep 11 4170	Mar 18 47400
LOWEST DAILY MEAN	67	Jun 24 73	Jul 12 55
ANNUAL SEVEN-DAY MINIMUM	69	Jun 21 79	Jul 7 56
ANNUAL RUNOFF (AC-FT)	128400	354300	473600
ANNUAL RUNOFF (CFSM)		0.17	0.23
ANNUAL RUNOFF (INCHES)		2.33	3.12
10 PERCENT EXCEEDS	239	1360	1530
50 PERCENT EXCEEDS	150	214	255
90 PERCENT EXCEEDS	77	124	130

e Estimated

GILA RIVER BASIN

09497800 CIBECUE CREEK NEAR CHRYSOTILE, AZ

LOCATION.--Lat 33°50'35", long 110°33'25", in E_{1/2} sec. 8, T.5 N., R.17 E. (unsurveyed), Gila County, Hydrologic Unit 15060103, in Fort Apache Indian Reservation, on right bank 0.5 mi upstream from mouth and 7 mi north of Chrysotile.

DRAINAGE AREA.--295 mi².

PERIOD OF RECORD.--May 1959 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,200 ft above sea level, from topographic map.

REMARKS.--Records good, except for estimated daily discharges, which are poor. Small diversions for irrigation in the vicinity of the village of Cibecue.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,200 ft³/s Sept. 2, 1977, gage height, 17.3 ft, on basis of slope-area measurement of peak flow; minimum daily, 4.1 ft³/s Aug. 17--19, 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 21	2230	*4,830	*7.44	Sept. 6	1745	3,700	6.64
Aug. 1	0045	1,470	4.71	Sept. 7	1645	1,910	5.17
Aug. 8	2300	1,470	4.71	Sept. 9	0930	1,960	5.22

Minimum daily discharge, 6.4 ft³/s June 29, July 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	12	26	12	12	29	27	11	16	6.6	176	e15
2	11	11	15	12	12	25	26	11	12	6.5	15	e15
3	10	11	15	12	12	23	25	11	11	6.6	14	e14
4	11	11	14	12	12	23	24	11	9.5	6.6	14	e15
5	10	11	13	13	12	24	23	10	8.7	6.4	14	15
6	10	11	13	12	12	24	23	10	8.4	6.6	13	206
7	10	11	13	12	12	25	21	10	7.8	6.5	12	160
8	10	11	13	13	13	31	20	10	7.8	6.6	71	e35
9	9.9	12	13	15	14	54	20	9.8	7.7	6.5	89	361
10	9.9	18	13	13	13	74	18	9.9	7.6	6.7	20	171
11	9.8	17	13	13	13	85	17	10	7.5	6.7	23	28
12	9.9	13	13	14	13	93	17	9.6	7.5	6.9	37	21
13	9.9	12	13	14	16	90	17	9.3	7.6	6.7	14	19
14	9.7	13	13	13	21	87	16	9.0	7.5	7.0	29	17
15	10	12	13	13	16	82	18	8.8	7.5	7.1	e55	15
16	9.9	12	13	13	21	71	17	8.4	7.2	7.1	e15	16
17	10	12	14	13	23	213	16	8.2	7.1	7.2	e14	16
18	10	12	15	13	22	118	15	8.0	6.6	12	e14	15
19	11	12	14	13	21	93	16	7.9	6.6	28	e14	15
20	10	12	13	13	20	79	16	7.9	6.7	8.8	e13	15
21	10	12	13	14	19	76	15	7.8	6.5	228	e20	15
22	10	12	12	13	18	71	14	7.8	6.6	153	e25	14
23	11	13	15	13	18	68	14	7.7	6.6	16	e50	14
24	11	12	14	13	17	65	15	7.5	6.5	9.8	e16	14
25	11	12	13	12	19	58	14	7.4	6.5	13	e30	19
26	11	12	12	12	40	50	14	7.2	6.5	26	e70	43
27	13	12	12	12	29	44	13	7.3	6.5	15	e40	16
28	19	12	13	12	36	41	13	7.4	6.5	118	e17	14
29	12	13	13	12	---	37	12	6.8	6.4	70	e16	13
30	12	23	13	12	---	33	12	6.9	6.6	93	e16	13
31	11	---	12	12	---	30	---	50	---	20	e16	---
TOTAL	333.0	379	424	395	506	1916	528	314.6	233.5	924.9	982	1359
MEAN	10.7	12.6	13.7	12.7	18.1	61.8	17.6	10.1	7.78	29.8	31.7	45.3
MAX	19	23	26	15	40	213	27	50	16	228	176	361
MIN	9.7	11	12	12	12	23	12	6.8	6.4	6.4	12	13
AC-FT	661	752	841	783	1000	3800	1050	624	463	1830	1950	2700
CFSM	0.04	0.04	0.05	0.04	0.06	0.21	0.06	0.03	0.03	0.10	0.11	0.15
IN.	0.04	0.05	0.05	0.05	0.06	0.24	0.07	0.04	0.03	0.12	0.12	0.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1959 - 2003, BY WATER YEAR (WY)

	MEAN	33.3	27.8	51.7	60.7	79.8	101	54.3	23.9	14.7	25.9	37.6	31.7
MAX	277	186	368	870	703	477	274	131	39.7	78.7	106	93.1	
(WY)	1973	1979	1966	1993	1993	1978	1973	1973	1979	1959	1963	1996	
MIN	10.7	9.14	10.6	11.3	11.0	12.3	10.2	5.64	4.98	6.55	12.8	8.71	
(WY)	2003	1978	1978	1964	1964	1971	2002	1972	1961	1963	1962	1959	

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1959 - 2003
ANNUAL TOTAL	6425.4	8295.0	
ANNUAL MEAN	17.6	22.7	45.0
HIGHEST ANNUAL MEAN			182
LOWEST ANNUAL MEAN			16.2
HIGHEST DAILY MEAN	875	361	4930
LOWEST DAILY MEAN	7.0	6.4	4.1
ANNUAL SEVEN-DAY MINIMUM	7.1	6.5	4.6
ANNUAL RUNOFF (AC-FT)	12740	16450	32570
ANNUAL RUNOFF (CFSM)	0.060	0.077	0.15
ANNUAL RUNOFF (INCHES)	0.81	1.05	2.07
10 PERCENT EXCEEDS	18	42	82
50 PERCENT EXCEEDS	12	13	19
90 PERCENT EXCEEDS	7.5	7.4	10

e Estimated

GILA RIVER BASIN

09497980 CHERRY CREEK NEAR GLOBE, AZ

LOCATION--Lat 33°49'40", long 110°51'20", in SW¹/₄ sec. 30, T.6 N., R.15 E. (unsurveyed), Gila County, Hydrologic Unit 15060103, in Tonto National Forest, on right bank 0.2 mi upstream from Devils Chasm, 13 mi upstream from mouth, and 30 mi north of Globe.

DRAINAGE AREA--200 mi².

PERIOD OF RECORD--May 1965 to current year (monthly discharge only Feb. to Sept. 1979).

GAGE--Water-stage recorder. Elevation of gage is 3,200 ft above sea level, from topographic map. Prior to Jan. 17, 1979, at site 125 ft downstream at datum 2.95 ft lower.

REMARKS--Records good.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 15,700 ft³/s Jan. 17, 1979, gage height, unknown, from slope-area measurement of peak flow; minimum daily, 2.4 ft³/s Sept. 17, 22, 25, and 29, 1978.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 750 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 17.....	0715	*481	*4.40

Minimum daily discharge, 2.2 ft³/s July 6, 10-12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	3.3	4.6	4.2	4.1	37	13	5.2	4.1	2.4	8.0	4.1
2	2.7	3.3	4.2	4.2	4.1	24	12	5.2	3.6	2.4	4.5	3.1
3	2.9	3.3	4.2	4.2	3.9	23	11	5.2	3.4	2.3	3.3	2.8
4	2.9	3.3	4.1	4.2	4.0	26	11	5.1	3.3	2.3	2.8	2.7
5	2.8	3.3	4.1	4.2	4.1	30	10	5.1	3.3	2.3	2.7	3.0
6	2.8	3.3	4.1	4.2	4.1	38	9.5	5.1	3.3	2.2	2.5	3.1
7	2.8	3.4	4.1	4.2	4.1	47	9.0	5.0	3.2	2.3	2.5	3.4
8	2.9	3.4	4.2	4.4	4.4	68	8.5	4.9	3.2	2.3	2.5	3.0
9	2.8	3.7	4.1	4.7	4.5	98	8.0	4.9	3.2	2.3	2.6	8.9
10	2.8	5.3	4.1	4.2	4.1	140	7.5	4.8	3.2	2.2	2.5	20
11	2.8	3.8	4.1	4.2	4.1	151	7.1	4.8	3.2	2.2	2.5	7.6
12	2.8	3.6	4.1	4.2	4.1	140	6.7	4.6	3.2	2.2	2.5	4.6
13	2.9	3.6	4.1	4.2	6.4	109	6.5	4.5	3.2	2.9	2.5	3.7
14	2.9	3.7	4.1	4.2	9.0	84	6.4	4.5	3.1	2.7	3.2	3.4
15	2.9	3.6	4.1	4.2	7.4	60	7.8	4.5	2.9	2.6	3.1	3.2
16	2.8	3.6	4.1	4.1	5.5	70	6.6	4.3	2.8	2.5	2.9	3.1
17	2.9	3.7	5.1	4.2	4.9	359	6.5	4.2	2.8	2.6	2.8	2.9
18	2.9	3.7	5.4	4.2	4.7	246	6.2	4.1	2.8	2.5	2.7	2.9
19	3.0	3.7	4.8	4.1	4.4	173	6.2	4.1	2.8	2.4	2.8	3.0
20	3.0	3.8	4.3	4.2	4.2	138	6.1	4.0	2.7	2.4	2.6	3.0
21	3.0	3.8	4.3	4.3	4.2	144	6.0	3.9	2.7	3.0	2.5	2.8
22	3.0	3.8	4.2	4.2	4.3	125	5.9	3.9	2.7	3.4	2.5	2.9
23	3.1	3.8	4.8	4.1	4.2	89	5.8	3.7	2.7	2.8	2.5	2.9
24	3.1	3.8	4.8	4.2	4.2	63	5.8	3.7	2.6	2.6	2.7	3.0
25	3.1	4.0	4.4	4.1	5.5	44	5.7	3.6	2.6	2.5	2.8	3.2
26	3.1	4.1	4.2	4.1	15	33	5.6	3.6	2.6	2.5	3.5	3.5
27	3.6	4.1	4.2	4.1	20	26	5.5	3.5	2.5	2.5	3.7	3.1
28	3.6	4.1	4.2	4.1	40	22	5.4	3.6	2.5	2.7	3.7	3.0
29	3.3	4.2	4.2	4.1	---	18	5.3	3.7	2.4	3.1	9.5	2.9
30	3.3	5.3	4.3	4.1	---	16	5.3	3.6	2.4	3.5	5.4	2.7
31	3.3	---	4.2	4.1	---	14	---	4.7	---	16	7.0	---
TOTAL	92.5	113.4	133.8	130.0	193.5	2655	221.9	135.6	89.0	92.6	107.3	121.5
MEAN	2.98	3.78	4.32	4.19	6.91	85.6	7.40	4.37	2.97	2.99	3.46	4.05
MAX	3.6	5.3	5.4	4.7	40	359	13	5.2	4.1	16	9.5	20
MIN	2.7	3.3	4.1	4.1	3.9	14	5.3	3.5	2.4	2.2	2.5	2.7
AC-FT	183	225	265	258	384	5270	440	269	177	184	213	241
CFSM	0.01	0.02	0.02	0.02	0.03	0.43	0.04	0.02	0.01	0.01	0.02	0.02
IN.	0.02	0.02	0.02	0.02	0.04	0.49	0.04	0.03	0.02	0.02	0.02	0.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
	20.8	296	1973	2.98	2003
	19.2	101	1973	3.78	2003
	57.0	537	1966	4.32	2003
	69.0	652	1993	4.19	2003
	83.6	568	1980	6.91	2002
	88.7	423	1978	85.6	2002
	28.2	195	1973	7.40	2002
	11.3	65.7	1973	4.37	2002
	6.92	18.0	1973	2.97	2002
	9.18	28.1	1999	2.99	2003
	15.7	84.7	1988	3.46	2002
	13.7	151	1970	4.05	2002

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1965 - 2003

ANNUAL TOTAL	1311.0	4086.1	
ANNUAL MEAN	3.59	11.2	33.2
HIGHEST ANNUAL MEAN			130
LOWEST ANNUAL MEAN			3.77
HIGHEST DAILY MEAN	10	Jul 18	359
LOWEST DAILY MEAN	2.0	Jul 2	2.2
ANNUAL SEVEN-DAY MINIMUM	2.2	Jun 17	2.2
ANNUAL RUNOFF (AC-FT)	2600		8100
ANNUAL RUNOFF (CFSM)	0.018		0.056
ANNUAL RUNOFF (INCHES)	0.24		0.76
10 PERCENT EXCEEDS	4.8		13
50 PERCENT EXCEEDS	3.6		4.1
90 PERCENT EXCEEDS	2.5		2.6

GILA RIVER BASIN

09498400 PINAL CREEK AT INSPIRATION DAM, NEAR GLOBE, AZ

LOCATION--Lat 33°34'23", long 110°54'02", in NE_{1/4}NW_{1/4}SE_{1/4} sec. 26, T.3 N., R.14 E., Gila County, Hydrologic Unit 15060103, in Tonto National Forest, on right bank 7 ft upstream from Inspiration Dam, 3.8 mi upstream from mouth, and 14 mi northwest of Globe.

DRAINAGE AREA--195 mi², of which about 33 mi² is partly or entirely noncontributing due to mining operations (1988).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD--July 1980 to current year.

GAGE--Water-stage recorder. Elevation of gage is 2,740 ft above sea level, from topographic map. Prior to Feb. 12, 1991, at datum 1.0 ft higher.

REMARKS--No estimated daily discharge. Records fair. Since Nov. 20, 1999, base flows may be affected by discharges from a ground-water treatment plant, located about 5 mi upstream from the gage.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 5,700 ft³/s Jan. 11, 1993, gage height, 8.50 ft, on basis of slope-area measurement of peak flow; minimum daily, 0.64 ft³/s July 1, 1999.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 200 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 27	0005	985	3.69	Sept. 9	0255	*2,100	*4.92
Aug. 28	1815	1,190	3.92	Sept. 9	2000	615	3.29
Sept. 7	1855	666	3.34				

Minimum daily discharge, 0.73 ft³/s July 25.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	2.9	3.5	3.7	4.3	5.2	4.0	3.3	1.1	1.2	1.2	2.8
2	3.0	2.9	3.5	3.5	4.2	4.7	3.8	3.3	1.1	1.1	1.0	2.5
3	3.0	2.7	3.5	3.7	4.2	4.6	3.9	3.3	1.3	1.2	0.93	2.6
4	3.2	2.8	3.5	3.9	4.0	4.6	3.9	3.3	1.4	0.86	0.91	3.0
5	3.0	2.9	3.4	3.8	4.3	4.4	3.8	3.2	1.3	0.86	0.88	2.9
6	3.1	2.8	3.6	3.5	4.9	4.5	3.9	3.1	1.2	0.94	0.85	2.8
7	3.3	2.7	3.6	3.8	4.9	4.5	3.9	2.7	1.1	1.0	0.93	45
8	3.2	3.1	3.5	4.7	5.3	4.3	3.6	2.6	1.1	1.1	1.0	5.4
9	2.8	3.1	3.4	4.3	5.1	4.3	3.5	2.5	1.2	1.1	0.94	367
10	3.0	2.8	3.4	4.1	4.7	4.4	3.5	3.3	1.6	1.0	0.96	11
11	2.8	2.9	3.6	4.1	4.5	4.7	3.5	2.1	1.4	1.0	0.89	5.4
12	2.8	3.0	3.7	4.1	4.5	4.2	3.5	2.0	1.5	0.92	1.1	4.3
13	2.5	3.1	3.6	4.0	5.0	5.0	3.4	2.2	1.5	1.1	1.4	3.9
14	2.6	3.2	3.5	4.0	5.1	4.8	3.4	2.5	1.3	1.5	1.4	3.7
15	2.7	3.1	3.5	4.0	4.7	4.2	3.7	2.1	1.1	1.0	0.93	3.5
16	2.9	3.2	3.7	4.1	4.6	4.6	3.7	1.9	1.0	0.90	0.92	3.4
17	2.8	3.3	4.1	4.1	4.5	4.7	3.8	1.7	1.1	0.78	1.0	3.4
18	3.2	3.3	3.8	4.0	4.5	4.7	3.7	1.8	1.1	0.83	1.1	3.3
19	3.2	3.3	3.9	4.0	4.7	4.7	3.8	1.8	1.0	0.89	1.1	3.3
20	3.1	3.3	4.0	4.3	4.5	4.7	3.6	1.7	1.0	0.87	1.1	3.3
21	3.1	3.1	3.5	5.0	4.4	4.6	3.4	1.5	1.2	1.2	1.0	3.4
22	3.0	3.5	3.7	4.1	4.3	4.3	3.2	1.6	1.1	1.6	1.0	3.0
23	3.2	3.5	4.0	4.1	4.4	4.3	3.2	1.6	1.2	0.84	1.0	2.6
24	2.9	3.5	4.0	4.2	4.3	4.1	3.5	1.6	1.1	0.87	1.0	3.1
25	2.8	3.6	4.1	4.1	4.5	4.2	3.2	1.5	1.2	0.73	1.1	3.1
26	2.8	3.6	4.0	4.2	5.4	4.3	3.1	1.4	1.3	0.84	1.5	3.2
27	2.9	3.5	4.3	4.4	4.8	4.1	3.2	1.5	1.4	1.5	81	3.7
28	2.8	3.6	4.3	4.4	5.3	3.9	3.3	1.2	1.4	0.90	65	3.7
29	2.9	3.5	4.5	4.3	---	3.7	2.8	1.1	1.3	0.94	4.6	2.9
30	3.0	4.8	4.2	4.4	---	3.8	3.5	1.1	1.3	0.91	3.5	2.4
31	3.0	---	3.8	4.1	---	3.9	---	1.2	---	1.2	3.3	---
TOTAL	91.7	96.6	116.7	127.0	129.9	137.0	106.3	65.7	36.9	31.68	184.54	513.6
MEAN	2.96	3.22	3.76	4.10	4.64	4.42	3.54	2.12	1.23	1.02	5.95	17.1
MAX	3.3	4.8	4.5	5.0	5.4	5.2	4.0	3.3	1.6	1.6	81	367
MIN	2.5	2.7	3.4	3.5	4.0	3.7	2.8	1.1	1.0	0.73	0.85	2.4
AC-FT	182	192	231	252	258	272	211	130	73	63	366	1020
CFSM	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.03	0.09
IN.	0.02	0.02	0.02	0.02	0.02	0.03	0.02	0.01	0.01	0.01	0.04	0.10

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2003, BY WATER YEAR (WY)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	
MEAN	9.35	7.61	10.6	29.3	27.5	15.2	9.52	7.78	6.09	7.48	8.44	7.89													
MAX	38.8	13.0	58.4	440	406	67.3	30.1	19.6	16.2	17.1	28.4	17.1													
(WY)	1984	2001	1985	1993	1993	1993	1993	1993	1993	1981	1990	2003													
MIN	2.56	3.22	3.37	3.20	3.44	3.55	3.46	2.12	1.07	1.02	1.81	2.81													
(WY)	2000	2003	1999	1999	1999	1999	1999	2003	1999	2003	2002	1989													

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1980 - 2003
ANNUAL TOTAL	1558.7	1637.62	
ANNUAL MEAN	4.27	4.49	12.1
HIGHEST ANNUAL MEAN			84.2
LOWEST ANNUAL MEAN			3.76
HIGHEST DAILY MEAN	202	367	3300
LOWEST DAILY MEAN	1.4	0.73	0.64
ANNUAL SEVEN-DAY MINIMUM	1.6	0.92	0.72
ANNUAL RUNOFF (AC-FT)	3090	3250	8780
ANNUAL RUNOFF (CFSM)	0.022	0.023	0.062
ANNUAL RUNOFF (INCHES)	0.30	0.31	0.84
10 PERCENT EXCEEDS	6.0	4.6	12
50 PERCENT EXCEEDS	3.5	3.3	7.0
90 PERCENT EXCEEDS	1.8	1.0	3.6

09498400 PINAL CREEK AT INSPIRATION DAM, NEAR GLOBE, AZ—CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD --Nov. 1979 to July 2003 (discontinued).

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, NTU (00076)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, unfltrd field, std units (00400)	Specific conductance, uS/cm (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 04...	1135	3.6	.42	686	9.3	94	7.7	2180	11.5	11.0	1300	1200	400
FEB 20...	1205	4.5	.66	685	9.2	96	7.6	2210	14.0	12.3	1200	1200	391
JUN 04...	1025	1.6	.27	686	7.9	95	7.6	2260	30.5	18.9	1300	1200	397
Date	Calcium water unfltrd recover, mg/L (00916)	Magnesium water, unfltrd recover, mg/L (00925)	Magnesium water, unfltrd recover, mg/L (00927)	Potassium water, unfltrd recover, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, unfltrd, 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 04...	398	63.0	65.0	4.40	.8	62.0	52	62	<1	57.0	.9	1240	1860
FEB 20...	399	63.0	63.0	4.30	.8	65.0	53	65	<1	57.0	.9	1230	1840
JUN 04...	407	70.0	71.0	3.80	.8	67.0	72	87	<1	59.0	.8	1240	1880
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 (00625)	Ammonia unfltrd, as N mg/L (71845)	Ammonia water, unfltrd, mg/L as N (00610)	Nitrite + nitrate water, unfltrd, mg/L as N (00630)	Organic nitrogen, water, unfltrd, mg/L (00605)	Phosphorus, water, unfltrd, mg/L (00665)	COD, high level, water, unfltrd, mg/L (00340)	E coli, m-TEC MF, water, col/100 mL (31633)	Antimony, water, fltrd, mg/L (01095)	Antimony, water, unfltrd, mg/L (01097)
DEC 04...	2.79	2050	2	<.20	--	<.01	<.020	--	<.02	<5	E8k	<1	<1
FEB 20...	2.79	2050	2	.40	.01	.01	<.020	.39	<.02	<5	E1k	<1	<1
JUN 04...	2.91	2140	<1	<.20	--	<.01	<.020	--	<.02	<5	45	<1	<1
Date	Arsenic water, unfltrd, ug/L (01000)	Arsenic water, unfltrd, ug/L (01002)	Barium, water, unfltrd, ug/L (01005)	Barium, water, unfltrd recover, ug/L (01007)	Beryllium, water, unfltrd, ug/L (01010)	Beryllium, water, unfltrd recover, ug/L (01012)	Boron, water, unfltrd, ug/L (01020)	Boron, water, unfltrd recover, ug/L (01022)	Cadmium water, unfltrd, ug/L (01025)	Cadmium water, unfltrd, ug/L (01027)	Chromium, water, fltrd, ug/L (01030)	Chromium, water, unfltrd recover, ug/L (01034)	Copper, water, fltrd, ug/L (01040)
DEC 04...	1	6	18.0	17.0	<1	<1	50	47	<.5	<.5	<1	<1	3
FEB 20...	1	1	13.0	13.0	<1	<1	44	44	<.5	<.5	<1	<1	<2
JUN 04...	1	<1	14.0	14.0	<1	<1	50	48	<.5	<.5	<1	<1	<2
Date	Copper, water, unfltrd recover, ug/L (01042)	Iron, water, unfltrd, ug/L (01046)	Iron, water, unfltrd recover, ug/L (01045)	Lead, water, unfltrd, ug/L (01049)	Lead, water, unfltrd recover, ug/L (01051)	Manganese, water, unfltrd, ug/L (01056)	Manganese, water, unfltrd recover, ug/L (01055)	Mercury water, unfltrd, ug/L (71890)	Mercury water, unfltrd recover, ug/L (71900)	Nickel, water, fltrd, ug/L (01065)	Nickel, water, unfltrd recover, ug/L (01067)	Selenium, water, fltrd, ug/L (01145)	Selenium, water, unfltrd, ug/L (01147)
DEC 04...	<2	6	26	<2	<2	569	595	<.10	<.1	5	6	<1	<1
FEB 20...	<2	<2	65	<2	<2	237	317	<.10	<.1	4	4	<1	<1
JUN 04...	<2	3	29	<2	<2	415	475	<.10	<.1	3	4	1	<1

GILA RIVER BASIN

09498400 PINAL CREEK AT INSPIRATION DAM, NEAR GLOBE, AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Silver, water, unfltrd water, recovr fltrd, ug/L (01075)	Silver, water, unfltrd recovr able, ug/L (01077)	Stront- ium, water, unfltrd recovr able, ug/L (01082)	Thall- ium, water, fltrd, ug/L (01057)	Thall- ium, water, unfltrd ug/L (01059)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recovr able, ug/L (01092)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment load, tons/d (80155)
DEC 04...	<1	<1	1220	<2	<2	6	4	4	.04
FEB 20...	<1	<1	1230	<2	<2	14	12	2	.02
JUN 04...	<1	<1	1310	<2	<2	6	2	1	.00

Remark codes used in this report:

< -- Less than
E -- Estimated value

Value qualifier codes used in this report:

k -- Counts outside acceptable range

09498500 SALT RIVER NEAR ROOSEVELT, AZ
(NATIONAL STREAM-QUALITY ACCOUNTING NETWORK STATION)

LOCATION.--Lat 33°37'10", long 110°55'15", in SE1/4NE1/4 sec. 9, T.3 N., R.14 E. (unsurveyed), Gila County, Hydrologic Unit 15060103, in Tonto National Forest on left bank 100 ft downstream from bridge on State Highway 288, 0.3 mi downstream from Pinal Creek, 1 mi upstream from diversion dam for power canal, 14 mi east of village of Roosevelt, and 17 mi upstream from Roosevelt Dam.

DRAINAGE AREA.--4,306 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Jan. 1913 to current year (monthly discharge only Jan. to Sept. 1913, published in WSP 1313).

REVISED RECORDS.--WSP 1049: 1914, 1916, 1918--19, 1926. WSP 1343: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,177.14 ft above sea level. Prior to 1925, nonrecording gage at diversion dam about 1 mi downstream at different datum. Nonrecording gage at present site and datum 1925 to Jan. 17, 1935. May 20, 1955, to July 30, 1959, supplementary water-stage recorder at diversion dam.

REMARKS.--Records good, no estimated daily discharges. Several small diversions for irrigation of about 4,000 acres above station and two transbasin diversions above station, one into basin from Show Low Creek and one out of basin to Willow Creek. Records show inflow to Roosevelt Lake. Tonto Creek also contributes to Roosevelt Lake; see records elsewhere in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 143,000 ft³/s Jan. 8, 1993, gage height, 30.09 ft, from rating curve extended above 108,000 ft³/s; minimum discharge, 59 ft³/s all or part of each day, July 1--4, 7--12, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--A discharge of about 42 ft³/s was reported Aug. 5, 1911.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 18.....	0245	9,600	13.90
Sept. 9.....	0315	*20,600	*16.91
Sept. 10.....	2055	8,680	13.58

Minimum daily discharge, 82 ft³/s July 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	154	163	212	203	247	1060	1630	974	567	90	443	449
2	151	160	260	200	244	992	1630	925	370	95	378	427
3	148	159	235	187	240	786	1770	867	323	94	276	440
4	150	161	229	188	238	768	1900	817	296	90	270	292
5	149	160	253	189	235	864	1780	780	268	88	206	246
6	149	154	235	196	230	1270	1570	754	246	88	187	297
7	148	154	218	201	227	1380	1400	729	229	88	167	467
8	149	157	210	207	234	1560	1250	701	217	86	148	503
9	151	159	206	227	224	2060	1170	687	211	87	243	3040
10	151	169	202	236	231	2620	1150	654	207	88	241	4490
11	164	195	197	262	230	2850	1220	620	194	85	204	4630
12	167	293	190	308	221	3000	1320	592	184	84	191	2670
13	165	337	188	310	236	3030	1430	567	178	83	185	1490
14	163	347	181	298	279	2850	1510	565	169	82	182	951
15	156	299	175	285	405	2800	1640	558	160	92	758	714
16	155	264	171	274	1480	2720	1750	565	156	91	510	571
17	154	240	180	266	1210	4220	1600	568	150	96	261	479
18	154	226	184	258	930	7990	1460	568	145	99	229	417
19	166	215	191	253	777	4680	1310	575	137	101	215	373
20	179	211	196	248	679	4170	1200	556	133	130	211	338
21	163	202	189	254	609	3330	1110	534	131	114	296	304
22	156	196	183	255	553	2980	1050	511	122	874	250	278
23	160	195	176	252	509	2710	1020	497	117	441	421	261
24	159	189	190	253	471	2830	1010	484	112	225	357	253
25	153	188	206	252	451	3050	978	476	110	198	306	243
26	151	187	203	252	520	2940	941	468	105	289	353	262
27	163	182	192	251	628	2840	927	462	102	242	401	298
28	168	180	169	253	865	2780	944	445	100	232	318	252
29	181	180	161	252	---	2540	979	422	96	341	367	225
30	183	199	167	251	---	2130	995	409	92	534	339	208
31	166	---	188	248	---	1800	---	474	---	531	432	---
TOTAL	4926	6121	6137	7569	13403	81600	39644	18804	5627	5858	9345	25868
MEAN	159	204	198	244	479	2632	1321	607	188	189	301	862
MAX	183	347	260	310	1480	7990	1900	974	567	874	758	4630
MIN	148	154	161	187	221	768	927	409	92	82	148	208
MED	156	189	191	252	342	2780	1280	567	158	95	270	395
AC-FT	9770	12140	12170	15010	26580	161900	78630	37300	11160	11620	18540	51310
CFSM	0.04	0.05	0.05	0.06	0.11	0.61	0.31	0.14	0.04	0.04	0.07	0.20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1914 - 2003, BY WATER YEAR (WY)

MEAN	427	381	746	1068	1364	1998	1972	1016	359	326	576	452
MAX	4832	2150	6327	15990	9072	10390	6281	5933	1365	3276	3607	1852
(WY)	1984	1920	1966	1916	1980	1978	1979	1973	1941	1919	1921	1923
MIN	85.5	122	127	161	168	179	164	110	74.6	78.3	151	77.9
(WY)	1957	1957	1957	1964	1964	2002	2002	2002	2002	1963	1962	1956

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1914 - 2003
ANNUAL TOTAL	77089	224902	
ANNUAL MEAN	211	616	888
HIGHEST ANNUAL MEAN			3252
LOWEST ANNUAL MEAN			191
HIGHEST DAILY MEAN	3370	7990	91000
LOWEST DAILY MEAN	65	82	59
ANNUAL SEVEN-DAY MINIMUM	67	85	62
ANNUAL RUNOFF (AC-FT)	152900	446100	643200
ANNUAL RUNOFF (CFSM)	0.049	0.14	0.21
10 PERCENT EXCEEDS	302	1560	2000
50 PERCENT EXCEEDS	172	252	329
90 PERCENT EXCEEDS	86	148	158

GILA RIVER BASIN
09498500 SALT RIVER NEAR ROOSEVELT, AZ—CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Apr. 1958 to Sept. 1965 and Jan. 1976 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Dec. 1996 to Jan. 1998.

WATER TEMPERATURE: Apr. 1958 to Sept. 1965 and Dec. 1996 to Jan. 1998.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, NTU (00076)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO ₃ (00900)	Noncarb hardness, wat flt field, mg/L as CaCO ₃ (00904)	Calcium water, fltrd, mg/L (00915)
JUL													
16...	2005	438	130	698	5.5	80	8.0	6680	31.0	29.1	380	210	79.0
17...	0735	624	--	--	--	--	--	--	--	--	--	--	--
17...	0915	585	460	701	6.3	85	8.1	5170	30.0	25.5	340	140	75.0
17...	1045	491	--	--	--	--	--	--	--	--	--	--	--
17...	1200	441	2700	702	5.5	75	8.2	5040	33.2	26.3	380	160	91.0
17...	1435	363	--	--	--	--	--	--	--	--	--	--	--
17...	1615	383	12000	698	4.5	63	8.0	3710	33.1	27.2	420	200	112
17...	1915	411	37000	700	.9	13	7.7	2800	--	27.8	--	--	--
18...	0720	402	13000	700	3.8	51	7.9	3550	27.9	24.9	420	180	117
18...	1935	572	18000	696	4.5	63	8.0	2850	28.0	27.7	310	110	91.0
19...	0815	263	3900	697	6.2	84	8.2	2570	27.8	25.5	280	84	80.0
AUG													
05...	1215	556	34000	703	3.9	53	7.6	3700	37.0	25.8	470	250	144
05...	1945	1640	15000	702	1.1	15	7.9	2430	--	26.0	380	120	115
06...	2000	3470	--	704	.1	2	7.4	1630	29.1	25.8	--	--	--
07...	1135	677	51000	705	M	.0	7.7	1060	36.0	23.4	350	170	110
19...	1125	189	660	703	7.0	94	8.3	3420	32.5	25.9	340	100	93.0
SEP													
04...	1235	145	720	703	6.8	92	8.3	4790	34.0	26.0	400	160	104
17...	1035	389	160	702	7.5	95	7.9	1630	30.5	22.8	190	42	54.0
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 CaCO ₃ (39086)	Bicarbonate, wat flt incrm. titr., mg/L (00453)	Carbonate, wat flt incrm. titr., 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)
JUL													
16...	111	45.0	50.0	26.0	28	1270	175	204	4	2110	.2	150	3790
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	131	36.0	43.0	20.0	22	920	215	230	4	1480	.2	110	2760
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	233	36.0	68.0	21.0	20	870	215	254	4	1440	.3	140	2730
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	706	33.0	122	21.0	14	650	220	263	2	1080	.3	160	2190
17...	1470	--	205	--	--	--	--	--	--	--	--	--	--
18...	511	30.0	108	26.0	13	620	239	288	2	1070	.3	120	2130
18...	901	19.0	80.0	16.0	11	440	196	236	1	750	.3	94.0	1530
19...	261	19.0	39.0	14.0	10	400	194	226	5	680	.3	72.0	1380
AUG													
05...	1300	26.0	177	25.0	11	530	213	260	<1	950	.3	150	1970
05...	1730	22.0	177	17.0	7	320	256	312	<1	570	.3	86.0	1290
06...	--	--	--	--	--	--	209	255	<1	--	--	--	--
07...	2670	18.0	277	18.0	2	73.0	177	216	<1	120	.3	170	625
19...	118	25.0	32.0	13.0	13	540	233	268	8	900	.2	94.0	1810
SEP													
04...	121	34.0	39.0	18.0	18	810	244	270	13	1360	.3	120	2590
17...	71.0	13.0	18.0	6.70	7	230	144	170	4	370	.2	57.0	820

09498500 SALT RIVER NEAR ROOSEVELT, AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

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 + water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitrogen, water, unfltrd mg/L (00605)	Ortho-phosphate, water, fltrd, mg/L as P (00671)	Particulate nitrogen, susp, water, mg/L (49570)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd, mg/L (00665)	Total nitrogen, water, unfltrd, mg/L (00600)
JUL													
16...	5.41	3980	188	1.1	.02	<.02	<.010	1.1	<.01	--	.08	.11	--
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	3.96	2910	466	1.9	<.01	.03	<.010	--	.01	--	.02	.22	1.9
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	3.94	2900	902	9.2	.22	.09	.030	9.0	.05	--	.05	2.10	9.3
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	3.24	2380	7560	31	1.00	.36	.110	30	.24	--	.25	9.20	31
17...	--	--	17500	110	--	--	--	--	--	--	--	20.0	--
18...	3.14	2310	8820	51	1.20	.40	.070	50	.60	--	.60	14.0	51
18...	2.28	1680	10100	37	.42	.57	.090	37	.40	--	.53	11.0	38
19...	2.05	1510	2150	8.2	.28	.35	.030	7.9	.31	--	.31	2.60	8.5
AUG													
05...	3.06	2250	22200	130	.68	2.80	1.30	130	.46	93.1	.47	25.0	130
05...	2.03	1490	26400	130	1.50	.86	.490	130	.37	87.6	.39	29.0	130
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
07...	.99	731	53900	220	.65	1.70	.460	220	.29	--	.30	39.0	220
19...	2.62	1930	429	2.1	.01	.40	.010	2.1	.16	2.27	.14	.52	2.5
SEP													
04...	3.67	2700	441	2.1	<.01	.28	<.010	--	.15	.23	.15	.43	2.4
17...	1.20	884	310	1.5	<.01	.16	<.010	--	.08	1.64	.09	.32	1.7
Date	Total carbon, suspnd sedimnt total, mg/L (00694)	Inorganic carbon, suspnd sedimnt total, mg/L (00688)	Organic carbon, suspnd sedimnt total, mg/L (00689)	Organic carbon, water, fltrd, mg/L (00681)	Organic carbon, water, unfltrd mg/L (00680)	COD, high level, water, unfltrd mg/L (00340)	Anti-mony, water, fltrd, ug/L (01095)	Anti-mony, water, unfltrd ug/L (01097)	Arsenic water, fltrd, ug/L (01000)	Arsenic water, unfltrd ug/L (01002)	Barium, water, fltrd, ug/L (01005)	Barium, water, recover-able, ug/L (01007)	Beryllium, water, fltrd, ug/L (01010)
JUL													
16...	--	--	--	5.0	8.8	25	<1	<1	10	15	110	150	<1
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	102	9.7	17	<1	<1	10	16	92.0	150	<1
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	27.5	82.0	33	<1	<1	12	26	130	450	<1
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	281	63	<1	<1	16	47	220	1670	<1
17...	--	--	--	40.4	1080	138	--	<1	--	77	--	3970	--
18...	--	--	>31.3	31.1	453	84	<1	<1	17	70	240	2770	<1
18...	--	--	>31.3	16.4	363	63	<1	<1	16	63	180	2140	<1
19...	--	--	>29.4	10.6	78.7	28	<1	<1	13	31	150	650	<1
AUG													
05...	1340	66.2	1270	34.3	1350	124	<1	<1	17	107	270	5470	<1
05...	1500	236	1270	29.7	937	112	<1	<1	17	29	190	4610	<1
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	235	1	<1	16	127	210	5550	<1
19...	30.0	.7	29.3	6.4	20.9	22	<1	<1	14	17	150	250	<1
SEP													
04...	37.7	.3	37.5	5.2	17.0	17	<1	<1	10	17	170	260	<1
17...	15.4	.4	15.0	6.8	13.3	17	<1	<1	8	9	87.0	150	<1
Date	Beryllium, water, unfltrd recover-able, ug/L (01012)	Boron, water, fltrd, ug/L (01020)	Boron, water, recover-able, ug/L (01022)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	Chromium, water, fltrd, ug/L (01030)	Chromium, water, unfltrd recover-able, ug/L (01034)	Copper, water, fltrd, ug/L (01040)	Copper, water, recover-able, ug/L (01042)	Cyanide water, fltrd, mg/L (00723)	Cyanide water, unfltrd mg/L (00720)	Iron, water, fltrd, ug/L (01046)	Iron, water, recover-able, ug/L (01045)
JUL													
16...	<2	649	685	<.5	<1.0	<1	3	<2	4	<.01	<.01	3	2280
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	<2	475	497	<.5	<1.0	<1	7	<2	9	<.01	<.01	4	5370
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	<2	470	542	<.5	<1.0	<1	23	<2	38	<.01	<.01	6	13600
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	8	394	537	<.5	3.8	<1	56	5	120	.02	.05	11	28300
17...	16	--	602	--	10.0	--	124	--	285	--	<.01	--	67800
18...	9	356	504	<.5	8.7	<1	78	4	192	<.01	.04	17	54300
18...	9	262	360	<.5	5.5	<1	72	3	126	<.01	.03	12	35600
19...	<2	228	278	<.5	<1.0	<1	26	2	42	<.01	.01	8	17200
AUG													
05...	23	309	537	<.5	15.0	<1	168	5	375	.10	.12	14	90600
05...	16	246	513	<.5	12.0	<1	76	5	285	.03	.03	24	47500
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
07...	34	183	473	<.5	24.0	<1	60	6	246	.03	.03	21	40700
19...	<1	293	302	<.5	<.5	<1	9	2	15	<.01	<.01	2	5780
SEP													
04...	<1	420	428	<.5	<.5	<1	9	<2	12	<.01	<.01	2	6280
17...	<1	127	140	<.5	<.5	<1	5	<2	9	<.01	<.01	12	3500

GILA RIVER BASIN

09498500 SALT RIVER NEAR ROOSEVELT, AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)	Mangan-ese, water, fltrd, ug/L (01056)	Mangan-ese, water, unfltrd recover-able, ug/L (01055)	Mercury water, fltrd, ug/L (71890)	Mercury water, unfltrd recover-able, ug/L (71900)	Nickel, water, fltrd, ug/L (01065)	Nickel, water, unfltrd recover-able, ug/L (01067)	Selen-ium, water, fltrd, ug/L (01145)	Selen-ium, water, unfltrd, ug/L (01147)	Silver, water, fltrd, ug/L (01075)	Silver, water, unfltrd recover-able, ug/L (01077)	Stront-ium, water, unfltrd recover-able, ug/L (01082)
JUL													
16...	<2	<4	5	193	<.1	<.1	1	7	<1	<1	<1	<2	1710
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	<2	6	4	353	<.1	<.1	<1	13	<1	<1	<1	<2	1420
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	<2	46	1	1390	<.1	<.1	1	43	<1	<1	<1	<2	1640
17...	--	--	--	--	--	--	--	--	--	--	--	--	--
17...	<2	140	1	5130	<.1	.3	2	111	<1	<1	<1	<2	2120
17...	--	410	--	16300	<.1	.7	--	287	--	<1	--	<2	2830
18...	<2	308	2	11400	<.1	.2	2	165	<1	<1	<1	<2	1930
18...	<2	206	4	7750	<.1	.4	2	171	<1	<1	<1	<2	2200
19...	<2	59	1	2100	<.1	<.1	1	52	<1	<1	<1	<2	1050
AUG													
05...	<2	688	4	29900	<.10	<.1	3	377	<1	3	<1	<2	2790
05...	<2	439	248	21500	<.10	<.1	4	217	<1	2	<1	<2	3340
06...	--	--	--	--	--	--	--	--	--	--	--	--	--
07...	<2	462	2	37800	<.10	.2	2	245	2	3	<1	<2	4740
19...	<2	12	9	473	<.10	<.1	<1	12	1	1	<1	<1	960
SEP													
04...	<2	14	9	513	<.10	<.1	<1	13	1	2	<1	<1	1210
17...	<2	6	27	328	<.10	<.1	1	8	<1	<1	<1	<1	480

Date	Thall-ium, water, fltrd, ug/L (01057)	Thall-ium, water, unfltrd, ug/L (01059)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)	Phen-olic com-pounds, unfltrd, ug/L (32730)	Sus-pended sedi-ment concen-tration, mg/L (80154)	Sus-pended sedi-ment load, tons/d (80155)
JUL							
16...	<2	<2	<2	26	--	561	663
17...	--	--	--	--	--	699	1180
17...	<2	<2	<2	38	--	637	1010
17...	--	--	--	--	--	886	1170
17...	<2	<2	3	132	--	2740	3260
17...	--	--	--	--	--	6380	6250
17...	<2	<2	<2	343	--	7950	8220
17...	--	<2	--	774	--	20300	22500
18...	<2	<2	2	634	--	10500	11400
18...	<2	<2	3	440	--	10900	16900
19...	<2	<2	2	153	--	2200	1560
AUG							
05...	<2	<2	6	1210	E60	19900	29900
05...	<2	<2	5	860	24	25800	114000
06...	--	--	--	--	--	39700	372000
07...	<2	<2	20	1170	--	60600	111000
19...	<2	<2	5	36	<16	632	323
SEP							
04...	<2	<2	<2	40	<16	633	248
17...	<2	<2	7	17	<16	351	369

Remark codes used in this report:

< -- Less than

> -- Greater than

E -- Estimated value

M -- Presence verified, not quantified

09498500 SALT RIVER NEAR ROOSEVELT, AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, NTU (00076)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Noncarb hardness, wat flt field, mg/L as CaCO3 (00904)	Calcium water, unfltrd, mg/L (00915)	
OCT	10...	1250	152	2.8	699	9.0	109	8.4	4320	32.0	19.7	330	150	81.0
DEC	03...	1310	231	8.6	702	10.3	106	8.4	3350	15.5	12.1	330	120	85.0
FEB	19...	1400	769	51	704	10.0	100	8.1	989	19.0	11.9	130	37	37.0
JUN	03...	1300	325	32000	699	5.7	76	7.8	1720	35.0	24.8	390	260	125
JUL	17...	1140	98	3.8	701	--	--	8.4	5880	34.5	27.0	380	230	79.0
JUL	22...	1645	1120	61000	701	2.8	38	7.7	1400	36.0	26.8	220	99	68.0
AUG	01...	1620	627	31000	703	4.0	57	7.9	1460	32.0	28.1	250	120	77.0
Date	Calcium water unfltrd recover-able, mg/L (00916)	Magnesium, water, unfltrd, recover-able, mg/L (00925)	Magnesium, water, unfltrd, recover-able, mg/L (00927)	Potassium, water, unfltrd, mg/L (00935)	Sodium, adsorp-tion ratio (00931)	Sodium, water, unfltrd, 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, unfltrd, mg/L (00940)	Fluoride, water, unfltrd, mg/L (00950)	Sulfate water, unfltrd, mg/L (00945)	Residue water, unfltrd, sum of consti-tuents mg/L (70301)	
OCT	84.0	32.0	36.0	15.0	18	740	186	212	7	1200	.2	140	2320	
DEC	83.0	28.0	29.0	12.0	13	520	202	237	5	870	.2	120	1760	
FEB	42.0	10.0	11.0	3.80	5	130	97	116	1	210	.1	41.0	490	
JUN	516	18.0	202	11.0	4	180	122	149	<1	300	.3	250	958	
JUL	79.0	44.0	45.0	20.0	23	1040	151	172	6	1710	.2	130	3110	
JUL	4160	13.0	363	7.80	5	180	124	152	<1	320	.2	67.0	735	
AUG	1370	13.0	237	9.20	5	180	126	154	<1	330	.2	81.0	776	
Date	Residue water, fltrd, tons/ acre-ft (70303)	Residue evap. at 180degC wat flt mg/L (70300)	Residue total at 105 deg. C, sus-pended, mg/L (00530)	Ammonia + org-N, unfltrd mg/L as N (00625)	Ammonia water, unfltrd, mg/L as N (00608)	Ammonia water, unfltrd, mg/L (71845)	Ammonia water, unfltrd, mg/L as N (00610)	Nitrite + nitrate water, unfltrd, mg/L as N (00631)	Nitrite + nitrate water, unfltrd, mg/L as N (00630)	Nitrite water, unfltrd, mg/L as N (00613)	Organic nitrogen, water, unfltrd, mg/L (00605)	Ortho-phosphate, water, unfltrd, mg/L as P (00671)	Partic-ulate nitro-gen, susp, water, mg/L (49570)	
OCT	3.29	2420	6	<.20	.01	--	--	<.02	--	<.010	--	<.01	.07	
DEC	2.53	1860	9	<.20	--	--	<.01	--	<.020	--	--	--	--	
FEB	.75	550	68	.80	--	.03	.02	--	.040	--	.78	--	--	
JUN	1.54	1130	15200	44	--	.08	.06	--	1.80	--	44	--	--	
JUL	4.45	3270	6	.20	<.01	.01	.01	<.02	<.020	<.010	.19	<.01	.08	
JUL	1.18	868	36400	91	.22	.30	.23	.89	.760	.210	91	.05	85.2	
AUG	1.24	913	23300	69	.08	.10	.08	2.00	2.30	.420	69	.11	67.1	
Date	Phos-phorus, water, unfltrd, mg/L (00666)	Phos-phorus, water, unfltrd, mg/L (00665)	Total nitro-gen, water, unfltrd, mg/L (00600)	Total nitro-gen, water, unfltrd, mg/L as NO3 (71887)	Total carbon, suspdn sedimnt, mg/L (00694)	Inor-ganic carbon, suspdn sedimnt, mg/L (00688)	Organic carbon, suspdn sedimnt, mg/L (00689)	Organic carbon, water, unfltrd, mg/L (00681)	Organic carbon, water, unfltrd, mg/L (00680)	COD, high level, water, unfltrd, mg/L (00340)	E coli, m-TEC MF, water, col/ 100 mL (31633)	Anti-mony, water, unfltrd, ug/L (01095)	Anti-mony, water, unfltrd, ug/L (01097)	
OCT	.02	.03	--	--	.5	<.1	.5	2.5	4.8	8	--	<1	<1	
DEC	--	<.02	--	--	--	--	--	--	--	7	E18k	<1	<1	
FEB	--	.11	.84	3.7	--	--	--	--	--	9	E8k	<1	<1	
JUN	--	5.90	46	203	--	--	--	--	--	92	E2000k	<1	<1	
JUL	<.02	<.02	--	--	.7	<.1	.6	1.1*dc	2.5	16	E9k	<1	<1	
JUL	.05	24.0	92	406	2060	448	1620	11.8d	827d	115	E3000k	<1	<1	
AUG	.11	11.0	71	316	1200	14.6	1190	18.0d	522d	111	19000	<1	<1	

GILA RIVER BASIN

09498500 SALT RIVER NEAR ROOSEVELT, AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Arsenic water, fltrd, ug/L (01000)	Arsenic water, unfltrd ug/L (01002)	Barium, water, fltrd, ug/L (01005)	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, fltrd, ug/L (01020)	Boron, water, unfltrd recover- able, ug/L (01022)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	Chrom- ium, water, fltrd, ug/L (01030)	Chrom- ium, water, unfltrd recover- able, ug/L (01034)	Copper, water, fltrd, ug/L (01040)
OCT 10...	9	11	79.0	84.0	<1	<1	382	413	<.5	<.5	<1	<1	<2
DEC 03...	10	14	58.0	57.0	<1	<1	309	305	<.5	<.5	<1	<1	<2
FEB 19...	4	5	32.0	47.0	<1	<1	78	80	<.5	<.5	<1	2	<2
JUN 03...	6	6	250	3620	<1	17	151	267	<.5	7.4	<1	134	4
JUL 17...	12	14	120	120	<1	<1	551	548	<.5	<.5	<1	<1	<2
JUL 22...	6	70	130	6360	<1	23	179	350	<.5	11.0	<1	170	4
AUG 01...	8	91	98.0	3580	<1	21	124	275	<.5	10.0	<1	218	5

Date	Copper, water, unfltrd recover- able, ug/L (01042)	Cyanide water, fltrd, mg/L (00723)	Cyanide water, unfltrd mg/L (00720)	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recover- able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover- able, ug/L (01051)	Mangan- ese, water, fltrd, ug/L (01056)	Mangan- ese, water, unfltrd recover- able, ug/L (01055)	Mercury water, fltrd, ug/L (71890)	Mercury water, unfltrd recover- able, ug/L (71900)	Nickel, water, fltrd, ug/L (01065)	Nickel, water, unfltrd recover- able, ug/L (01067)
OCT 10...	<2	<.01	<.01	4	98	<2	<2	23	37	<.10	<.1	<1	1
DEC 03...	<2	--	--	<2	185	<2	<2	16	24	<.10	<.1	<1	1
FEB 19...	3	--	--	8	1770	<2	<2	8	72	<.10	<.1	1	4
JUN 03...	263	--	--	10	90900	<2	313	<1	11000	<.10	<.1	<1	222
JUL 17...	<2	<.01	<.01	4	109	<2	<2	24	65	<.10	<.1	<2	<1
JUL 22...	245	<.01	.03	19	63100	<2	300	2	21900	<.1	<.1	2	273
AUG 01...	294	.03	.01	14	133000	<2	414	<1	18100	<.10	<.1	2	345

Date	Selen- ium, water, fltrd, ug/L (01145)	Selen- ium, water, unfltrd ug/L (01147)	Silver, water, fltrd, ug/L (01075)	Silver, water, unfltrd recover- able, ug/L (01077)	Stront- ium, water, unfltrd recover- able, ug/L (01082)	Thall- ium, water, fltrd, ug/L (01057)	Thall- ium, water, unfltrd ug/L (01059)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover- able, ug/L (01092)	Phen- olic com- pounds, water, unfltrd ug/L (32730)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment load, tons/d (80155)
OCT 10...	<1	<1	<1	<1	1210	<2	<2	9	<2	<16	5	2.1
DEC 03...	<1	<1	<1	<1	920	<2	<2	3	5	--	17	11
FEB 19...	<1	<1	<1	<1	360	<2	<2	5	11	--	74	154
JUN 03...	2	1	<1	<1	1860	<2	<2	3	661	--	15300	13400
JUL 17...	2	3	<1	<1	1440	<2	<2	<4	<2	<16*c	6	1.6
JUL 22...	1	8	<1	<2	6690	<2	<2	<2	582	<16	42500	128000
AUG 01...	<1	9	<1	<1	2000	<2	<2	2	896	<16	25800	43700

Remark codes used in this report:

< -- Less than
E -- Estimated value

Value qualifier codes used in this report:

* -- Sample was warm when received
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range

09498501 PINTO CREEK BELOW HAUNTED CANYON NEAR MIAMI, AZ

LOCATION--Lat 33°25'07", long 111°00'32", in SE1/4NE1/4, sec. 23, T.1 N., R.13 E. (unsurveyed), Gila County, Hydrologic Unit 15060103, 3/4 mi downstream from Haunted Canyon, in Tonto National Forest, in Gila County, approximately 8 mi west-northwest of Miami, AZ.

DRAINAGE AREA--37.3 mi², from topographic map.

PERIOD OF RECORD--Oct. 1995 to current year.

GAGE--Water-stage recorder. Control is a 90° V-notch, since Aug. 26, 1996. Elevation of gage is 3,180 ft above sea level, from topographic map.

REMARKS--Records good, except for estimated daily discharges, which are poor. Some flows affected by pumpage from upstream wells.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 822 ft³/s, Feb. 28, 1997, at gage height 8.01 ft, recorded at gage. Minimum daily discharge, no flow for many days for the period July 2002 through Sept. 2002.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 100 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 26	1530	*363	*6.44
Feb. 28	0330	345	6.36

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.03	0.07	0.24	0.32	72	1.9	0.46	0.17	0.04	0.01	0.01
2	0.00	0.03	0.07	0.24	0.31	41	1.8	0.44	0.16	0.03	0.01	0.01
3	0.01	0.03	0.07	0.26	0.34	24	1.6	0.43	0.15	0.03	0.01	0.01
4	0.01	0.03	0.07	0.27	0.33	15	1.5	0.43	0.15	0.03	0.01	0.01
5	0.01	0.04	0.08	0.28	0.36	11	1.5	0.42	0.13	0.02	0.00	0.01
6	0.01	0.04	0.08	0.27	0.35	8.0	1.3	0.42	0.12	0.02	0.00	0.03
7	0.01	0.04	0.08	0.28	0.33	6.1	1.2	0.40	0.12	0.02	0.00	0.02
8	0.02	0.04	0.08	0.30	0.34	4.8	1.0	0.38	0.11	0.02	0.00	0.02
9	0.02	0.04	0.08	0.33	0.33	3.9	0.91	0.37	0.11	0.02	0.00	0.03
10	0.01	0.04	0.09	0.32	0.33	3.3	0.87	0.36	0.11	0.02	0.00	0.03
11	0.01	0.04	0.09	e0.30	0.33	2.7	0.82	0.35	0.11	0.01	0.00	0.03
12	0.02	0.04	0.09	e0.30	0.34	2.3	0.78	0.34	0.10	0.01	0.00	0.02
13	0.01	0.04	0.09	e0.30	0.42	2.1	0.74	0.33	0.10	0.01	0.00	0.02
14	0.02	0.04	0.09	e0.30	3.0	2.0	0.71	0.32	0.09	0.01	0.00	0.02
15	0.03	0.04	0.10	e0.30	2.5	1.9	1.7	0.31	0.09	0.02	0.00	0.02
16	0.04	0.04	0.10	e0.30	1.7	5.9	1.1	0.30	0.08	0.02	0.00	0.02
17	0.03	0.05	0.12	e0.30	1.2	24	0.81	0.29	0.08	0.01	0.00	0.01
18	0.03	0.05	0.12	e0.30	0.87	26	0.73	0.28	0.07	0.01	0.00	0.01
19	0.02	0.06	0.12	e0.30	0.70	22	0.70	0.28	0.07	0.01	0.00	0.01
20	0.02	0.06	0.13	e0.40	0.60	14	0.67	0.26	0.06	0.01	0.00	0.01
21	0.02	0.06	0.12	e0.35	0.57	10	0.64	0.25	0.06	0.01	0.00	0.01
22	0.02	0.06	0.13	e0.35	0.54	7.5	0.61	0.25	0.06	0.01	0.00	0.01
23	0.02	0.06	0.16	e0.35	0.52	6.0	0.59	0.25	0.06	0.01	0.00	0.01
24	0.02	0.06	0.17	0.32	0.50	4.9	0.56	0.24	0.05	0.01	0.00	0.02
25	0.02	0.06	0.18	0.32	1.2	3.9	0.53	0.23	0.05	0.00	0.00	0.02
26	0.02	0.06	0.18	0.32	204	3.5	0.51	0.22	0.05	0.00	0.01	0.02
27	0.04	0.06	0.19	0.32	103	3.1	0.50	0.22	0.05	0.00	0.71	0.02
28	0.04	0.06	0.20	0.32	239	2.5	0.49	0.21	0.04	0.01	0.02	0.02
29	0.03	0.06	0.21	0.32	---	2.2	0.48	0.20	0.04	0.01	0.02	0.02
30	0.03	0.08	0.22	0.32	---	2.0	0.46	0.19	0.04	0.01	0.02	0.02
31	0.03	---	0.23	0.32	---	2.0	---	0.19	---	0.01	0.02	---
TOTAL	0.62	1.44	3.81	9.50	564.33	339.6	27.71	9.62	2.68	0.45	0.84	0.52
MEAN	0.020	0.048	0.12	0.31	20.2	11.0	0.92	0.31	0.089	0.015	0.027	0.017
MAX	0.04	0.08	0.23	0.40	239	72	1.9	0.46	0.17	0.04	0.71	0.03
MIN	0.00	0.03	0.07	0.24	0.31	1.9	0.46	0.19	0.04	0.00	0.00	0.01
AC-FT	1.2	2.9	7.6	19	1120	674	55	19	5.3	0.9	1.7	1.0
CFSM	0.00	0.00	0.00	0.01	0.54	0.29	0.02	0.01	0.00	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2003, BY WATER YEAR (WY)

	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	0.77	2.27	0.86	2.35	10.7	6.44	3.00	0.38
MAX	5.44	16.9	3.66	11.3	38.3	15.4	9.73	0.84
(WY)	2001	2001	1998	1997	1998	2001	2001	1998
MIN	0.020	0.048	0.12	0.30	0.41	0.45	0.37	0.17
(WY)	2003	2003	2003	1996	2000	2002	2002	1996

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1996 - 2003
ANNUAL TOTAL	64.84	961.12	
ANNUAL MEAN	0.18	2.63	2.27
HIGHEST ANNUAL MEAN			5.52
LOWEST ANNUAL MEAN			0.22
HIGHEST DAILY MEAN	0.52 Mar 10	239 Feb 28	355 Feb 28 1997
LOWEST DAILY MEAN	0.00 Jul 15	0.00 Oct 1	0.00 Jul 15 2002
ANNUAL SEVEN-DAY MINIMUM	0.00 Jul 28	0.00 Aug 5	0.00 Jul 28 2002
ANNUAL RUNOFF (AC-FT)	129	1910	1640
ANNUAL RUNOFF (CFSM)	0.005	0.071	0.061
10 PERCENT EXCEEDS	0.45	1.9	2.6
50 PERCENT EXCEEDS	0.08	0.09	0.25
90 PERCENT EXCEEDS	0.00	0.01	0.03

e Estimated

GILA RIVER BASIN

09498502 PINTO CREEK NEAR MIAMI, AZ

LOCATION--Lat 33°29'16", long 110°59'41", in NW_{1/4}SW_{1/4}NW_{1/4} sec. 25, T.2 S., R.13 E. (unsurveyed), Gila County, Hydrologic Unit 15060103, 2 mi downstream from West Pinto Creek, in Tonto National Forest, 0.5 mi downstream from Forest Road No. 287 crossing of Pinto Creek, approximately 12 mi northwest of Miami, AZ, on the right bank side, at Pinto Valley weir.

DRAINAGE AREA--102 mi².

PERIOD OF RECORD--Oct. 1994 to current year.

GAGE--Water-stage recorder. Elevation of gage is 2,820 ft above sea level, from topographic map.

REMARKS--Records fair except for estimated daily discharges, which are poor. Some flows may be affected by pumpage from many upstream wells.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 5,010 ft³/s, Jan. 5, 1995, at gage height 9.10 ft.

EXTREMES FOR CURRENT YEAR--Maximum discharge, 1,590 ft³/s, Aug. 26 at 2015, gage height, 6.52 ft, recorded at the gage. Minimum daily discharge, 0.79 ft³/s, Oct. 31.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.92	0.80	0.95	0.90	1.0	144	3.1	3.1	3.0	1.9	1.5	1.3
2	0.93	0.80	0.94	0.91	1.0	29	3.1	3.1	3.0	2.0	1.4	1.1
3	0.93	0.84	0.89	0.93	1.0	16	3.1	3.2	2.8	1.9	1.4	0.86
4	0.89	0.86	0.88	0.93	1.0	11	3.1	3.1	2.6	1.9	1.3	0.86
5	0.88	0.86	0.89	0.94	1.1	8.3	3.1	3.1	2.5	1.9	1.2	0.99
6	0.85	0.88	0.85	0.94	1.1	6.6	3.2	3.1	2.4	1.9	1.2	2.1
7	0.87	0.86	0.84	0.96	1.1	4.9	3.1	3.1	2.3	1.8	1.3	1.4
8	0.89	0.86	0.84	0.94	1.1	3.8	3.0	3.0	2.3	1.8	1.3	1.0
9	0.88	0.89	0.84	0.93	1.1	3.2	3.1	3.0	2.3	1.8	1.3	16
10	0.87	0.93	0.84	0.89	1.2	3.1	3.1	3.0	2.3	1.8	1.2	1.4
11	0.86	0.91	0.84	0.92	1.2	3.0	3.0	3.0	2.3	1.8	1.2	0.88
12	0.87	0.90	0.84	0.92	1.1	3.0	3.0	2.9	2.3	1.9	1.1	0.84
13	0.86	0.91	0.83	0.89	1.2	3.0	3.0	2.9	2.3	2.1	1.1	0.87
14	0.86	0.87	0.81	0.91	1.3	2.9	3.0	3.0	2.3	2.0	1.2	0.90
15	0.85	0.88	0.84	0.91	1.3	2.8	3.0	3.1	2.2	2.0	1.1	0.91
16	0.85	0.88	0.84	0.92	1.3	2.9	3.0	3.2	2.2	2.1	1.1	0.90
17	0.86	0.90	0.88	0.93	1.3	13	3.0	3.2	2.1	2.0	1.0	0.97
18	0.88	0.90	0.89	0.94	1.3	18	3.1	3.2	2.1	1.9	1.0	1.1
19	0.88	0.86	0.89	0.96	1.3	17	3.1	3.2	2.1	1.9	1.0	1.1
20	0.90	0.87	0.89	0.99	1.3	11	3.1	3.1	2.0	1.9	0.96	1.5
21	0.90	0.89	0.84	1.00	1.3	7.8	3.1	3.1	1.9	2.0	0.92	1.2
22	0.89	0.89	0.84	1.0	1.3	5.7	3.1	3.2	1.9	2.1	0.91	1.1
23	0.89	0.90	0.88	0.98	1.3	4.7	3.1	3.2	1.9	2.0	0.88	1.1
24	0.88	0.91	0.89	0.96	1.4	4.1	3.1	3.3	1.9	1.9	0.89	1.1
25	0.88	0.87	0.89	0.97	1.5	3.6	3.1	3.3	1.9	1.8	0.90	1.1
26	0.88	0.85	0.89	0.97	444	3.3	3.1	3.2	1.9	1.7	58	1.1
27	0.83	0.95	0.89	0.97	181	3.1	3.1	3.3	1.9	1.7	3.2	1.0
28	0.81	0.97	0.90	0.99	691	3.0	3.0	3.1	1.9	1.7	1.6	1.0
29	0.81	0.97	0.88	0.98	---	3.0	3.1	3.0	1.9	1.7	1.4	0.96
30	0.80	0.98	0.88	0.99	---	3.0	3.2	3.2	1.9	1.6	1.0	0.94
31	0.79	---	0.89	0.99	---	3.1	---	3.2	---	1.5	1.1	---
TOTAL	26.94	26.64	26.98	29.36	1346.1	350.9	92.3	96.7	66.4	58.0	94.66	47.58
MEAN	0.87	0.89	0.87	0.95	48.1	11.3	3.08	3.12	2.21	1.87	3.05	1.59
MAX	0.93	0.98	0.95	1.0	691	144	3.2	3.3	3.0	2.1	58	16
MIN	0.79	0.80	0.81	0.89	1.0	2.8	3.0	2.9	1.9	1.5	0.88	0.84
AC-FT	53	53	54	58	2670	696	183	192	132	115	188	94
CFSM	0.01	0.01	0.01	0.01	0.47	0.11	0.03	0.03	0.02	0.02	0.03	0.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2003, BY WATER YEAR (WY)

	MEAN	2.57	4.00	2.39	15.7	25.8	22.9	8.50	3.37	2.44	2.16	3.61	1.82
MAX	13.0	26.1	8.37	117	82.3	99.8	27.1	7.54	5.41	4.26	16.6	3.56	
(WY)	2001	2001	1995	1995	1998	1995	1998	1995	1995	2001	2000	2001	
MIN	0.025	0.005	0.014	0.26	0.76	0.99	0.98	0.69	0.38	0.20	0.18	0.24	
(WY)	1998	1998	1997	1998	1999	1999	1996	1996	1996	1996	1996	1997	

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1995 - 2003

ANNUAL TOTAL		520.49		2262.56									
ANNUAL MEAN		1.43		6.20							7.83		
HIGHEST ANNUAL MEAN											27.3		1995
LOWEST ANNUAL MEAN											1.21		1996
HIGHEST DAILY MEAN				2.7	Mar 25		691	Feb 28		2040			Jan 5 1995
LOWEST DAILY MEAN				0.67	Aug 11		0.79	Oct 31					Dec 17 1996
ANNUAL SEVEN-DAY MINIMUM				0.69	Aug 6		0.81	Oct 27					Dec 17 1996
ANNUAL RUNOFF (AC-FT)				1030			4490				5680		
ANNUAL RUNOFF (CFSM)				0.014			0.061				0.077		
10 PERCENT EXCEEDS				2.3			3.2				9.0		
50 PERCENT EXCEEDS				1.4			1.3				1.9		
90 PERCENT EXCEEDS				0.84			0.86				0.27		

09498503 SOUTH FORK PARKER CREEK NEAR ROOSEVELT, AZ

LOCATION--Lat 33°47'50", long 110°57'35", in NE1/4NW1/4 sec. 7, T.5 N., R.14 E., Gila County, Hydrologic Unit 15060103, in Tonto National Forest, 1.5 mi upstream from confluence with Pocket Creek, and 12 mi northeast of Roosevelt.

DRAINAGE AREA--1.09 mi².

PERIOD OF RECORD--Nov. 1985 to Sept. 1992, June 1994 to current year. Prior to Nov. 1985, station operated by the Forest Service (records unpublished).

GAGE--Water-stage recorder and two sharp-crested weirs. Elevation of gage is 5,440 ft above sea level, from topographic map.

REMARKS--Records good, except for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 87 ft³/s, Mar. 6, 1995, gage height, 4.10 ft; no flow for many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD--Maximum discharge, since 1934, 270 ft³/s, Dec. 23, 1945, as reported by the Forest Service.

EXTREMES FOR CURRENT YEAR--Maximum discharge, 20.5 ft³/s Mar. 16 at 1800 (estimated). Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.01	0.01	0.01	0.91	0.60	0.09	0.02	0.00	0.00	0.00
2	0.00	0.00	0.01	0.01	0.01	0.92	0.58	0.09	0.02	0.00	0.00	0.00
3	0.00	0.00	0.01	0.01	0.01	1.0	0.53	0.09	0.01	0.00	0.00	0.00
4	0.00	0.00	0.01	0.01	0.01	1.4	0.50	0.08	0.01	0.00	0.00	0.00
5	0.00	0.00	0.01	0.01	0.01	1.4	0.46	0.08	0.01	0.00	0.00	0.00
6	0.00	0.00	0.01	0.02	0.01	1.9	0.43	0.06	0.01	0.00	0.00	0.00
7	0.00	0.00	0.01	0.02	0.01	2.9	0.41	0.05	0.01	0.00	0.00	0.00
8	0.00	0.00	0.01	0.02	0.01	3.1	0.38	0.05	0.01	0.00	0.00	0.00
9	0.00	0.00	0.01	0.02	0.01	3.5	0.35	0.06	0.01	0.00	0.00	0.36
10	0.00	0.03	0.01	0.02	0.01	3.7	0.33	0.06	0.01	0.00	0.00	2.0
11	0.00	0.02	0.01	0.02	0.01	3.7	0.32	0.05	0.01	0.00	0.00	0.81
12	0.00	0.02	0.01	0.02	0.02	3.7	0.30	0.05	0.01	0.00	0.00	0.46
13	0.00	0.02	0.01	0.02	0.06	3.7	0.28	0.04	0.01	0.00	0.00	0.30
14	0.00	0.02	0.01	0.02	1.6	3.6	0.25	0.04	0.01	0.00	0.00	0.20
15	0.00	0.01	0.01	0.02	0.83	3.0	0.27	0.04	0.01	0.00	0.00	0.16
16	0.00	0.01	0.01	0.02	0.52	e6.0	0.24	0.04	0.01	0.00	0.00	0.12
17	0.00	0.01	0.01	0.02	0.35	e11	0.24	0.04	0.00	0.00	0.00	0.09
18	0.00	0.01	0.01	0.02	0.34	e5.0	0.24	0.04	0.00	0.00	0.00	0.08
19	0.00	0.01	0.01	0.02	0.29	e4.0	0.23	0.04	0.00	0.00	0.00	0.07
20	0.00	0.01	0.01	0.02	0.24	e3.5	0.20	0.03	0.00	0.00	0.00	0.05
21	0.00	0.01	0.01	0.02	0.20	e4.5	0.17	0.03	0.00	0.08	0.00	0.04
22	0.00	0.01	0.01	0.02	0.16	e5.0	0.17	0.03	0.00	0.00	0.00	0.04
23	0.00	0.01	0.01	0.02	0.13	e5.0	0.16	0.03	0.00	0.01	0.00	0.03
24	0.00	0.01	0.01	0.02	0.13	e4.5	0.15	0.03	0.00	0.00	0.00	0.03
25	0.00	0.01	0.01	0.02	0.18	e3.0	0.14	0.03	0.00	0.00	0.00	0.03
26	0.00	0.01	0.01	0.02	0.45	e1.5	0.13	0.02	0.00	0.00	0.00	0.04
27	0.00	0.01	0.01	0.02	0.91	1.1	0.13	0.02	0.00	0.00	0.00	0.03
28	0.00	0.01	0.01	0.01	0.95	0.93	0.12	0.02	0.00	0.00	0.00	0.02
29	0.00	0.02	0.01	0.01	---	0.80	0.11	0.02	0.00	0.00	0.00	0.02
30	0.00	0.01	0.01	0.01	---	0.70	0.10	0.02	0.00	0.00	0.00	0.01
31	0.00	---	0.01	0.01	---	0.65	---	0.02	---	0.00	0.00	---
TOTAL	0.00	0.28	0.31	0.53	7.47	95.61	8.52	1.39	0.18	0.09	0.00	4.99
MEAN	0.000	0.009	0.010	0.017	0.27	3.08	0.28	0.045	0.006	0.003	0.000	0.17
MAX	0.00	0.03	0.01	0.02	1.6	11	0.60	0.09	0.02	0.08	0.00	2.0
MIN	0.00	0.00	0.01	0.01	0.01	0.65	0.10	0.02	0.00	0.00	0.00	0.00
AC-FT	0.00	0.6	0.6	1.1	15	190	17	2.8	0.4	0.2	0.00	9.9
CFSM	0.00	0.01	0.01	0.02	0.24	2.83	0.26	0.04	0.01	0.00	0.00	0.15
IN.	0.00	0.01	0.01	0.02	0.25	3.26	0.29	0.05	0.01	0.00	0.00	0.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2003, BY WATER YEAR (WY)

	2001	2001	1992	1995	1995	1991	1986	1992	1989	1986	1996	1987
MEAN	0.040	0.12	0.32	0.72	1.11	1.63	0.61	0.086	0.014	0.006	0.069	0.047
MAX	0.37	0.92	1.52	5.33	6.61	5.11	2.77	0.22	0.076	0.034	0.29	0.19
(WY)	2001	2001	1992	1995	1995	1995	1991	1986	1992	1998	1986	1986
MIN	0.000	0.000	0.002	0.008	0.010	0.003	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1990	1990	1990	1990	2002	2002	2002	2002	1989	1986	1996	1987

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1986 - 2003	
ANNUAL TOTAL		1.33		119.37		
ANNUAL MEAN		0.004		0.33		0.38
HIGHEST ANNUAL MEAN						1.50
LOWEST ANNUAL MEAN						0.003
HIGHEST DAILY MEAN		0.03	Aug 6	11	Mar 17	51
LOWEST DAILY MEAN		0.00	Mar 5	0.00	Oct 1	0.00
ANNUAL SEVEN-DAY MINIMUM		0.00	Mar 11	0.00	Oct 1	0.00
ANNUAL RUNOFF (AC-FT)		2.6		237		279
ANNUAL RUNOFF (CFSM)		0.003		0.30		0.35
ANNUAL RUNOFF (INCHES)		0.05		4.07		4.80
10 PERCENT EXCEEDS		0.01		0.67		0.87
50 PERCENT EXCEEDS		0.00		0.01		0.02
90 PERCENT EXCEEDS		0.00		0.00		0.00

e Estimated

GILA RIVER BASIN

09499000 TONTO CREEK ABOVE GUN CREEK, NEAR ROOSEVELT, AZ

LOCATION--Lat 33°58'48", long 111°18'10", in SW¹/₄NE¹/₄ sec. 2, T.7 N., R.10 E., Gila County, Hydrologic Unit 15060105, in Tonto National Forest, on left bank 600 ft upstream from Gun Creek, 25 mi upstream from Roosevelt Dam, and 24 mi northwest of Roosevelt.

DRAINAGE AREA--675 mi².

PERIOD OF RECORD--Dec. 1940 to current year.

REVISED RECORDS--WSP 1283: Drainage area. WDR AZ--80--1: 1978(M), WDR AZ--88--1: 1979(P).

GAGE--Water-stage recorder. Datum of gage is 2,523.14 ft above sea level.

REMARKS--No estimated daily discharges. Records good. Small diversions above station for irrigation.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 72,500 ft³/s Jan. 8, 1993, gage height, 17.95 ft; maximum gage height, 18.2 ft Sept. 5, 1970; no flow at times.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 1,700 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 28	0145	1,910	6.31
Mar. 17	1315	*2,820	*7.10

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	3.6	9.5	9.2	1110	114	23	5.6	0.00	14	6.8
2	0.00	0.00	4.8	10	9.4	951	117	22	5.0	0.00	49	6.4
3	0.00	0.00	6.2	11	8.8	869	114	22	4.4	0.00	26	15
4	0.00	0.00	6.7	11	8.8	688	100	21	4.1	0.00	11	26
5	0.00	0.00	6.5	11	8.9	616	89	21	4.1	0.00	5.3	43
6	0.00	0.00	6.2	9.4	8.9	627	81	20	3.9	0.00	2.4	102
7	0.00	0.00	5.8	9.0	9.5	629	74	19	3.6	0.00	0.17	42
8	0.00	0.00	5.6	9.5	10	667	66	18	3.3	0.00	0.00	21
9	0.00	0.00	5.6	11	10	677	49	18	1.3	0.00	0.00	61
10	0.00	0.25	5.9	11	11	691	48	18	1.3	0.00	0.00	130
11	0.00	0.00	5.6	12	12	647	45	17	2.2	0.00	0.00	82
12	0.00	0.00	5.8	12	11	597	45	17	2.3	0.00	0.00	46
13	0.00	0.00	6.2	12	17	527	46	16	2.1	0.00	0.00	32
14	0.00	0.00	6.2	12	437	492	45	16	1.7	0.00	0.00	25
15	0.00	0.00	6.2	12	291	411	47	16	1.3	0.00	52	21
16	0.00	0.00	6.7	12	161	411	51	15	0.88	0.00	50	16
17	0.00	0.00	7.1	11	103	2200	47	14	0.41	0.00	22	15
18	0.00	0.00	6.6	11	75	1630	43	13	0.22	0.00	13	13
19	0.00	0.00	7.5	11	58	1030	43	12	0.13	0.00	7.0	11
20	0.00	0.00	9.0	11	48	676	43	11	0.00	0.00	2.7	11
21	0.00	0.00	9.0	11	42	554	41	11	0.00	0.00	0.15	9.3
22	0.00	0.00	8.3	11	36	452	38	9.9	0.00	0.00	0.00	8.1
23	0.00	0.00	8.5	11	32	363	35	9.8	0.00	0.00	0.00	5.7
24	0.00	0.00	8.2	11	29	325	35	9.4	0.00	0.00	0.00	4.9
25	0.00	0.00	8.5	11	32	291	34	8.7	0.00	0.00	0.00	4.6
26	0.00	0.21	9.9	11	771	264	32	8.2	0.00	0.00	36	4.1
27	0.00	0.99	10	11	1140	255	28	7.2	0.00	0.00	7.8	3.4
28	0.00	2.1	9.5	9.9	1550	227	27	6.6	0.00	4.5	20	2.8
29	0.00	2.3	9.6	9.5	---	181	26	6.4	0.00	0.86	50	3.1
30	0.00	3.4	9.5	9.5	---	143	24	5.9	0.00	4.0	26	2.5
31	0.00	---	9.4	9.4	---	118	---	6.3	---	4.9	13	---
TOTAL	0.00	9.25	224.2	333.7	4939.5	19319	1627	438.4	47.84	14.26	407.52	773.7
MEAN	0.000	0.31	7.23	10.8	176	623	54.2	14.1	1.59	0.46	13.1	25.8
MAX	0.00	3.4	10	12	1550	2200	117	23	5.6	4.9	52	130
MIN	0.00	0.00	3.6	9.0	8.8	118	24	5.9	0.00	0.00	0.00	2.5
AC-FT	0.00	18	445	662	9800	38320	3230	870	95	28	808	1530
CFSM	0.00	0.00	0.01	0.02	0.26	0.92	0.08	0.02	0.00	0.00	0.02	0.04
IN.	0.00	0.00	0.01	0.02	0.27	1.06	0.09	0.02	0.00	0.00	0.02	0.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 2003, BY WATER YEAR (WY)

	MEAN	57.8	69.4	223	325	349	476	162	45.6	13.6	22.0	88.6	41.4
MAX	1053	438	2326	4272	4191	4159	1040	488	94.9	207	1091	626	
(WY)	1973	1973	1966	1993	1980	1978	1941	1941	1955	1955	1951	1970	
MIN	0.000	0.31	7.23	9.30	9.24	7.69	5.87	0.95	0.000	0.000	0.014	0.78	
(WY)	2003	2003	2003	2002	2002	2002	2002	2002	1996	2000	2002	1956	

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1941 - 2003
ANNUAL TOTAL	1439.77	28134.37	
ANNUAL MEAN	3.94	77.1	151
HIGHEST ANNUAL MEAN			652
LOWEST ANNUAL MEAN			4.62
HIGHEST DAILY MEAN	59	Sep 11	2200
LOWEST DAILY MEAN	0.00	May 25	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	May 25	0.00
ANNUAL RUNOFF (AC-FT)	2860	55800	109700
ANNUAL RUNOFF (CFSM)	0.006	0.11	0.22
ANNUAL RUNOFF (INCHES)	0.08	1.55	3.05
10 PERCENT EXCEEDS	9.6	135	243
50 PERCENT EXCEEDS	0.47	8.8	21
90 PERCENT EXCEEDS	0.00	0.00	3.8

09501000 RESERVOIR SYSTEM ON SALT RIVER AT AND BELOW ROOSEVELT DAM, AZ

LOCATION.--This system comprises four storage reservoirs created by four separate dams on Salt River, Hydrologic Unit 15060106: Roosevelt Lake, formed by Roosevelt Dam in sec. 20, T.4 N., R.12 E. (unsurveyed), on State Highway 88; Apache Lake, formed by Horse Mesa Dam, 17 mi downstream from Roosevelt Dam; Canyon Lake, formed by Mormon Flat Dam, 27 mi downstream from Roosevelt Dam; Saguaro Lake, formed by Stewart Mountain Dam, 37 mi downstream from Roosevelt Dam. Contents given herein are combined usable contents of the four reservoirs.

DRAINAGE AREA.--6,211 mi², at Stewart Mountain Dam.

PERIOD OF RECORD.--Apr. 1910 to current year. Prior to Oct. 1934, monthend contents only, published in WSP 1313. Evaporation: Apr. 1958 to June 1963.

REVISED RECORDS.--WSP 1283: Drainage area. WRD Ariz. 1975: 1974.

GAGES.--Roosevelt Lake, water-stage indicator in powerplant connected to long distance transmitter on lake (water-stage recorder prior to Jan. 1, 1967); Apache Lake, water-stage indicator in powerplant connected to long distance transmitter on lake since Apr. 1949 (prior to that date, nonrecording gage or reference mark); Canyon and Saguaro Lakes, mercury column gages.

REMARKS.--Total capacity of the four reservoirs as of 1997 was 2,025,800 acre-ft, divided as follows: Roosevelt Lake, 1,653,000 acre-ft; Apache Lake, 245,000 acre-ft; Canyon Lake, 58,000 acre-ft; Saguaro Lake, 70,000 acre-ft. Dead storage negligible. Dams forming these reservoirs were built as follows: Roosevelt 1905--11; Horse Mesa 1924--27; Mormon Flat 1923--26; Stewart Mountain 1928--30. The four dams forming these reservoirs completely develop the fall in the Salt River from Roosevelt Lake to Stewart Mountain Dam. Elevation of water surface varies from 1,422.0 ft (sill of lowest outlet in Stewart Mountain Dam) to 2,151 ft (top of spillway). Records given herein represent usable contents. Prior to Oct. 1, 1972, contents were given at 2400 hours. Water from this system is used for irrigation of Salt River Valley, power generation, municipal purposes, and recreation.

COOPERATION.--Records of daily contents furnished by Salt River Valley Water Users' Association.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents of system, 1,764,000 acre-ft May 22, 1941; minimum, 20,680 acre-ft Sept. 16, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum contents of system at 0800 hours, 860,000 acre-ft May 21; minimum, 528,300 acre-ft Nov. 4.

RESERVOIR STORAGE, in (ACRE-FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY OBSERVATION AT 0800 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	534700	528700	535600	545200	558500	590100	769400	839900	856500	827800	803300	788500
2	534500	528500	536000	545800	559100	594100	771700	841500	855700	827100	803100	788200
3	533800	528500	536000	546000	559100	598600	775400	843300	855000	825100	802700	788000
4	533700	528300	536800	546400	559500	601800	778600	840800	854000	824800	802700	787400
5	533700	528700	536900	546700	560300	604800	782000	845400	852800	824000	802100	786700
6	533500	528800	537800	547200	560300	607500	784900	847900	852000	822900	801200	786200
7	533800	529500	537800	547500	560400	611300	787900	848500	851200	822200	800300	785800
8	532600	529300	538000	547700	561100	614900	790600	847900	850700	821200	799000	785600
9	533400	530000	538600	548100	561400	619100	792700	849400	849600	819800	798000	794000
10	532100	529800	538600	548400	561700	624200	794400	850600	848700	817900	797600	797900
11	532000	529600	539600	548700	562000	629700	797000	851600	847200	817500	797100	804100
12	531700	529800	539200	549300	562400	635500	799500	852500	846700	815800	795800	809600
13	531800	530100	539600	550300	563600	640900	802100	853200	846000	815100	794700	812000
14	531500	530500	539600	550200	564700	647300	804200	854000	845200	814000	794300	813500
15	531100	530900	540100	551000	565100	652800	807000	854100	844200	813000	793500	813900
16	531000	531400	540200	551600	566000	658000	810000	855700	843200	812000	793900	814200
17	530900	531900	540600	551900	568500	664900	813200	856800	841500	810500	793800	814200
18	530500	532100	541000	552100	570800	678200	815800	857600	841700	808800	793300	813900
19	530300	532800	541300	552700	572200	693500	818300	858400	840000	807700	792100	813800
20	529000	532900	541500	553000	573200	703900	820900	859100	839100	806800	791700	813100
21	529500	533000	541500	553500	575000	712300	823100	860000	837700	806100	791300	813100
22	529600	533300	541900	554000	576000	719100	824600	859700	837200	805500	790200	812700
23	529700	533400	542500	554800	576800	725100	826200	859600	836200	806500	790000	812300
24	529200	533500	542900	555400	578000	730000	828200	859300	835100	806100	790000	811900
25	529400	533700	543500	555700	578800	736800	829800	859300	834200	805200	790100	811800
26	528800	534100	543700	556100	580900	742600	831600	859100	833300	804200	789600	812000
27	528900	534200	544100	556300	582400	747800	833400	858900	832200	803900	789500	812200
28	529100	534300	544400	556900	585000	752800	835200	859000	831100	802700	789100	811800
29	528900	534600	545000	557200	---	757700	835400	858400	830400	803100	789400	812800
30	529100	535200	544500	558000	---	761700	838200	857600	829200	802600	789100	812900
31	528800	---	545100	558200	---	766200	---	856900	---	803300	788500	---
MAX	534700	535200	545100	558200	585000	766200	838200	860000	856500	827800	803300	814200
MIN	528800	528300	535600	545200	558500	590100	769400	839900	829200	802600	788500	785600
(*)	-6000	+6900	+9600	+13300	+31600	+179300	+70500	+16600	-28700	-24500	-14800	+24100

CAL YR 2002 MAX 733800 MIN 515500
WTR YR 2003 MAX 860000 MIN 528300

(*) Change in contents, in acre-feet (from 0800 first of month)
Note--contents at 0800 Oct. 1, 2003, 812,600

09502000 SALT RIVER BELOW STEWART MOUNTAIN DAM, AZ

LOCATION--Lat 33°33'10", long 111°34'33", in NW¹/₄NW¹/₄ sec. 6, T.2 N., R.8 E. (unsurveyed), Maricopa County, Hydrologic Unit 15060106, on left bank 3.5 mi downstream from Stewart Mountain Dam and 6 mi upstream from Verde River.

DRAINAGE AREA--6,232 mi², of which 21 mi² is below Stewart Mountain Dam.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD--Mar. 1930 to current year. Monthly discharge only for some periods, published in WSP 1313. Published as "at Stewart Mountain Dam" 1934--41.

REVISED RECORDS--WSP 1343: Drainage area.

GAGE--Water-stage recorder. Elevation of gage is 1,370 ft above sea level, from topographic map. Prior to Sept. 27, 1934, at site 3.2 mi upstream at different datum. Sept. 27, 1934, to Jan. 20, 1950, at site 2.8 mi upstream at datum 1,396.33 ft above sea level.

REMARKS--Records good, except for estimated daily discharges, which are poor. Flow regulated by four reservoirs above station. (See elsewhere in this report.) Entire flow (except during infrequent periods of extreme flooding) is diverted at Granite Reef Dam, 10 mi downstream, for irrigation in Salt River Valley and for municipal use by the city of Phoenix.

AVERAGE DISCHARGE--73 years, 990 ft³/s, 717,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 75,200 ft³/s Feb. 15, 1980, gage height, 25.0 ft, from highwater mark inside gage well, from rating curve then in use, extended above 10,000 ft³/s defined by known release rates from Stewart Mountain Dam and recorded gage heights; maximum daily discharge, 64,000 ft³/s Feb. 16, 1980; no flow at times in recent years.

EXTREMES FOR CURRENT YEAR--Maximum daily discharge, 667 ft³/s July 17. Minimum daily discharge, 5.0 ft³/s Mar. 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	157	192	9.2	8.4	7.8	9.5	5.3	6.3	489	434	516	438
2	204	158	9.0	8.5	7.6	9.7	5.3	6.3	529	339	466	528
3	200	90	8.9	8.4	7.5	9.4	5.1	6.2	542	410	370	539
4	172	48	8.4	8.4	7.6	8.9	5.4	6.2	468	419	293	563
5	188	14	8.6	7.9	7.5	8.9	5.3	6.4	525	328	483	543
6	189	11	8.1	8.7	8.0	8.5	6.0	7.9	522	345	514	452
7	189	9.6	8.2	8.4	7.9	8.6	6.0	8.2	365	348	480	410
8	216	9.3	7.8	8.9	8.5	8.8	7.6	8.3	356	517	503	428
9	228	8.6	8.6	9.4	8.3	9.0	7.1	8.1	447	500	460	333
10	217	8.2	8.0	8.6	8.5	9.4	6.8	8.2	491	529	428	323
11	196	8.4	8.2	8.3	8.3	9.4	7.1	9.1	444	560	450	403
12	197	8.1	8.4	8.5	8.7	9.3	7.0	15	438	483	606	344
13	202	7.5	8.4	8.4	11	9.3	7.7	16	401	393	509	334
14	204	7.9	8.3	8.5	12	9.1	12	14	401	453	541	418
15	207	7.9	8.5	8.6	9.4	9.1	11	14	462	481	398	396
16	209	7.8	8.4	8.9	8.7	18	8.1	14	450	582	498	397
17	215	7.1	8.9	8.4	9.0	17	6.8	13	390	667	476	403
18	213	7.5	8.7	8.5	8.4	11	6.8	8.4	479	611	451	363
19	208	7.7	8.7	8.4	8.7	8.0	7.2	20	414	539	442	387
20	210	7.4	8.5	8.9	8.2	6.4	8.0	133	476	434	364	416
21	210	7.8	8.7	9.5	8.3	6.3	7.3	343	433	481	396	343
22	231	7.8	8.6	9.1	8.1	5.8	7.1	533	365	432	410	308
23	261	7.3	11	9.2	8.6	5.5	7.3	461	366	465	322	277
24	286	7.6	9.6	9.0	7.9	5.4	7.0	446	368	507	308	215
25	263	8.0	8.8	9.0	11	5.6	7.1	375	407	509	379	142
26	152	8.6	8.8	8.8	13	5.5	7.0	308	423	345	422	141
27	64	7.5	8.9	8.2	12	5.5	6.7	348	446	437	428	103
28	122	7.7	8.9	8.2	12	5.5	6.4	419	420	445	398	89
29	123	7.1	8.1	8.2	---	5.0	6.1	482	526	307	426	87
30	122	10	8.3	8.0	---	5.3	6.1	614	451	287	457	97
31	128	---	8.3	7.9	---	5.3	---	541	---	237	407	---
TOTAL	5983	705.4	267.8	266.1	252.5	258.0	209.7	5198.6	13294	13824	13601	10220
MEAN	193	23.5	8.64	8.58	9.02	8.32	6.99	168	443	446	439	341
MAX	286	192	11	9.5	13	18	12	614	542	667	606	563
MIN	64	7.1	7.8	7.9	7.5	5.0	5.1	6.2	356	237	293	87
AC-FT	11870	1400	531	528	501	512	416	10310	26370	27420	26980	20270

CAL YR 2002 TOTAL 151773.2 MEAN 416 MAX 1640 MIN 7.1 AC-FT 301000
WTR YR 2003 TOTAL 64080.1 MEAN 176 MAX 667 MIN 5.0 AC-FT 127100

09502000 SALT RIVER BELOW STEWART MOUNTAIN DAM, AZ—CONTINUED

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD--

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

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, NTU (00076)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, unfltrd field, mg/L as CaCO3 (00900)	Noncarb hardness, wat flt field, mg/L as CaCO3 (00904)	Calcium water, fltrd, mg/L (00915)
NOV 01...	1000	178	2.2	724	7.8	89	7.9	1920	28.0	18.8	210	67	53.0
APR 04...	0810	5.8	.92	727	5.1	55	7.8	2050	13.1	17.1	230	90	56.0
JUN 27...	0845	428	3.6	719	5.5	65	7.6	2080	25.5	20.9	220	61	55.0
AUG 08...	0845	506	3.8	724	4.5	57	8.0	2180	36.0	24.5	230	76	57.0
Date	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, unfltrd, mg/L (00925)	Magnesium, water, recoverable, mg/L (00927)	Potassium, water, fltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, fltrd, mg/L (00930)	Alkalinity, wat flt 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)
NOV 01...	54.0	19.0	20.0	7.30	9	300	143	167	4	470	.4	69.0	1010
APR 04...	56.0	21.0	21.0	7.30	9	300	136	166	<1	510	.4	76.0	1050
JUN 27...	55.0	19.0	21.0	8.40	9	320	154	188	<1	500	.4	74.0	1070
AUG 08...	58.0	22.0	23.0	8.20	9	330	158	192	<1	540	.4	77.0	1130
Date	Residue water, fltrd, tons/acre-ft (70303)	Residue evap. at 180degC, mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd, as N mg/L (00625)	Ammonia water unfltrd, mg/L (71845)	Ammonia water, unfltrd, as N mg/L (00610)	Nitrite + nitrate water unfltrd, mg/L (00630)	Organic nitrogen, water, unfltrd, mg/L (00605)	Phosphorus, water, unfltrd, mg/L (00665)	COD, high level, water, unfltrd, mg/L (00340)	E coli, m-TEC MF, water, col/100 mL (31633)	Antimony, water, fltrd, ug/L (01095)	Antimony, water, unfltrd, ug/L (01097)
NOV 01...	1.46	1070	8	.40	--	<.01	<.020	--	.02	7	E11k	<1	<1
APR 04...	1.51	1110	2	.30	.05	.04	<.020	.26	.02	10	E4k	<1	<1
JUN 27...	1.55	1140	14	.40	--	<.01	<.020	--	.08	12	E4k	<1	<1
AUG 08...	1.60	1180	11	.60	.03	.02	<.020	.58	.06	17	E4k	<1	<1
Date	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd, ug/L (01002)	Barium, water, fltrd, ug/L (01005)	Barium, water, unfltrd recoverable, ug/L (01007)	Beryllium, water, fltrd, ug/L (01010)	Beryllium, water, unfltrd recoverable, ug/L (01012)	Boron, water, fltrd, ug/L (01020)	Boron, water, unfltrd recoverable, ug/L (01022)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd, ug/L (01027)	Chromium, water, fltrd, ug/L (01030)	Chromium, water, unfltrd recoverable, ug/L (01034)	Copper, water, fltrd, ug/L (01040)
NOV 01...	6	6	81.0	83.0	<1	<1	173	174	<.5	<.5	<1	<1	<2
APR 04...	5	3	75.0	76.0	<1	<1	171	175	<.5	<.5	<1	<1	<2
JUN 27...	4	8	87.0	93.0	<1	<1	190	191	<.5	<.5	<1	<1	<2
AUG 08...	6	6	85.0	90.0	<1	<1	202	203	<.5	<.5	<1	<1	<2

GILA RIVER BASIN
09502000 SALT RIVER BELOW STEWART MOUNTAIN DAM, AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Copper, water, unfltrd recover -able, ug/L (01042)	Iron, water, unfltrd recover -able, ug/L (01046)	Iron, water, unfltrd recover -able, ug/L (01045)	Lead, water, unfltrd recover -able, ug/L (01049)	Lead, water, unfltrd recover -able, ug/L (01051)	Mangan- ese, water, unfltrd recover -able, ug/L (01056)	Mangan- ese, water, unfltrd recover -able, ug/L (01055)	Mercury water, unfltrd recover -able, ug/L (71890)	Mercury water, unfltrd recover -able, ug/L (71900)	Nickel, water, unfltrd recover -able, ug/L (01065)	Nickel, water, unfltrd recover -able, ug/L (01067)	Selen- ium, water, unfltrd recover -able, ug/L (01145)	Selen- ium, water, unfltrd recover -able, ug/L (01147)
	NOV 01...	<2	<2	44	<2	<2	22	75	<.10	<.1	<1	<1	<1
APR 04...	<2	8	71	<2	<2	49	90	<.10	<.1	<1	<1	<1	<1
JUN 27...	<2	<2	176	<2	<2	55	312	<.10	<.1	<1	<1	<1	<1
AUG 08...	<2	4	115	<2	<2	63	209	<.10	<.1	<1	<1	1	<1

Date	Silver, water, unfltrd recover -able, ug/L (01075)	Silver, water, unfltrd recover -able, ug/L (01077)	Stront- ium, water, unfltrd recover -able, ug/L (01082)	Thall- ium, water, unfltrd recover -able, ug/L (01057)	Thall- ium, water, unfltrd recover -able, ug/L (01059)	Zinc, water, unfltrd recover -able, ug/L (01090)	Zinc, water, unfltrd recover -able, ug/L (01092)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment load, tons/d (80155)
	NOV 01...	<1	<1	580	<2	<2	2	<2	5
APR 04...	<1	<1	610	<2	<2	<2	<2	4	.06
JUN 27...	<1	<1	640	<2	<2	<2	3	4	4.6
AUG 08...	<1	<1	620	<2	<2	<2	2	57	78

Remark codes used in this report:

< -- Less than
E -- Estimated value

Value qualifier codes used in this report:

k -- Counts outside acceptable range

09502800 WILLIAMSON VALLEY WASH NEAR PAULDEN, AZ

LOCATION--Lat 34°52'00", long 112°36'45", in SE1/4SE1/4 sec. 7, T.17 N., R.3 W., Yavapai County, Hydrologic Unit 15060201, on left bank 3.6 mi north of Simmons and 8.5 mi west of Paulden.

DRAINAGE AREA--255 mi².

PERIOD OF RECORD--Mar. 1965 to Sept. 1985; Aug. 2001 to current year.

REVISED RECORDS--WSP 1119: 1939(M). WSP 1213: 1914, 1916(M), 1918(M), 1919, 1920(M), 1922--23(M), WDR AZ--90--1: Drainage area.

GAGE--Water-stage recorder. Datum of gage is 4,455 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1970, at datum 1.00 ft higher. Datum of 4,447 ft published in WRD Ariz. 1971--76 was in error.

REMARKS--Records fair, except for estimated daily discharges and those above 15 ft³/s, which are poor.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 14,800 ft³/s Sept. 23, 1983, gage height, 9.96 ft from rating curve extended above 2,200 ft³/s on basis of slope-area measurements at gage heights 6.38 ft, 8.22 ft, 8.93 ft, and 9.96 ft; no flow at times in most years.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 300 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 17	2015	312	4.36	Aug. 29.....	0145	*1,650	*5.54
July 30.....	2215	1,040	5.13	Sept. 9.....	2115	1,050	5.14

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.46	0.81	1.3	1.7	1.9	3.1	1.4	0.85	0.00	0.00	0.63	2.1
2	0.50	0.81	1.3	1.7	1.8	3.0	1.3	0.85	0.00	0.00	0.55	1.8
3	0.51	0.81	1.3	1.7	1.7	2.3	1.4	0.85	0.00	0.00	0.34	1.6
4	0.52	0.85	1.3	1.7	1.7	2.0	1.4	0.83	0.00	0.00	0.00	1.4
5	0.54	0.86	1.3	1.7	1.7	1.9	1.4	0.81	0.00	0.00	0.00	1.4
6	0.53	0.88	1.4	1.7	1.7	1.8	1.4	0.80	0.00	0.00	0.00	1.4
7	0.53	0.91	1.4	1.7	e1.7	1.7	1.3	0.78	0.00	0.00	0.00	1.5
8	0.53	0.93	1.4	1.9	1.8	1.7	1.3	0.77	0.00	0.00	0.00	1.4
9	0.53	0.97	1.4	1.9	e1.8	1.8	1.3	0.77	0.00	0.00	0.00	114
10	0.53	0.97	1.4	1.9	e1.7	1.8	1.3	0.76	0.00	0.00	0.00	107
11	0.54	0.96	1.4	1.8	1.7	1.8	1.2	0.74	0.00	0.00	0.00	1.6
12	0.54	0.99	1.4	1.7	1.7	1.8	1.2	0.72	0.00	0.00	0.00	1.2
13	0.54	1.0	1.5	1.7	3.8	1.8	1.2	0.71	0.00	0.00	0.00	1.0
14	0.54	1.0	1.5	1.7	2.7	1.8	1.2	0.71	0.00	0.00	0.03	0.94
15	0.56	1.0	1.5	1.8	2.2	1.9	1.3	0.69	0.00	0.00	19	0.88
16	0.58	1.1	1.5	1.7	1.9	2.8	1.3	0.65	0.00	0.00	1.5	0.84
17	0.60	1.1	1.7	1.7	1.9	99	1.2	0.62	0.00	0.00	0.87	0.81
18	0.62	1.1	1.6	1.8	1.9	61	1.2	0.57	0.00	0.00	0.67	0.78
19	0.62	1.1	1.6	1.8	1.9	3.2	1.1	0.53	0.00	0.00	0.60	0.76
20	0.62	1.1	1.7	1.8	1.9	2.3	1.1	0.47	0.00	0.00	0.57	0.73
21	0.63	1.1	1.7	1.9	1.8	2.2	1.1	0.34	0.00	0.00	0.77	0.70
22	0.66	1.2	1.7	1.9	1.8	2.2	1.0	0.20	0.00	4.1	25	0.68
23	0.69	1.2	1.8	1.8	1.8	2.0	1.0	0.12	0.00	0.07	1.9	0.55
24	0.70	1.2	1.7	1.8	1.8	1.9	1.0	0.00	0.00	0.00	1.2	0.51
25	0.71	1.2	1.7	1.8	2.1	1.8	0.98	0.00	0.00	0.00	1.0	0.49
26	0.78	1.2	1.7	1.8	2.7	1.8	0.93	0.00	0.00	0.00	0.90	0.46
27	0.80	1.2	1.7	1.8	2.6	1.7	0.90	0.00	0.00	0.00	7.6	0.42
28	0.78	1.3	1.7	1.8	3.2	1.6	0.89	0.00	0.00	0.00	1.8	0.39
29	0.78	1.3	1.8	1.9	---	1.5	0.88	0.00	0.00	0.00	348	0.34
30	0.78	1.3	1.7	1.9	---	e1.5	0.86	0.00	0.00	67	11	0.28
31	0.79	---	1.7	1.9	---	1.4	---	0.00	---	4.7	2.7	---
TOTAL	19.04	31.45	47.8	55.4	56.9	218.1	35.04	15.14	0.00	75.87	426.63	247.96
MEAN	0.61	1.05	1.54	1.79	2.03	7.04	1.17	0.49	0.000	2.45	13.8	8.27
MAX	0.80	1.3	1.8	1.9	3.8	99	1.4	0.85	0.00	67	348	114
MIN	0.46	0.81	1.3	1.7	1.7	1.4	0.86	0.00	0.00	0.00	0.00	0.28
MED	0.58	1.1	1.5	1.8	1.8	1.8	1.2	0.65	0.00	0.00	0.63	0.86
AC-FT	38	62	95	110	113	433	70	30	0.00	150	846	492
CFSM	0.00	0.00	0.01	0.01	0.01	0.03	0.00	0.00	0.00	0.01	0.05	0.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2003, BY WATER YEAR (WY)

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	
MEAN	6.11	4.66	23.9	18.9	53.2	43.9	9.67	1.42	0.61	0.92	3.56	12.8										
MAX	76.8	27.8	185	175	513	381	107	3.67	2.05	3.66	15.0	233										
(WY)	1973	1966	1966	1980	1980	1978	1965	1980	1973	1971	1971	1983										
MIN	0.000	0.48	0.93	1.79	1.62	1.34	0.99	0.000	0.000	0.000	0.000	0.030										
(WY)	1979	1980	1980	2003	1967	1977	1966	1966	1966	2002	2002	1966										

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1965 - 2003	
ANNUAL TOTAL	769.79		1229.33			
ANNUAL MEAN	2.11		3.37		14.5	
HIGHEST ANNUAL MEAN					62.5	
LOWEST ANNUAL MEAN					1.58	
HIGHEST DAILY MEAN	255	Sep 7	348	Aug 29	4200	Sep 23 1983
LOWEST DAILY MEAN	0.00	Jun 8	0.00	May 24	0.00	Apr 30 1966
ANNUAL SEVEN-DAY MINIMUM	0.00	Jun 8	0.00	May 24	0.00	Apr 30 1966
ANNUAL RUNOFF (AC-FT)	1530		2440		10490	
ANNUAL RUNOFF (CFSM)	0.008		0.013		0.057	
10 PERCENT EXCEEDS	2.0		1.9		6.2	
50 PERCENT EXCEEDS	0.92		1.0		1.7	
90 PERCENT EXCEEDS	0.00		0.00		0.04	

e Estimated

GILA RIVER BASIN

09502900 DEL RIO SPRINGS NEAR CHINO VALLEY, AZ

LOCATION.--Lat 34°49'32", long 112°26'38", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ SW $\frac{1}{4}$, sec. 26, T.17 N., R.2 W., Yavapai County, Hydrologic Unit 15060202, on left bank, about 3.5 mi north of Chino Valley, AZ.

DRAINAGE AREA.--40.9 mi².

PERIOD OF RECORD.--Aug. 1996 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 4,430 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23 ft³/s, Sept. 7, 2002, maximum gage height, 2.17 ft, Sept. 7, 2002. Minimum daily discharge, 1.1 ft³/s June 21, 26--30, July 1, 2, 6--9, 21--23, 2002.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 65 ft³/s, for extension of rating curve, gage height, 3.66 ft, from highwater mark.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6.3 ft³/s Aug. 14 at 2330, gage height, 1.59 ft. Minimum daily discharge, 0.85 ft³/s July 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.7	1.6	1.6	1.7	1.9	1.9	1.3	1.3	1.1	1.0	1.7
2	1.4	1.7	1.6	1.8	1.7	1.9	1.8	1.3	1.3	1.1	1.0	1.7
3	1.5	1.8	1.6	1.8	1.7	1.8	1.8	1.3	1.3	1.2	1.0	1.6
4	1.4	1.8	1.6	1.5	1.7	1.8	1.8	1.3	1.2	1.1	0.96	1.6
5	1.4	1.8	1.6	1.6	1.7	1.8	1.8	1.3	1.3	1.1	0.99	1.5
6	1.4	1.8	1.6	1.6	1.7	1.8	1.7	1.3	1.3	1.2	1.0	1.5
7	1.3	1.8	1.6	1.6	1.7	1.8	1.7	1.2	1.4	1.1	0.99	1.5
8	1.3	1.8	1.6	1.7	1.7	1.7	1.7	1.2	1.3	0.98	1.0	1.4
9	1.3	1.8	1.6	1.7	1.7	1.7	1.7	1.2	1.3	0.96	1.1	1.8
10	1.3	1.8	1.6	1.6	1.7	1.7	1.7	1.2	1.3	1.0	1.1	1.5
11	1.3	1.8	1.6	1.6	1.7	1.7	1.7	1.2	1.3	1.1	1.1	1.5
12	1.3	1.8	1.6	1.6	1.7	1.7	1.7	1.2	1.2	1.1	1.1	1.4
13	1.3	1.8	1.6	1.6	2.3	1.7	1.7	1.1	1.3	1.0	1.2	1.4
14	1.4	1.8	1.6	1.7	1.9	1.7	1.6	1.2	1.2	1.1	1.7	1.4
15	1.4	1.8	1.6	1.6	1.8	1.7	1.7	1.2	1.2	0.98	1.8	1.4
16	1.4	1.8	1.6	1.6	1.8	1.9	1.7	1.2	1.2	0.85	1.4	1.4
17	1.4	1.8	1.6	1.7	1.8	1.9	1.6	1.2	1.2	0.87	1.5	1.3
18	1.4	1.8	1.7	1.6	1.8	1.8	1.6	1.2	1.2	0.90	1.6	1.3
19	1.5	1.7	1.6	1.6	1.7	1.8	1.6	1.2	1.2	0.87	1.7	1.3
20	1.5	1.8	1.6	1.7	1.7	1.8	1.6	1.2	1.3	0.87	1.8	1.3
21	1.5	1.7	1.6	1.7	1.7	1.8	1.5	1.2	1.2	0.88	1.9	1.3
22	1.6	1.7	1.6	1.7	1.7	1.8	1.5	1.2	1.3	0.90	2.0	1.3
23	1.7	1.7	1.6	1.7	1.7	1.8	1.5	1.2	1.3	0.92	2.0	1.3
24	1.7	1.7	1.6	1.6	1.7	1.8	1.5	1.2	1.3	0.93	1.9	1.3
25	1.7	1.7	1.6	1.6	1.8	1.8	1.5	1.2	1.2	0.95	1.9	1.3
26	1.7	1.6	1.6	1.6	2.1	1.9	1.4	1.2	1.2	0.94	2.0	1.3
27	1.6	1.6	1.6	1.7	1.9	1.9	1.4	1.2	1.1	0.93	1.9	1.3
28	1.7	1.6	1.6	1.7	2.0	1.9	1.4	1.3	1.1	1.0	1.9	1.2
29	1.6	1.6	1.6	1.7	---	1.9	1.4	1.2	1.1	1.1	1.8	1.2
30	1.6	1.6	1.6	1.7	---	1.9	1.4	1.2	1.1	1.1	1.8	1.2
31	1.7	---	1.6	1.7	---	1.9	---	1.3	---	1.0	1.7	---
TOTAL	45.7	52.2	49.7	51.2	49.8	56.0	48.6	37.9	37.2	31.13	45.84	42.2
MEAN	1.47	1.74	1.60	1.65	1.78	1.81	1.62	1.22	1.24	1.00	1.48	1.41
MAX	1.7	1.8	1.7	1.8	2.3	1.9	1.9	1.3	1.4	1.2	2.0	1.8
MIN	1.3	1.6	1.6	1.5	1.7	1.7	1.4	1.1	1.1	0.85	0.96	1.2
CAL YR 2002	TOTAL 563.3	MEAN 1.54	MAX 4.8	MIN 1.1								
WTR YR 2003	TOTAL 547.47	MEAN 1.50	MAX 2.3	MIN 0.85								

09502960 GRANITE CREEK AT PRESCOTT, AZ

LOCATION--Lat 34°33'07", long 112°27'42", in NE1/4SW1/4NW1/4, sec. 34, T.14 N., R.2 W., Yavapai County, Hydrologic Unit 15060202, at southwestern boundary of Yavapai-Prescott Indian Reservation, within the city of Prescott, AZ.

DRAINAGE AREA--30.0 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD--Nov. 1994 to current year.

REVISED RECORDS--WDR AZ-98-1: 1997.

GAGE--Water-stage recorder. Elevation of gage is 5,285 ft above sea level, from topographic map.

REMARKS--Records fair except for estimated daily discharges, which are poor. Flow is partly regulated by Goldwater Reservoirs on Bannon Creek.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 3,200 ft³/s Mar. 6, 1995, gage height, 8.58 ft from slope-conveyance survey; maximum gage height, 8.91 ft, Aug. 26, 2000 (backwater from tributary). No flow for many days each year.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 400 ft³/s (revised) and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 30	1900	1,020	8.46
Aug. 26.....	1415	*2,270	*9.08
Aug. 28.....	1900	1,560	8.78

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0.01	0.04	0.65	0.18	0.18	27	5.4	0.79	0.10	0.00	4.5	e0.72
2	e0.01	0.05	0.16	0.18	0.18	29	5.3	0.73	0.08	0.00	0.89	e0.09
3	e0.01	0.05	e0.14	0.18	0.18	26	4.7	0.67	0.07	0.00	0.13	e1.6
4	e0.01	0.06	e0.14	0.18	0.18	27	4.3	0.67	0.08	0.00	0.06	18
5	e0.02	0.07	e0.14	0.18	0.18	28	3.9	0.67	0.07	0.00	0.06	8.4
6	e0.01	0.09	e0.10	0.51	0.18	29	3.6	0.67	0.07	0.00	0.05	9.1
7	e0.01	0.09	e0.10	0.23	0.18	35	3.2	0.73	0.07	0.00	0.05	3.2
8	e0.01	1.9	e0.10	6.1	0.18	40	2.8	0.72	0.06	0.00	0.05	0.80
9	e0.01	17	e0.08	1.3	0.18	43	2.9	0.70	0.04	0.00	0.05	20
10	0.01	5.7	e0.08	0.48	0.18	43	2.6	0.70	0.04	0.00	0.05	7.7
11	0.01	0.09	e0.08	0.34	0.19	39	2.3	0.63	0.04	0.00	0.04	2.7
12	0.01	0.05	e0.08	0.28	12	32	2.1	0.58	0.03	0.00	0.03	0.44
13	0.01	0.05	e0.06	0.23	124	27	2.0	0.52	0.03	0.00	0.02	0.06
14	0.01	0.05	e0.06	0.23	48	22	1.8	0.46	0.02	0.00	3.3	0.03
15	0.01	0.05	e0.06	0.23	21	21	8.4	0.41	0.01	0.00	6.1	0.01
16	0.01	0.05	e0.06	0.23	12	169	1.9	0.32	0.00	0.00	0.06	0.01
17	0.01	0.05	2.3	0.23	7.6	227	1.8	0.26	0.00	0.00	0.04	0.01
18	0.01	0.06	0.47	0.23	5.3	87	1.7	0.21	0.00	0.00	0.05	0.01
19	0.01	0.06	0.19	0.23	3.7	60	1.5	0.20	0.00	0.00	0.10	0.01
20	0.01	0.06	0.27	2.5	2.8	46	1.4	0.19	0.00	0.00	0.14	0.00
21	0.01	0.06	0.26	0.73	1.6	38	1.3	0.17	0.00	0.00	3.6	0.00
22	0.01	0.07	0.27	0.31	1.0	29	1.2	0.16	0.00	0.00	14	0.00
23	0.02	0.13	0.71	0.26	0.65	24	1.2	0.17	0.00	0.72	30	0.00
24	0.02	0.30	0.50	0.22	0.39	19	1.2	0.17	0.00	0.03	9.6	0.00
25	0.02	0.54	0.30	0.18	13	15	1.1	0.17	0.00	11	3.7	0.00
26	1.8	0.43	e0.24	0.18	42	12	1.0	0.16	0.00	0.07	144	0.00
27	1.9	0.56	e0.20	0.18	42	9.9	1.0	0.16	0.00	0.31	6.4	0.00
28	0.03	0.55	e0.18	0.18	32	8.0	1.0	0.67	0.00	0.04	121	0.00
29	0.04	3.8	e0.18	0.18	---	6.8	0.95	0.21	0.00	4.8	23	0.00
30	0.04	4.9	e0.18	0.18	---	6.0	0.88	0.09	0.00	121	4.1	0.01
31	0.05	---	0.18	0.21	---	5.5	---	0.11	---	8.4	e0.22	---
TOTAL	4.15	36.96	8.52	17.06	371.03	1230.2	74.43	13.07	0.81	146.37	375.39	72.90
MEAN	0.13	1.23	0.27	0.55	13.3	39.7	2.48	0.42	0.027	4.72	12.1	2.43
MAX	1.9	17	2.3	6.1	124	227	8.4	0.79	0.10	121	144	20
MIN	0.01	0.04	0.06	0.18	0.18	5.5	0.88	0.09	0.00	0.00	0.02	0.00
MED	0.01	0.07	0.18	0.23	1.3	28	1.9	0.41	0.01	0.00	0.14	0.01
AC-FT	8.2	73	17	34	736	2440	148	26	1.6	290	745	145
CFSM	0.00	0.04	0.01	0.02	0.44	1.32	0.08	0.01	0.00	0.16	0.40	0.08

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 2003, BY WATER YEAR (WY)

	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	1.96	0.89	0.68	5.58	15.0	20.2	5.25	0.77	0.24
MAX	13.1	3.14	2.39	27.5	85.5	74.1	31.6	3.92	1.15
(WY)	2001	2001	1998	1995	1995	1995	1998	1999	1999
MIN	0.085	0.14	0.20	0.089	0.093	0.20	0.24	0.027	0.000
(WY)	1997	1996	2000	2002	2002	2002	2002	1996	2002

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1995 - 2003
ANNUAL TOTAL	301.69	2350.89	
ANNUAL MEAN	0.83	6.44	4.17
HIGHEST ANNUAL MEAN			10.1
LOWEST ANNUAL MEAN			0.79
HIGHEST DAILY MEAN	53 Sep 7	227 Mar 17	940 Mar 6 1995
LOWEST DAILY MEAN	0.00 May 28	0.00 Jun 16	0.00 Jul 11 1995
ANNUAL SEVEN-DAY MINIMUM	0.00 May 28	0.00 Jun 16	0.00 Jul 22 1995
ANNUAL RUNOFF (AC-FT)	598	4660	3020
ANNUAL RUNOFF (CFSM)	0.028	0.21	0.14
10 PERCENT EXCEEDS	0.25	18	8.4
50 PERCENT EXCEEDS	0.06	0.18	0.19
90 PERCENT EXCEEDS	0.00	0.00	0.00

e Estimated

GILA RIVER BASIN
09502960 GRANITE CREEK AT PRESCOTT, AZ—CONTINUED
WATER-QUALITY RECORDS

PERIOD OF RECORD--Sept. 1994 to Sept. 2001.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd, us/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Noncarb hardness, wat flt field, mg/L as CaCO3 (00904)	Calcium, water, fltrd, mg/L (00915)	Magnesium, water, fltrd, mg/L (00925)	
FEB	13...	0720	109	625	9.1	92	7.3	158	6.8	7.2	51	11	14.7	3.51
Date	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., mg/L (00453)	Carbonate, wat flt incrm. titr., mg/L (00452)	Chloride, water, fltrd, mg/L (00940)	Fluoride, water, fltrd, mg/L (00950)	Silica, water, fltrd, mg/L (00955)	Sulfate, water, fltrd, mg/L (00945)	Residue sum of constituents mg/L (70301)	Residue water, fltrd, tons/acre-ft (70303)	Ammonia + org-N, water, unfltrd mg/L as N (00625)	
FEB	13...	2.07	.6	9.23	40	49	.0	13.9	.11	4.35	10.3	84	.11	1.1
Date	Ammonia water, fltrd, mg/L as N (00608)	Nitrate water, fltrd, mg/L (71851)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite + nitrate water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Organic nitrogen, water, unfltrd mg/L (00605)	Orthophosphate, water, fltrd, mg/L (00660)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, fltrd, mg/L (00666)	Phosphorus, water, unfltrd, mg/L (00665)	Total nitrogen, water, unfltrd (00600)	E coli, m-TEC MF, water, col/100 mL (31633)	Fecal coliform, M-FC col/100 mL (31625)	
FEB	13...	.12	1.24	.28	.29	.012	.98	.383	.12	.13	.40	1.4	E100k	E400k
Date	Fecal streptococci KF MF, col/100 mL (31673)	Arsenic, water, fltrd, ug/L (01000)	Barium, water, fltrd, ug/L (01005)	Beryllium, water, fltrd, ug/L (01010)	Boron, water, fltrd, ug/L (01020)	Cadmium, water, fltrd, ug/L (01025)	Chromium, water, fltrd, ug/L (01030)	Cobalt, water, fltrd, ug/L (01035)	Copper, water, fltrd, ug/L (01040)	Iron, water, fltrd, ug/L (01046)	Lead, water, fltrd, ug/L (01049)	Lithium, water, fltrd, ug/L (01130)	Manganese, water, fltrd, ug/L (01056)	
FEB	13...	6000	E2	23.3	<.5	20	<8	<10	<8	E4	23	.14	E4	17.9
Date	Mercury, water, fltrd, ug/L (71890)	Molybdenum, water, fltrd, ug/L (01060)	Nickel, water, fltrd, ug/L (01065)	Selenium, water, fltrd, ug/L (01145)	Silver, water, fltrd, ug/L (01075)	Strontium, water, fltrd, ug/L (01080)	Vanadium, water, fltrd, ug/L (01085)	Zinc, water, fltrd, ug/L (01090)	Oil and grease, water, unfltrd extract mg/L (00556)	Aldrin, water, unfltrd, ug/L (39330)	alpha-sulfan, water, unfltrd, ug/L (34361)	alpha-HCH, water, unfltrd, ug/L (39337)	alpha-HCH-d6, surrog, water, unfltrd pct rcv (99778)	
FEB	13...	<.02	<30	<30	<3	<9	84.9	<8	<24	E4n	<.04	<.1	<.03	81.8
Date	Aroclor 1016 + 1242, water, unfltrd, ug/L (81648)	Aroclor 1221, water, unfltrd, ug/L (39488)	Aroclor 1232, water, unfltrd, ug/L (39492)	Aroclor 1248, water, unfltrd, ug/L (39500)	Aroclor 1254, water, unfltrd, ug/L (39504)	Aroclor 1260, water, unfltrd, ug/L (39508)	beta-Endo-sulfan, water, unfltrd, ug/L (34356)	beta-HCH, water, unfltrd, ug/L (39338)	Chlor-dane, technical, water, unfltrd, ug/L (39350)	cis-Chlor-dane, water, unfltrd, ug/L (39062)	delta-HCH, water, unfltrd, ug/L (34259)	Diel-drin, water, unfltrd, ug/L (39380)	Endo-sulfan, water, unfltrd, ug/L (34351)	
FEB	13...	<.1	<1	<.1	<.1	<.1	<.04	<.03	<.1	<.1	<.09	<.02	<.6	
Date	Endrin aldehyde, water, unfltrd, ug/L (34366)	Endrin, water, unfltrd, ug/L (39390)	Heptachlor epoxide, water, unfltrd, ug/L (39420)	Heptachlor, water, unfltrd, ug/L (39410)	Isodrin surrog, water, unfltrd, ug/L (90570)	Lindane, water, unfltrd, ug/L (39340)	p,p'-DDD, water, unfltrd, ug/L (39310)	p,p'-DDE, water, unfltrd, ug/L (39320)	p,p'-DDT, water, unfltrd, ug/L (39300)	PCB 207, surrog, water, unfltrd, pct rcv (99781)	Petroleum hydrocarbons, water, unfltrd, mg/L (45501)	Toxaphene, water, unfltrd, ug/L (39400)	trans-Chlor-dane, water, unfltrd, ug/L (39065)	
FEB	13...	<.2	<.06	<.8	<.03	66.1	<.03	<.1	<.04	<.1	68.8	<2	<2	<.1

09502960 GRANITE CREEK AT PRESCOTT, AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	1,1,1,2-Tetra-chloro-ethane, water, unfltrd ug/L (77562)	1,1,1-Tri-chloro-ethane, water, unfltrd ug/L (34506)	1,1,2,2-Tetra-chloro-ethane, water, unfltrd ug/L (34516)	CFC-113 water, unfltrd ug/L (77652)	1,1,2-Tri-chloro-ethane, water, unfltrd ug/L (34511)	1,1-Di-chloro-ethane, water, unfltrd ug/L (34496)	1,1-Di-chloro-ethene, water, unfltrd ug/L (34501)	1,1-Di-chloro-propene, water, unfltrd ug/L (77168)	1,2,3-Tri-chloro-benzene, water, unfltrd ug/L (77613)	1,2,3-Tri-chloro-propane, water, unfltrd ug/L (77443)	1,2,4-Tri-chloro-benzene, water, unfltrd ug/L (34551)	1,2,4-Tri-methyl-benzene, water, unfltrd ug/L (77222)	Dibromo-chloro-propane, water, unfltrd ug/L (82625)
FEB 13...	<.03	<.03	<.09	<.06	<.06	<.04	<.04	<.05	<.3	<.16	<.1	<.06	<.5
Date	1,2-Di-bromo-ethane, water, unfltrd ug/L (77651)	1,2-Di-chloro-benzene, water, unfltrd ug/L (34536)	1,2-Di-chloro-ethane-d4, sur Sch2090 wat unf pct rcv ug/L (99832)	1,2-Di-chloro-propane, water, unfltrd ug/L (34541)	1,3,5-Tri-methyl-benzene, water, unfltrd ug/L (77226)	1,3-Di-chloro-benzene, water, unfltrd ug/L (34566)	1,3-Di-chloro-propane, water, unfltrd ug/L (77173)	1,4-Di-chloro-benzene, water, unfltrd ug/L (34571)	14Bromo-fluoro-benzene surrog. VOC Sch wat unf pct rcv ug/L (99834)	2,2-Di-chloro-propane, water, unfltrd ug/L (77170)	2-Chloro-toluene, water, unfltrd ug/L (77275)	4-Chloro-toluene, water, unfltrd ug/L (77277)	4-Iso-propyl-toluene, water, unfltrd ug/L (77356)
FEB 13...	<.04	<.03	99.5	<.03	<.04	<.03	<.1	<.05	94.5	<.05	<.04	<.05	.17
Date	Acrylo-nitrile, water, unfltrd ug/L (34215)	Benzene, water, unfltrd ug/L (34030)	Bromo-benzene, water, unfltrd ug/L (81555)	Bromo-chloro-methane, water, unfltrd ug/L (77297)	Bromo-di-chloro-methane, water, unfltrd ug/L (32101)	Bromo-methane, water, unfltrd ug/L (34413)	Chloro-benzene, water, unfltrd ug/L (34301)	Chloro-ethane, water, unfltrd ug/L (34311)	Chloro-methane, water, unfltrd ug/L (34418)	cis-1,2-Di-chloro-ethene, water, unfltrd ug/L (77093)	cis-1,3-Di-chloro-propene, water, unfltrd ug/L (34704)	Di-bromo-chloro-methane, water, unfltrd ug/L (32105)	Di-bromo-methane, water, unfltrd ug/L (30217)
FEB 13...	<1	E.02	<.04	<.12	<.05	<.3	<.03	<.1	<.2	<.04	<.09	<.2	<.05
Date	Di-chloro-di-fluoro-methane, wat unf ug/L (34668)	Di-chloro-methane, water, unfltrd ug/L (34423)	Ethyl-benzene, water, unfltrd ug/L (34371)	Hexa-chloro-butadiene, water, unfltrd ug/L (39702)	Iso-propyl-benzene, water, unfltrd ug/L (77223)	Naphth-alene, water, unfltrd ug/L (34696)	n-Butyl-benzene, water, unfltrd ug/L (77342)	n-propyl-benzene, water, unfltrd ug/L (77224)	sec-Butyl-benzene, water, unfltrd ug/L (77350)	Styrene, water, unfltrd ug/L (77128)	Methyl-t-butyl ether, water, unfltrd ug/L (78032)	tert-Butyl-benzene, water, unfltrd ug/L (77353)	Tetra-chloro-ethene, water, unfltrd ug/L (34475)
FEB 13...	<.18	<.2	E.01	<.1	<.06	<.5	<.2	<.04	<.06	<.04	E.1	<.10	E.01
Date	Tetra-chloro-methane, water, unfltrd ug/L (32102)	Toluene, water, unfltrd ug/L (34010)	Toluene-d8, surrog, Sch2090 wat unf percent recovry ug/L (99833)	trans-1,2-Di-chloro-ethene, water, unfltrd ug/L (34546)	trans-1,3-Di-chloro-propene, water, unfltrd ug/L (34699)	Tri-bromo-methane, water, unfltrd ug/L (32104)	Tri-chloro-ethene, water, unfltrd ug/L (39180)	Tri-chloro-fluoro-methane, water, unfltrd ug/L (34488)	Tri-chloro-methane, water, unfltrd ug/L (32106)	Vinyl-chloride, water, unfltrd ug/L (39175)	1,2,3,4-Tetra-methyl-benzene, water, unfltrd ug/L (49999)	1,2,3,5-Tetra-methyl-benzene, water, unfltrd ug/L (50000)	1,2,3-Tri-methyl-benzene, water, unfltrd ug/L (77221)
FEB 13...	<.06	.14	104	<.03	<.09	<.10	<.04	<.09	<.02	<.1	<.2	<.2	<.1
Date	1,2-Di-chloro-ethane, water, unfltrd ug/L (32103)	2-Ethyl-toluene, water, unfltrd ug/L (77220)	3-Chloro-propene, water, unfltrd ug/L (78109)	Acetone, water, unfltrd ug/L (81552)	Bromo-ethene, water, unfltrd ug/L (50002)	Carbon di-sulfide, water, unfltrd ug/L (77041)	Di-ethyl ether, water, unfltrd ug/L (81576)	Diiso-propyl ether, water, unfltrd ug/L (81577)	Ethyl methac-rylate, water, unfltrd ug/L (73570)	Ethyl methyl ketone, water, unfltrd ug/L (81595)	Hexa-chloro-ethane, water, unfltrd ug/L (34396)	Iodo-methane, water, unfltrd ug/L (77424)	Iso-butyl methyl ketone, water, unfltrd ug/L (78133)
FEB 13...	<.1	<.06	<.12	E4	<.1	<.07	<.2	<.10	<.2	<5.0	<.2	<.35	E.2
Date	Methyl acryl-ate, water, unfltrd ug/L (49991)	Methyl methac-rylate, water, unfltrd ug/L (81597)	Methyl tert-pentyl ether, water, unfltrd ug/L (50005)	meta+ para-Xylene, water, unfltrd ug/L (85795)	Methyl n-butyl ketone, water, unfltrd ug/L (77103)	o-Xylene, water, unfltrd ug/L (77135)	t-Butyl ethyl ether, water, unfltrd ug/L (50004)	Tetra-hydro-furan, water, unfltrd ug/L (81607)	trans-1,4-Di-chloro-2-butene, wat unf ug/L (73547)				
FEB 13...	<2.0	<.3	<.08	E.04	<.7	<.07	<.05	<2	<.7				

Remark codes used in this report:

< -- Less than

E -- Estimated value

Value qualifier codes used in this report:

k -- Counts outside acceptable range

n -- Below the NDV

GILA RIVER BASIN

09503000 GRANITE CREEK NEAR PRESCOTT, AZ

LOCATION--Lat 34°34', long 112°27', in SW¹/₄ sec. 26, T.14 N., R.2 W., (unsurveyed), Yavapai County, Hydrologic Unit 15060202, at bridge on U.S. Highway 89, 2 mi north of Prescott and 4.5 mi upstream from Willow Creek.

DRAINAGE AREA--36.3 mi².

PERIOD OF RECORD--July 1932 to Sept. 1947, Oct. 1994 to current year.

REVISED RECORDS--WDR AZ-98-1: 1997

GAGE--Water-stage recorder. Datum of gage is 5,204.29 ft above sea level from surveyed bench-mark elevation and levels survey.

REMARKS--Records fair except for estimated daily discharges, which are poor. Flow is partly regulated by Goldwater Reservoirs on Bannon Creek.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 3,200 ft³/s Mar. 6, 1995, gage-height 8.90 ft, from slope-conveyance survey. No flow for many days.

EXTREMES OUTSIDE PERIOD OF RECORD--Flood of Aug. 19, 1963, discharge of 6,600 ft³/s, gage height 9.4 ft (original gage height of 12.4 ft with datum correction), from contracted opening survey.

REVISIONS--Revised daily discharges, in cubic feet per second, for Sept. 11-30, 2002 are given below. These figures supersede those published in the report for 2002.

Date	Discharge (ft ³ /s)	Date	Discharge(ft ³ /s)	Date	Discharge(ft ³ /s)	Date	Discharge(ft ³ /s)
Sept. 11.....	39	Sept. 16.....	0.09	Sept. 21.....	0.03	Sept. 26.....	0.02
Sept. 12.....	0.61	Sept. 17.....	0.06	Sept. 22.....	0.02	Sept. 27.....	0.02
Sept. 13.....	0.20	Sept. 18.....	0.06	Sept. 23.....	0.02	Sept. 28.....	0.02
Sept. 14.....	0.17	Sept. 19.....	0.03	Sept. 24.....	0.02	Sept. 29.....	0.02
Sept. 15.....	0.11	Sept. 20.....	0.04	Sept. 25.....	0.02	Sept. 30.....	0.01

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 400 ft³/s (revised) and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 13.....	0945	451	5.75	July 30.....	1930	1,350	7.10
Mar. 17.....	0200	596	5.93	Aug. 26.....	1430	*1,730	*7.55
July 25.....	1215	1,180	6.88	Aug. 28.....	1915	1,550	7.34

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.02	0.08	1.3	0.32	0.32	25	6.1	0.98	0.03	0.00	4.2	4.0
2	0.02	0.08	0.54	0.32	0.32	27	5.3	0.99	0.01	0.00	0.91	2.8
3	0.02	0.08	0.50	0.32	0.32	25	4.5	0.98	0.01	0.00	0.45	6.2
4	0.02	0.08	0.32	0.32	0.32	25	4.2	0.96	0.00	0.00	0.25	19
5	0.02	0.08	0.32	0.32	0.32	25	3.8	0.88	0.00	0.00	0.18	6.3
6	0.01	0.08	0.32	0.41	0.32	26	3.8	0.87	0.00	0.00	0.14	10
7	0.01	0.08	0.32	0.57	0.32	31	3.7	0.79	0.00	0.00	0.10	2.1
8	0.00	0.08	0.32	5.9	0.32	35	3.4	0.73	0.00	0.00	0.08	0.99
9	0.00	19	0.32	1.4	0.32	37	3.2	0.77	0.00	0.00	0.06	23
10	0.00	11	0.32	0.59	0.32	38	3.0	0.76	0.00	0.00	0.03	6.4
11	0.00	0.52	0.32	0.54	0.32	34	3.0	0.67	0.00	0.00	0.03	2.6
12	0.00	0.25	0.26	0.54	7.5	30	3.0	0.64	0.00	0.00	0.01	1.6
13	0.00	0.22	0.22	0.54	149	25	3.0	0.56	0.00	0.00	0.01	1.0
14	0.00	0.19	0.23	0.33	47	20	3.0	0.54	0.00	0.00	2.0	0.68
15	0.00	0.14	0.26	0.32	21	17	8.1	0.54	0.00	0.00	13	0.49
16	0.00	0.14	0.23	0.32	12	268	2.2	0.40	0.00	0.00	1.7	0.43
17	0.00	0.14	1.7	0.32	7.9	463	1.9	0.32	0.00	0.00	0.92	0.38
18	0.00	0.14	0.57	0.32	5.7	159	1.6	0.24	0.00	0.00	0.63	e0.18
19	0.00	0.14	0.41	0.32	4.2	65	1.7	0.14	0.00	0.00	0.48	e0.11
20	0.00	0.16	0.32	2.0	3.5	48	1.7	0.14	0.00	0.00	0.62	e0.07
21	0.00	0.18	0.32	0.91	2.8	40	1.6	0.14	0.00	0.00	15	e0.04
22	0.00	0.18	0.32	0.54	2.5	31	1.5	0.14	0.00	0.00	15	e0.04
23	0.01	0.31	0.39	0.33	2.3	25	1.4	0.14	0.00	0.04	40	e0.04
24	0.01	0.54	0.74	0.32	2.3	20	1.4	0.11	0.00	0.00	15	e0.04
25	0.01	0.58	0.54	0.32	13	16	1.3	0.06	0.00	61	4.2	e0.04
26	0.69	0.70	0.35	0.32	40	13	1.2	0.05	0.00	0.74	134	e0.04
27	1.9	0.74	0.32	0.32	39	11	1.2	0.02	0.00	0.16	14	e0.04
28	0.49	0.74	0.32	0.32	31	8.6	1.2	0.01	0.00	0.08	142	e0.04
29	0.18	4.3	0.32	0.32	---	7.4	1.1	0.34	0.00	8.7	46	e0.04
30	0.09	4.1	0.32	0.32	---	6.8	1.0	0.12	0.00	192	12	e0.04
31	0.08	---	0.32	0.32	---	6.5	---	0.05	---	13	4.1	---
TOTAL	3.58	45.05	13.36	20.36	394.22	1608.3	83.1	14.08	0.05	275.72	467.10	88.73
MEAN	0.12	1.50	0.43	0.66	14.1	51.9	2.77	0.45	0.002	8.89	15.1	2.96
MAX	1.9	19	1.7	5.9	149	463	8.1	0.99	0.03	192	142	23
MIN	0.00	0.08	0.22	0.32	0.32	6.5	1.0	0.01	0.00	0.00	0.01	0.04
AC-FT	7.1	89	26	40	782	3190	165	28	0.1	547	926	176
CFSM	0.00	0.04	0.01	0.02	0.39	1.43	0.08	0.01	0.00	0.25	0.42	0.08

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2003, BY WATER YEAR (WY)

	1.32	0.72	2.45	4.81	18.1	24.3	7.56	1.03	0.26	3.00	4.50	3.33
MEAN	15.2	4.10	32.9	35.4	159	79.2	67.2	7.03	1.59	32.0	23.0	17.1
(WY)	2001	2001	1941	1941	1937	1941	1941	1941	1999	1999	2000	1999
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000
(WY)	1933	1933	1933	1934	1934	1934	1934	1935	1933	1934	1947	1932

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1932 - 2003

ANNUAL TOTAL	584.87		3013.65		5.87	
ANNUAL MEAN	1.60		8.26		24.2	
HIGHEST ANNUAL MEAN					1941	
LOWEST ANNUAL MEAN					0.37	
HIGHEST DAILY MEAN	131	Sep 7	463	Mar 17	1450	Feb 7 1937
LOWEST DAILY MEAN	0.00	Jun 7	0.00	Oct 8	0.00	Jul 1 1932
ANNUAL SEVEN-DAY MINIMUM	0.00	Jun 7	0.00	Oct 8	0.00	Jul 4 1932
ANNUAL RUNOFF (AC-FT)	1160		5980		4250	
ANNUAL RUNOFF (CFSM)	0.044		0.23		0.16	
10 PERCENT EXCEEDS	0.51		19		10	
50 PERCENT EXCEEDS	0.17		0.32		0.22	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

09503300 GRANITE CREEK BELOW WATSON LAKE NEAR PRESCOTT, AZ

LOCATION--Lat 34°36'49" long 112°25'02", in NW1/4NE1/4NE1/4 sec. 12, T.14 N., R.2 W., Yavapai County, Hydrologic Unit 15060202, 150 ft downstream of bridge on the U.S. Highway ALT 89, 6 mi north of Prescott, and 10 mi south of Chino Valley.

DRAINAGE AREA--Undetermined.

PERIOD OF RECORD--Sept. 1999 to current year.

GAGE--Water-stage recorder. Elevation of gage is 5,020 ft above sea level, from topographic map.

REMARKS--No estimated daily discharges. Records poor. Flow is partially regulated by Goldwater Reservoirs (2) on Bannon Creek and by Willow Creek and Watson Reservoirs. No diversion above station 09503000 (telecom with City Engineer 2/96). There is a diversion gate and canal at the gage, which conveys up to several ft³/s during the growing season.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 1,100 ft³/s July 27, 2003, gage height 6.72 ft, from an extension of the rating curve based on an equation for free weir flow. No flow for many days during the period of record.

EXTREMES FOR CURRENT YEAR--Maximum discharge, 1,100 ft³/s July 27 at 1900, gage height, 6.72 ft. Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.03	0.03	0.04	0.04	0.04	3.6	0.22	0.22	0.08	0.00	1.2	0.95
2	0.03	0.02	0.04	0.04	0.03	3.6	0.46	0.36	0.06	0.00	0.38	0.94
3	0.03	0.02	0.04	0.04	0.03	0.95	0.18	0.35	0.03	0.10	0.39	0.95
4	0.03	0.02	0.04	0.04	0.04	0.25	0.17	0.22	0.00	0.00	0.44	0.52
5	0.03	0.02	0.04	0.04	0.04	0.17	0.14	0.22	0.00	0.00	0.41	0.00
6	0.02	0.02	0.04	0.04	0.04	0.13	0.12	0.22	0.00	0.00	0.35	0.00
7	0.02	0.02	0.04	0.04	0.02	0.10	0.17	0.18	0.00	0.00	0.28	0.00
8	0.02	0.02	0.04	0.04	0.03	0.11	0.22	0.11	0.00	0.00	0.93	0.00
9	0.02	0.02	0.04	0.04	0.03	0.12	0.22	0.09	0.00	0.00	1.3	0.00
10	0.01	0.02	0.03	0.04	0.03	0.14	0.22	0.09	0.00	0.00	2.2	0.00
11	0.01	0.02	0.02	0.04	0.04	0.18	0.13	0.09	0.00	0.00	1.0	0.00
12	0.01	0.02	0.03	0.04	0.04	0.20	0.09	0.09	0.00	0.00	0.81	0.00
13	0.01	0.02	0.04	0.04	10	0.22	0.09	0.09	0.00	0.00	1.0	0.00
14	0.01	0.02	0.04	0.04	5.0	0.22	0.09	0.11	0.00	0.00	6.5	0.00
15	0.01	0.02	0.04	0.04	0.72	0.22	0.09	0.08	0.00	0.00	24	0.00
16	0.01	0.02	0.04	0.04	0.13	4.3	0.12	0.17	0.00	0.00	4.5	0.00
17	0.01	0.02	0.03	0.05	0.07	10	0.14	0.20	0.00	0.00	1.7	0.00
18	0.02	0.02	0.03	0.05	0.06	57	0.09	0.16	0.00	0.00	0.95	0.00
19	0.02	0.02	0.04	0.05	0.05	50	0.10	0.11	0.00	0.00	0.95	0.00
20	0.01	0.02	0.03	0.06	0.05	30	0.09	0.11	0.00	0.00	0.95	0.00
21	0.01	0.02	0.04	0.07	0.05	22	0.08	0.08	0.00	0.00	14	0.00
22	0.01	0.02	0.03	0.07	0.05	12	0.09	0.08	0.00	0.00	2.8	0.00
23	0.03	0.02	0.04	0.07	0.05	7.5	0.22	0.12	0.00	0.00	2.2	0.00
24	0.04	0.02	0.04	0.07	0.05	5.8	0.22	0.16	0.00	1.3	1.2	0.00
25	0.04	0.02	0.04	0.07	0.93	3.6	0.22	0.12	0.00	5.4	0.95	0.00
26	0.05	0.03	0.04	0.07	6.9	2.2	0.22	0.11	0.00	0.00	0.96	0.00
27	0.07	0.05	0.04	0.07	3.3	0.78	0.22	0.11	0.00	35	0.95	0.00
28	0.07	0.05	0.04	0.11	5.8	0.21	0.22	0.11	0.00	5.2	1.3	0.00
29	0.06	0.05	0.04	0.11	---	0.18	0.22	0.11	0.00	1.7	7.5	0.00
30	0.05	0.05	0.04	0.10	---	0.19	0.22	0.11	0.00	18	2.3	0.00
31	0.05	---	0.04	0.04	---	0.22	---	0.11	---	4.8	1.1	---
TOTAL	0.84	0.74	1.16	1.70	33.62	216.19	5.08	4.49	0.17	71.50	85.50	3.36
MEAN	0.027	0.025	0.037	0.055	1.20	6.97	0.17	0.14	0.006	2.31	2.76	0.11
MAX	0.07	0.05	0.04	0.11	10	57	0.46	0.36	0.08	35	24	0.95
MIN	0.01	0.02	0.02	0.04	0.02	0.10	0.08	0.08	0.00	0.00	0.28	0.00
MED	0.02	0.02	0.04	0.04	0.05	0.25	0.17	0.11	0.00	0.00	1.0	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)

	MEAN	0.28	0.047	0.044	0.20	0.61	3.65	0.15	0.070	0.033	0.59	1.13	1.62
MAX	1.07	0.083	0.14	0.64	1.20	7.15	0.25	0.14	0.13	2.31	2.76	11.0	
(WY)	2001	2001	2000	2001	2003	2001	2001	2003	2001	2003	2003	1999	
MIN	0.000	0.000	0.000	0.000	0.000	0.028	0.046	0.000	0.000	0.001	0.001	0.000	
(WY)	2002	2002	2002	2002	2002	2002	2002	2000	2000	2002	2002	2001	

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1999 - 2003

ANNUAL TOTAL		41.30		424.35								
ANNUAL MEAN		0.11		1.16						0.72		
HIGHEST ANNUAL MEAN										11.0		1999
LOWEST ANNUAL MEAN										0.11		2002
HIGHEST DAILY MEAN				22	Sep 7		57	Mar 18		82	Sep 23	1999
LOWEST DAILY MEAN				0.00	Jan 1		0.00	Jun 4		0.00	Oct 7	1999
ANNUAL SEVEN-DAY MINIMUM				0.00	Jan 1		0.00	Jun 4		0.00	Oct 14	1999
10 PERCENT EXCEEDS				0.05			1.3			0.53		
50 PERCENT EXCEEDS				0.00			0.04			0.01		
90 PERCENT EXCEEDS				0.00			0.00			0.00		

09503700 VERDE RIVER NEAR PAULDEN, AZ

LOCATION--Lat 34°53'40", long 112°20'32", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 39, T.18 N., R.1 W., Yavapai County, Hydrologic Unit 15060202, in Prescott National Forest, on right bank 0.3 mi upstream from Verde Valley Ranch, 7 mi east of Paulden, 8 mi upstream from Hell Canyon, 8 mi downstream from Granite Creek, and 10 mi downstream from Sullivan Lake.

DRAINAGE AREA--2,507 mi 2 (includes 357 mi 2 in Aubrey Valley Playa, a closed basin).

PERIOD OF RECORD--July 1963 to current year.

REVISED RECORDS--WDR AZ-83-1: 1981. WDR AZ-89-1: Drainage area.

GAGE--Water-stage recorder. Elevation of gage is 4,117 ft above sea level, from topographic map.

REMARKS--No estimated daily discharges. Records good. Diversions and storage above station for irrigation and municipal use.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 23,200 ft 3 /s Feb. 20, 1993, gage height, 14.25 ft, from rating curve extended above 7,600 ft 3 /s on basis of slope-area measurement of peak flow; minimum daily discharge, 15 ft 3 /s May 13-23, 1964.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 300 ft 3 /s and (or) maximum (*):

Date	Time	Discharge (ft 3 /s)	Gage height (ft)
Aug. 15.....	2145	*909	*5.31
Aug. 23.....	1400	676	3.96
Aug. 31.....	0045	731	4.09

Minimum daily discharge, 19 ft 3 /s on many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	21	21	24	24	26	21	21	21	20	20	52
2	21	21	21	24	24	27	21	21	21	20	19	29
3	21	21	21	24	24	26	21	21	21	19	19	24
4	21	21	21	24	24	26	22	21	21	19	19	22
5	21	21	21	24	23	27	22	21	21	19	19	22
6	21	22	21	24	23	27	22	21	21	19	19	21
7	21	22	21	24	23	27	22	21	21	19	19	21
8	21	22	22	25	23	27	22	21	21	19	19	21
9	21	22	21	25	23	27	22	21	21	19	19	30
10	21	22	21	25	23	27	22	21	21	19	19	25
11	21	21	22	25	23	27	21	21	21	19	19	22
12	21	21	22	24	22	27	21	21	21	19	19	22
13	21	22	22	24	25	27	21	21	21	19	19	21
14	21	21	22	24	24	27	21	21	21	19	21	20
15	21	21	22	25	24	26	22	21	21	19	144	20
16	21	22	22	24	23	27	21	21	21	19	51	20
17	21	22	22	25	23	26	22	21	21	19	80	20
18	21	22	22	25	23	26	22	21	20	19	39	20
19	21	22	22	25	23	26	21	21	20	19	25	20
20	21	22	22	25	24	25	21	21	21	19	23	20
21	21	22	22	25	24	25	21	21	20	20	29	20
22	21	22	22	25	25	25	21	21	20	20	35	20
23	22	22	22	25	25	25	21	21	20	19	401	20
24	21	22	22	25	25	24	21	21	20	19	224	20
25	21	21	22	25	25	24	21	21	20	19	179	20
26	22	21	23	25	28	23	21	21	20	19	133	20
27	21	21	23	24	26	23	21	21	20	19	154	20
28	21	21	23	24	27	22	21	21	20	20	64	20
29	21	22	23	24	---	22	21	21	20	20	54	20
30	21	22	23	24	---	22	21	21	20	20	376	20
31	21	---	23	24	---	22	---	21	---	22	313	---
TOTAL	653	647	679	759	673	788	640	651	618	599	2593	672
MEAN	21.1	21.6	21.9	24.5	24.0	25.4	21.3	21.0	20.6	19.3	83.6	22.4
MAX	22	22	23	25	28	27	22	21	21	22	401	52
MIN	21	21	21	24	22	22	21	21	20	19	19	20
AC-FT	1300	1280	1350	1510	1330	1560	1270	1290	1230	1190	5140	1330
CFSM	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.04	0.01
IN.	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.04	0.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)	MEAN	MAX	(WY)	MIN	(WY)	MEAN	MAX	(WY)	MIN	(WY)	MEAN	MAX	(WY)	MIN	(WY)	MEAN	MAX	(WY)	MIN	(WY)																						
1963	30.7	200	1973	18.7	1964	26.7	43.7	1986	20.4	1965	40.3	295	1966	21.9	1978	56.3	861	1993	21.7	1972	110	1443	1993	32.0	669	1978	32.0	155	1965	24.7	30.7	1995	23.8	27.5	1996	25.4	36.4	1963	31.7	83.6	2002	36.9	440	1983	20.4	20.4	1978

SUMMARY STATISTICS

FOR 2003 WATER YEAR

WATER YEARS 1963 - 2003

ANNUAL TOTAL	9972	
ANNUAL MEAN	27.3	42.0
HIGHEST ANNUAL MEAN		215
LOWEST ANNUAL MEAN		22.5
HIGHEST DAILY MEAN	401	Aug 23
LOWEST DAILY MEAN	19	Jul 3
ANNUAL SEVEN-DAY MINIMUM	19	Jul 3
ANNUAL RUNOFF (AC-FT)	19780	30430
ANNUAL RUNOFF (CFSM)	0.013	0.020
ANNUAL RUNOFF (INCHES)	0.17	0.27
10 PERCENT EXCEEDS	26	29
50 PERCENT EXCEEDS	21	25
90 PERCENT EXCEEDS	20	22

GILA RIVER BASIN

09504000 VERDE RIVER NEAR CLARKDALE, AZ

LOCATION.--Lat 34°51'08", long 112°03'55", in SE1/4NW1/4SE1/4 sec. 17, T.17 N., R.3 E., Yavapai County, Hydrologic Unit 15060202, in Prescott National Forest, on left bank 1.7 mi downstream from Sycamore Creek and 5.6 mi north of Clarkdale.

DRAINAGE AREA.--3,503 mi², of which 364 mi² is noncontributing including 357 mi² in Aubrey Valley Playa, a closed basin.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1915 to Oct. 1916, May 1917 to July 1921, Apr. 1965 to current year.

REVISED RECORDS.--WSP 1213: 1917, 1920. WDR AZ-89-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 3,500 ft above sea level, from topographic map. June 1915 to June 1921, at site 2.5 mi downstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 53,200 ft³/s Feb. 20, 1993, gage height, 26.39 ft, from rating curve extended above 20,000 ft³/s on basis of slope-area measurement at 53,200 ft³/s; minimum daily, 55 ft³/s Aug. 31 and Sept. 1, 1920.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 16.....	2220	*3,340	*5.72

Minimum daily discharge, 61 ft³/s on July 11-13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	75	79	79	80	84	74	74	68	63	78	213
2	71	75	78	79	80	86	74	74	67	63	72	362
3	71	75	78	79	79	81	74	74	66	63	69	135
4	71	75	78	79	80	80	74	74	65	63	67	92
5	71	74	78	80	80	80	74	74	65	63	66	154
6	70	75	78	80	80	79	74	74	66	62	65	99
7	71	75	78	80	80	79	74	74	67	62	64	88
8	71	76	78	81	80	133	74	73	67	62	65	91
9	70	77	78	81	80	320	73	73	67	62	65	181
10	70	77	78	81	80	318	73	73	66	62	64	310
11	71	76	78	80	80	278	73	73	65	61	64	105
12	71	75	78	80	81	204	73	71	65	61	65	82
13	71	76	78	80	94	146	73	71	65	61	67	75
14	72	76	78	80	286	115	73	71	64	62	68	72
15	72	76	78	80	139	98	76	71	64	62	350	70
16	72	76	79	80	93	980	76	70	64	63	331	69
17	74	76	80	80	82	1960	75	70	64	62	130	69
18	74	76	82	80	80	758	74	69	64	63	109	68
19	73	76	81	80	79	474	75	69	64	63	94	68
20	73	76	80	81	79	258	75	69	64	63	88	68
21	73	76	80	82	78	167	74	69	64	63	e71	67
22	73	76	80	81	77	127	74	69	64	65	e76	67
23	75	77	80	80	77	106	74	68	64	66	87	67
24	78	77	80	80	77	90	74	68	64	66	294	69
25	76	77	80	80	79	81	75	67	64	81	202	70
26	76	77	79	80	83	78	75	67	64	68	175	69
27	78	77	79	80	83	76	74	67	63	66	209	68
28	77	77	79	80	83	75	74	67	63	66	187	68
29	76	77	80	80	---	75	74	67	63	67	112	68
30	75	80	80	79	---	75	74	67	63	69	137	67
31	75	---	79	79	---	75	---	67	---	97	328	---
TOTAL	2261	2284	2449	2481	2529	7636	2223	2184	1943	2020	3919	3151
MEAN	72.9	76.1	79.0	80.0	90.3	246	74.1	70.5	64.8	65.2	126	105
MAX	78	80	82	82	286	1960	76	74	68	97	350	362
MIN	70	74	78	79	77	75	73	67	63	61	64	67
AC-FT	4480	4530	4860	4920	5020	15150	4410	4330	3850	4010	7770	6250

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 2003, BY WATER YEAR (WY)

MEAN	115	122	182	196	435	454	193	86.9	76.3	100	101	105
MAX	1080	736	1032	2800	3485	2763	1520	355	90.5	670	201	670
(WY)	1973	1920	1966	1993	1980	1978	1973	1973	1987	1919	1919	1983
MIN	67.9	69.6	73.7	73.4	73.8	73.2	68.6	68.5	61.6	64.1	67.4	66.3
(WY)	1979	1967	2002	1967	1972	1972	1968	1966	1974	1978	2002	1920

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1915 - 2003

ANNUAL TOTAL	27480	35080		
ANNUAL MEAN	75.3	96.1		
HIGHEST ANNUAL MEAN			645	1993
LOWEST ANNUAL MEAN			76.2	2002
HIGHEST DAILY MEAN	466	Sep 11	1960	Mar 17
LOWEST DAILY MEAN	65	Jun 25	61	Jul 11
ANNUAL SEVEN-DAY MINIMUM	65	Jun 25	62	Jul 7
MAXIMUM PEAK FLOW				50600
MAXIMUM PEAK STAGE				19.10
ANNUAL RUNOFF (AC-FT)	54510	69580	128600	Feb 21 1920
10 PERCENT EXCEEDS	80	101	183	
50 PERCENT EXCEEDS	73	75	82	
90 PERCENT EXCEEDS	66	64	72	

e Estimated

GILA RIVER BASIN
09504000 VERDE RIVER NEAR CLARKDALE, AZ—CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Mar. 1976 to Oct. 1979, Jan. 1980 to Aug. 1983 and Oct. 1986 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Turbidity, NTU (00076)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Calcium water, fltrd, mg/L (00915)
NOV 25...	1230	9	77	.98	670	10.0	106	7.8	524	16.0	12.2	230	53.0
MAR 27...	1130	9	76	9.6	672	8.2	92	8.2	522	21.0	14.8	220	53.0
MAY 07...	0945	9	74	3.2	671	7.5	88	8.2	510	--	16.6	220	50.0
07...	0955	7	74	2.0	671	7.5	88	8.2	511	--	16.6	220	50.0
Date	Calcium water unfltrd recover, mg/L (00916)	Magnesium, water, unfltrd, mg/L (00925)	Magnesium, water, recover, 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., mg/L (00453)	Carbonate, wat flt incrm. titr., 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)
NOV 25...	53.0	24.0	24.0	1.80	.7	24.0	266	322	<1	13.0	.2	8.10	283
MAR 27...	55.0	22.0	23.0	2.00	.6	22.0	248	298	2	12.0	.2	7.50	268
MAY 07...	51.0	23.0	24.0	1.80	.7	24.0	--	--	--	13.0	.2	7.90	274
07...	51.0	24.0	23.0	1.90	.7	24.0	--	--	--	13.0	.2	7.90	275
Date	Residue water, fltrd, tons/acre-ft (70303)	Residue 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 unfltrd mg/L (71845)	Ammonia water, unfltrd mg/L as N (00610)	Nitrite + nitrate water unfltrd mg/L as N (00630)	Phosphorus, water, unfltrd mg/L (00665)	COD, high level, unfltrd mg/L (00340)	E coli, m-TEC MP, 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 25...	.40	296	2	.40	.01	.01	.090	<.02	<5	E7k	<1	<1	18
MAR 27...	.40	295	15	.50	.01	.01	.180	.03	<5	E8k	<1	<1	17
MAY 07...	.35	258	9	<.20	--	<.01	<.020	<.02	<5	E5k	<1	<1	18
07...	.35	256	3	<.20	--	<.01	<.020	<.02	5	--	<1	<1	18
Date	Arsenic water unfltrd ug/L (01002)	Barium, water, fltrd, ug/L (01005)	Barium, water, unfltrd recover, ug/L (01007)	Beryllium, water, fltrd, ug/L (01010)	Beryllium, water, recover, ug/L (01012)	Boron, water, fltrd, ug/L (01020)	Boron, water, recover, ug/L (01022)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd, ug/L (01027)	Chromium, water, fltrd, ug/L (01030)	Chromium, water, recover, ug/L (01034)	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover, ug/L (01042)
NOV 25...	21	180	180	<1	<1	161	163	<.5	<.5	1	1	<2	<2
MAR 27...	17	190	190	<1	<1	150	152	<.5	<.5	<1	<1	<2	<2
MAY 07...	18	190	190	<1	<1	158	159	<.5	<.5	<1	<1	<2	<2
07...	19	190	190	<1	<1	161	161	<.5	<.5	<1	<1	<2	<2
Date	Iron, water, fltrd, ug/L (01046)	Iron, water, unfltrd recover, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover, ug/L (01051)	Manganese, water, fltrd, ug/L (01056)	Manganese, water, recover, ug/L (01055)	Mercury water, fltrd, ug/L (71890)	Mercury water, unfltrd recover, ug/L (71900)	Nickel, water, fltrd, ug/L (01065)	Nickel, water, unfltrd recover, ug/L (01067)	Selenium, water, fltrd, ug/L (01145)	Selenium, water, unfltrd, ug/L (01147)	Silver, water, fltrd, ug/L (01075)
NOV 25...	6	42	<2	<2	4	5	<.10	<.1	<1	<1	<1	<1	<1
MAR 27...	<2	279	<2	<2	10	22	<.10	<.1	<1	<1	<1	<1	<1
MAY 07...	4	5	<2	<2	6	6	<.10	<.1	<1	<1	<1	<1	<1
07...	5	5	<2	<2	6	6	<.10	<.1	<1	<1	<1	<1	<1

09504000 VERDE RIVER NEAR CLARKDALE, AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Silver, water, unfltrd recover -able, ug/L (01077)	Stront- ium, water, unfltrd recover -able, ug/L (01082)	Thall- ium, water, fltrd, ug/L (01057)	Thall- ium, water, unfltrd ug/L (01059)	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 load, tons/d (80155)
NOV 25...	<1	200	<2	<2	<2	<2	4	.83
MAR 27...	<1	190	<2	<2	<2	4	53	11
MAY 07...	<1	190	<2	<2	<2	<2	27	5.4
07...	<1	190	<2	<2	<2	<2	32	6.4

Remark codes used in this report:

< -- Less than

E -- Estimated value

Value qualifier codes used in this report:

k -- Counts outside acceptable range

GILA RIVER BASIN

09504420 OAK CREEK NEAR SEDONA, AZ

LOCATION.--Lat 34°51'42", long 111°45'40", in NE1/4NE1/4NE1/4 sec. 18, T.17 N., R.6 E., Coconino County, Hydrologic Unit 15060202, on left bank 290 ft downstream from State Highway 179 bridge in Sedona, 28 mi southwest of Flagstaff, and 35.1 mi upstream from mouth.

DRAINAGE AREA.--233 mi².

PERIOD OF RECORD.--Oct. 1981 to current year. Prior to Oct. 1995 published under station 09504430.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 4,169.20 ft above sea level (ADOT benchmark).

REMARKS.--No estimated daily discharges. Records good. Many diversions above and below station for irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,200 ft³/s Feb. 19, 1993, gage height, 20.33 ft, from outside floodmark, from rating curve extended above 8,000 ft³/s on the basis of contracted-opening of peak flow; minimum daily, 19 ft³/s June 12, 1986.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 900 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 13.....	2300	*5,100	*7.80	Mar. 16.....	1830	4,430	7.37
Mar. 10.....	2245	1,020	4.70	Mar. 21.....	1845	1,020	4.70

Minimum daily discharge, 27 ft³/s on many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	31	36	32	31	80	38	31	30	27	30	27
2	33	31	34	32	31	85	36	31	29	27	29	27
3	31	31	34	32	31	78	36	30	29	28	29	27
4	30	31	33	32	31	76	35	30	29	28	28	29
5	29	31	33	32	30	76	34	30	29	27	27	31
6	29	31	33	32	30	96	34	30	29	27	28	30
7	29	31	33	33	30	169	33	30	29	27	27	32
8	29	32	33	39	30	315	33	30	30	27	27	29
9	29	80	33	45	30	496	33	30	29	27	27	62
10	29	188	33	49	30	608	33	30	29	27	27	272
11	29	55	33	42	30	643	33	30	29	27	27	51
12	29	36	33	38	31	575	32	30	29	27	27	33
13	29	33	33	37	1640	443	32	29	29	28	27	31
14	29	32	33	35	1620	289	32	29	29	28	27	30
15	29	32	33	33	238	163	34	29	29	28	28	30
16	29	32	33	33	109	1760	34	29	29	28	28	30
17	31	32	35	32	64	1320	33	29	29	27	28	29
18	31	33	35	32	50	533	32	29	28	27	27	29
19	30	32	34	32	45	346	33	29	28	27	27	29
20	30	33	33	33	41	347	32	29	28	27	27	29
21	30	34	34	32	40	607	32	28	28	27	27	29
22	30	34	33	31	37	459	32	28	28	27	27	29
23	31	34	33	31	36	307	32	28	28	27	27	29
24	31	34	33	31	36	196	32	28	28	28	27	30
25	30	34	33	31	44	114	31	28	28	28	27	30
26	35	34	33	31	94	77	31	28	28	28	28	29
27	32	33	32	31	92	63	31	28	28	27	28	29
28	31	33	32	31	85	54	31	29	28	28	28	29
29	31	33	33	31	---	47	31	30	28	28	28	29
30	31	51	33	30	---	42	31	30	28	35	27	29
31	31	---	33	30	---	41	---	30	---	33	27	---
TOTAL	936	1221	1032	1045	4636	10505	986	909	859	862	853	1179
MEAN	30.2	40.7	33.3	33.7	166	339	32.9	29.3	28.6	27.8	27.5	39.3
MAX	35	188	36	49	1640	1760	38	31	30	35	30	272
MIN	29	31	32	30	30	41	31	28	28	27	27	27
AC-FT	1860	2420	2050	2070	9200	20840	1960	1800	1700	1710	1690	2340

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 2003, BY WATER YEAR (WY)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	
MEAN	36.0	51.6	81.9	99.2	179	256	116	34.1	28.4	30.4	32.2	37.8											
MAX	96.4	191	362	1084	980	703	376	67.1	34.0	44.5	49.1	103											
(WY)	1987	1983	1983	1993	1993	1982	1998	1983	1995	1986	1992	1983											
MIN	26.5	29.1	30.1	31.1	29.9	30.7	29.4	25.7	23.0	24.7	24.4	24.3											
(WY)	1995	1996	1996	1986	1996	1996	2002	1989	1985	1985	1985	1989											

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1982 - 2003
ANNUAL TOTAL	11371	25023	
ANNUAL MEAN	31.2	68.6	81.4
HIGHEST ANNUAL MEAN			249 1993
LOWEST ANNUAL MEAN			30.8 2002
HIGHEST DAILY MEAN	188 Nov 10	1760 Mar 16	8600 Mar 6 1995
LOWEST DAILY MEAN	25 Jun 28	27 Jul 1	19 Jun 12 1986
ANNUAL SEVEN-DAY MINIMUM	26 Jun 25	27 Jul 5	22 Aug 23 1985
ANNUAL RUNOFF (AC-FT)	22550	49630	58950
10 PERCENT EXCEEDS	34	69	125
50 PERCENT EXCEEDS	30	31	32
90 PERCENT EXCEEDS	27	27	27

09504500 OAK CREEK NEAR CORNVILLE, AZ

LOCATION--Lat 34°45'52", long 111°53'25", in NW¹/₄SW¹/₄ sec. 23, T.16 N., R.4 E., Yavapai County, Hydrologic Unit 15060202, on right bank 250 ft downstream from county highway bridge, 0.2 mi upstream from Page Springs, 4 mi northeast of Cornville, and 15 mi upstream from mouth.

DRAINAGE AREA--355 mi².

PERIOD OF RECORD--July 1940 to Sept. 1945, Apr. 1948 to current year.

REVISED RECORDS--WSP 1149: 1948(M). WRD Ariz. 1974: 1973. WDR AZ--89--1: Drainage area. WDR AZ--98--1: 1997.

GAGE--Water-stage recorder and crest-stage gage. Elevation of gage is 3,470 ft above sea level, from topographic map. Prior to Mar. 10, 1981, at site 250 ft upstream at same datum.

REMARKS--Records fair except for estimated daily discharges, which are poor. Numerous diversions above and below station for irrigation.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 26,400 ft³/s Feb. 19, 1980, gage height, 16.30 ft; maximum gage height, 19.15 ft, Feb. 20, 1993; minimum discharge, 6 ft³/s July 27, 1940.

EXTREMES OUTSIDE PERIOD OF RECORD--Maximum stage since at least 1885, 23 ft in Mar. 1938, from floodmarks (upstream side of bridge).

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 1,300 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 14.....	0245	3,470	7.80
Mar. 16.....	2315	*3,480	*7.81

Minimum daily discharge, 14 ft³/s on July 8--11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	29	80	36	43	126	45	30	19	16	25	59
2	26	29	42	37	42	146	39	30	18	16	23	68
3	29	29	37	40	43	126	34	31	18	16	22	28
4	27	28	36	41	e39	102	33	31	18	16	21	26
5	26	29	36	41	e38	93	32	31	18	16	22	32
6	26	29	37	42	e39	96	32	28	18	15	22	26
7	25	29	36	44	e37	133	30	28	19	15	24	35
8	25	29	37	44	39	223	29	30	19	14	24	29
9	24	31	35	55	39	365	29	31	20	14	25	59
10	23	167	38	64	39	497	29	31	18	14	23	269
11	23	107	38	63	37	569	30	31	17	14	23	117
12	23	57	43	55	37	536	29	34	18	15	22	54
13	24	36	40	51	616	465	29	36	18	15	22	37
14	24	33	e40	50	1810	326	29	35	18	16	22	32
15	25	34	e40	49	347	210	30	31	17	16	23	29
16	24	34	e40	47	164	932	33	30	17	16	23	27
17	25	33	e43	47	103	1920	34	28	17	16	23	25
18	26	31	e43	48	71	843	32	27	17	16	23	26
19	25	32	e41	47	58	596	32	26	17	16	23	27
20	24	33	e40	45	49	413	32	24	18	16	25	28
21	24	33	e41	e46	43	633	31	24	18	16	24	27
22	25	33	e40	e44	40	633	32	22	18	16	28	27
23	25	34	e40	46	39	525	33	20	17	15	28	27
24	26	36	e40	43	38	361	35	20	17	16	30	28
25	e26	37	e39	41	41	254	35	19	16	15	67	28
26	e26	39	e39	43	92	189	35	19	16	16	63	26
27	e35	37	e38	46	155	153	34	19	16	16	26	25
28	e30	37	e38	e43	157	127	32	19	16	16	27	25
29	29	37	38	e42	---	108	31	19	16	16	25	25
30	28	42	39	41	---	84	30	18	16	20	25	24
31	29	---	37	43	---	68	---	19	---	79	27	---
TOTAL	802	1224	1251	1424	4295	11852	970	821	525	549	830	1295
MEAN	25.9	40.8	40.4	45.9	153	382	32.3	26.5	17.5	17.7	26.8	43.2
MAX	35	167	80	64	1810	1920	45	36	20	79	67	269
MIN	23	28	35	36	37	68	29	18	16	14	21	24
MED	25	33	39	44	42	254	32	28	18	16	24	28
AC-FT	1590	2430	2480	2820	8520	23510	1920	1630	1040	1090	1650	2570
CFSM	0.07	0.11	0.11	0.13	0.43	1.08	0.09	0.07	0.05	0.05	0.08	0.12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)

	MEAN	45.7	61.0	107	97.1	177	243	161	31.7	20.4	23.8	33.1	39.7
MAX	571	450	881	1304	1391	1323	1097	216	58.0	40.8	90.9	373	
(WY)	1973	1966	1967	1993	1980	1978	1973	1973	1957	1950	1951	1970	
MIN	20.1	22.7	29.6	32.2	31.2	28.8	25.0	17.1	13.7	14.1	12.9	14.7	
(WY)	1990	1993	1996	1996	2002	1972	1996	1943	1943	1940	1944	1980	

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1940 - 2003
ANNUAL TOTAL	11036	25838	
ANNUAL MEAN	30.2	70.8	85.3
HIGHEST ANNUAL MEAN			256
LOWEST ANNUAL MEAN			19.6
HIGHEST DAILY MEAN	178	Sep 11	1920
LOWEST DAILY MEAN	16	Jun 17	14
ANNUAL SEVEN-DAY MINIMUM	17	Jun 14	14
ANNUAL RUNOFF (AC-FT)	21890	51250	61770
ANNUAL RUNOFF (CFSM)	0.085	0.20	0.24
10 PERCENT EXCEEDS	38	105	134
50 PERCENT EXCEEDS	29	31	32
90 PERCENT EXCEEDS	19	17	18

e Estimated

09505350 DRY BEAVER CREEK NEAR RIMROCK, AZ

LOCATION--Lat 34°43'43", long 111°46'30", in NE1/4NW1/4 sec. 1, T.15 N., R.5 E., Yavapai County, Hydrologic Unit 15060202, in Coconino National Forest, on left upstream abutment of abandoned highway bridge, 1,000 ft upstream from present State Highway 179, and 5.5 mi north of Rimrock.

DRAINAGE AREA--142 mi².

PERIOD OF RECORD--Oct. 1960 to current year.

REVISED RECORDS--WRD Ariz. 1969: Drainage area.

GAGE--Water-stage recorder and concrete control. Datum of gage is 3,694.38 ft above sea level (AZ Highway Department benchmark).

REMARKS--No estimated daily discharges. Records good. No known diversions above station.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 26,600 ft³/s Sept. 5, 1970, gage height, 14.35 ft, from rating curve extended above 6,000 ft³/s on basis of computation of peak flow over weir at gage height 9.07 ft and 9.69 ft and slope-area measurement at gage height 14.35 ft; no flow for many days each year.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 600 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge	Gage height
Feb. 13	2130	*4,360	*7.56	Mar. 20	2115	707	4.33
Mar. 9	2045	864	4.58	July 30	2015	858	4.57
Mar. 16	1945	3,420	6.98				

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.69	0.00	0.00	81	4.4	0.00	0.00	0.00	0.07	3.2
2	0.00	0.00	0.09	0.00	0.00	81	2.4	0.00	0.00	0.00	0.00	0.75
3	0.00	0.00	0.02	0.00	0.00	79	1.4	0.00	0.00	0.00	0.00	0.01
4	0.00	0.00	0.00	0.00	0.00	76	0.91	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	50	0.51	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	68	0.28	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	193	0.18	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	315	0.11	0.00	0.00	0.00	3.2	0.00
9	0.00	0.00	0.00	0.00	0.00	422	0.09	0.00	0.00	0.00	0.81	13
10	0.00	128	0.00	0.00	0.00	455	0.06	0.00	0.00	0.00	0.01	1.1
11	0.00	29	0.00	0.00	0.00	421	0.04	0.00	0.00	0.00	0.00	0.12
12	0.00	6.9	0.00	0.00	0.00	426	0.03	0.00	0.00	0.00	0.00	0.01
13	0.00	1.5	0.00	0.00	1370	416	0.02	0.00	0.00	0.00	0.00	0.00
14	0.00	0.25	0.00	0.00	1060	354	0.02	0.00	0.00	0.00	15	0.00
15	0.00	0.02	0.00	0.00	192	236	0.02	0.00	0.00	0.00	4.3	0.00
16	0.00	0.00	0.00	0.00	63	1360	0.02	0.00	0.00	0.00	0.10	0.00
17	0.00	0.00	0.00	0.00	29	937	0.02	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	17	435	0.01	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	11	289	0.01	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	9.2	314	0.01	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	4.8	394	0.01	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	2.5	306	0.01	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	1.4	280	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.77	231	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	1.00	145	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	59	91	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	134	68	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	107	40	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	---	22	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	8.4	0.00	0.00	---	14	0.00	0.00	0.00	45	0.00	0.00
31	0.00	---	0.00	0.00	---	7.4	---	0.00	---	2.8	0.00	---
TOTAL	0.00	174.07	0.80	0.00	3061.67	8606.4	10.56	0.00	0.00	47.80	23.49	18.19
MEAN	0.000	5.80	0.026	0.000	109	278	0.35	0.000	0.000	1.54	0.76	0.61
MAX	0.00	128	0.69	0.00	1370	1360	4.4	0.00	0.00	45	15	13
MIN	0.00	0.00	0.00	0.00	0.00	7.4	0.00	0.00	0.00	0.00	0.00	0.00
MED	0.00	0.00	0.00	0.00	1.2	236	0.02	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	345	1.6	0.00	6070	17070	21	0.00	0.00	95	47	36
CFSM	0.00	0.04	0.00	0.00	0.77	1.96	0.00	0.00	0.00	0.01	0.01	0.00
IN.	0.00	0.05	0.00	0.00	0.80	2.25	0.00	0.00	0.00	0.01	0.01	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2003, BY WATER YEAR (WY)

MEAN	7.95	16.3	55.0	54.8	106	157	101	7.62	0.005	0.44	1.71	11.2
MAX	246	251	602	814	850	678	598	208	0.17	10.6	34.9	224
(WY)	1973	1966	1979	1993	1980	1978	1973	1973	1979	1999	1992	1970
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1961	1961	1961	1961	1961	1967	1972	1961	1961	1965	1962	1962

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1961 - 2003	
ANNUAL TOTAL	292.91		11942.98			
ANNUAL MEAN	0.80		32.7		42.9	
HIGHEST ANNUAL MEAN					144	
LOWEST ANNUAL MEAN					0.32	
HIGHEST DAILY MEAN	128	Nov 10	1370	Feb 13	13100	Dec 18 1978
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 1	0.00	Oct 1 1960
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Oct 1	0.00	Oct 1 1960
ANNUAL RUNOFF (AC-FT)	581		23690		31100	
ANNUAL RUNOFF (CFSM)	0.006		0.23		0.30	
ANNUAL RUNOFF (INCHES)	0.08		3.13		4.11	
10 PERCENT EXCEEDS	0.00		42		90	
50 PERCENT EXCEEDS	0.00		0.00		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

GILA RIVER BASIN

09505800 WEST CLEAR CREEK NEAR CAMP VERDE, AZ

LOCATION--Lat 34°32'19", long 111°41'36", in NW1/4NW1/4 sec. 11, T.13 N., R.6 E., Yavapai County, Hydrologic Unit 15060203, in Coconino National Forest, on left bank at Bull Pen Ranch, 9 mi east of Camp Verde, and 11 mi upstream from mouth.

DRAINAGE AREA--241 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD--Dec. 1964 to current year.

GAGE--Water-stage recorder. Elevation of gage is 3,630 ft above sea level, from topographic map.

REMARKS--Records fair.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 24,800 ft³/s Jan. 8, 1993, gage height, 13.22 ft, from floodmarks and rating curve extended above 2,700 ft³/s on basis of slope-area measurements at gage heights 8.3 ft, 10.15 ft, and 13.22 ft; minimum daily, 11 ft³/s Aug. 1 and 22, 1986.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 1,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 9.....	2100	1,210	3.22
Mar. 16.....	2100	*4,110	*5.54

Minimum daily discharge, 13 ft³/s on July 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	15	19	18	18	40	31	16	15	14	16	16
2	15	15	18	18	18	38	e26	16	15	14	17	16
3	15	14	18	18	18	48	e24	16	15	14	16	16
4	15	15	17	18	18	57	23	16	15	14	15	20
5	15	15	17	18	18	56	22	16	15	14	14	72
6	14	15	17	18	18	96	21	16	15	14	14	32
7	14	15	17	18	17	257	21	16	15	14	14	22
8	15	16	17	19	17	323	20	16	15	14	14	18
9	15	16	18	20	18	480	19	16	15	14	19	18
10	15	17	18	20	17	563	19	16	14	13	20	20
11	14	17	18	19	17	571	19	16	14	14	16	20
12	15	17	18	18	17	471	18	16	14	14	39	23
13	15	16	18	18	75	328	18	16	14	14	18	26
14	15	16	18	18	339	206	18	16	14	14	17	20
15	15	16	18	18	172	132	19	16	14	14	22	18
16	15	16	18	18	69	731	18	16	14	14	19	17
17	16	16	19	18	39	1950	18	16	14	14	28	16
18	16	16	20	18	30	562	18	16	14	15	17	16
19	15	17	20	18	25	278	18	15	14	15	16	16
20	15	17	19	18	22	170	17	15	14	15	16	16
21	14	17	19	18	20	303	17	15	14	15	15	15
22	14	16	18	18	19	237	17	15	14	15	15	15
23	15	16	19	18	19	129	17	15	14	15	15	15
24	15	16	19	18	19	104	17	15	14	15	31	16
25	15	16	18	18	21	92	17	15	14	15	21	16
26	15	17	18	18	35	71	17	15	14	15	19	16
27	17	17	18	18	53	56	17	15	14	15	18	16
28	17	17	18	18	46	49	17	15	14	16	27	15
29	16	17	18	18	---	41	17	15	14	15	19	15
30	16	19	19	18	---	37	17	15	14	15	17	15
31	15	---	19	18	---	34	---	15	---	15	17	---
TOTAL	467	485	565	564	1214	8510	577	483	429	448	581	592
MEAN	15.1	16.2	18.2	18.2	43.4	275	19.2	15.6	14.3	14.5	18.7	19.7
MAX	17	19	20	20	339	1950	31	16	15	16	39	72
MIN	14	14	17	18	17	34	17	15	14	13	14	15
AC-FT	926	962	1120	1120	2410	16880	1140	958	851	889	1150	1170

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2003, BY WATER YEAR (WY)

MEAN	31.0	27.0	76.6	75.1	134	200	111	24.6	16.2	17.6	21.9	21.9
MAX	458	110	758	1136	956	886	923	157	24.8	34.9	102	113
(WY)	1973	1973	1979	1993	1980	1978	1973	1973	1984	1999	1992	1983
MIN	13.8	15.2	15.7	16.3	14.8	15.3	15.4	14.3	12.9	13.3	13.3	14.0
(WY)	1977	1969	1970	1981	1974	1967	1967	2000	2002	2002	2002	2001

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1965 - 2003
ANNUAL TOTAL	5627	14915	
ANNUAL MEAN	15.4	40.9	63.0
HIGHEST ANNUAL MEAN			199
LOWEST ANNUAL MEAN			15.3
HIGHEST DAILY MEAN	20	Sep 7	1950
LOWEST DAILY MEAN	12	Jun 23	13
ANNUAL SEVEN-DAY MINIMUM	13	Jun 19	14
ANNUAL RUNOFF (AC-FT)	11160	29580	45620
10 PERCENT EXCEEDS	17	39	94
50 PERCENT EXCEEDS	16	17	18
90 PERCENT EXCEEDS	13	14	14

e Estimated

09505800 WEST CLEAR CREEK NEAR CAMP VERDE, AZ—CONTINUED

(NATIONAL WATER-QUALITY ASSESSMENT STATION)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Feb. 1996 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Oct. 1996 to Apr. 1997.

WATER TEMPERATURE: Oct. 1996 to Apr. 1997.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	Sample type	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	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)
OCT													
17...	1200	9	15	669	8.8	100	8.5	373	23.0	15.4	199	227	7
DEC													
12...	1230	9	17	667	10.1	96	8.2	375	5.0	7.4	208	243	5
MAR													
07...	1310	9	17	664	10.2	108	8.6	376	18.0	11.6	205	232	9
APR													
16...	1220	9	17	664	8.3	98	8.5	372	18.5	16.6	199	230	6
JUN													
04...	1250	9	14	664	8.0	103	8.5	367	28.5	20.4	196	222	9
AUG													
13...	1235	9	13	669	7.6	104	8.4	361	32.0	24.0	188	220	5
13...	1236	7	13	--	--	--	--	--	--	--	--	--	--

Date	Chloride, water, fltrd, mg/L (00940)	Sulfate, water, unfltrd, mg/L (00945)	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)	Nitrite, water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd, mg/L (00665)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)
OCT										
17...	3.38	1.9	<.10	<.04	E.03	<.008	<.02	.015	4	.16
DEC										
12...	3.90	2.0	E.06	<.04	<.05	<.008	<.02	.013	4	.18
MAR										
07...	3.40	2.0	<.10	<.04	<.05	<.008	<.02	.011	3	.14
APR										
16...	3.20	2.0	.14	<.04	E.02	<.008	E.01	.028	12	.55
JUN										
04...	3.84	2.0	E.10	<.04	<.05	<.008	<.02	.011	2	.08
AUG										
13...	3.69	1.8	E.09	<.04	E.03	<.008	<.02	.018	4	.14
13...	--	--	--	--	--	--	--	--	6	.21

Remark codes used in this report:
 < -- Less than
 E -- Estimated value

GILA RIVER BASIN
09505800 WEST CLEAR CREEK NEAR CAMP VERDE, AZ—CONTINUED
(NATIONAL WATER-QUALITY ASSESSMENT STATION)

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Water-quality measurements in the following table were made as part of the National Water-Quality Assessment Program. The following analyses are quality-assurance samples processed during the 2002 sampling period and are defined in the introductory text section titled "Water-Quality Control Data."

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	Sample type	Suspended sediment concentration mg/L (80154)
JUN 04...	1145	2	2

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd, uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	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)
OCT 22...	1310	14	666	8.7	98	8.5	382	20.0	14.6	200	234	5	3.41
DEC 19...	1215	19	676	10.7	99	8.4	374	4.0	6.8	207	240	6	2.97
FEB 25...	1235	20	664	9.5	98	8.4	339	7.5	10.8	182	214	4	3.13
APR 15...	1140	19	670	9.0	98	8.4	346	9.0	12.9	184	213	6	3.96
JUN 30...	1150	14	668	7.6	99	8.5	373	31.5	21.8	196	220	10	4.17
SEP 04...	1235	21	671	7.1	92	8.5	366	27.0	22.0	190	213	10	3.90

Date	Sulfate water, unfltrd, fltrd, mg/L (00945)	Ammonia + org-N, water, unfltrd, mg/L (00625)	Ammonia water, fltrd, mg/L as N (00608)	Nitrite + nitrate, water, fltrd, mg/L as N (00631)	Nitrite water, fltrd, mg/L as N (00613)	Orthophosphate, water, fltrd, mg/L as P (00671)	Phosphorus, water, unfltrd, mg/L (00665)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)
OCT 22...	2.2	<.10	E.009	E.014	<.002	E.005	.011	<1	--
DEC 19...	2.1	E.08	<.04	<.06	<.008	<.02	.004	3	.15
FEB 25...	2.3	.14	<.04	<.06	<.008	<.02	.030	4	.22
APR 15...	2.1	E.07	<.04	<.06	<.008	E.01	.018	1	.05
JUN 30...	2.1	E.07	<.04	<.06	<.008	<.02	.017	3	.11
SEP 04...	1.9	.13	<.41d	E.04n	<.008	<.36d	.029	8	.45

Remark codes used in this report:

< -- Less than
E -- Estimated value

Value qualifier codes used in this report:

d -- Diluted sample: method hi range exceeded
n -- Below the NDV

09506000 VERDE RIVER NEAR CAMP VERDE, AZ

LOCATION--Lat 34°26'54", long 111°47'21", in NW1/4 sec. 11, T.12 N., R.5 E. (unsurveyed), Yavapai County, Hydrologic Unit 15060203, in Prescott National Forest, on right bank 600 ft upstream from Chasm Creek, 9 mi southeast of Camp Verde, and 9.7 mi downstream from West Clear Creek.

DRAINAGE AREA--5,009 mi², of which 365 mi² is noncontributing, including 357 mi² in Aubrey Valley Playa, a closed basin.

PERIOD OF RECORD--Apr. 1934 to Sept. 1945 and Oct. 1988 to current year.

REVISED RECORDS--WDR AZ-89-1: Drainage area.

GAGE--Water-stage recorder. Datum of gage is 2,874.11 ft above sea level.

REMARKS--Records good except for estimated daily discharges, which are fair. Several diversions above station for irrigation.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 119,000 ft³/s Feb. 20, 1993, gage height, 28.36 ft from floodmarks from rating curve extended above 17,000 ft³/s; minimum daily, 35 ft³/s July 15, 1997.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 4,000 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 14.....	1545	5,770	10.03
Mar. 17.....	1400	*9,140	*11.59

Minimum daily discharge, 44 ft³/s July 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	111	168	205	208	164	552	218	154	65	47	103	234
2	114	167	220	204	169	476	199	153	79	48	130	268
3	130	166	217	204	168	499	190	153	75	49	112	334
4	143	147	207	204	171	481	183	152	74	51	96	409
5	145	142	202	203	180	448	181	151	69	51	84	247
6	142	143	202	202	184	427	178	151	72	55	74	224
7	135	151	203	201	186	593	177	145	70	51	71	220
8	119	151	201	205	195	1040	175	126	71	48	65	188
9	113	158	201	211	197	1510	173	117	69	45	63	186
10	102	161	203	212	196	2270	169	115	69	44	58	187
11	102	214	203	215	194	2370	168	117	73	46	56	382
12	102	262	203	219	197	2160	167	112	71	45	55	363
13	104	219	202	215	231	1910	166	e109	66	45	54	252
14	102	197	201	211	4260	1590	165	e107	66	50	56	200
15	102	190	203	210	2190	1180	165	109	66	52	148	158
16	100	188	201	209	927	1060	166	98	62	54	162	141
17	104	191	204	208	552	7450	167	93	61	51	214	128
18	111	186	205	205	395	4730	165	99	62	51	246	115
19	124	192	204	201	318	2610	164	95	59	52	183	99
20	130	192	209	201	281	1680	163	91	58	58	156	89
21	130	191	208	204	259	1680	163	93	57	59	132	88
22	126	188	205	208	237	1750	161	92	58	62	122	89
23	131	189	210	207	221	1350	161	84	58	59	109	91
24	147	187	212	205	215	1110	161	78	53	55	114	92
25	148	188	210	203	219	844	161	75	51	54	136	94
26	154	193	206	203	265	624	160	76	51	54	224	96
27	163	194	206	202	376	488	159	77	49	58	250	96
28	179	195	207	202	554	402	158	81	46	59	234	93
29	181	194	209	187	---	328	156	79	49	66	250	86
30	177	204	209	166	---	280	155	70	49	67	232	82
31	171	---	209	158	---	247	---	64	---	78	190	---
TOTAL	4042	5508	6387	6293	13701	44139	5094	3316	1878	1664	4179	5331
MEAN	130	184	206	203	489	1424	170	107	62.6	53.7	135	178
MAX	181	262	220	219	4260	7450	218	154	79	78	250	409
MIN	100	142	201	158	164	247	155	64	46	44	54	82
AC-FT	8020	10930	12670	12480	27180	87550	10100	6580	3730	3300	8290	10570
CFSM	0.03	0.04	0.04	0.04	0.11	0.31	0.04	0.02	0.01	0.01	0.03	0.04
IN.	0.03	0.04	0.05	0.05	0.11	0.35	0.04	0.03	0.02	0.01	0.03	0.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1935 - 2003, BY WATER YEAR (WY)

	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	184	205	285	565	1014	1310	628	129	81.1	107	191	239																																																									
MAX	551	338	1350	7156	6160	4028	3050	337	123	232	616	1152																																																									
(WY)	1941	1941	1941	1993	1993	1938	1941	1941	1992	1999	1992	1939																																																									
MIN	106	167	189	188	164	153	118	74.6	56.6	48.4	59.8	83.0																																																									
(WY)	1992	2002	2001	2002	2002	2002	1996	2000	2002	1997	2002	1989																																																									

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1935 - 2003

ANNUAL TOTAL	50529	101532	
ANNUAL MEAN	138	278	408
HIGHEST ANNUAL MEAN			1403
LOWEST ANNUAL MEAN			137
HIGHEST DAILY MEAN	1280	Sep 11	7450
LOWEST DAILY MEAN	47	Jul 7	44
ANNUAL SEVEN-DAY MINIMUM	50	Jul 2	46
ANNUAL RUNOFF (AC-FT)	100200	201400	295800
ANNUAL RUNOFF (CFSM)	0.030	0.060	0.088
ANNUAL RUNOFF (INCHES)	0.40	0.81	1.19
10 PERCENT EXCEEDS	203	378	651
50 PERCENT EXCEEDS	136	166	182
90 PERCENT EXCEEDS	53	58	76

e Estimated

GILA RIVER BASIN

09507500 FOSSIL CREEK DIVERSIONS TO CHILDS POWERPLANT, NEAR CAMP VERDE, AZ

LOCATION--Lat 34°22'06", long 111°39'56", in NE_{1/4}SW_{1/4}sec. 20, T.11 N., R.7 E. (unsurveyed), Yavapai County, Hydrologic Unit 15060203, at head of Stehr Lake, 2.3 mi northeast of Childs powerplant, 4.4 mi by flume downstream from Irving powerplant, and 17 mi southeast of Camp Verde.

PERIOD OF RECORD--Jan. 1952 to current year.

GAGE--Water-stage recorder and weir in concrete flume. Datum of gage is 3,716.2 ft above sea level.

REMARKS--Records good. Record is obtained at the head of Stehr Lake, a regulatory basin, and shows the water used by Childs powerplant. Most of the flow originates at Fossil Springs, which are fairly constant. Diversion is made from Fossil Creek 8 mi upstream from this station and is first used by Irving powerplant. A second diversion from Fossil Creek enters the flume below Irving powerplant. Based on estimates and records for previous years, the flow through the Irving powerplant is estimated to be about 99 percent of the record published herewith.

EXTREMES FOR PERIOD OF RECORD--Maximum daily discharge, 58 ft³/s Aug. 1 and 2, 1982; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	35	36	38	39	37	36	38	38	39	39	38
2	35	35	36	38	39	37	37	38	38	39	39	38
3	35	35	32	38	38	38	37	38	39	39	39	38
4	35	35	37	38	38	38	37	39	39	39	39	38
5	35	35	38	38	38	38	37	39	39	39	38	38
6	36	35	38	38	38	37	37	39	39	39	38	38
7	36	35	38	37	38	36	37	39	39	39	38	38
8	36	35	38	38	38	37	37	39	39	39	38	38
9	36	35	38	38	38	36	37	39	39	39	38	38
10	36	34	38	38	38	37	37	39	39	39	38	38
11	36	35	38	38	38	37	37	39	37	39	38	38
12	35	36	38	37	38	37	38	39	36	39	38	38
13	36	36	38	38	38	37	37	39	37	39	38	38
14	36	36	38	38	36	38	37	39	38	39	38	38
15	36	35	38	38	36	37	37	39	38	39	38	38
16	36	36	38	38	37	36	36	38	39	39	38	38
17	35	36	38	38	37	35	37	38	39	39	38	38
18	36	36	38	38	36	34	38	38	39	39	38	38
19	35	36	38	38	35	34	39	38	40	38	38	38
20	36	36	38	38	34	34	38	38	40	39	38	38
21	36	36	38	38	34	35	38	38	40	39	38	38
22	36	36	38	38	35	35	38	38	39	39	38	38
23	36	36	38	38	35	35	38	38	39	39	38	38
24	36	36	38	38	37	36	38	38	39	39	38	37
25	36	36	38	38	38	36	38	38	39	39	38	36
26	35	36	37	38	38	36	38	38	39	39	38	36
27	34	36	37	38	37	36	38	38	39	39	38	36
28	34	36	38	38	37	36	38	38	39	39	38	36
29	34	36	38	38	---	36	38	38	39	39	38	36
30	34	36	38	39	---	36	38	37	39	39	38	36
31	34	---	38	39	---	36	---	38	---	39	38	---
TOTAL	1092	1067	1165	1178	1038	1123	1123	1189	1162	1208	1182	1127
MEAN	35.2	35.6	37.6	38.0	37.1	36.2	37.4	38.4	38.7	39.0	38.1	37.6
MAX	36	36	38	39	39	38	39	39	40	39	39	38
MIN	30	34	32	37	34	34	36	37	36	38	38	36
MED	36	36	38	38	38	36	37	38	39	39	38	38
AC-FT	2170	2120	2310	2340	2060	2230	2230	2360	2300	2400	2340	2240
CAL YR 2002	TOTAL 13827	MEAN 37.9	MAX 41	MIN 19	MED 38	AC-FT 27430						
WTR YR 2003	TOTAL 13654	MEAN 37.4	MAX 40	MIN 30	MED 38	AC-FT 27080						

09507580 EAST VERDE RIVER DIVERSION FROM EAST CLEAR CREEK, NEAR PINE, AZ

LOCATION--Lat 34°25'04", long 111°15'47", in NW1/4NE1/4 sec. 23, T.12 N., R.10 E. (unsurveyed), Gila County, Hydrologic Unit 15060203, on East Verde River at mouth of Mail Creek, 0.4 mi southeast of Washington Park, and 11 mi east of Pine.

PERIOD OF RECORD--Oct. 1965 to current year.

GAGE--Water-stage recorder and weir in concrete flume. Datum of gage is 5,774 ft above sea level (Phelps Dodge Corporation reference mark).

REMARKS--No estimated daily discharges. Records good. Diversion is 9.5 mi northeast from Blue Ridge Reservoir on East Clear Creek, in the Little Colorado River basin, to the East Verde River in the Gila River basin.

EXTREMES FOR PERIOD OF RECORD--Maximum daily discharge, 34 ft³/s Apr. 19 and 29, May 5-7, 10, 12, 15, 18, and June 2, 1969; no flow for long periods most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.2	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18	0.00	0.00	0.00
6	0.00	1.6	0.00	0.00	0.00	0.00	0.00	0.00	20	0.00	0.00	0.00
7	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	6.6	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.08	0.00	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.08	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.04	0.00	---
TOTAL	0.00	1.64	0.00	0.00	0.00	0.00	0.00	0.00	51.86	0.59	0.00	0.00
MEAN	0.000	0.055	0.000	0.000	0.000	0.000	0.000	0.000	1.73	0.019	0.000	0.000
MAX	0.00	1.6	0.00	0.00	0.00	0.00	0.00	0.00	20	0.08	0.00	0.00
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	3.3	0.00	0.00	0.00	0.00	0.00	0.00	103	1.2	0.00	0.00
CAL YR 2002	TOTAL 99.81	MEAN 0.27	MAX 13	MIN 0.00	AC-FT 198							
WTR YR 2003	TOTAL 54.09	MEAN 0.15	MAX 20	MIN 0.00	AC-FT 107							

GILA RIVER BASIN

09507980 EAST VERDE RIVER NEAR CHILDS, AZ

LOCATION.--Lat 34°16'35", long 111°38'17", in sec. 21, T.11 N., R.7 E. (unsurveyed), Gila County Hydrologic Unit 15060203, in Tonto National Forest, on left bank 1.6 mi upstream from mouth and 6 mi southeast of Childs.

DRAINAGE AREA.--331 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Sept. 1961 to Dec. 1965 and May 1967 to current year.

REVISED RECORDS.--WDR AZ--89--1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,500 ft above sea level, from topographic map. Sept. 1, 1961, to Dec. 15, 1965, at site 1 mi upstream at elevation of 2,600 ft above sea level, datum raised 0.38 ft Oct. 4, 1963. May 25, 1967, to July 20, 1972, at present site at datum 3.29 ft higher, datum lowered 2.00 ft Jan. 7, 1993.

REMARKS.--Records fair except for estimated daily discharges, which are poor. Since Sept. 30, 1965, records include transbasin diversions from East Clear Creek to headwaters of East Verde River. (See sta 09507580 and 09398300.)

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,500 ft³/s Sept. 5, 1970, gage height, 22.5 ft, present datum, from profile past gage, from rating curve extended above 960 ft³/s on basis of slope-area measurements at gage heights 12.11 and 22.5 ft, present datum; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 14.....	0945	1,710	4.42	Mar. 17.....	0845	*4,420	*6.67
Feb. 28.....	0030	2,940	5.41	July 19.....	0055	1,510	4.26
Mar. 2.....	1945	1,010	3.84				

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.82	2.2	2.3	3.2	823	27	6.3	1.0	0.00	0.35	1.0
2	0.10	0.82	1.9	2.3	3.2	546	24	6.2	0.89	0.00	0.36	31
3	0.42	0.81	1.6	2.3	3.2	668	23	6.2	0.75	0.00	0.28	6.9
4	0.24	0.76	1.6	2.3	3.2	406	22	6.1	0.67	0.00	0.20	2.3
5	0.15	0.76	1.5	2.3	3.2	283	20	5.9	0.65	0.00	0.02	1.3
6	0.08	0.78	1.5	2.3	3.2	252	19	6.0	0.61	0.00	0.00	1.2
7	0.06	0.75	1.6	2.3	3.2	403	17	5.7	0.58	0.00	0.00	1.0
8	0.10	0.77	1.6	2.5	3.3	435	16	5.7	0.56	0.00	0.00	1.0
9	0.09	0.89	1.6	3.3	3.7	496	15	6.0	0.51	0.00	0.00	1.4
10	0.07	1.2	1.6	2.9	3.4	497	13	6.2	0.44	0.00	0.22	18
11	0.04	1.5	1.6	2.5	3.2	327	13	6.4	0.36	0.00	0.21	27
12	0.04	1.4	1.6	2.4	3.3	229	12	6.1	0.34	0.00	0.15	13
13	0.14	1.2	1.6	2.3	11	173	12	5.9	0.27	0.00	0.08	6.9
14	0.09	1.0	1.6	2.4	907	147	11	5.6	0.22	0.00	0.39	3.5
15	0.10	0.98	1.7	2.3	202	121	14	5.4	0.17	0.00	0.84	2.3
16	0.13	0.94	1.7	2.3	46	161	13	4.9	0.10	0.00	0.44	1.5
17	0.38	0.94	2.2	2.4	24	3570	12	4.6	0.00	0.00	0.36	0.99
18	0.45	0.94	2.6	2.4	18	2760	11	4.0	0.00	0.00	0.32	0.77
19	0.36	0.95	2.7	2.6	14	1490	11	3.5	0.00	158	0.28	0.63
20	0.35	1.0	2.3	2.8	12	565	10	3.3	0.00	4.7	0.27	0.54
21	0.34	1.0	2.3	3.1	10	381	10	3.1	0.00	1.4	0.27	0.53
22	0.35	1.0	2.3	3.2	8.9	252	10	2.8	0.00	0.82	0.24	0.46
23	0.48	1.0	2.7	3.2	8.4	183	10	2.5	0.00	0.48	0.41	0.44
24	0.63	1.0	3.1	3.2	8.0	151	10	2.3	0.00	0.29	1.1	0.47
25	0.50	1.1	2.7	3.2	9.8	125	9.9	2.2	0.00	0.18	0.56	0.49
26	0.56	1.2	2.3	3.2	819	95	9.9	1.9	0.00	0.08	0.42	0.52
27	1.1	1.2	2.3	3.2	2240	82	9.0	1.5	0.00	0.10	0.43	0.58
28	0.93	1.2	2.3	3.2	1930	71	7.8	1.2	0.00	0.31	21	0.57
29	1.3	1.3	2.3	3.2	---	54	7.2	1.1	0.00	0.36	38	0.52
30	1.0	1.8	2.3	3.2	---	39	6.7	1.0	0.00	0.30	7.1	0.43
31	0.90	---	2.3	3.2	---	31	---	1.0	---	0.28	2.0	---
TOTAL	11.48	31.01	63.2	84.3	6307.4	15816	405.5	130.6	8.12	167.30	76.30	127.24
MEAN	0.37	1.03	2.04	2.72	225	510	13.5	4.21	0.27	5.40	2.46	4.24
MAX	1.3	1.8	3.1	3.3	2240	3570	27	6.4	1.0	158	38	31
MIN	0.00	0.75	1.5	2.3	3.2	31	6.7	1.0	0.00	0.00	0.00	0.43
AC-FT	23	62	125	167	12510	31370	804	259	16	332	151	252
CFSM	0.00	0.00	0.01	0.01	0.68	1.54	0.04	0.01	0.00	0.02	0.01	0.01
IN.	0.00	0.00	0.01	0.01	0.71	1.78	0.05	0.01	0.00	0.02	0.01	0.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2003, BY WATER YEAR (WY)

	MEAN	32.1	54.7	121	158	180	82.7	26.9	16.6	19.9	32.5	28.8
MAX	308	157	443	1819	1147	968	421	115	48.8	60.9	203	282
(WY)	1973	1979	1979	1993	1980	1978	1998	1973	1980	1999	1992	1970
MIN	0.37	0.83	1.42	2.25	3.69	4.15	2.51	0.37	0.003	0.000	0.000	0.73
(WY)	2003	1963	1963	1963	1964	2002	2002	2000	2002	2002	2002	1972

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1961 - 2003
ANNUAL TOTAL	757.21	23228.45	
ANNUAL MEAN	2.07	63.6	64.9
HIGHEST ANNUAL MEAN			290
LOWEST ANNUAL MEAN			3.98
HIGHEST DAILY MEAN	47	Sep 12	11000
LOWEST DAILY MEAN	0.00	Jun 2	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Jun 2	0.00
ANNUAL RUNOFF (AC-FT)	1500	46070	46980
ANNUAL RUNOFF (CFSM)	0.006	0.19	0.20
ANNUAL RUNOFF (INCHES)	0.09	2.61	2.66
10 PERCENT EXCEEDS	5.5	42	100
50 PERCENT EXCEEDS	0.93	1.6	22
90 PERCENT EXCEEDS	0.00	0.00	1.8

09507980 EAST VERDE RIVER NEAR CHILDS, AZ—CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Dec. 1990 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, NTU (00076)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, water, unfltrd std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Calcium water, unfltrd mg/L (00915)	Calcium unfltrd recover-able, mg/L (00916)
OCT 29...	1430	1.3	.74	691	7.3	86	7.6	691	22.5	18.5	180	36.0	37.0
MAR 25...	1615	119	4.9	697	7.5	83	8.4	298	30.0	15.8	140	36.0	38.0
JUN 25...	1410	.00	1.3	694	6.3	93	8.1	940	32.0	30.1	200	44.0	44.0
AUG 27...	1425	.45	6.3	695	10.2	136	8.3	783	31.0	24.9	200	44.0	45.0
Date	Magnesium, water, unfltrd, mg/L (00925)	Magnesium, water, recover-able, mg/L (00927)	Potassium, water, unfltrd, mg/L (00935)	Sodium adsorption ratio (00931)	Sodium, water, unfltrd, 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, unfltrd, mg/L (00940)	Fluoride, water, unfltrd, mg/L (00950)	Sulfate, unfltrd, mg/L (00945)	Residue water, unfltrd, sum of constituents, mg/L (70301)	Residue water, unfltrd, tons/acre-ft (70303)
OCT 29...	21.0	23.0	4.80	3	79.0	291	350	2	37.0	1.1	14.0	368	.54
MAR 25...	12.0	12.0	1.20	.2	6.3	142	169	2	5.90	.1	7.30	154	.24
JUN 25...	23.0	25.0	6.20	4	120	405	495	<1	64.0	1.7	21.0	525	.74
AUG 27...	23.0	24.0	6.10	3	96.0	347	406	8	46.0	1.3	14.0	439	.61
Date	Residue on evap. at 180degC, mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, unfltrd, mg/L as N (00625)	Ammonia, water, unfltrd, mg/L (71845)	Ammonia, water, unfltrd, mg/L as N (00610)	Nitrite + nitrate, water, unfltrd, mg/L as N (00630)	Phosphorus, water, unfltrd, mg/L (00665)	Total nitrogen, water, unfltrd, mg/L (00600)	Total nitrogen, water, unfltrd, mg/L as NO3 (71887)	COD, high level, water, unfltrd, mg/L (00340)	E coli, m-TEC MP, water, col/100 mL (31633)	Anti-mony, water, unfltrd, ug/L (01095)	Anti-mony, water, unfltrd, ug/L (01097)
OCT 29...	394	3	<.20	--	<.01	<.020	<.02	--	--	<5	E10k	<1	<1
MAR 25...	178	8	<.20	.03	.02	<.020	<.02	--	--	14	E2k	<1	<1
JUN 25...	545	<1	<.20	--	<.01	<.020	<.02	--	--	6	E4k	<1	<1
AUG 27...	450	9	.20	--	<.01	.040	<.02	.24	1.1	7	E270	<1	<1
Date	Arsenic, water, unfltrd, ug/L (01000)	Arsenic, water, unfltrd, ug/L (01002)	Barium, water, unfltrd, ug/L (01005)	Barium, water, recover-able, ug/L (01007)	Beryllium, water, unfltrd, ug/L (01010)	Beryllium, water, recover-able, ug/L (01012)	Boron, water, unfltrd, ug/L (01020)	Boron, water, recover-able, ug/L (01022)	Cadmium, water, unfltrd, ug/L (01025)	Cadmium, water, unfltrd, ug/L (01027)	Chromium, water, unfltrd, ug/L (01030)	Chromium, water, recover-able, ug/L (01034)	Copper, water, unfltrd, ug/L (01040)
OCT 29...	127	127	46.0	46.0	<1	<1	738	756	<.5	<.5	<1	<1	<2
MAR 25...	6	6	46.0	49.0	<1	<1	32	33	<.5	<.5	<1	<1	<2
JUN 25...	221	226	59.0	60.0	<1	<1	1260	1270	<.5	<.5	<1	<1	<2
AUG 27...	198	200	76.0	80.0	<1	<1	944	969	<.5	<.5	<1	<1	<2

GILA RIVER BASIN
09507980 EAST VERDE RIVER NEAR CHILDS, AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Copper, water, unfltrd recover- able, ug/L (01042)	Iron, water, unfltrd recover- able, ug/L (01046)	Iron, water, unfltrd recover- able, ug/L (01045)	Lead, water, unfltrd recover- able, ug/L (01049)	Lead, water, unfltrd recover- able, ug/L (01051)	Mangan- ese, water, unfltrd recover- able, ug/L (01056)	Mangan- ese, water, unfltrd recover- able, ug/L (01055)	Mercury water, unfltrd recover- able, ug/L (71890)	Mercury water, unfltrd recover- able, ug/L (71900)	Nickel, water, unfltrd recover- able, ug/L (01065)	Nickel, water, unfltrd recover- able, ug/L (01067)	Selen- ium, water, unfltrd recover- able, ug/L (01145)	Selen- ium, water, unfltrd recover- able, ug/L (01147)
OCT 29...	<2	8	59	<2	<2	11	16	<.10	<.1	<1	<1	<1	<1
MAR 25...	<2	11	259	<2	<2	11	19	<.10	<.1	<1	<1	<1	<1
JUN 25...	<2	10	100	<2	<2	37	44	<.10	<.1	1	<1	1	<1
AUG 27...	<2	3	289	<2	<2	11	25	<.1	<.1	1	3	<1	<1

Date	Silver, water, unfltrd recover- able, ug/L (01075)	Silver, water, unfltrd recover- able, ug/L (01077)	Stront- ium, water, unfltrd recover- able, ug/L (01082)	Thall- ium, water, unfltrd recover- able, ug/L (01057)	Thall- ium, water, unfltrd recover- able, ug/L (01059)	Zinc, water, unfltrd recover- able, ug/L (01090)	Zinc, water, unfltrd recover- able, ug/L (01092)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment load, tons/d (80155)
OCT 29...	<1	<1	320	<2	<2	<2	2	10	.04
MAR 25...	<1	<1	100	<2	<2	2	<2	5	1.6
JUN 25...	<1	<1	430	<2	<2	<2	<2	3	--
AUG 27...	<1	<1	390	<2	<2	<2	<2	7	.01

Remark codes used in this report:

< -- Less than
E -- Estimated value

Value qualifier codes used in this report:

k -- Counts outside acceptable range

**09508300 WET BOTTOM CREEK NEAR CHILDS, AZ
(HYDROLOGIC BENCHMARK STATION)**

LOCATION.--Lat 34°09'39", long 111°41'32", in sec. 36, T.9 N., R.6 E. (unsurveyed), Gila County, Hydrologic Unit 15060203, in Tonto National Forest, on right bank 1.4 mi upstream from mouth and 13 mi south of Childs.

DRAINAGE AREA.--36.4 mi².

PERIOD OF RECORD.--June 1967 to current year.

REVISED RECORDS.--WRD Ariz. 1970: 1968(M).

GAGE.--Water-stage recorder. Elevation of gage is 2,320 ft above sea level, from topographic map.

REMARKS.--No estimated daily discharges. Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,380 ft³/s Jan. 8, 1993, gage height, 18.36 ft, from slope-area measurement of peak flow; no flow for many days most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 14.....	0500	509	6.62	Feb. 27.....	1615	*567	*6.73
Feb. 26.....	1615	556	6.71	Mar. 17.....	2045	251	5.99

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.15	0.37	0.33	0.25	153	5.2	0.45	0.00	0.00	0.00	0.12
2	0.00	0.16	0.31	0.31	0.24	131	4.3	0.42	0.00	0.00	0.00	0.15
3	0.00	0.15	0.31	0.31	0.23	126	3.7	0.38	0.00	0.00	0.00	0.09
4	0.00	0.14	0.29	0.30	0.24	98	3.4	0.34	0.00	0.00	0.00	0.00
5	0.00	0.15	0.28	0.29	0.24	85	3.0	0.33	0.00	0.00	0.00	0.00
6	0.00	0.15	0.28	0.28	0.23	81	2.6	0.30	0.00	0.00	0.00	0.48
7	0.00	0.16	0.28	0.28	0.23	92	2.3	0.28	0.00	0.00	0.00	0.26
8	0.00	0.17	0.28	0.35	0.24	94	2.0	0.27	0.00	0.00	0.00	0.15
9	0.00	0.19	0.28	0.38	0.25	86	1.9	0.26	0.00	0.00	0.00	0.26
10	0.00	0.21	0.28	0.31	0.25	76	1.7	0.25	0.00	0.00	0.00	0.41
11	0.00	0.18	0.28	0.31	0.28	63	1.5	0.24	0.00	0.00	0.00	0.26
12	0.00	0.17	0.28	0.28	0.30	53	1.3	0.21	0.00	0.00	0.00	0.74
13	0.00	0.16	0.28	0.28	85	45	1.1	0.19	0.00	0.00	0.00	1.2
14	0.00	0.17	0.28	0.28	281	38	0.99	0.19	0.00	0.00	0.00	0.78
15	0.00	0.17	0.28	0.28	64	30	1.0	0.20	0.00	0.00	0.00	0.56
16	0.00	0.17	0.29	0.26	32	33	1.3	0.15	0.00	0.00	0.00	0.42
17	0.00	0.19	0.32	0.25	18	213	1.9	0.09	0.00	0.00	0.00	0.29
18	0.00	0.19	0.34	0.25	11	171	1.5	0.02	0.00	0.00	0.00	0.21
19	0.00	0.19	0.33	0.25	8.0	118	1.2	0.00	0.00	0.00	0.32	0.17
20	0.00	0.19	0.33	0.25	6.0	77	1.0	0.00	0.00	0.00	0.47	0.12
21	0.00	0.19	0.34	0.28	4.5	58	0.90	0.00	0.00	0.00	0.29	0.05
22	0.00	0.21	0.38	0.28	3.5	43	0.86	0.00	0.00	0.00	0.20	0.00
23	0.02	0.23	0.41	0.26	2.9	33	0.82	0.00	0.00	0.00	0.17	0.00
24	0.12	0.23	0.40	0.25	2.4	25	0.79	0.00	0.00	0.00	0.20	0.00
25	0.13	0.23	0.35	0.25	2.7	20	0.73	0.00	0.00	0.00	0.18	0.00
26	0.13	0.24	0.34	0.25	332	16	0.66	0.00	0.00	0.00	0.46	0.00
27	0.29	0.25	0.34	0.25	369	13	0.59	0.00	0.00	0.00	0.42	0.00
28	0.24	0.25	0.34	0.25	289	10	0.53	0.00	0.00	0.00	0.28	0.00
29	0.18	0.25	0.34	0.25	---	8.8	0.50	0.00	0.00	0.00	0.25	0.00
30	0.17	0.46	0.34	0.25	---	7.3	0.47	0.00	0.00	0.00	0.21	0.00
31	0.16	---	0.34	0.25	---	6.1	---	0.00	---	0.00	0.15	---
TOTAL	1.44	5.95	9.89	8.65	1513.98	2103.2	49.74	4.57	0.00	0.00	3.60	6.72
MEAN	0.046	0.20	0.32	0.28	54.1	67.8	1.66	0.15	0.000	0.000	0.12	0.22
MAX	0.29	0.46	0.41	0.38	369	213	5.2	0.45	0.00	0.00	0.47	1.2
MIN	0.00	0.14	0.28	0.25	0.23	6.1	0.47	0.00	0.00	0.00	0.00	0.00
AC-FT	2.9	12	20	17	3000	4170	99	9.1	0.00	0.00	7.1	13
CFSM	0.00	0.01	0.01	0.01	1.49	1.86	0.05	0.00	0.00	0.00	0.00	0.01
IN.	0.00	0.01	0.01	0.01	1.55	2.15	0.05	0.00	0.00	0.00	0.00	0.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)	AC-FT	CFSM	IN.
1967	5.16	103	1973	0.006	2002	2.9	0.00	0.00
1968	7.24	52.0	1979	0.062	2002	12	0.01	0.01
1969	18.3	111	1968	0.28	2002	20	0.01	0.01
1970	36.0	373	1993	0.26	1970	17	0.01	0.01
1971	41.5	345	1980	0.28	2002	3000	1.49	1.55
1972	45.3	321	1978	0.26	2002	4170	1.86	2.15
1973	49.3	56.6	1998	0.076	2002	99	0.05	0.05
1974	0.56	2.07	1983	0.000	1972	9.1	0.00	0.00
1975	0.079	0.55	1979	0.000	1970	0.00	0.00	0.00
1976	0.97	12.0	1985	0.000	1970	0.00	0.00	0.00
1977	3.87	48.3	1992	0.000	1972	7.1	0.00	0.00
1978	2.87	27.1	1970	0.000	1972	13	0.01	0.01

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1967 - 2003
ANNUAL TOTAL	45.17	3707.74	
ANNUAL MEAN	0.12	10.2	14.2
HIGHEST ANNUAL MEAN			47.2 1993
LOWEST ANNUAL MEAN			0.11 2002
HIGHEST DAILY MEAN	0.46 Nov 30	369 Feb 27	3410 Jan 8 1993
LOWEST DAILY MEAN	0.00 Apr 15	0.00 Oct 1	0.00 Jul 6 1968
ANNUAL SEVEN-DAY MINIMUM	0.00 Apr 15	0.00 Oct 1	0.00 Jul 6 1968
ANNUAL RUNOFF (AC-FT)	90	7350	10300
ANNUAL RUNOFF (CFSM)	0.003	0.28	0.39
ANNUAL RUNOFF (INCHES)	0.05	3.79	5.30
10 PERCENT EXCEEDS	0.30	10	21
50 PERCENT EXCEEDS	0.00	0.24	0.46
90 PERCENT EXCEEDS	0.00	0.00	0.00

GILA RIVER BASIN

09508500 VERDE RIVER BELOW TANGLE CREEK, ABOVE HORSESHOE DAM, AZ

LOCATION--Lat 34°04'23", long 111°42'56", in sec. 35, T.9 N., R.6 E. (unsurveyed), Yavapai County, Hydrologic Unit 15060203, in Tonto National Forest, on right bank 1.3 mi downstream from Tangle Creek and 9 mi upstream from Horseshoe Dam.

DRAINAGE AREA--5,858 mi², of which 365 mi² is noncontributing, including 357 mi² in Aubrey Valley Playa, a closed basin.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD--Aug. 1945 to current year.

REVISED RECORDS--WDR AZ--89--1: Drainage area.

GAGE--Water-stage recorder. Datum of gage is 2,029.0 ft above sea level.

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. Low flow slightly regulated by powerplant 32 mi above station, using water from Fossil Creek. This station is above all major reservoirs on Verde River.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 145,000 ft³/s Jan. 8, 1993, gage height 23.4 ft, from slope-area measurement of peak flow; minimum, 48 ft³/s June 17, 1956, July 18 and 19, 1958, caused by power regulation on Fossil Creek; minimum daily, 58 ft³/s Aug. 15 and 18, 2002.

EXTREMES OUTSIDE PERIOD OF RECORD--Maximum discharge since at least 1888, 150,000 ft³/s Feb. 24, 1891, based on comparison with peak discharge at other stations on Verde River.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 4,000 ft³/s and (or) maximum (*)

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 15.....	0215	6,390	12.54
Mar. 17.....	2145	*11,000	*14.30

Minimum daily discharge, 58 ft³/s July 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	152	234	275	251	197	1740	354	166	e100	67	92	227
2	154	231	274	248	195	1340	312	168	e100	67	99	261
3	167	230	287	244	194	1230	287	170	e100	65	131	268
4	176	229	284	243	193	1110	275	166	e100	65	129	295
5	189	221	277	242	191	949	256	167	e100	65	116	414
6	193	213	271	238	194	839	248	166	e100	67	110	592
7	191	215	267	235	195	1030	241	165	e100	68	103	288
8	183	220	262	240	198	1500	232	167	e100	70	95	273
9	165	227	260	252	204	1900	223	164	e98	66	91	269
10	156	231	261	248	202	2440	210	160	e98	63	87	263
11	139	232	262	246	199	2690	201	160	e98	59	84	256
12	134	259	262	246	198	2560	196	161	e97	58	79	412
13	135	316	260	247	290	2350	192	154	e95	60	75	395
14	134	283	261	243	2430	2070	187	148	e93	65	86	304
15	135	261	260	238	4860	1700	188	147	e90	70	178	255
16	129	252	259	234	2470	1270	206	150	e87	70	133	206
17	133	252	261	232	1340	6320	209	145	e86	71	160	180
18	138	252	264	235	758	6730	211	138	e83	70	187	164
19	146	250	264	236	530	4020	206	136	e81	81	221	153
20	164	254	261	237	435	2710	193	138	e78	99	198	141
21	175	255	263	240	376	2120	188	132	e76	77	177	126
22	180	254	265	245	331	2160	190	131	e75	76	165	117
23	184	252	265	251	290	2010	188	131	e74	75	155	119
24	191	256	269	252	256	1640	189	e122	e73	75	159	121
25	202	254	267	249	256	1380	191	e110	79	74	152	126
26	208	254	262	244	942	1200	187	e105	76	72	168	125
27	225	257	256	243	1840	831	183	e103	74	71	278	124
28	236	257	255	240	2370	657	177	e103	72	80	322	126
29	239	257	255	237	---	550	172	e102	69	84	390	121
30	242	271	254	225	---	462	167	e101	65	81	316	117
31	239	---	253	207	---	401	---	e100	---	83	268	---
TOTAL	5434	7429	8196	7468	22134	59909	6459	4376	2617	2214	5004	6838
MEAN	175	248	264	241	790	1933	215	141	87.2	71.4	161	228
MAX	242	316	287	252	4860	6730	354	170	100	99	390	592
MIN	129	213	253	207	191	401	167	100	65	58	75	117
MED	175	252	262	243	273	1640	199	147	88	70	152	217
AC-FT	10780	14740	16260	14810	43900	118800	12810	8680	5190	4390	9930	13560
CFSM	0.03	0.05	0.05	0.04	0.14	0.35	0.04	0.03	0.02	0.01	0.03	0.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 2003, BY WATER YEAR (WY)

	MEAN	321	358	696	812	1158	1505	829	210	131	174	316	277
MAX	4194	1384	4644	12420	11020	10420	5638	1322	316	430	1184	1463	
(WY)	1973	1966	1979	1993	1980	1978	1973	1973	1955	1953	1951	1970	
MIN	155	192	227	224	220	193	155	113	75.9	71.4	72.5	98.5	
(WY)	1951	1963	1951	1961	1964	2002	1963	2000	2002	2003	2002	1956	

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1946 - 2003

ANNUAL TOTAL	66236	138078	
ANNUAL MEAN	181	378	563
HIGHEST ANNUAL MEAN			2229
LOWEST ANNUAL MEAN			177
HIGHEST DAILY MEAN	1380	Sep 12	6730
LOWEST DAILY MEAN	58	Aug 15	58
ANNUAL SEVEN-DAY MINIMUM	62	Aug 15	63
ANNUAL RUNOFF (AC-FT)	131400		273900
ANNUAL RUNOFF (CFSM)	0.033		0.069
10 PERCENT EXCEEDS	260		618
50 PERCENT EXCEEDS	178		202
90 PERCENT EXCEEDS	69		79

e Estimated

09508500 VERDE RIVER BELOW TANGLE CREEK ABOVE HORSESHOE DAM, AZ—CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD--Oct. 1980 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, NTU (00076)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, unfltrd field, std units (00400)	Specific conductance, uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Noncarbohardness, wat flt field, mg/L as CaCO3 (00904)	Calcium water, fltrd, mg/L (00915)
OCT 31...	1055	237	8.3	712	9.6	102	8.1	678	21.0	15.0	280	25	51.0
MAR 14...	1525	2030	48	707	9.3	96	8.0	225	17.0	13.3	94	.0	22.0
MAY 29...	1050	119	7.3	702	7.2	96	8.2	731	34.5	25.2	270	19	46.0
JUL 29...	1330	82	11	--	--	--	8.3	779	34.5	30.1	280	35	47.0

Date	Calcium water unfltrd recover-able, mg/L (00916)	Magnesium, water, unfltrd recover-able, mg/L (00925)	Magnesium, water, unfltrd recover-able, 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)
OCT 31...	52.0	37.0	38.0	3.00	1	43.0	254	298	6	29.0	.3	71.0	413
MAR 14...	27.0	9.50	11.0	1.30	.4	8.4	93	114	<1	5.90	.1	9.70	113
MAY 29...	48.0	37.0	38.0	3.20	1	49.0	250	287	8	32.0	.4	83.0	400
JUL 29...	49.0	40.0	40.0	3.70	1	57.0	248	287	7	40.0	.4	110	447

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, unfltrd mg/L as N (00610)	Nitrite + nitrate water, unfltrd mg/L as N (00630)	Phosphorus, water, unfltrd mg/L (00665)	COD, high level, water, unfltrd mg/L (00340)	E coli, m-TEC MP, col/100 mL (31633)	Anti-mony, water, fltrd, ug/L (01095)	Anti-mony, water, unfltrd ug/L (01097)	Arsenic water, fltrd, ug/L (01000)	Arsenic water, unfltrd ug/L (01002)
OCT 31...	.55	407	13	.20	<.01	<.020	.02	<5	24	<1	<1	20	20
MAR 14...	.19	140	56	.40	<.01	<.020	.11	18	E7k	<1	<1	7	11
MAY 29...	.63	462	4	.20	<.01	<.020	.02	<5	E4k	<1	<1	23	23
JUL 29...	.66	484	17	<.20	<.01	<.020	.03	<5	42	<1	<1	24	28

Date	Barium, water, fltrd, ug/L (01005)	Barium, water, unfltrd recover-able, ug/L (01007)	Beryllium, water, fltrd, ug/L (01010)	Beryllium, water, unfltrd recover-able, ug/L (01012)	Boron, water, fltrd, ug/L (01020)	Boron, water, unfltrd recover-able, ug/L (01022)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd ug/L (01027)	Chromium, water, fltrd, ug/L (01030)	Chromium, water, unfltrd recover-able, ug/L (01034)	Copper, water, fltrd, ug/L (01040)	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, fltrd, ug/L (01046)
OCT 31...	92.0	97.0	<1	<1	192	195	<.5	<.5	<1	<1	<2	<2	<2
MAR 14...	42.0	67.0	<1	<1	40	42	<.5	<.5	<1	4	<2	4	15
MAY 29...	79.0	83.0	<1	<1	225	225	<.5	<.5	<1	<1	<2	<2	<2
JUL 29...	69.0	72.0	<1	<1	268	266	<.5	<.5	<1	<1	<2	<2	<2

GILA RIVER BASIN

09508500 VERDE RIVER BELOW TANGLE CREEK ABOVE HORSESHOE DAM, AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Iron, water, unfltrd recover- able, ug/L (01045)	Lead, water, fltrd, ug/L (01049)	Lead, water, unfltrd recover- able, ug/L (01051)	Mangan- ese, water, fltrd, ug/L (01056)	Mangan- ese, water, unfltrd recover- able, ug/L (01055)	Mercury water, fltrd, ug/L (71890)	Mercury water, unfltrd recover- able, ug/L (71900)	Nickel, water, fltrd, ug/L (01065)	Nickel, water, unfltrd recover- able, ug/L (01067)	Selen- ium, water, fltrd, ug/L (01145)	Selen- ium, water, unfltrd recover- able, ug/L (01147)	Silver, water, fltrd, ug/L (01075)	Silver, water, unfltrd recover- able, ug/L (01077)
OCT 31...	251	<2	<2	3	16	<.10	<.1	<1	<1	<1	<1	<1	<1
MAR 14...	1910	<2	3	3	49	<.10	<.1	1	4	<1	<1	<1	<1
MAY 29...	293	<2	<2	5	23	<.10	<.1	<1	1	1	<1	<1	<1
JUL 29...	505	<2	<2	5	25	<.10	<.1	<1	2	<1	2	<1	<1

Date	Stront- ium, water, unfltrd recover- able, ug/L (01082)	Thall- ium, water, fltrd, ug/L (01057)	Thall- ium, water, unfltrd recover- able, ug/L (01059)	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 load, tons/d (80155)
OCT 31...	930	<2	<2	<2	<2	26	17
MAR 14...	210	<2	<2	<2	9	57	312
MAY 29...	870	<2	<2	<2	<2	14	4.5
JUL 29...	960	<2	<2	3	<2	18	4.0

Remark codes used in this report:

< -- Less than
E -- Estimated value

Value qualifier codes used in this report:

k -- Counts outside acceptable range

09509500 RESERVOIR SYSTEM ON VERDE RIVER AT AND BELOW HORSESHOE DAM, AZ

LOCATION.--This system comprises two storage reservoirs created by Horseshoe and Bartlett Dams on Verde River, Maricopa and Yavapai Counties, Hydrologic Unit 15060203. Gages on Horseshoe Reservoir, formed by Horseshoe Dam, lat 33°59'05", long 111°42'35", in sec. 2, T.7 N., R.6 E. (unsurveyed); and Bartlett Reservoir, formed by Bartlett Dam, lat 33°49'05", long 111°37'52", in sec. 34, T.6 N., R.7 E. (unsurveyed).

DRAINAGE AREA.--6,157 mi² (at Bartlett Dam), of which 365 mi² is noncontributing, including 357 mi² in Aubrey Valley Playa, a closed basin.

PERIOD OF RECORD.--July 1939 to current year. Prior to 1946 published as "Bartlett Reservoir at Bartlett Dam."

REVISED RECORDS.--WDR AZ--89--1: Drainage area.

GAGE.--Water-stage recorders on dam structures. Datum of gage on Horseshoe Reservoir is 1,900.00 ft and on Bartlett Reservoir 1,599.46 ft above sea level. Prior to Oct. 14, 1964, Bartlett Reservoir gage datum was 10.00 ft higher.

REMARKS.--Horseshoe Reservoir is formed by earthfill and rockfill dam; dam completed and storage began Nov. 15, 1945. Bartlett Reservoir is formed by concrete multiple-arch dam; dam completed May 1939 and storage began Feb. 5, 1939. Total capacity of the two reservoirs (capacity tables dated 1978, based on survey in 1977--78) is 309,600 acre-ft divided as follows: Horseshoe Reservoir, 131,400 acre-ft between elevations 1,915.0 ft (sill of outlet gate) and 2,026.0 ft (top of spillway gates) Bartlett Reservoir, 178,200 acre-ft between elevations 1,619.46 ft (10 ft above sill of outlet gates) and 1,797.46 ft (top of spillway gates). No dead storage. Records given herein represent usable contents. Water is used for irrigation of Salt River Valley and for municipal supply.

COOPERATION.--Capacity tables furnished by Salt River Valley Water Users' Association.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents of system, 318,000 acre-ft May 9, 1973; no storage at times when natural flow of river was passed through reservoir system.

EXTREMES FOR CURRENT YEAR.--Maximum contents of system, 199,400 acre-ft Mar. 28; minimum, 61,330 acre-ft Dec. 20.

RESERVOIR STORAGE, in (ACRE-FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76450	69620	61940	62630	62610	95280	198000	187100	175000	158000	137900	132200
2	76390	69410	61960	62460	62520	98830	197700	186300	174700	157400	137600	132400
3	76350	69310	62030	62290	62470	101800	197500	185600	174400	156900	137300	132700
4	76370	69180	62120	62110	62400	104000	198400	185100	174000	156300	137200	132900
5	76420	68890	62220	61860	62360	106300	198500	184700	173500	155700	137100	133000
6	76520	68440	62320	61680	62360	108900	198400	184400	172600	155100	136700	133600
7	76630	67960	62390	61580	62400	111600	198000	183700	172000	154400	136200	134200
8	76730	67290	62440	61600	62420	115200	197900	183000	171500	153400	135600	134700
9	76830	66780	62440	61710	62370	119400	197700	182100	170900	152600	135000	134900
10	76920	66480	62250	61880	62310	124900	197400	181700	170100	151600	134300	135300
11	76960	66190	62120	62070	62030	130600	196600	181200	169500	150600	133700	135500
12	77000	65990	62040	62350	61610	132200	196300	180800	168900	150000	132900	135800
13	77020	65620	62000	62570	61960	135200	195800	180400	168100	149400	132100	136300
14	77060	65220	62010	62760	63700	138400	195500	180100	167600	148800	131800	136700
15	77080	64920	62040	62930	69790	142300	195300	179100	167100	148100	131300	137100
16	77090	64700	61860	63100	72880	145200	194800	178500	166600	147400	130900	137300
17	77020	64510	61680	63180	76460	158000	194400	177900	166000	146400	130400	137300
18	76730	64330	61490	63290	77680	172300	194000	177400	165500	145300	130200	137300
19	76380	64150	61340	63310	79010	179600	193700	176800	164900	144200	130000	137300
20	76040	63990	61330	63250	79890	184900	193500	176400	164300	143400	129900	137300
21	75540	63830	61430	63080	80280	188400	193300	176200	163600	142800	129800	137400
22	74840	63650	61570	63000	80580	191500	192700	176300	163000	142300	129900	137500
23	74120	63190	61740	62960	80900	194300	191900	176300	162400	141800	130000	137400
24	73420	62850	62070	62960	81470	196200	191600	176300	161800	141200	130100	137300
25	72720	62500	62410	63000	82390	197800	191000	176200	161300	140700	130200	137200
26	72070	62260	62730	63050	83370	198800	190500	176000	160800	140400	130200	137200
27	71410	62040	62960	63080	86200	199200	190000	176100	160300	140000	130400	137200
28	70770	61980	62990	63030	90810	199400	189200	176100	159600	139300	130600	137200
29	70390	61890	62930	62940	---	199000	188400	175800	159200	138800	131000	137200
30	70070	61900	62820	62780	---	198600	187700	175300	158700	138400	131500	137200
31	69830	---	62790	62670	---	198500	---	175100	---	138200	131900	---
MAX	77090	69620	62990	63310	90810	199400	198500	187100	175000	158000	137900	137500
MIN	69830	61890	61330	61580	61610	95280	187700	175100	158700	138200	129800	132200
(*)	-6650	-7930	+890	-120	+28140	+107690	-10800	-12600	-16400	-20500	-6300	+5300

CAL YR 2002 MAX 86600 MIN 61210 (*) +1940
WTR YR 2003 MAX 199400 MIN 61330 (*) +60720

(*) Change in contents, in acre-feet.

GILA RIVER BASIN

09510000 VERDE RIVER BELOW BARTLETT DAM, AZ

LOCATION.--Lat 33°48'30", long 111°39'46", in NW $\frac{1}{4}$ 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 mi², of which 365 mi² is noncontributing, including 357 mi² 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 those for estimated daily discharge, 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)--115 years, 661 ft³/s, 478,900 acre-ft/yr; median of yearly mean discharge, 530 ft³/s, 384,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--1888-1939: Maximum discharge not determined, probably over 150,000 ft³/s Feb. 24, 1891; minimum daily, 29 ft³/s July 11 and 13, 1901. Floods of Nov. 27, 1905 and Mar. 4, 1938, reached maximum discharges of 96,000 ft³/s and 95,000 ft³/s, respectively.

1939-2000: Maximum discharge, 110,000 ft³/s Jan. 8, 1993; no flow at Bartlett Dam at times when gates in dam were closed.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 801 ft³/s Mar. 28. Minimum daily discharge, 79 ft³/s Sept. 10.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105	309	219	339	247	107	640	520	180	405	208	131
2	107	300	218	339	238	140	497	603	180	353	261	144
3	118	238	212	338	218	148	378	510	227	327	209	149
4	106	277	206	357	220	150	389	390	267	358	152	218
5	111	350	195	389	208	138	317	370	323	360	217	251
6	100	422	195	338	184	151	303	368	466	356	291	142
7	110	435	195	292	185	151	306	385	364	408	378	107
8	108	538	207	247	225	153	320	532	323	540	415	108
9	98	446	271	193	241	156	349	592	339	535	417	111
10	118	353	329	175	254	146	424	408	401	578	412	79
11	121	311	288	160	386	132	533	408	405	575	406	141
12	124	319	281	132	475	131	505	418	406	394	526	129
13	117	445	263	159	224	140	412	416	373	395	413	111
14	113	446	221	169	112	132	344	413	267	396	443	110
15	122	377	237	174	139	117	349	461	305	394	385	141
16	118	325	343	181	149	134	358	506	315	458	341	150
17	177	312	346	199	140	279	406	496	340	572	397	136
18	259	313	348	205	108	693	411	416	396	660	337	117
19	302	313	315	238	126	610	392	388	365	665	264	117
20	301	303	239	291	150	544	325	334	360	493	226	105
21	428	286	191	333	151	487	359	271	361	363	228	93
22	518	354	190	296	152	600	414	122	360	349	178	98
23	518	447	177	270	152	601	384	108	357	319	116	113
24	515	402	105	242	141	614	393	108	352	342	114	118
25	511	389	92	219	116	602	488	109	353	312	124	115
26	509	340	95	222	106	571	457	102	370	190	132	112
27	507	310	148	236	105	673	502	124	411	291	134	114
28	475	249	246	273	106	801	584	126	399	385	132	113
29	378	264	285	289	---	775	571	152	427	280	132	113
30	346	255	307	321	---	668	499	236	430	250	132	113
31	309	---	274	302	---	623	---	180	---	152	132	---
TOTAL	7849	10428	7238	7918	5258	11367	12609	10572	10422	12455	8252	3799
MEAN	253	348	233	255	188	367	420	341	347	402	266	127
MAX	518	538	348	389	475	801	640	603	466	665	526	251
MIN	98	238	92	132	105	107	303	102	180	152	114	79
AC-FT	15570	20680	14360	15710	10430	22550	25010	20970	20670	24700	16370	7540
CAL YR 2002	TOTAL	57128	MEAN 157	MAX 660	MIN 85	AC-FT 113300						
WTR YR 2003	TOTAL	108167	MEAN 296	MAX 801	MIN 79	AC-FT 214500						

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 District Office in Tucson, AZ.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, NTU (00076)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, unfltrd field, std units (00400)	Specific conductance, uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Noncarb hardness, wat flt field, mg/L as CaCO3 (00904)	Calcium water, fltrd, mg/L (00915)
NOV 08...	1115	534	12	721	7.6	86	8.2	659	22.0	18.3	260	18	40.0
APR 09...	1205	349	3.2	719	11.9	120	8.6	640	22.0	13.0	240	17	43.0
MAY 28...	1010	124	5.4	718	10.4	109	8.2	386	36.0	14.4	150	9	32.0
AUG 05...	1030	244	2.2	718	10.1	109	8.1	347	40.0	16.3	140	--	32.0

Date	Calcium water unfltrd recover, mg/L (00916)	Magnesium water, unfltrd recover, mg/L (00925)	Magnesium water, unfltrd recover, 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)
NOV 08...	41.0	38.0	38.0	3.60	1	50.0	239	262	14	33.0	.4	83.0	391
APR 09...	43.0	33.0	33.0	3.10	1	40.0	228	256	10	27.0	.3	68.0	351
MAY 28...	32.0	18.0	18.0	2.20	.7	20.0	145	177	<1	13.0	.2	30.0	203
AUG 05...	33.0	15.0	16.0	2.00	.5	15.0	140	170	2	10.0	.2	20.0	180

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, unfltrd, mg/L as N (00625)	Ammonia water unfltrd, mg/L (71845)	Ammonia unfltrd, mg/L as N (00610)	Nitrite + nitrate water unfltrd, mg/L as N (00630)	Organic nitrogen, water, unfltrd, mg/L (00605)	Phosphorus, water, unfltrd, mg/L (00665)	Total nitrogen, water, unfltrd, mg/L (00600)	Total nitrogen, water, unfltrd, mg/L as NO3 (71887)	COD, high level, water, unfltrd, mg/L (00340)	E coli, m-TEC MF, water, col/100 mL (31633)
NOV 08...	.56	410	13	.30	.01	.01	<.020	.29	.03	--	--	<5	E4k
APR 09...	.51	375	5	<.20	.01	.01	.150	--	.03	--	--	<5	<1
MAY 28...	.33	244	1	.30	.01	.01	.280	.29	.04	.58	2.6	16	E3k
AUG 05...	.29	210	3	.30	.03	.02	.110	.28	.04	.41	1.8	17	170

Date	Antimony, water, fltrd, ug/L (01095)	Antimony, water, unfltrd, ug/L (01097)	Arsenic water, fltrd, ug/L (01000)	Arsenic water unfltrd, ug/L (01002)	Barium water, fltrd, ug/L (01005)	Barium, water, unfltrd recover, ug/L (01007)	Beryllium, water, fltrd, ug/L (01010)	Beryllium, water, unfltrd recover, ug/L (01012)	Boron, water, fltrd, ug/L (01020)	Boron, water, unfltrd recover, ug/L (01022)	Cadmium water, fltrd, ug/L (01025)	Cadmium water, unfltrd, ug/L (01027)	Chromium, water, fltrd, ug/L (01030)
NOV 08...	<1	<1	19	19	53.0	58.0	<1	<1	220	220	<.5	<.5	<1
APR 09...	<1	<1	17	18	57.0	58.0	<1	<1	181	180	<.5	<.5	<1
MAY 28...	<1	<1	12	11	42.0	44.0	<1	<1	93	91	<.5	<.5	<1
AUG 05...	<1	<1	12	12	37.0	40.0	<1	<1	70	72	<.5	<.5	<1

GILA RIVER BASIN

09510000 VERDE RIVER BELOW BARTLETT DAM, AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Chromium, water, unfltrd recover-able, ug/L (01034)	Copper, water, unfltrd recover-able, ug/L (01040)	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, unfltrd recover-able, ug/L (01046)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, unfltrd recover-able, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)	Manganese, water, unfltrd recover-able, ug/L (01056)	Manganese, water, unfltrd recover-able, ug/L (01055)	Mercury, water, unfltrd recover-able, ug/L (71890)	Mercury, water, unfltrd recover-able, ug/L (71900)	Nickel, water, unfltrd recover-able, ug/L (01065)	Nickel, water, unfltrd recover-able, ug/L (01067)
NOV 08...	<1	<2	<2	<2	390	<2	<2	5	55	<.10	<.1	<1	2
APR 09...	<1	<2	2	<2	157	<2	<2	7	18	<.10	<.1	<1	<1
MAY 28...	<1	<2	<2	7	244	<2	<2	8	25	<.10	<.1	1	1
AUG 05...	<1	<2	<2	8	131	<2	<2	8	61	<.10	<.1	<1	1

Date	Selenium, water, fltrd, ug/L (01145)	Selenium, water, unfltrd, ug/L (01147)	Silver, water, fltrd, ug/L (01075)	Silver, water, unfltrd recover-able, ug/L (01077)	Strontium, water, unfltrd recover-able, ug/L (01082)	Thallium, water, fltrd, ug/L (01057)	Thallium, water, unfltrd, ug/L (01059)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)
NOV 08...	1	1	<1	<1	860	<2	<2	<2	2	12	17
APR 09...	1	1	<1	<1	770	<2	<2	<2	<2	5	4.7
MAY 28...	<1	<1	<1	<1	440	<2	<2	<2	<2	8	2.7
AUG 05...	<1	<1	<1	<1	370	<2	<2	<2	<2	3	2.0

Remark codes used in this report:

< -- Less than
E -- Estimated value

Value qualifier codes used in this report:

k -- Counts outside acceptable range

09510200 SYCAMORE CREEK NEAR FORT MCDOWELL, AZ

LOCATION--Lat 33°41'39", long 111°32'28", in sec. 16, T.4 N., R.8 E. (unsurveyed), Maricopa County, Hydrologic Unit 15060203, in Tonto National Forest, on right bank 0.7 mi southwest of Sugarloaf Mountain, 9 mi northeast of Fort McDowell, 10 mi upstream from mouth, and 25 mi northeast of Scottsdale.

DRAINAGE AREA--164 mi².

PERIOD OF RECORD--Dec. 1960 to current year. Prior to Oct. 1, 1963, published as "near McDowell."

REVISED RECORDS--WRD Ariz. 1970: Drainage area.

GAGE--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 1,759.33 ft above sea level. Prior to Oct. 1, 1970, at datum 0.16 ft lower.

REMARKS--Records fair except for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 24,200 ft³/s Sept. 5, 1970, gage height, 19.7 ft, from profile past gage, from rating curve extended above 3,600 ft³/s on basis of slope-area measurements at gage heights 15.0, 16.0, and 19.7 ft; no flow at times in most years.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 400 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 28.....	1245	678	2.68
Mar. 17.....	2200	*806	*2.91

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	229	e8.4	1.0	0.04	0.02	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	141	e8.4	0.89	0.03	0.02	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	91	7.8	0.87	0.03	0.01	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	64	6.8	0.84	0.02	0.01	0.00	0.01
5	0.00	0.00	0.00	0.00	0.00	55	6.3	0.81	0.02	e0.01	0.00	0.02
6	0.00	0.00	0.00	0.00	0.00	53	5.7	0.78	0.02	e0.00	0.00	0.03
7	0.00	0.00	0.00	0.00	0.00	55	4.7	0.74	0.02	e0.01	0.00	0.02
8	0.00	0.00	0.00	0.00	0.00	58	3.8	0.59	0.02	e0.01	0.00	0.02
9	0.00	0.00	0.00	0.00	0.00	52	3.2	0.59	0.02	e0.00	0.00	0.02
10	0.00	0.00	0.00	0.00	0.00	43	2.9	0.57	0.02	e0.00	0.00	0.03
11	0.00	0.00	0.00	0.00	0.00	33	2.9	0.53	0.02	e0.00	0.00	0.02
12	0.00	0.00	0.00	0.00	0.00	22	2.7	0.44	0.02	e0.00	0.00	0.01
13	0.00	0.00	0.00	0.00	0.00	14	2.6	0.35	0.02	e0.00	0.00	0.02
14	0.00	0.00	0.00	0.00	0.00	9.2	2.6	0.29	0.02	0.00	0.00	0.02
15	0.00	0.00	0.00	0.00	0.10	6.3	4.0	0.28	0.02	e0.00	0.00	0.02
16	0.00	0.00	0.00	0.00	0.08	12	4.3	0.22	0.02	e0.00	0.00	0.02
17	0.00	0.00	0.00	0.00	0.06	350	3.4	0.19	0.02	e0.00	0.00	0.02
18	0.00	0.00	0.00	0.00	0.02	388	2.6	0.16	0.02	e0.00	0.00	0.02
19	0.00	0.00	0.00	0.00	0.00	263	2.7	0.11	0.02	0.00	0.00	0.02
20	0.00	0.00	0.00	0.00	0.00	191	2.8	0.10	0.03	0.00	0.00	0.01
21	0.00	0.00	0.00	0.00	0.00	140	2.6	0.10	0.03	0.00	0.00	0.02
22	0.00	0.00	0.00	0.00	0.00	107	2.4	0.09	0.04	0.00	0.00	0.01
23	0.00	0.00	0.00	0.00	0.00	89	2.3	0.09	0.03	0.00	0.00	0.02
24	0.00	0.00	0.00	0.00	0.00	e67	2.1	0.09	0.03	0.00	0.00	0.04
25	0.00	0.00	0.00	0.00	0.01	e41	2.0	0.07	0.03	0.00	0.00	0.04
26	0.00	0.00	0.00	0.00	10	e35	1.9	0.07	e0.03	0.00	0.00	0.03
27	0.00	0.00	0.00	0.00	160	e24	1.6	0.07	e0.02	0.00	0.00	0.03
28	0.00	0.00	0.00	0.00	436	e18	1.4	0.06	0.02	0.00	0.00	0.03
29	0.00	0.00	0.00	0.00	---	e14	1.3	0.06	e0.02	0.00	0.00	0.01
30	0.00	0.00	0.00	0.00	---	e11	1.1	0.05	e0.02	0.00	0.00	0.01
31	0.00	---	0.00	0.00	---	e11	---	0.04	---	0.00	0.00	---
TOTAL	0.00	0.00	0.00	0.00	606.27	2686.5	107.3	11.14	0.72	0.09	0.00	0.57
MEAN	0.000	0.000	0.000	0.000	21.7	86.7	3.58	0.36	0.024	0.003	0.000	0.019
MAX	0.00	0.00	0.00	0.00	436	388	8.4	1.0	0.04	0.02	0.00	0.04
MIN	0.00	0.00	0.00	0.00	0.00	6.3	1.1	0.04	0.02	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	1200	5330	213	22	1.4	0.2	0.00	1.1
CFSM	0.00	0.00	0.00	0.00	0.13	0.53	0.02	0.00	0.00	0.00	0.00	0.00
IN.	0.00	0.00	0.00	0.00	0.14	0.61	0.02	0.00	0.00	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 2003, BY WATER YEAR (WY)

MEAN	6.61	6.64	40.7	58.9	77.4	88.3	25.0	6.70	2.22	1.82	4.07	3.93
MAX	194	72.3	426	1065	852	881	120	51.7	20.8	15.4	52.3	92.6
(WY)	1973	1973	1966	1993	1980	1978	1973	1979	1994	1992	1970	
MIN	0.000	0.000	0.000	0.000	0.004	0.022	0.008	0.000	0.000	0.000	0.000	0.000
(WY)	1961	1961	1963	1963	1990	2002	2002	1961	1961	1962	1961	1962

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1961 - 2003
ANNUAL TOTAL	20.80	3412.59	
ANNUAL MEAN	0.057	9.35	26.7
HIGHEST ANNUAL MEAN			155
LOWEST ANNUAL MEAN			0.063
HIGHEST DAILY MEAN	9.0	Aug 28	8300
LOWEST DAILY MEAN	0.00	Feb 27	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Feb 27	0.00
ANNUAL RUNOFF (AC-FT)	41	6770	19310
ANNUAL RUNOFF (CFSM)	0.000	0.057	0.16
ANNUAL RUNOFF (INCHES)	0.00	0.77	2.21
10 PERCENT EXCEEDS	0.11	7.2	40
50 PERCENT EXCEEDS	0.00	0.00	0.52
90 PERCENT EXCEEDS	0.00	0.00	0.00

e Estimated

GILA RIVER BASIN

09511300 VERDE RIVER NEAR SCOTTSDALE, AZ

LOCATION.--Lat 33°33'31", long 111°40'07", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 31, T.3 N., R.7 E., Maricopa County, Hydrologic Unit 15060203, in Salt River Indian Reservation, on right bank, 0.75 mi north of city of Phoenix water-treatment plant, 1 mi upstream from mouth, 1.7 mi downstream from State Highway 87, and 16 mi northeast of Scottsdale.

DRAINAGE AREA.--6,615 mi², of which 365 mi² is noncontributing, including 357 mi² in Aubrey Valley Playa, a closed basin.

PERIOD OF RECORD.--Feb. 1961 to current year.

REVISED RECORDS.--WDR AZ-89-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,320.31 ft above sea level. Prior to Oct. 1, 1980, and Jan. 4 to Oct. 3, 1988, at site 1.7 mi upstream on State Highway 87 bridge at datum 31.04 ft higher. Oct. 1, 1980, to Jan. 3, 1988, at Verde Plant intake structure 0.1 mi upstream at same datum.

REMARKS.--Records good, except estimated daily discharges, which are poor. Flow regulated by Bartlett and Horseshoe Reservoirs (see sta 09509500) except during periods of spill or floodflow below Bartlett Dam. About 12,500 acres above reservoirs are irrigated by surface water and ground water. Below reservoirs water is diverted for municipal supply for the city of Phoenix, and for irrigation of an undetermined acreage in Fort McDowell Indian Reservation. Remainder (except during infrequent period of extreme flooding) is diverted at Granite Reef Dam on Salt River, 6 mi downstream, for irrigation in Salt River Valley and for municipal use by the city of Phoenix.

AVERAGE DISCHARGE.--42 years, 612 ft³/s, 443,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 127,000 ft³/s Jan. 8, 1993, from slope-area measurement of peak flow, gage height, 25.37 ft recorded; no flow at times some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 727 ft³/s, Feb. 14 at 0430, gage height 4.00 ft. Minimum daily discharge, 56 ft³/s, Sept. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	291	248	281	271	172	559	382	136	346	129	101
2	71	292	221	306	254	134	543	436	135	310	170	94
3	85	268	217	307	240	156	375	503	140	280	181	98
4	92	228	212	308	231	160	343	374	184	287	131	124
5	87	277	206	345	233	156	325	321	209	306	102	183
6	93	330	200	345	213	153	308	301	287	314	167	161
7	82	362	199	306	191	155	293	312	344	306	225	126
8	75	413	198	285	208	155	296	340	297	382	281	97
9	84	463	218	236	231	153	315	469	261	418	299	82
10	76	380	290	196	242	153	333	398	288	421	330	73
11	67	335	292	187	289	146	438	353	309	482	324	56
12	72	288	277	171	413	136	455	337	317	368	380	97
13	75	350	267	158	411	134	464	334	322	344	367	89
14	86	421	249	178	400	143	354	324	259	329	372	87
15	84	400	220	190	193	132	331	322	249	309	482	82
16	82	353	271	192	185	143	324	360	256	324	343	96
17	83	315	330	203	176	208	333	410	241	427	314	100
18	142	290	331	211	157	532	367	379	296	472	313	82
19	221	299	326	220	133	541	391	332	324	480	240	74
20	264	288	271	260	147	532	334	289	292	452	199	76
21	277	283	226	299	161	459	318	267	302	266	182	74
22	419	281	195	314	160	496	356	190	308	174	204	68
23	436	385	204	292	159	532	389	115	297	125	148	63
24	453	388	168	272	159	549	316	105	287	101	121	76
25	462	392	117	249	149	552	390	113	287	98	98	72
26	473	335	101	238	193	540	404	113	281	e140	104	73
27	476	304	97	226	152	537	403	90	313	e248	106	75
28	462	260	157	230	241	634	459	83	328	e351	104	74
29	387	253	225	251	---	669	468	82	349	e235	96	85
30	344	283	276	261	---	622	423	105	356	238	99	73
31	311	---	249	297	---	569	---	155	---	188	96	---
TOTAL	6492	9807	7058	7814	6192	10353	11407	8694	8254	9521	6707	2711
MEAN	209	327	228	252	221	334	380	280	275	307	216	90.4
MAX	476	463	331	345	413	669	559	503	356	482	482	183
MIN	67	228	97	158	133	132	293	82	135	98	96	56
AC-FT	12880	19450	14000	15500	12280	20540	22630	17240	16370	18880	13300	5380
CAL YR 2002	TOTAL 48969	MEAN 134	MAX 521	MIN 49	AC-FT 97130							
WTR YR 2003	TOTAL 95010	MEAN 260	MAX 669	MIN 56	AC-FT 188500							

e Estimated

09512162 INDIAN BEND WASH AT CURRY ROAD, TEMPE, AZ

LOCATION--Lat 33°26'25", long 111°54'52", in NW1/4SE1/4 sec. 11, T.1 N., R.4 E., Maricopa County Hydrologic Unit 15060106, on upstream side of Curry Road bridge, 2 mi northeast of downtown Tempe, AZ.

DRAINAGE AREA--82 mi².

PERIOD OF RECORD--Oct. 1992 to current year.

GAGE--Water-stage recorder. Datum of gage is 1,162.45 ft above sea level.

REMARKS--No estimated daily discharges. Records fair. FCDMC provided daily values prior to installation of gage in Apr. 1993. Natural flow of wash affected by urbanization and partly regulated by artificial lakes upstream. Gage located .25 mi upstream from Tempe Town Lake.

EXTREMES FOR PERIOD OF RECORD--Maximum daily discharge 1,970 ft³/s, Jan. 11, 1993. Minimum daily discharge, no flow for many days.

EXTREMES OUTSIDE PERIOD OF RECORD--Maximum discharge 21,000 ft³/s June 22, 1972, at gage 7 mi upstream (09512100).

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 300 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 14.....	0445	*2,200	*3.36

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	8.1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.65	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	8.4	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	625	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	1.2	1.7	0.00	0.00	0.00	0.00	0.00	0.00
17	0.02	0.00	0.00	0.00	0.00	4.4	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	51	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	3.0	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.05	0.00	0.00	0.00	55	0.00	0.00	0.00	0.00	0.00	0.07	0.00
27	0.00	0.00	0.00	0.00	13	0.00	0.00	0.00	0.00	0.00	0.01	0.00
28	0.00	0.00	0.00	0.00	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	1.3	0.00	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	3.5	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.07	0.00	0.00	0.00	762.10	68.85	0.00	0.00	0.00	4.80	0.08	0.00
MEAN	0.002	0.000	0.000	0.000	27.2	2.22	0.000	0.000	0.000	0.15	0.003	0.000
MAX	0.05	0.00	0.00	0.00	625	51	0.00	0.00	0.00	3.5	0.07	0.00
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.1	0.00	0.00	0.00	1510	137	0.00	0.00	0.00	9.5	0.2	0.00
CFSM	0.00	0.00	0.00	0.00	0.33	0.03	0.00	0.00	0.00	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2003, BY WATER YEAR (WY)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	
MEAN	4.96	3.03	4.57	21.5	6.51	4.00	0.30	0.037	0.053	0.79	0.55	2.60
MAX	46.8	29.9	39.5	225	27.2	16.9	1.78	0.39	0.55	6.17	2.64	21.9
(WY)	1994	1994	1993	2003	2003	1993	2001	1995	1994	1999	1995	1995
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1993	1993	1994	1996	1999	1999	1993	1993	1993	1993	1994	1993

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1993 - 2003
ANNUAL TOTAL	51.06	835.90	
ANNUAL MEAN	0.14	2.29	4.09
HIGHEST ANNUAL MEAN			25.8 1993
LOWEST ANNUAL MEAN			0.14 2002
HIGHEST DAILY MEAN	40 Jul 24	625 Feb 14	1970 Jan 11 1993
LOWEST DAILY MEAN	0.00 Jan 1	0.00 Oct 1	0.00 Oct 1 1992
ANNUAL SEVEN-DAY MINIMUM	0.00 Jan 1	0.00 Oct 1	0.00 Oct 1 1992
ANNUAL RUNOFF (AC-FT)	101	1660	2960
ANNUAL RUNOFF (CFSM)	0.000	0.000	0.000
10 PERCENT EXCEEDS	0.00	0.00	0.00
50 PERCENT EXCEEDS	0.00	0.00	0.00
90 PERCENT EXCEEDS	0.00	0.00	0.00

GILA RIVER BASIN

09512165 SALT RIVER AT PRIEST DRIVE NEAR PHOENIX, AZ

LOCATION--Lat 33°26'22", long 111°57'37", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 17, T.1 N., R.4 E., Maricopa County, Hydrologic Unit 15060106, on left bank at downstream side of Priest Road bridge, 1.3 mi southeast of Phoenix main post office.

DRAINAGE AREA--13,223 mi².

PERIOD OF RECORD--Dec. 1993 to current year.

GAGE--Water-stage recorder. Elevation of gage is 1,135 ft above sea level, from topographic map.

REMARKS--No estimated daily discharges, records fair.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 81,400 ft³/s Feb. 16, 1995, gage height 12.73 ft, from rating curve adjusted for drawdown based on highwater mark profile at gage; no flow for many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD--Maximum discharge since 1871, 300,000 ft³/s in Feb. 1891.

EXTREMES FOR CURRENT YEAR--Maximum discharge, 4,300 ft³/s on Feb.14, gage height 4.45 ft. Minimum daily discharge, 0.28 ft³/s on June 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.79	2.3	2.3	1.6	0.88	21	1.2	3.0	0.91	0.94	0.43	0.72
2	0.71	1.9	2.2	1.5	0.86	2.5	1.3	3.2	0.91	0.84	0.32	0.69
3	0.90	1.9	2.3	1.4	0.80	2.0	1.2	3.3	1.0	0.69	0.32	0.65
4	0.76	2.4	2.3	1.2	0.81	1.8	1.2	2.6	1.0	0.53	0.97	0.74
5	1.7	3.8	2.5	1.2	0.75	1.7	1.1	1.7	1.0	0.49	0.74	0.75
6	2.5	3.0	2.4	1.2	0.82	1.8	1.1	1.4	1.1	0.50	0.70	0.57
7	1.9	2.2	2.1	1.3	0.93	1.7	0.99	1.2	0.99	0.82	0.71	0.58
8	2.4	2.0	2.0	2.1	0.79	1.8	1.0	1.2	1.00	0.95	0.77	0.76
9	3.6	2.0	1.9	1.8	0.82	1.6	1.3	1.4	1.0	0.67	0.82	1.6
10	2.2	2.2	1.9	1.7	1.2	1.8	1.4	1.2	0.65	0.69	0.87	1.6
11	0.86	2.2	1.9	1.3	0.88	1.5	1.1	1.1	0.46	0.74	1.1	0.73
12	0.83	2.3	1.8	1.1	0.61	1.1	0.98	1.6	0.48	0.75	1.5	0.60
13	0.86	2.3	1.8	1.4	6.0	1.0	0.86	1.5	0.50	0.81	1.6	0.69
14	0.92	2.3	1.8	1.2	590	0.98	1.2	1.2	0.53	0.74	1.1	1.2
15	0.98	2.3	1.7	0.98	47	0.96	1.9	1.2	0.53	0.74	1.5	1.1
16	1.1	3.3	1.8	0.97	2.4	3.5	1.0	1.2	0.54	0.99	0.78	0.76
17	1.2	3.0	2.1	0.94	2.0	2.0	1.1	1.1	0.51	0.78	0.83	0.61
18	1.3	2.3	1.8	0.86	1.7	49	0.96	1.8	0.65	0.55	1.1	0.57
19	1.5	2.3	1.7	0.82	1.7	5.7	1.1	1.6	0.44	0.52	2.2	0.62
20	2.3	2.3	1.7	0.94	1.5	2.0	1.0	0.93	0.28	0.69	1.2	0.58
21	1.8	2.3	1.7	0.92	1.4	1.7	0.88	1.2	0.30	1.2	1.1	0.61
22	1.7	2.3	1.7	0.82	1.7	1.4	0.86	1.1	0.33	0.89	0.94	0.70
23	1.7	2.3	1.9	0.79	1.5	1.8	0.81	0.93	0.66	0.38	1.5	0.66
24	1.9	2.3	1.6	0.78	1.4	1.3	0.81	0.88	0.47	0.31	0.96	1.1
25	1.9	2.3	1.6	0.78	6.0	1.3	0.81	0.89	0.40	0.35	0.90	0.83
26	3.8	2.4	1.6	1.2	60	1.2	0.86	1.2	0.40	0.37	1.7	0.75
27	2.7	2.2	1.5	0.89	18	1.2	0.88	1.2	0.39	0.42	8.5	0.70
28	1.8	2.5	1.4	0.91	7.5	1.2	1.5	0.94	0.36	0.40	1.2	1.1
29	1.7	2.9	1.5	0.90	---	1.2	2.5	0.87	0.52	7.0	0.98	1.0
30	2.3	4.3	1.6	0.87	---	1.2	3.9	0.88	0.81	2.4	0.87	1.2
31	2.3	---	1.7	0.90	---	1.2	---	0.87	---	1.00	0.81	---
TOTAL	52.91	74.1	57.8	35.27	759.95	120.14	36.80	44.39	19.12	29.15	39.02	24.77
MEAN	1.71	2.47	1.86	1.14	27.1	3.88	1.23	1.43	0.64	0.94	1.26	0.83
MAX	3.8	4.3	2.5	2.1	590	49	3.9	3.3	1.1	7.0	8.5	1.6
MIN	0.71	1.9	1.4	0.78	0.61	0.96	0.81	0.87	0.28	0.31	0.32	0.57
AC-FT	105	147	115	70	1510	238	73	88	38	58	77	49
CFSM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2003, BY WATER YEAR (WY)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003		
MEAN	1.51	0.98	1.28	19.0	531	758	135	0.55	0.38	1.57	0.76	3.47
MAX	9.39	3.17	5.48	183	5309	7555	968	1.82	1.46	7.38	2.28	21.8
(WY)	2001	2001	1995	1995	1995	1995	1998	2001	2000	1999	2001	1995
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1995	1995	1996	1994	1994	1994	1994	1994	1994	1994	1994	1994

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1994 - 2003

ANNUAL TOTAL	415.39	1293.42	
ANNUAL MEAN	1.14	3.54	132
HIGHEST ANNUAL MEAN			1098
LOWEST ANNUAL MEAN			0.000
HIGHEST DAILY MEAN	24	Jul 24	590
LOWEST DAILY MEAN	0.00	Jan 3	0.28
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 3	0.41
ANNUAL RUNOFF (AC-FT)	824	2570	95690
ANNUAL RUNOFF (CFSM)	0.000	0.000	0.010
10 PERCENT EXCEEDS	2.3	2.4	2.2
50 PERCENT EXCEEDS	0.82	1.2	0.02
90 PERCENT EXCEEDS	0.12	0.61	0.00

09512280 CAVE CREEK BELOW COTTONWOOD CREEK, NEAR CAVE CREEK, AZ

LOCATION--Lat 33°53'14", long 111°57'12", in SE1/4SE1/4SW1/4 sec. 4, T.6 N., R.4 E., Maricopa County, Hydrologic Unit 15060106, on left bank 1,500 ft downstream from Cottonwood Creek and 3.7 mi north of town of Cave Creek.

DRAINAGE AREA--82.7 mi².

PERIOD OF RECORD--Oct. 1980 to current year. Prior to Oct. 1989, published as "below Cottonwood Wash."

GAGE--Water-stage recorder. Elevation of gage is 2,280 ft above sea level, from topographic map. Prior to Jan. 8, 1993, at datum 2.00 ft higher.

REMARKS--Records fair, except estimated daily discharges, which are poor. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 9,200 ft³/s Jan. 8, 1993, gage height, 15.24 ft from rating curve extended above 7,000 ft³/s on basis of slope-area measurement at 9,200 ft³/s; no flow for many days most years.

EXTREMES OUTSIDE PERIOD OF RECORD--Flood of Feb. 19, 1980, reached a stage of 10.4 ft, from flood marks, discharge, 7,020 ft³/s.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 700 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 26.....	1600	*497	*5.65

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	e0	e0	e34	0.77	0.12	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	e0	e0	e23	0.71	0.11	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	e0	e0	e15	0.66	0.10	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	e0	e0	8.5	0.62	0.09	0.00	0.00	0.00	0.01
5	0.00	0.00	0.00	e0	e0	5.7	0.61	0.08	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	e0	e0	4.0	0.56	0.07	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	e0	e0	2.7	0.50	0.06	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	e0	e0	2.0	0.40	0.05	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	e0	e0	1.7	0.35	0.03	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	e0	e0	1.5	0.31	0.01	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	e0	e0	1.4	0.27	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	e0	e0	1.3	0.25	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	e0	e0	e0	1.2	0.23	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	e0	e0	40	1.2	0.23	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	e0	e0	8.5	1.1	0.34	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	e0	e0	2.1	2.0	0.43	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	e0	e0	0.97	7.6	0.42	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	e0	e0	0.61	14	0.34	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	e0	e0	0.49	7.6	0.30	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	e0	e0	0.46	4.3	0.28	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	e0	e0	0.38	2.8	0.26	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	e0	e0	0.37	2.0	0.24	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	e0	e0	0.37	1.7	0.22	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	e0	e0	0.36	1.4	0.20	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	e0	e0	1.7	1.2	0.18	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	e0	e0	147	1.2	0.16	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	e0	e0	102	1.1	0.15	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	e0	e0	e75	0.97	0.14	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	e0	e0	---	0.85	0.13	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	e0	e0	---	0.86	0.13	0.00	0.00	0.00	0.00	0.00
31	0.00	---	e0	e0	---	0.84	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.00	0.00	0	380.31	154.72	10.39	0.72	0.00	0.00	0.00	0.01
MEAN	0.000	0.000	0.000	0.000	13.6	4.99	0.35	0.023	0.000	0.000	0.000	0.000
MAX	0.00	0.00	0.00	0.00	147	34	0.77	0.12	0.00	0.00	0.00	0.01
MIN	0.00	0.00	0.00	0.00	0.00	0.84	0.13	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	754	307	21	1.4	0.00	0.00	0.00	0.02
CFSM	0.00	0.00	0.00	0.00	0.16	0.06	0.00	0.00	0.00	0.00	0.00	0.00
IN.	0.00	0.00	0.00	0.00	0.17	0.07	0.00	0.00	0.00	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	1.98	17.2	2001	0.000	1991	2.71	12.9	1994	6.33	48.3	1983	22.9	370	1993	17.5	164	1993	16.9	123	14.0	6.54	3.27	10.5	19.3	11.1	1982	1.67		
MAX	17.2	12.9	1994	0.000	1990	2.71	12.9	1994	6.33	48.3	1983	22.9	370	1993	17.5	164	1993	16.9	123	14.0	6.54	3.27	10.5	19.3	11.1	1982	1.67		
(WY)	2001	1994	1983	1993	1993	1991	1983	1983	1993	1999	1992	1982																	
MIN	0.000	0.000	1991	0.000	1990	2.71	12.9	1994	6.33	48.3	1983	22.9	370	1993	17.5	164	1993	16.9	123	14.0	6.54	3.27	10.5	19.3	11.1	1982	1.67		
(WY)	1991	1990	1990	2002	2002	1999	2002	2002	1999	2002	1989	1984	1982	1994	1981														

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1980 - 2003
ANNUAL TOTAL	8.02	546.15	
ANNUAL MEAN	0.022	1.50	6.36
HIGHEST ANNUAL MEAN			51.5
LOWEST ANNUAL MEAN			0.022
HIGHEST DAILY MEAN	0.22	Mar 19	147
LOWEST DAILY MEAN	0.00	Jan 1	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00
ANNUAL RUNOFF (AC-FT)	16		1080
ANNUAL RUNOFF (CFSM)	0.000		0.018
ANNUAL RUNOFF (INCHES)	0.00		0.25
10 PERCENT EXCEEDS	0.12		0.90
50 PERCENT EXCEEDS	0.00		0.00
90 PERCENT EXCEEDS	0.00		0.00

e Estimated

GILA RIVER BASIN

09512406 SALT RIVER AT 51ST AVENUE, PHOENIX, AZ

LOCATION.--Lat 33°23'59", long 112°20'07", in SE_{1/4}NE_{1/4} sec. 29, T.1 N., R.2 E., Maricopa County, Hydrologic Unit 15060106, on left bank at downstream side of 51st Ave. bridge, 4.1 mi south of Interstate 10.

DRAINAGE AREA.--Unknown.

PERIOD OF RECORD.--Oct. 30, 2002 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,050 ft above sea level, from topographic map.

REMARKS.--Records fair.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14.2 ft³/s, gage height 6.77 ft @ 0245, Feb. 15. No flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.79	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	2.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	5.8	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	5.1	0.28	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	1.3	0.51	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.52	0.08	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.34	0.00	0.00	0.00	1.2	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.83	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.85	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.34	0.00	0.00	0.00	32.52	1.99	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	0.011	0.000	0.000	0.000	1.16	0.064	0.000	0.000	0.000	0.000	0.000	0.000
MAX	0.34	0.00	0.00	0.00	12	0.79	0.00	0.00	0.00	0.00	0.00	0.00
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MED	0.00	0.00	0.00	0.00	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.7	0.00	0.00	0.00	65	3.9	0.00	0.00	0.00	0.00	0.00	0.00

WTR YR 2003 TOTAL 34.85 MEAN 0.095 MAX 12 MIN 0.00 MED 0.00 AC-FT 69

GILA RIVER BASIN

09512450 AGUA FRIA RIVER NEAR HUMBOLDT, AZ

LOCATION--Lat 34°29'07", long 112°14'15", in SW1/4NW1/4 sec. 22, T.16 N., R.1 E., Yavapai County, Hydrologic Unit 15070102, on right bank 0.9 mi southeast from Humboldt.

DRAINAGE AREA--Undetermined.

PERIOD OF RECORD--Jan. 2000 to current year.

GAGE--Water-stage recorder and crest-stage gage. Elevation of gage is 4,400 ft above sea level, from topographic map.

REMARKS--Records fair except for estimated daily discharges, which are poor. No diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 11,900 ft³/s, based on an extension of the rating curve, Sept. 8, 2002 at 1815, gage height 15.18 ft; minimum daily discharge, no flow for many days.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 21.....	1730	*545	*7.98

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.0	2.0	2.1	2.1	2.2	2.6	2.0	1.5	0.35	0.03	0.53	1.3
2	e1.0	2.0	2.1	2.1	2.2	2.5	1.8	1.4	0.24	0.02	0.50	1.3
3	1.0	2.0	2.1	2.1	2.3	2.5	1.8	1.3	0.24	0.01	0.49	1.2
4	1.1	2.0	2.1	2.1	2.2	2.4	1.7	1.3	0.22	0.01	0.41	1.2
5	1.1	2.0	2.0	2.1	2.2	2.4	1.6	1.3	0.17	0.00	0.32	1.2
6	1.0	2.0	2.0	2.1	2.1	2.4	1.6	1.4	0.18	0.00	0.30	26
7	1.1	2.0	2.1	2.1	2.1	2.4	1.5	1.3	0.19	0.00	0.32	2.6
8	1.1	2.0	2.1	2.2	2.1	2.4	1.5	1.4	0.24	0.00	0.35	1.7
9	1.2	2.1	2.1	2.2	2.1	2.3	1.6	1.4	0.23	0.00	4.6	3.9
10	1.1	2.1	2.1	2.1	2.3	2.3	1.7	1.7	0.28	0.00	0.59	2.0
11	1.2	2.0	2.1	2.2	2.2	2.3	1.7	1.8	0.35	0.00	0.45	1.7
12	1.3	2.0	2.1	2.1	2.1	2.4	1.8	1.9	0.36	0.00	0.40	1.6
13	1.2	2.0	2.1	2.1	22	2.4	1.8	2.0	0.37	0.00	0.35	1.6
14	1.3	2.0	2.1	2.1	8.9	2.4	1.8	2.0	0.31	0.00	0.52	1.5
15	1.3	2.0	2.1	2.1	2.7	2.4	2.0	1.8	0.18	0.00	17	1.5
16	1.2	2.0	2.1	2.2	2.5	2.5	1.8	1.7	0.19	0.00	0.53	1.5
17	1.2	2.0	2.1	2.2	2.5	2.4	1.8	1.5	0.19	0.00	0.32	1.5
18	1.2	2.0	2.1	2.2	2.5	2.4	1.8	1.3	0.17	0.00	0.23	1.5
19	1.2	2.0	2.1	2.2	2.6	2.4	1.7	1.2	0.19	0.00	0.25	1.5
20	1.2	2.0	2.1	2.2	2.6	2.4	1.5	1.1	0.38	0.00	0.26	1.5
21	1.2	2.0	2.1	2.2	2.6	2.4	1.4	0.96	0.16	0.00	39	1.5
22	1.2	2.0	2.1	2.1	2.5	2.3	1.4	0.91	0.06	0.00	2.5	1.5
23	1.3	2.0	2.1	2.2	2.5	2.3	1.3	0.92	0.02	0.00	1.1	1.5
24	1.1	2.0	2.1	2.1	2.5	2.3	1.3	0.89	0.01	0.00	1.1	1.6
25	1.1	2.1	2.1	2.1	4.3	2.3	1.3	0.86	0.00	0.00	1.1	1.6
26	1.3	2.1	2.1	2.1	4.4	2.3	1.2	0.80	0.20	0.00	1.1	1.5
27	2.2	2.1	2.1	2.1	2.6	2.3	1.2	0.72	0.20	7.7	1.5	1.5
28	1.9	2.1	2.1	2.1	2.6	2.2	1.2	0.90	0.12	2.8	2.7	1.5
29	1.9	2.1	2.1	2.1	---	2.2	1.4	0.44	0.06	2.0	1.5	1.4
30	2.0	2.1	2.1	2.1	---	2.2	1.5	0.39	0.04	0.83	1.4	1.4
31	2.0	---	2.1	2.2	---	2.1	---	0.42	---	0.35	1.3	---
TOTAL	40.2	60.8	64.9	66.2	96.4	73.1	47.7	38.51	5.90	13.75	83.02	72.8
MEAN	1.30	2.03	2.09	2.14	3.44	2.36	1.59	1.24	0.20	0.44	2.68	2.43
MAX	2.2	2.1	2.1	2.2	22	2.6	2.0	2.0	0.38	7.7	39	26
MIN	1.0	2.0	2.0	2.1	2.1	2.1	1.2	0.39	0.00	0.00	0.23	1.2
MED	1.2	2.0	2.1	2.1	2.5	2.4	1.6	1.3	0.19	0.00	0.53	1.5
AC-FT	80	121	129	131	191	145	95	76	12	27	165	144

CAL YR 2002 TOTAL 1690.52 MEAN 4.63 MAX 687 MIN 0.00 MED 1.6 AC-FT 3350
WTR YR 2003 TOTAL 663.28 MEAN 1.82 MAX 39 MIN 0.00 MED 1.8 AC-FT 1320

e Estimated

GILA RIVER BASIN

09512500 AGUA FRIA RIVER NEAR MAYER, AZ

LOCATION--Lat 34°18'55", long 112°03'48", in NW1/4SE1/4 sec. 20, T.11 N., R.3 E., Yavapai County, Hydrologic Unit 15070102, on left bank at Sycamore damsite, 700 ft downstream from Big Bug Creek and 12 mi southeast of Mayer.

DRAINAGE AREA--585 mi².

PERIOD OF RECORD--Jan. 1940 to current year.

REVISED RECORDS--WDR AZ-88-1: 1987. WDR AZ-89-1: Drainage area.

GAGE--Water-stage recorder. Datum of gage is 3,434 ft above sea level.

REMARKS--Records fair, except for estimated daily discharges, which are poor. Diversions above station for mining and irrigation of about 600 acres.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 33,100 ft³/s Feb. 19, 1980, from rating curve extended above 3,400 ft³/s on basis of slope-area measurement of peak flow, gage height, 15.76 ft, from mean of surge, inside highwater mark 16.03 ft, floodmark 18.97 ft; negligible flow at times during the summer months in most previous years when entire flow was diverted to Perry Canal above station and flow past gage was seepage only.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 2,300 ft³/s from rating curve extended as explained above, and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Aug. 14	2200	*3,060	*6.31

Minimum daily discharge, 0.31 ft³/s Aug. 10, 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.65	0.83	1.0	1.9	2.6	150	4.3	2.2	e0.90	e0.40	e0.45	0.89
2	1.1	0.84	1.0	1.9	2.7	62	4.1	2.2	e0.80	e0.40	e0.40	0.88
3	0.73	0.84	1.0	2.0	2.6	52	3.8	2.1	e0.70	0.39	e0.40	2.0
4	0.70	0.84	1.1	2.0	2.7	33	3.5	2.1	0.72	0.37	e0.35	0.94
5	0.71	0.85	1.1	1.9	2.7	26	3.4	2.1	0.74	0.36	e0.35	0.87
6	0.69	0.83	1.1	1.9	2.7	26	3.4	2.1	e0.70	0.35	e0.35	52
7	0.70	0.84	1.2	1.9	2.7	42	3.2	2.1	e0.70	0.35	0.36	8.8
8	0.70	0.84	1.2	2.3	2.7	45	3.2	2.1	e0.65	0.34	0.33	3.3
9	0.67	0.88	1.2	2.5	2.8	26	3.1	2.0	e0.60	0.34	0.34	2.8
10	0.68	0.86	1.2	2.3	2.8	19	3.1	2.0	e0.60	0.33	0.31	6.0
11	0.68	0.81	1.2	2.3	2.8	16	3.1	e2.0	e0.60	0.34	0.31	1.7
12	0.72	0.81	1.2	2.2	3.0	15	2.9	e2.0	e0.60	0.34	0.34	1.3
13	0.71	0.82	1.2	2.3	56	14	2.9	e2.0	e0.60	0.35	0.39	1.2
14	0.72	0.84	1.3	2.4	146	13	2.9	e2.0	e0.55	0.35	233	1.0
15	0.72	0.86	1.3	2.4	18	12	3.0	e2.0	e0.55	0.37	e125	0.94
16	0.74	0.87	1.3	2.4	8.8	12	3.0	e1.9	e0.50	0.35	e7.0	0.93
17	0.79	0.85	1.4	2.5	6.7	176	2.8	e1.9	e0.50	0.35	e6.5	0.91
18	0.81	0.84	1.4	2.4	5.5	144	2.8	e1.8	e0.50	0.39	e7.0	0.85
19	0.78	0.87	1.4	2.4	4.6	57	2.8	e1.7	e0.50	0.43	e10	0.85
20	0.76	0.86	1.4	2.5	4.2	30	2.7	e1.7	e0.50	0.43	e5.0	0.84
21	0.75	0.87	1.4	2.5	4.0	18	2.6	e1.6	e0.45	0.46	e5.0	0.79
22	0.77	0.90	1.5	2.6	3.9	14	2.6	e1.5	e0.45	0.47	e11	0.75
23	0.84	0.90	1.6	2.6	3.8	11	2.6	e1.4	e0.45	e0.45	e4.0	0.72
24	0.80	0.88	1.6	2.6	3.7	9.9	2.5	e1.4	e0.45	e0.35	e6.0	0.71
25	0.78	0.90	1.7	2.6	23	8.6	2.5	e1.3	e0.45	e0.35	e16	0.72
26	0.87	0.93	1.7	2.5	119	7.5	2.4	e1.3	e0.40	e0.35	e4.5	0.67
27	0.94	0.92	1.7	2.6	165	6.6	2.4	e1.2	e0.40	e0.35	1.1	0.63
28	0.84	0.93	1.7	2.6	188	5.8	2.3	e1.1	e0.40	e0.45	26	0.60
29	0.83	0.97	1.8	2.6	---	5.1	2.2	e1.0	e0.40	e0.40	e1.4	0.55
30	0.83	1.1	1.7	2.7	---	4.8	2.2	e1.0	e0.40	e1.9	0.97	0.50
31	0.83	---	1.8	2.6	---	4.8	---	e1.0	---	e0.50	0.91	---
TOTAL	23.84	26.18	42.4	72.9	793.0	1066.1	88.3	53.8	16.76	13.36	475.06	95.64
MEAN	0.77	0.87	1.37	2.35	28.3	34.4	2.94	1.74	0.56	0.43	15.3	3.19
MAX	1.1	1.1	1.8	2.7	188	176	4.3	2.2	0.90	1.9	233	52
MIN	0.65	0.81	1.0	1.9	2.6	4.8	2.2	1.0	0.40	0.33	0.31	0.50
AC-FT	47	52	84	145	1570	2110	175	107	33	26	942	190
CFSM	0.00	0.00	0.00	0.00	0.05	0.06	0.01	0.00	0.00	0.00	0.03	0.01
IN.	0.00	0.00	0.00	0.00	0.05	0.07	0.01	0.00	0.00	0.00	0.03	0.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)	1951	1950	1951	1951	1951	1951	1951	1951	1965	1960	1962	2001
MEAN	9.06	9.08	27.9	31.2	60.4	48.8	19.3	3.29	2.54	10.6	31.1	17.4					
MAX	223	146	453	718	1179	389	314	19.6	29.7	48.2	244	187					
(WY)	1973	1988	1966	1993	1980	1991	1941	1941	1940	1955	1951	1970					
MIN	0.14	0.10	0.077	0.071	0.021	0.006	0.000	0.032	0.007	0.15	0.31	0.16					
(WY)	1951	1950	1951	1951	1951	1951	1951	1951	1965	1960	1962	2001					

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1940 - 2003

ANNUAL TOTAL	3252.26	2767.34	
ANNUAL MEAN	8.91	7.58	22.5
HIGHEST ANNUAL MEAN			143 1993
LOWEST ANNUAL MEAN			1.45 1962
HIGHEST DAILY MEAN	826 Sep 8	233 Aug 14	7290 Feb 20 1980
LOWEST DAILY MEAN	0.23 Jul 22	0.31 Aug 10	0.00 Dec 2 1950
ANNUAL SEVEN-DAY MINIMUM	0.28 Jul 18	0.33 Aug 6	0.00 Dec 2 1950
ANNUAL RUNOFF (AC-FT)	6450	5490	16310
ANNUAL RUNOFF (CFSM)	0.015	0.013	0.038
ANNUAL RUNOFF (INCHES)	0.21	0.18	0.52
10 PERCENT EXCEEDS	2.5	10	18
50 PERCENT EXCEEDS	0.92	1.3	2.1
90 PERCENT EXCEEDS	0.34	0.40	0.30

e Estimated

09512800 AGUA FRIA RIVER NEAR ROCK SPRINGS, AZ

LOCATION--Lat 34°00'56", long 112°10'02", in NW1/4NW1/4 sec. 28, T.8 N., R.2 E., Yavapai County, Hydrologic Unit 15070102, on right bank 2.5 mi southwest of Rock Springs and 10 mi upstream from Lake Pleasant.

DRAINAGE AREA--1,111 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD--Jan. 1970 to current year (monthly discharge only, Oct. 1973 to Sept. 1974). Low-flow records not equivalent prior to Oct. 1, 1974, due to spring flow in streambed between sites in use.

REVISED RECORDS--WDR AZ-89-1: Drainage area.

GAGE--Water-stage recorder and crest-stage gage. Elevation of gage is 1,800 ft above sea level, from topographic map. Prior to Oct. 1, 1974, at site 600 ft upstream at datum 10.00 ft higher.

REMARKS--Records fair, except for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 59,500 ft³/s Feb. 19, 1980, gage height, 21.08 ft recorded, 28.15 ft from floodmark, from rating curve extended above 21,000 ft³/s on basis of slope-area measurement at gage height 27.2 ft; no flow at times each year prior to Oct. 1974; since Oct. 1974, no flow May 27 to July 12, 1977, and for many days in 1990.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 1,800 ft³/s and (or) maximum (*), from rating curve extended on basis of slope-area measurement:

Date	Time	Discharge(ft ³ /s)	Gage height (ft)
Feb. 14.....	0715	*1,970	*8.91
Aug. 26.....	e0045	e1,900	unknown

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.01	0.38	0.05	0.00	0.00	536	13	1.1	0.09	0.00	0.00	2.1
2	0.00	0.34	0.04	0.00	0.00	323	11	1.0	0.05	0.00	0.00	1.3
3	0.00	0.23	0.06	0.00	0.00	215	10	0.97	0.04	0.00	0.00	0.78
4	0.00	0.19	0.04	0.00	0.00	162	9.4	1.2	0.03	0.00	0.00	0.55
5	0.00	0.15	0.02	0.00	0.00	121	8.4	0.73	0.03	0.00	0.00	0.41
6	0.00	0.12	0.01	0.00	0.00	101	7.2	0.39	0.03	0.00	0.00	82
7	0.01	0.12	0.00	0.00	0.00	91	6.9	0.36	0.03	0.00	0.00	11
8	0.01	0.11	0.00	0.00	0.00	114	6.1	0.39	0.03	0.00	0.00	11
9	0.01	0.12	0.00	0.00	0.00	131	5.2	0.44	0.01	0.00	0.00	5.7
10	0.03	0.12	0.00	0.00	0.00	138	4.8	0.47	0.01	0.00	0.00	3.5
11	0.01	0.07	0.00	0.00	0.00	128	4.2	0.45	0.02	0.00	0.00	2.4
12	0.03	0.04	0.00	0.00	0.00	106	3.4	0.41	0.02	0.00	0.00	2.5
13	0.04	0.03	0.00	0.00	63	97	3.0	0.28	0.02	0.00	0.00	2.3
14	0.04	0.04	0.00	0.00	1100	72	2.8	0.26	0.01	0.00	0.00	1.4
15	0.03	0.03	0.00	0.00	242	46	3.0	0.25	0.00	0.00	448	0.74
16	0.05	0.03	0.00	0.00	75	42	3.3	0.17	0.00	0.00	57	0.61
17	0.05	0.05	0.00	0.00	34	358	3.3	0.12	0.00	0.00	18	0.45
18	0.05	0.07	0.00	0.00	17	732	3.6	0.10	0.00	0.00	8.6	0.31
19	0.05	0.11	0.00	0.00	10	323	3.5	0.08	0.00	0.00	4.4	0.19
20	0.04	0.10	0.00	0.00	7.2	188	2.9	0.05	0.00	0.00	2.9	0.12
21	0.04	0.09	0.00	0.00	5.5	131	2.6	0.05	0.00	0.00	2.7	0.05
22	0.03	0.09	0.00	0.00	4.6	88	2.5	0.04	0.00	0.00	2.6	0.02
23	0.05	0.09	0.00	0.00	3.2	62	2.2	0.03	0.00	0.00	2.6	0.02
24	0.05	0.08	0.00	0.00	2.8	47	2.2	0.04	0.00	0.00	2.4	0.04
25	0.04	0.10	0.00	0.00	8.3	34	2.1	0.04	0.00	0.00	e2.4	0.04
26	0.06	0.14	0.00	0.00	688	31	2.0	0.07	0.00	0.00	e340	0.02
27	5.8	0.13	0.00	0.00	732	27	1.8	0.36	0.00	0.00	19	0.01
28	0.49	0.08	0.00	0.00	797	22	1.7	0.37	0.00	0.00	7.7	0.01
29	0.50	0.06	0.00	0.00	---	17	1.5	0.27	0.00	0.00	246	0.00
30	0.47	0.12	0.00	0.00	---	16	1.4	0.17	0.00	0.00	13	0.00
31	0.41	---	0.00	0.00	---	14	---	0.16	---	0.00	4.1	---
TOTAL	8.40	3.43	0.22	0.00	3789.60	4513	135.0	10.82	0.42	0.00	1181.40	129.57
MEAN	0.27	0.11	0.007	0.000	135	146	4.50	0.35	0.014	0.000	38.1	4.32
MAX	5.8	0.38	0.06	0.00	1100	732	13	1.2	0.09	0.00	448	82
MIN	0.00	0.03	0.00	0.00	0.00	14	1.4	0.03	0.00	0.00	0.00	0.00
AC-FT	17	6.8	0.4	0.00	7520	8950	268	21	0.8	0.00	2340	257
CFSM	0.00	0.00	0.00	0.00	0.12	0.13	0.00	0.00	0.00	0.00	0.03	0.00
IN.	0.00	0.00	0.00	0.00	0.13	0.15	0.00	0.00	0.00	0.00	0.04	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 2003, BY WATER YEAR (WY)

	MEAN	1973	1979	1993	1997	2002	2003	2002	1972	1972	1971	2002	2001
MEAN	22.6	19.3	70.3	180	306	253	52.8	11.1	4.20	10.3	28.2	32.7	
MAX	381	176	943	3301	3320	1967	338	70.7	46.1	51.4	164	360	
(WY)	1973	1979	1979	1993	1980	1978	1973	1979	1979	1999	1988	1970	
MIN	0.000	0.000	0.000	0.000	0.098	0.13	0.000	0.000	0.000	0.000	0.000	0.000	
(WY)	2002	2002	2002	2003	2002	2002	1972	1972	1971	1971	2002	2001	

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1970 - 2003
ANNUAL TOTAL	3025.97	9771.86	
ANNUAL MEAN	8.29	26.8	82.0
HIGHEST ANNUAL MEAN			499
LOWEST ANNUAL MEAN			2.58
HIGHEST DAILY MEAN	898	Sep 11	32700
LOWEST DAILY MEAN	0.00	Jan 1	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	Apr 23	0.00
ANNUAL RUNOFF (AC-FT)	6000		59410
ANNUAL RUNOFF (CFSM)	0.007	0.024	0.074
ANNUAL RUNOFF (INCHES)	0.10	0.33	1.00
10 PERCENT EXCEEDS	0.23	37	100
50 PERCENT EXCEEDS	0.02	0.05	2.6
90 PERCENT EXCEEDS	0.00	0.00	0.10

e Estimated

GILA RIVER BASIN

09513780 NEW RIVER NEAR ROCK SPRINGS, AZ

LOCATION--Lat 33°58'27", long 112°05'54", in SW¹/₄SW¹/₄ sec. 6, T.7 N., R.3 E., Maricopa County, Hydrologic Unit 15070102, on right bank 180 ft upstream from road crossing and 6 mi southeast of Rock Springs.

DRAINAGE AREA--68.3 mi².

PERIOD OF RECORD--Water years 1962-65 (annual maximums only), Oct. 1965 to current year.

REVISED RECORDS--WDR AZ-89-1: Drainage area.

GAGE--Water-stage recorder. Elevation of gage is 2,310 ft above sea level, from topographic map. Jan. 2, 1964, to Sept. 30, 1965, crest-stage gage, and Oct. 28, 1965, to Nov. 16, 1967, water-stage recorder, at same site at datum 1.00 ft higher.

REMARKS--No estimated daily discharges. Records good.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 18,600 ft³/s Sept. 5, 1970, gage height, 13.5 ft, from profile past gage, from rating curve extended above 380 ft³/s on basis of slope-area measurements at gage heights 3.6, 4.73, 7.3, 10.7, and 13.5 ft; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 200 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 14	0815	247	2.75	Feb. 27	1900	637	3.62
Feb. 26	1415	*771	*3.85	Mar. 17.....	2230	227	2.69

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	110	3.3	0.13	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	104	2.9	0.12	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	58	2.6	0.11	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	35	2.4	0.08	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	26	2.2	0.05	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	20	2.0	0.04	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	16	1.7	0.01	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	13	1.3	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	10	1.2	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	8.1	1.0	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	6.7	0.91	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	5.6	0.77	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	3.6	4.8	0.66	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	103	4.3	0.57	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	19	3.9	0.68	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	6.8	9.0	0.65	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	3.6	55	0.68	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	2.3	105	0.63	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	1.6	39	0.52	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	1.4	24	0.46	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	1.1	18	0.43	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.95	14	0.40	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.87	12	0.37	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.74	9.8	0.33	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	2.0	8.1	0.29	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	349	6.9	0.28	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	310	6.0	0.25	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	250	4.9	0.23	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	---	4.4	0.19	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	---	4.0	0.15	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	3.6	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.00	0.00	0.00	1055.96	749.1	30.05	0.54	0.00	0.00	0.00	0.00
MEAN	0.000	0.000	0.000	0.000	37.7	24.2	1.00	0.017	0.000	0.000	0.000	0.000
MAX	0.00	0.00	0.00	0.00	349	110	3.3	0.13	0.00	0.00	0.00	0.00
MIN	0.00	0.00	0.00	0.00	0.00	3.6	0.15	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	2090	1490	60	1.1	0.00	0.00	0.00	0.00
CFSM	0.00	0.00	0.00	0.00	0.55	0.35	0.01	0.00	0.00	0.00	0.00	0.00
IN.	0.00	0.00	0.00	0.00	0.58	0.41	0.02	0.00	0.00	0.00	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2003, BY WATER YEAR (WY)

MEAN	2.44	5.03	17.9	33.7	39.7	39.8	4.71	1.09	0.24	0.67	1.21	3.31
MAX	51.1	52.4	218	573	348	444	29.5	10.5	2.17	8.55	15.3	104
(WY)	2001	1979	1979	1993	1980	1978	1992	1979	1980	1990	1971	1970
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1966	1968	1969	1970	1970	1971	1971	1966	1966	1966	1967	1968

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1966 - 2003

ANNUAL TOTAL	4.59	1835.65	
ANNUAL MEAN	0.013	5.03	12.6
HIGHEST ANNUAL MEAN			71.7 1993
LOWEST ANNUAL MEAN			0.001 1977
HIGHEST DAILY MEAN	4.5 Sep 7	349 Feb 26	5070 Mar 2 1978
LOWEST DAILY MEAN	0.00 Jan 1	0.00 Oct 1	0.00 Oct 1 1965
ANNUAL SEVEN-DAY MINIMUM	0.00 Jan 1	0.00 Oct 1	0.00 Oct 1 1965
ANNUAL RUNOFF (AC-FT)	9.1	3640	9110
ANNUAL RUNOFF (CFSM)	0.000	0.075	0.19
ANNUAL RUNOFF (INCHES)	0.00	1.01	2.54
10 PERCENT EXCEEDS	0.00	3.7	9.7
50 PERCENT EXCEEDS	0.00	0.00	0.00
90 PERCENT EXCEEDS	0.00	0.00	0.00

09513860 SKUNK CREEK NEAR PHOENIX, AZ

LOCATION.--Lat 33°43'45", long 112°07'09", in NW1/4SE1/4SE1/4 sec. 35, T.5 N., R.2 E., Maricopa County, Hydrologic Unit 15070102, on right bank dike of Skunk Creek flood control channel, 300 ft east of frontage road of Interstate Highway 17, 3 mi north of Adobe and 20 mi north of City Hall in Phoenix.

DRAINAGE AREA.--64.9 mi².

PERIOD OF RECORD.--Water years 1960--67 (annual maximums only), Oct. 1967 to current year.

REVISED RECORDS.--WDR--89--1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,472.60 ft above sea level. May 1961 to Sept. 30, 1967, crest-stage gage at site 400 ft downstream at datum 6.67 ft lower, and Oct. 1, 1967, to Dec. 29, 1984, water-stage recorder at site 300 ft downstream at datum 12.66 ft lower.

REMARKS.--Records good. No estimated daily discharges.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft³/s Aug. 1, 1964, gage height, 10.48 ft, present datum, from rating curve extended above 6,200 ft³/s; maximum gage height, 12.24 ft Sept. 5, 1970; no flow for most of each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 14.....	0210	*1,040	*2.62	Mar. 16.....	2245	138	1.73
Feb. 14.....	2000	412	2.09	Aug. 14.....	2230	259	1.91
Feb. 25.....	2100	315	1.98				

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	212	0.00	0.00	0.00	0.00	0.00	15	0.00
15	0.00	0.00	0.00	0.00	2.7	0.00	0.00	0.00	0.00	0.00	9.1	0.00
16	0.00	0.00	0.00	0.00	0.00	8.0	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	5.4	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	28	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	42	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.00	0.00	0.00	308.57	13.48	0.00	0.00	0.00	0.00	24.10	0.00
MEAN	0.000	0.000	0.000	0.000	11.0	0.43	0.000	0.000	0.000	0.000	0.78	0.000
MAX	0.00	0.00	0.00	0.00	212	8.0	0.00	0.00	0.00	0.00	15	0.00
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	612	27	0.00	0.00	0.00	0.00	48	0.00
CFSM	0.00	0.00	0.00	0.00	0.17	0.01	0.00	0.00	0.00	0.00	0.01	0.00
IN.	0.00	0.00	0.00	0.00	0.18	0.01	0.00	0.00	0.00	0.00	0.01	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2003, BY WATER YEAR (WY)

	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	
MEAN	1.86	1.59	2.87	2.63	2.11	1.70	0.000	0.001	0.007	1.26	3.01	1.75																									
MAX	25.6	41.4	60.0	55.7	24.1	45.7	0.000	0.032	0.26	18.2	38.4	42.8																									
(WY)	1973	1983	1983	1993	1978	1978	1968	1976	1972																												
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000																									
(WY)	1968	1968	1969	1968	1969	1968	1968	1968	1968																												

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1968 - 2003	
ANNUAL TOTAL	50.00		346.15			
ANNUAL MEAN	0.14		0.95		1.57	
HIGHEST ANNUAL MEAN					8.58	
LOWEST ANNUAL MEAN					0.000	
HIGHEST DAILY MEAN	29	Sep 8	212	Feb 14	1170	Sep 5 1970
LOWEST DAILY MEAN	0.00	Jan 1	0.00	Oct 1	0.00	Oct 1 1967
ANNUAL SEVEN-DAY MINIMUM	0.00	Jan 1	0.00	Oct 1	0.00	Oct 1 1967
ANNUAL RUNOFF (AC-FT)	99		687		1140	
ANNUAL RUNOFF (CFSM)	0.002		0.015		0.024	
ANNUAL RUNOFF (INCHES)	0.03		0.20		0.33	
10 PERCENT EXCEEDS	0.00		0.00		0.00	
50 PERCENT EXCEEDS	0.00		0.00		0.00	
90 PERCENT EXCEEDS	0.00		0.00		0.00	

GILA RIVER BASIN

09514100 GILA RIVER AT ESTRELLA PARKWAY, NEAR GOODYEAR, AZ

LOCATION--Lat 33°23'15", long 112°23'30" in SE1/4NE1/4, sec. 31, T.1 N., R.1 W., Maricopa County, Hydrologic Unit 15070101, at downstream side of bridge, 3 mi southwest of Goodyear.

DRAINAGE AREA--45,585 mi².

PERIOD OF RECORD--Aug. 1992 to current year.

GAGE--Water-stage recorder. Elevation of gage is 883 ft above sea level, from topographic map.

REMARKS--No estimated daily discharges. Records fair.

AVERAGE DISCHARGE--10 years, 1,075 ft³/s, 778,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 162,000 ft³/s Jan. 9, 1993, gage height, 19.15 ft, from rating curve extended above 122,000 ft³/s; no flow at times.

EXTREMES FOR CURRENT YEAR--Maximum daily discharge, 1,330 ft³/s on Feb. 14. Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	1.9	0.31	0.02	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	1.7	0.20	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	1.4	0.16	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	1.7	0.15	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	2.1	0.12	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	2.5	0.11	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	2.0	0.12	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.01	1.1	0.12	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.11	0.57	0.12	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	6.8	0.00	0.23	0.37	0.13	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	25	0.00	0.36	0.43	0.12	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	30	0.00	0.54	0.51	0.10	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	39	0.00	0.64	1.6	0.07	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	41	0.00	0.78	1330	0.06	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	46	0.00	0.85	439	0.05	0.00	0.00	0.00	0.00	37	0.00
16	0.00	42	0.00	0.83	281	0.06	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	50	0.00	1.0	260	0.06	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	50	0.00	1.00	267	0.05	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	51	0.00	1.1	211	0.04	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	51	0.00	1.2	95	0.07	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	27	0.00	1.0	0.46	0.08	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.62	0.00	0.25	0.31	0.08	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.01	0.00	0.09	0.22	0.08	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.02	0.17	0.08	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	72	0.07	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	167	0.05	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	184	0.07	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.11	81	0.06	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.97	---	0.02	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	1.4	---	0.02	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	1.7	---	0.03	---	0.00	---	0.00	0.00	---
TOTAL	0.00	459.43	0.00	14.19	3406.04	2.86	0.02	0.00	0.00	0.00	37.00	0.00
MEAN	0.000	15.3	0.000	0.46	122	0.092	0.001	0.000	0.000	0.000	1.19	0.000
MAX	0.00	51	0.00	1.7	1330	0.31	0.02	0.00	0.00	0.00	37	0.00
MIN	0.00	0.00	0.00	0.00	0.17	0.02	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	911	0.00	28	6760	5.7	0.04	0.00	0.00	0.00	73	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2003, BY WATER YEAR (WY)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	
MEAN	16.6	76.9	50.8	4962	2903	1812	591	228	11.4	5.99	4.22	4.30
MAX	68.1	135	186	53880	26520	12960	5104	2431	97.6	55.6	42.2	19.7
(WY)	2001	1994	1994	1993	1993	1993	1993	1993	1993	1993	1993	1993
MIN	0.000	15.3	0.000	0.46	7.51	0.092	0.001	0.000	0.000	0.000	0.000	0.000
(WY)	2002	2003	2003	2003	2002	2003	2003	2002	1997	1996	1994	1994

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1993 - 2003
ANNUAL TOTAL	1127.07	3919.54	
ANNUAL MEAN	3.09	10.7	881
HIGHEST ANNUAL MEAN			8376
LOWEST ANNUAL MEAN			7.01
HIGHEST DAILY MEAN	65 Sep 10	1330 Feb 14	132000 Jan 9 1993
LOWEST DAILY MEAN	0.00 Apr 17	0.00 Oct 1	0.00 Jul 2 1994
ANNUAL SEVEN-DAY MINIMUM	0.00 Apr 17	0.00 Oct 1	0.00 Jul 2 1994
ANNUAL RUNOFF (AC-FT)	2240	7770	638400
10 PERCENT EXCEEDS	5.9	1.1	186
50 PERCENT EXCEEDS	0.00	0.00	5.3
90 PERCENT EXCEEDS	0.00	0.00	0.00

09516500 HASSAYAMPA RIVER NEAR MORRISTOWN, AZ

LOCATION--Lat 33°53'06", long 112°39'41", in SW1/4SE1/4 sec. 3, T.6 N., R.4 W., Maricopa County, Hydrologic Unit 15070103, on left bank 600 ft downstream from mouth of San Domingo Wash, 3.0 mi northwest of Morristown, and 6 mi southeast of Wickenburg.

DRAINAGE AREA--796 mi².

PERIOD OF RECORD--Oct. 1938 to June 1947 (continuous-record), water years 1954, 1956, and 1964-81 (annual maximums only), Oct. 1981 to Sept. 1991 (discharge above 500 ft³/s only), and Oct. 1991 to current year (continuous-record).

REVISED RECORDS--WDR AZ-89-1: Drainage area.

GAGE--Water-stage recorder. Datum of gage is 1,831.16 ft above sea level. Crest-stage gage at same site and datum water years 1954, 1956, and 1964-81.

REMARKS--Records poor.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 47,500 ft³/s Sept. 5, 1970, gage height, 19.0 ft, from highwater profile past gage and on basis of slope-area measurement of peak flow; no flow for most of each year.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 500 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 13.....	2000	*1,680	*9.49	Aug. 27.....	0000	1,230	9.21
Aug. 15.....	0215	1,160	9.15	Sept. 4.....	2145	1,100	9.11

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	e3.0	e1.0	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	e3.0	e1.0	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	e3.0	e1.0	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	e2.0	0.00	0.00	0.00	0.00	0.00	65
5	0.00	0.00	0.00	0.00	0.00	e1.0	0.00	0.00	0.00	0.00	0.00	133
6	0.00	0.00	0.00	0.00	0.00	e1.0	0.00	0.00	0.00	0.00	0.00	e10
7	0.00	0.00	0.00	0.00	0.00	e1.0	0.00	0.00	0.00	0.00	0.00	e0.00
8	0.00	0.00	0.00	0.00	0.00	e1.0	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	e1.0	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	e1.0	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	e1.0	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	e1.0	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	115	e1.0	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	e70	e1.0	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	e13	e1.0	0.00	0.00	0.00	0.00	e100	0.00
16	0.00	0.00	0.00	0.00	e4.0	e4.0	0.00	0.00	0.00	0.00	e5.0	0.00
17	0.00	0.00	0.00	0.00	e3.0	e9.0	0.00	0.00	0.00	0.00	e0.00	0.00
18	0.00	0.00	0.00	0.00	e3.0	e7.0	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	e2.0	e5.0	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	e2.0	e4.0	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	e1.0	e4.0	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	e1.0	e3.0	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	e1.0	e2.0	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	e1.0	e2.0	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	e1.0	e1.0	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	e3.0	e1.0	0.00	0.00	0.00	0.00	26	0.00
27	0.00	0.00	0.00	0.00	e4.0	e1.0	0.00	0.00	0.00	0.00	e100	0.00
28	0.00	0.00	0.00	0.00	e4.0	e1.0	0.00	0.00	0.00	0.00	e0.00	0.00
29	0.00	0.00	0.00	0.00	---	e1.0	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	---	e1.0	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	e1.0	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.00	0.00	0.00	228.00	69.0	3.00	0.00	0.00	0.00	231.00	208.00
MEAN	0.000	0.000	0.000	0.000	8.14	2.23	0.10	0.000	0.000	0.000	7.45	6.93
MAX	0.00	0.00	0.00	0.00	115	9.0	1.0	0.00	0.00	0.00	100	133
MIN	0.00	0.00	0.00	0.00	0.00	1.0	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	452	137	6.0	0.00	0.00	0.00	458	413
CFSM	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01
IN.	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.01	0.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2003, BY WATER YEAR (WY)

	MEAN	7.95	0.68	3.53	56.8	102	69.2	38.4	4.44	0.31	1.42	8.53	13.2
MAX	140	4.83	27.8	1084	1290	445	424	44.2	1.97	10.4	39.7	71.0	
(WY)	2001	2001	1941	1993	1993	1941	1941	1941	2000	1941	2000	1997	
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
(WY)	1943	1943	1995	1996	1996	2002	1996	1939	1939	1940	1940	1942	

SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1939 - 2003

ANNUAL TOTAL		1220.00		739.00									
ANNUAL MEAN		3.34		2.02							26.3		
HIGHEST ANNUAL MEAN											220		1993
LOWEST ANNUAL MEAN											0.22		1996
HIGHEST DAILY MEAN		427	Sep 8	133	Sep 5	8280	Jan 8	1993					
LOWEST DAILY MEAN		0.00	Jan 1	0.00	Oct 1	0.00	Nov 25	1938					
ANNUAL SEVEN-DAY MINIMUM		0.00	Jan 1	0.00	Oct 1	0.00	Apr 27	1939					
ANNUAL RUNOFF (AC-FT)		2420		1470		19020							
ANNUAL RUNOFF (CFSM)		0.004		0.003		0.033							
ANNUAL RUNOFF (INCHES)		0.06		0.03		0.45							
10 PERCENT EXCEEDS		0.00		1.0		12							
50 PERCENT EXCEEDS		0.00		0.00		0.00							
90 PERCENT EXCEEDS		0.00		0.00		0.00							

e Estimated

GILA RIVER BASIN

09517000 HASSAYAMPA RIVER NEAR ARLINGTON, AZ

LOCATION--Lat 33°20'50", long 112°43'30", in NW¹/₄ sec. 13, T.1 S., R.5 W., Maricopa County, Hydrologic Unit 15070103, at former U.S. Highway 80, 1.8 mi upstream from mouth and 2.8 mi northeast of Arlington.

DRAINAGE AREA--1,471 mi².

PERIOD OF RECORD--Water years 1961--77 (annual maximums only), Oct. 1977 to Sept. 1990 (discharge above 500 ft³/s only), and Oct. 1990 to current year.

REVISED RECORDS--WDR AZ--81--1: 1969(M). WDR AZ--89--1: Drainage area.

GAGE--Water-stage recorder. Datum of gage is 824.75 ft above sea level. May 15, 1985, to Nov. 11, 1993, at 822.68 ft above sea level. Prior to May 15, 1985, at 9.23 ft higher.

REMARKS--Records poor. Records include irrigation return flow past station. Small diversions above station for irrigation and livestock.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 39,000 ft³/s Sept. 5, 1970, gage height, 8.40 ft, result of slope-area measurement of peak flow; no natural flow for most of time each year.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 1,000 ft³/s and (or) maximum (*):

Date	Time	Discharge(ft ³ /s)	Gage height (ft)	Date	Time	Discharge(ft ³ /s)	Gage height (ft)
Oct. 26.....	2230	4,940	11.03	Feb. 26.....	0030	4,570	11.20
Feb. 14.....	0400	*7,050	*12.02	Mar. 16.....	2230	1,190	8.08

Minimum daily discharge, no flow Nov. 15--20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e8.0	63	91	67	29	116	75	41	54	39	42	35
2	e6.0	32	68	49	45	77	46	28	81	10	22	18
3	e25	59	39	31	58	43	62	23	46	39	46	16
4	e20	57	20	54	32	44	44	61	23	30	78	14
5	e15	60	28	63	26	17	38	39	12	46	63	28
6	e10	55	27	63	22	23	54	33	9.6	66	39	26
7	e20	43	22	32	51	22	59	22	5.4	66	38	44
8	15	50	38	70	41	54	52	24	15	23	28	50
9	19	11	47	72	55	47	46	27	22	38	12	34
10	24	3.2	49	43	70	42	30	38	23	49	7.0	21
11	30	0.94	18	32	59	31	41	37	11	26	16	11
12	42	1.3	29	28	53	47	35	15	20	43	17	15
13	79	1.3	36	24	149	33	37	15	21	39	54	40
14	49	0.13	20	22	e1190	74	58	20	22	28	62	45
15	33	0.00	35	21	75	114	77	14	38	47	86	42
16	27	0.00	66	45	e8.5	228	16	26	46	61	43	39
17	37	0.00	78	70	e1.6	205	34	23	28	56	43	42
18	37	0.00	46	78	e0.37	80	67	48	34	40	50	19
19	36	0.00	27	71	e0.22	121	50	37	24	26	35	8.5
20	33	0.00	25	51	0.08	162	54	22	47	42	18	22
21	27	0.34	56	25	30	165	39	25	70	37	16	43
22	61	53	66	25	46	119	66	17	85	62	19	24
23	45	15	72	52	46	86	65	27	87	53	22	17
24	29	14	88	50	63	68	65	25	73	36	29	42
25	39	25	92	46	13	39	34	30	36	33	30	27
26	e332	25	48	49	e845	56	29	43	36	42	39	25
27	e438	18	37	46	53	73	42	42	112	56	320	32
28	104	26	52	35	17	61	29	39	102	60	12	19
29	94	40	78	43	---	56	25	21	85	49	35	31
30	53	79	58	37	---	25	39	22	53	50	26	22
31	50	---	59	39	---	54	---	47	---	25	31	---
TOTAL	1837.0	732.21	1515	1433	3078.77	2382	1408	931	1321.0	1317	1378.0	851.5
MEAN	59.3	24.4	48.9	46.2	110	76.8	46.9	30.0	44.0	42.5	44.5	28.4
MAX	438	79	92	78	1190	228	77	61	112	66	320	50
MIN	6.0	0.00	18	21	0.08	17	16	14	5.4	10	7.0	8.5
AC-FT	3640	1450	3010	2840	6110	4720	2790	1850	2620	2610	2730	1690
CFSM	0.04	0.02	0.03	0.03	0.07	0.05	0.03	0.02	0.03	0.03	0.03	0.02
IN.	0.05	0.02	0.04	0.04	0.08	0.06	0.04	0.02	0.03	0.03	0.03	0.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2003, BY WATER YEAR (WY)

	MEAN	88.7	51.4	87.8	89.9	111	69.2	44.9	46.5	36.6	49.3	49.7	57.9
MAX	312	109	124	146	336	131	65.3	80.7	50.3	121	69.1	86.1	
(WY)	2001	1996	1993	1993	1993	1991	1999	1995	1991	1999	1999	1992	
MIN	38.3	16.9	48.9	46.2	49.2	18.4	15.7	21.7	18.3	18.7	15.4	28.4	
(WY)	1997	2002	2003	2003	1994	1994	1994	1996	1996	1994	1994	2003	

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1990 - 2003

ANNUAL TOTAL	19314.81	18184.48	
ANNUAL MEAN	52.9	49.8	65.1
HIGHEST ANNUAL MEAN			92.7
LOWEST ANNUAL MEAN			38.5
HIGHEST DAILY MEAN	980	Sep 8	1190
LOWEST DAILY MEAN	0.00	Jun 11	0.00
ANNUAL SEVEN-DAY MINIMUM	0.02	Nov 14	0.02
ANNUAL RUNOFF (AC-FT)	38310		36070
ANNUAL RUNOFF (CFSM)	0.036		0.034
ANNUAL RUNOFF (INCHES)	0.49		0.46
10 PERCENT EXCEEDS	104		76
50 PERCENT EXCEEDS	40		39
90 PERCENT EXCEEDS	12		15

e Estimated

09517490 CENTENNIAL WASH AT SOUTHERN PACIFIC RAILROAD BRIDGE NEAR ARLINGTON, AZ

LOCATION--Lat 33°18'37", long 112°52'52", in SW1/4NW1/4SW1/4 sec. 28, T.1 S., R.6 W., Maricopa County, Hydrologic Unit 15070104, on downstream side of bridge, 7.2 mi northwest of Arlington and 9.0 mi upstream from Gillespie Dam.

DRAINAGE AREA--1,817 mi².

PERIOD OF RECORD--May 1980 to Sept. 1984, Oct. 1984 to Sept. 1985 (daily discharges greater than 300 ft³/s only), and Oct. 1989 to current year.

REVISED RECORDS--WDR AZ-91-1: Drainage area.

GAGE--Water-stage recorder. Datum of gage is 837.12 ft above sea level (Flood Control District of Maricopa County benchmark). Oct. 1, 1990 through May 13, 1999, at 4.00 ft higher. Datum of gage prior to Oct. 1, 1990, 841.06 ft, revised.

REMARKS--No estimated daily discharges. Records poor. Flow regulated by several small retention dams in upper end of basin. Small diversions above station for irrigation.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 15,600 ft³/s Sept. 2, 1984, gage height, 11.34 ft, from rating curve extended above 200 ft³/s on basis of step-back water analysis; no flow for many days each year.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 1,000 ft³/s and (or) maximum (*):

Date	Time	Discharge(ft ³ /s)	Gage height (ft)
July 30.....	0640	1,110	5.62
Aug. 8.....	0425	*3,330	*9.10

Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	19	0.00	0.00	0.00	0.00	0.00	0.19	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	917	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18	0.00
25	0.00	0.00	0.00	0.00	0.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	194	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	132	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	165	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.00	0.00	0.00	213.99	0.00	0.00	0.00	0.00	165.00	1103.95	17.00
MEAN	0.000	0.000	0.000	0.000	7.64	0.000	0.000	0.000	0.000	5.32	35.6	0.57
MAX	0.00	0.00	0.00	0.00	194	0.00	0.00	0.00	0.00	165	917	17
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	424	0.00	0.00	0.00	0.00	327	2190	34
CFSM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00
IN.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)	MEAN	MAX	MIN	(WY)
	1.20	21.1	0.000	2001	0.12	1.07	0.000	1981	0.34	4.41	0.000	1981
	5.05	84.8	0.000	1993	2.64	22.5	0.000	1983	0.87	10.4	0.000	1983
	0.22	2.79	0.000	1982	0.56	4.41	0.000	1981	0.45	4.47	0.000	1981
	2.87	18.0	0.000	1981	6.81	38.3	0.000	1996	8.69	117	0.000	1984
	0.000	0.000	0.000	1983	0.000	0.000	0.000	1981	0.000	0.000	0.000	1981
	0.000	0.000	0.000	1983	0.000	0.000	0.000	1983	0.000	0.000	0.000	1991

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1981 - 2003
ANNUAL TOTAL	0.00	1499.94	
ANNUAL MEAN	0.000	4.11	2.49
HIGHEST ANNUAL MEAN			9.60 1984
LOWEST ANNUAL MEAN			0.000 2002
HIGHEST DAILY MEAN	0.00 Jan 1	917 Aug 15	3320 Sep 2 1984
LOWEST DAILY MEAN	0.00 Jan 1	0.00 Oct 1	0.00 Oct 1 1980
ANNUAL SEVEN-DAY MINIMUM	0.00 Jan 1	0.00 Oct 1	0.00 Oct 6 1980
ANNUAL RUNOFF (AC-FT)	0.00	2980	1800
ANNUAL RUNOFF (CFSM)	0.000	0.002	0.001
ANNUAL RUNOFF (INCHES)	0.00	0.03	0.02
10 PERCENT EXCEEDS	0.00	0.00	0.00
50 PERCENT EXCEEDS	0.00	0.00	0.00
90 PERCENT EXCEEDS	0.00	0.00	0.00

GILA RIVER BASIN

09518000 GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, AZ

LOCATION--Lat 33°13'45", long 112°46'00", in SE_{1/4}NE_{1/4} sec.28, T.2 S., R.5 W., Maricopa County, Hydrologic Unit 15070101, at Gillespie Dam, 8 mi downstream from Hassayampa River. Gila Bend Canal diverts from left end, and Enterprise Canal diverts from right end, of Gillespie Dam.

DRAINAGE AREA--49,650 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD--June 1935 to Nov. 1939 (monthly discharge only published in WSP 1313), Dec. 1939 to Sept. 1971 (published with records for sta 09519500, Gila River below Gillespie Dam), 1972 and 1973 (water year estimates only, listed in REMARKS for sta 09519500), Oct. 1973 to current year. Low-flow records prior to Oct. 1970 are not equivalent as leakage less than 5 ft³/s is not included.

REMARKS 09518500. Gila Bend Canal: May 1935 to Sept. 1971, Oct. 1973 to current year (since Oct. 1941, monthly discharge only). Published as "Gillespie Canal" prior to 1951. 09519000. Enterprise Canal: June 1935 to Sept. 1939 (discharge measurements and monthly estimates only), Oct. 1939 to Sept. 1971, Apr. 1974 to current year (since Oct. 1941, monthly discharge only).

GAGE--Gila Bend Canal: Water-stage recorder 200 ft downstream from headgates. Enterprise Canal: Water-stage recorder 600 ft downstream from intake at dam.

REMARKS--Records fair, except for estimated daily discharges, which are poor. Record is obtained by combining, on a daily basis, the flows of Gila Bend Canal, Enterprise Canal, and Gila River below Gillespie Dam.

Many large diversions above station for irrigation, municipal, and industrial use. Flow of Gila River and tributaries above this station is regulated: by San Carlos Reservoir on Gila River - capacity, 1,073,600 acre-ft; by a series of reservoirs on Salt River - capacity, 1,755,000 acre-ft; by Bartlett and Horseshoe Reservoirs on Verde River - capacity, 317,700 acre-ft; and by Waddell Dam (1992) on Agua Fria River - capacity, 816,000 acre-ft.

AVERAGE DISCHARGE--68 years, 498 ft³/s, 360,800 acre-ft/yr; median of yearly mean discharges, 139 ft³/s, 100,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD--Maximum daily discharge, 130,000 ft³/s, estimated, Jan. 9, 1993; no flow except for possible leakage of less than 5 ft³/s Nov. 24--27, 1966, July 14, 1967.

EXTREMES FOR CURRENT YEAR--Maximum daily discharge, 772 ft³/s, Feb. 14. Minimum daily discharge, 22 ft³/s, July 3 and Sept. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	57	113	136	114	201	121	98	72	53	50	85
2	52	56	146	136	118	271	114	92	90	39	56	73
3	58	58	136	126	117	241	130	91	68	22	46	66
4	71	58	88	120	132	210	131	119	63	41	71	52
5	67	51	82	127	124	162	137	139	48	32	85	65
6	60	53	101	147	108	146	137	117	32	49	65	50
7	52	50	87	135	120	119	152	118	33	51	49	27
8	50	47	99	148	127	130	146	107	50	51	53	70
9	48	54	124	229	123	116	143	94	48	32	48	55
10	49	34	123	232	148	122	130	100	33	38	23	51
11	52	25	94	225	137	111	115	101	49	25	24	28
12	60	32	96	215	133	115	105	100	24	51	37	22
13	97	44	113	208	254	112	111	63	50	25	50	54
14	118	40	114	127	772	129	130	75	32	49	63	53
15	82	43	108	100	528	143	130	72	51	37	196	53
16	76	47	136	110	502	203	76	89	53	52	297	68
17	77	55	167	138	312	261	88	91	56	38	110	75
18	77	56	160	165	217	190	102	100	50	37	123	51
19	70	46	120	156	173	192	114	97	32	41	99	37
20	69	60	116	164	150	220	110	67	48	40	69	33
21	74	64	130	137	153	218	121	67	33	42	64	56
22	73	90	154	118	203	216	109	61	28	46	54	53
23	70	80	161	112	210	154	129	71	49	49	59	48
24	67	64	141	125	222	155	126	84	48	48	113	35
25	64	58	145	123	241	111	117	77	49	43	76	77
26	67	55	145	119	540	94	88	73	55	31	66	64
27	224	91	120	149	230	106	72	53	33	49	89	71
28	102	83	124	138	143	97	107	54	54	53	232	64
29	66	88	138	131	---	108	98	46	57	59	112	68
30	58	99	142	127	---	77	86	48	53	79	87	70
31	53	---	130	132	---	83	---	46	---	60	70	---
TOTAL	2256	1738	3853	4555	6351	4813	3475	2610	1441	1362	2636	1674
MEAN	72.8	57.9	124	147	227	155	116	84.2	48.0	43.9	85.0	55.8
MAX	224	99	167	232	772	271	152	139	90	79	297	85
MIN	48	25	82	100	108	77	72	46	24	22	23	22
AC-FT	4470	3450	7640	9030	12600	9550	6890	5180	2860	2700	5230	3320
(*)	2340	0	1160	4110	3760	5190	4600	3550	2030	1840	2340	2100
(**)	910	639	309	336	546	574	581	661	588	647	768	787

CAL YR 2002 TOTAL 39960 MEAN 109 MAX 420 MIN 25 AC-FT 79260
WTR YR 2003 TOTAL 36764 MEAN 101 MAX 772 MIN 22 AC-FT 72920

(*) Diversions, in acre-feet, to Gila Bend Canal (09518500)

(**) Diversions, in acre-feet, to Enterprise Canal (09519000)

09518000 GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, AZ—CONTINUED

WATER-QUALITY RECORDS

PERIOD OF RECORD --Feb. 1926 to June 1927 and Mar. 1946 (partial-record station), Dec. 1950 to Sept. 1971, Dec. 1971 to June 1973 (partial-record station), Mar. 1974 to current year. Prior to Oct. 1967, published as 09519500, "Gila River below Gillespie Dam."

PERIOD OF DAILY RECORD --

SPECIFIC CONDUCTANCE: Oct. 1964 to June 1968, Aug. to Sept. 1968, Feb. to Sept. 1969, Oct. 1970 to Sept. 1971, and Apr. 1974 to July 1981.

WATER TEMPERATURE: Dec. 1950 to Feb. 1968, May to Aug. 1969, Oct. 1970 to Sept. 1971, and Apr. 1974 to July 1981.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Time	Instantaneous discharge, cfs (00061)	Turbidity, NTU (00076)	Barometric pressure, mm Hg (00025)	Dissolved oxygen, mg/L (00300)	Dissolved oxygen, percent of saturation (00301)	pH, unfltrd field, std units (00400)	Specific conductance, uS/cm (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Hardness, water, unfltrd mg/L as CaCO3 (00900)	Noncarbohardness, wat flt field, mg/L as CaCO3 (00904)	Calcium water, fltrd, mg/L (00915)
OCT 17...	1055	79	56	736	7.7	92	8.2	5370	30.2	21.4	950	660	223
MAR 27...	0910	103	89	737	7.2	79	8.2	5350	23.1	17.8	960	650	223
APR 23...	1140	133	96	740	--	--	8.1	4850	22.3	17.5	870	570	201
AUG 12...	0850	49	60	739	5.8	73	8.0	5830	33.0	24.5	1000	790	224
Date	Calcium water unfltrd recoverable, mg/L (00916)	Magnesium, water, unfltrd, mg/L (00925)	Magnesium, water, 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)
OCT 17...	236	96.0	102	12.0	11	760	291	340	7	1110	1.8	720	3100
MAR 27...	224	98.0	98.0	12.0	11	770	308	366	5	1130	1.7	720	3140
APR 23...	204	89.0	90.0	13.0	10	680	291	355	5	1010	1.7	670	2850
AUG 12...	241	111	115	11.0	13	940	230	280	<1	1270	1.8	940	3640
Date	Residue water, fltrd, tons/acre-ft (70303)	Residue on evap. at 180degC, mg/L (70300)	Residue total at 105 deg. C, suspended, mg/L (00530)	Ammonia + org-N, water, unfltrd, as N, mg/L (00625)	Ammonia water unfltrd, mg/L (71845)	Ammonia water, unfltrd, as N, mg/L (00610)	Nitrite + nitrate water, unfltrd, as N, mg/L (00630)	Organic nitrogen, water, unfltrd, mg/L (00605)	Phosphorus, water, unfltrd, mg/L (00665)	Total nitrogen, water, unfltrd, mg/L (00600)	Total nitrogen, water, unfltrd, as NO3, mg/L (71887)	COD, high level, water, unfltrd, mg/L (00340)	E coli, m-TEC MF, water, col/100 mL (31633)
OCT 17...	4.60	3380	77	1.0	.10	.08	11.0	.92	.92	12	53.1	16	E69k
MAR 27...	4.65	3420	111	.80	.19	.15	10.0	.65	1.00	11	47.8	17	E2000k
APR 23...	4.22	3100	6	1.4	.33	.26	10.0	1.1	1.70	11	50.5	15	E51k
AUG 12...	5.15	3790	86	1.9	.19	.15	11.0	1.8	.33	13	57.1	29	470k
Date	Antimony, water, fltrd, ug/L (01095)	Antimony, water, unfltrd, ug/L (01097)	Arsenic, water, fltrd, ug/L (01000)	Arsenic, water, unfltrd, ug/L (01002)	Barium, water, fltrd, ug/L (01005)	Barium, water, unfltrd, recoverable, ug/L (01007)	Beryllium, water, fltrd, ug/L (01010)	Beryllium, water, recoverable, ug/L (01012)	Boron, water, fltrd, ug/L (01020)	Boron, water, recoverable, ug/L (01022)	Cadmium, water, fltrd, ug/L (01025)	Cadmium, water, unfltrd, ug/L (01027)	Chromium, water, fltrd, ug/L (01030)
OCT 17...	<1	<1	8	11	90.0	110	<1	<1	2260	2350	<.5	<.5	<1
MAR 27...	<1	<1	9	8	120	150	<1	<1	2270	2310	<.5	<.5	<1
APR 23...	<1	<1	2	10	91.0	120	<1	<1	2110	2110	<.5	<.5	<1
AUG 12...	<1	<1	8	7	79.0	94.0	<1	<2	2960	3080	<.5	<1.0	<1

GILA RIVER BASIN

09518000 GILA RIVER ABOVE DIVERSIONS, AT GILLESPIE DAM, AZ—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Chromium, water, unfltrd recover-able, ug/L (01034)	Copper, water, unfltrd recover-able, ug/L (01040)	Copper, water, unfltrd recover-able, ug/L (01042)	Iron, water, unfltrd recover-able, ug/L (01046)	Iron, water, unfltrd recover-able, ug/L (01045)	Lead, water, unfltrd recover-able, ug/L (01049)	Lead, water, unfltrd recover-able, ug/L (01051)	Manganese, water, unfltrd recover-able, ug/L (01056)	Manganese, water, unfltrd recover-able, ug/L (01055)	Mercury, water, unfltrd recover-able, ug/L (71890)	Mercury, water, unfltrd recover-able, ug/L (71900)	Nickel, water, unfltrd recover-able, ug/L (01065)	Nickel, water, unfltrd recover-able, ug/L (01067)
OCT 17...	3	<2	7	<2	2100	<2	2	88	180	<.10	<.1	4	7
MAR 27...	4	2	9	<2	3120	<2	4	233	326	<.10	<.1	4	7
APR 23...	5	2	11	2	3270	<2	5	174	270	<.10	<.1	4	9
AUG 12...	3	<2	6	<2	2050	<2	<4	24	153	<.1	<.1	3	7
Date	Selenium, water, fltrd, ug/L (01145)	Selenium, water, unfltrd, ug/L (01147)	Silver, water, fltrd, ug/L (01075)	Silver, water, unfltrd recover-able, ug/L (01077)	Strontium, water, unfltrd recover-able, ug/L (01082)	Thallium, water, fltrd, ug/L (01057)	Thallium, water, unfltrd, ug/L (01059)	Zinc, water, fltrd, ug/L (01090)	Zinc, water, unfltrd recover-able, ug/L (01092)	Suspended sediment concentration, mg/L (80154)	Suspended sediment load, tons/d (80155)		
OCT 17...	7	7	<1	<1	3830	<2	<2	4	17	79	9.0		
MAR 27...	10	11	<1	<1	3670	<2	<2	<2	16	113	30		
APR 23...	<1	10	<1	<1	3310	2	<2	5	20	117	41		
AUG 12...	13	18	<1	<2	4140	<2	<2	<2	13	84	3.3		

0Remark codes used in this report:
 < -- Less than
 E -- Estimated value
 0Value qualifier codes used in this report:
 k -- Counts outside acceptable range

GILA RIVER BASIN

09519800 GILA RIVER BELOW PAINTED ROCK DAM, AZ

LOCATION--Lat 33°04'30", long 113°00'50", in SE 1/4 sec. 18, T.4 S., R.7 W., Maricopa County, Hydrologic Unit 15070201, on left bank 0.3 mi downstream from Painted Rock Dam and 19 mi northeast of Sentinel.

DRAINAGE AREA--50,910 mi², approximately.

PERIOD OF RECORD--Oct. 1959 to current year.

GAGE--Water-stage recorder. Datum of gage is 518.69 ft above sea level (levels by Army Corps of Engineers). Auxiliary gage at site 0.3 mi upstream: May 5, 1969, to Mar. 30, 1973, at datum 2.87 ft higher; Feb. 8, 1979 to Jan. 21, 1993, at same datum.

REMARKS--No estimated daily discharges. Records poor. Many diversions above station for irrigation. Flow above station regulated by many reservoirs, the largest of which is Painted Rock Reservoir—capacity, 2,492,000 acre-ft. (See REMARKS for sta 09518000, Gila River above diversions, at Gillespie Dam.)

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 32,000 ft³/s, Feb. 26, 1993, before dike broke, gage height, 16.79 ft; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR--No flow for the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
29	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
30	0.00	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MAX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CAL YR 2002	TOTAL	0.00	MEAN	0.000	MAX	0.00	MIN	0.00	AC-FT	0.00		
WTR YR 2003	TOTAL	0.00	MEAN	0.000	MAX	0.00	MIN	0.00	AC-FT	0.00		

GILA RIVER BASIN

09520280 GILA RIVER NEAR DATEDLAND, AZ

LOCATION.--Lat 32°52'56", long 113°32'26", in NE_{1/4}NE_{1/4}NE_{1/4} sec. 25, T.6 S., R.13 W., Yuma County, Hydrologic Unit 15070201, in center of channel on downstream side of bridge on Hyder Road, (Ave 64E), and 5.5 mi north of Datedland, AZ.

DRAINAGE AREA.--55,000 mi², approximately.

PERIOD OF RECORD.--Oct. 1993 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 363.33 ft above sea level, from Highway Department bridge pin. Prior to Oct. 1, 1993, gage site was located downstream at Ave 51E.

REMARKS.--No estimated daily discharges. Records fair. The flow is regulated by Painted Rock Dam. Capacity of the reservoir at Painted Rock Dam is 2,492,000 acre-ft. (See remarks for sta 09519800.)

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 3,320 ft³/s July 3, 1995. No flow for many days.

EXTREMES FOR CURRENT YEAR.--No flow all year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00
2	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00
3	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
4	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
5	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
6	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
7	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
8	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
9	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
10	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
11	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
12	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
13	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
14	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
15	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.25	0.00
16	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
17	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
18	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
19	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
20	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
21	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
22	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
23	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
24	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
25	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
26	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
27	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
28	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
29	e0.00	e0.00	e0.00	e0.00	---	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
30	e0.00	e0.00	e0.00	e0.00	---	e0.00	e0.00	0.00	0.00	0.00	0.00	0.00
31	e0.00	---	e0.00	e0.00	---	e0.00	---	0.00	---	0.00	0.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00
MEAN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008	0.000
MAX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.00
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.5	0.00
CFSM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CAL YR 2002	TOTAL 0.00	MEAN 0.000	MAX 0.00	MIN 0.00	AC-FT 0.00	CFSM 0.00						
WTR YR 2003	TOTAL 0.25	MEAN 0.001	MAX 0.25	MIN 0.00	AC-FT 0.5	CFSM 0.00						

e Estimated

09520500 GILA RIVER NEAR DOME, AZ

LOCATION--Lat 35°45'39", long 114°25'11", in SW1/4 sec. 4, T.8 S., R.21 E., Yuma County, Hydrologic Unit 15070201, on right bank 440 ft upstream from McPhaul bridge on old route of State Highway 95, 3 mi west of Dome, and 12 mi upstream from mouth.

DRAINAGE AREA--57,850 mi², approximately, includes 373 mi² in Aubrey Valley Playa, a closed basin, but excludes all other closed basins.

PERIOD OF RECORD--Jan. 1903 to current year. Monthly total, maximum, and minimum daily discharges only for Jan. 1903 to Dec. 1904 and Jan. 1906 to July 1929 in WSP 918 or WSP 1313. Published as "at Yuma and Gila City" 1903, as "near Dome" 1904, and as "at Dome (Gila City)" 1905-06. Records for 1907--29 are published in WSP 918 as "at Yuma and at near Dome."

REVISED RECORDS--WSP 918: 1905. WSP 1733: July 1942. WSP 1926: Drainage area.

GAGE--Water-stage recorder. Datum of gage is 139.18 ft above sea level. Prior to Oct. 1903 and Jan. 1907 to Apr. 1929, no gage; discharge estimated. Oct. 1903 to Dec. 1906, principal nonrecording gage 4 mi upstream at datum 19.19 ft higher, supplemented by many nonrecording gages at different datums. May 1929 to May 31, 1981, at datum 9.00 ft higher.

REMARKS--No estimated daily discharge. Records good. Many diversions above station for irrigation. Flow above station regulated by reservoirs at and above Painted Rock Dam; capacity of reservoir at Painted Rock Dam is 2,492,000 acre-ft. Painted Rock Reservoir, which is for flood control only, was completed in Oct. 1959 (see also REMARKS for sta 09518000).

EXTREMES FOR PERIOD OF RECORD--1903--29: Maximum daily discharge, 200,000 ft³/s, roughly estimated, Jan. 22, 1916.

1929--59: Maximum discharge, 20,700 ft³/s Feb. 15, 1932, gage height, 25.75 ft, present datum; no flow for part or all of most years.

1959--2002: Maximum discharge 28,900 ft³/s Mar. 3, 1993, maximum gage height, 26.81 ft; no flow for part or all of most years.

EXTREMES FOR CURRENT YEAR--Maximum discharge, 502 ft³/s Oct. 7 at 1630, gage height, 16.22 ft. Minimum daily discharge, 1.0 ft³/s July 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.9	14	20	19	16	17	10	8.6	3.7	3.4	2.7	7.5
2	7.8	15	48	22	18	18	11	8.7	4.9	4.1	3.7	7.7
3	7.6	12	57	19	17	17	11	8.4	2.6	11	3.7	6.6
4	8.0	14	23	18	17	17	9.7	8.0	5.9	4.5	3.5	6.3
5	8.8	10	23	17	16	15	10	9.6	2.8	3.6	3.6	6.9
6	78	12	25	17	18	19	9.2	8.8	2.3	4.0	2.8	7.4
7	165	9.0	18	22	20	20	9.9	6.6	2.4	5.4	4.5	6.1
8	35	9.9	19	22	20	15	12	9.4	4.5	7.6	2.3	5.2
9	16	11	18	23	16	20	9.4	6.9	8.4	10	2.4	6.3
10	19	8.6	15	21	18	17	8.7	6.9	6.3	4.9	2.5	7.9
11	12	9.1	15	19	18	14	9.9	7.0	4.2	3.3	2.1	7.4
12	12	7.5	16	20	16	15	13	6.3	2.3	3.5	3.8	5.2
13	11	7.8	14	20	21	15	11	6.4	2.0	4.3	4.7	5.4
14	11	8.7	19	22	46	17	11	8.6	2.4	5.5	4.2	6.9
15	12	12	19	18	29	16	13	8.0	5.5	6.8	3.9	7.3
16	12	9.5	19	21	25	18	11	6.5	5.9	4.8	5.0	5.9
17	13	9.9	16	24	24	19	11	5.8	3.2	3.5	6.3	6.5
18	10	9.9	16	22	25	16	10	7.6	5.3	22	6.5	7.3
19	11	12	15	25	24	16	9.7	8.0	2.9	1.7	6.1	7.7
20	14	8.9	14	23	23	14	8.8	8.1	5.8	1.4	8.4	7.1
21	16	7.8	19	20	22	15	8.3	6.0	9.1	2.6	6.6	6.0
22	10	10	19	20	23	15	11	4.7	9.3	3.3	7.4	6.0
23	10	11	18	21	26	14	11	5.4	5.9	1.3	8.9	6.3
24	9.8	56	16	22	18	13	10	6.2	5.1	1.0	11	6.8
25	12	36	15	18	21	15	9.8	4.8	5.6	1.4	10	10
26	15	12	17	18	21	22	10	4.1	9.2	1.1	6.4	11
27	9.4	10	17	18	20	15	14	5.0	3.9	2.4	5.8	9.5
28	14	11	17	17	18	12	10	4.4	3.2	2.3	7.4	8.6
29	13	17	20	19	---	14	10	5.6	3.1	1.7	6.8	8.0
30	15	18	19	17	---	11	13	8.4	3.1	1.4	6.9	9.7
31	9.9	---	15	16	---	11	---	4.9	---	1.6	7.7	---
TOTAL	605.2	399.6	621	620	596	492	316.4	213.7	140.8	135.4	167.6	216.5
MEAN	19.5	13.3	20.0	20.0	21.3	15.9	10.5	6.89	4.69	4.37	5.41	7.22
MAX	165	56	57	25	46	22	14	9.6	9.3	22	11	11
MIN	7.6	7.5	14	16	16	11	8.3	4.1	2.0	1.0	2.1	5.2
AC-FT	1200	793	1230	1230	1180	976	628	424	279	269	332	429
CAL YR 2002	TOTAL 6639.4	MEAN 18.2	MAX 165	MIN 2.2	AC-FT 13170							
WTR YR 2003	TOTAL 4524.2	MEAN 12.4	MAX 165	MIN 1.0	AC-FT 8970							

COLORADO RIVER MAIN STEM

09521100 COLORADO RIVER BELOW YUMA MAIN CANAL
WASTEWAY, AT YUMA, AZ

LOCATION.--Lat 32°43'54", long 114°37'55", in SW_{1/4}SW_{1/4} sec. 26, T.16 S., R.22 E., San Bernardino meridian, in Imperial County, CA, Hydrologic Unit 15030107, on right bank 1,000 ft downstream from Yuma Main Canal wasteway, 0.6 mi downstream from former gaging station on Colorado River at Yuma, 1.1 mi northwest of downtown post office in Yuma, 5.2 mi downstream from Gila River, and 6.4 mi upstream from northerly international boundary.

DRAINAGE AREA.--246,500 mi², approximately, including all closed basins entirely within the drainage boundary, also 3,959 mi² in Great Divide basin in southern Wyoming.

PERIOD OF RECORD.--Oct. 1963 to current year. If records for Yuma Main Canal wasteway at Yuma (sta 09525000) and Reservation Main Drain No. 4 (sta 09530000) are subtracted from records at this station, records equivalent to those published 1902--64 as "Colorado River at Yuma" (sta 09521000) can be obtained.

GAGE.--Water-stage recorder. Datum of gage is 101.99 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Natural flow of stream affected by transmountain diversions, storage reservoirs, power developments, ground-water withdrawals and diversions for irrigation, municipal, and industrial uses, and return flows from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,600 ft³/s Aug. 19, 1983, gage height, 26.67 ft; maximum gage height, 27.67 ft July 4, 1983; minimum daily discharge, 260 ft³/s Jan. 17, 1970.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum gage height since at least 1878, 34.0 ft Jan. 22, 1916, discharge, 250,000 ft³/s, at former gaging station at Yuma.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,060 ft³/s Feb. 27 at 0400, gage height, 13.99 ft. Minimum daily discharge, 598 ft³/s Dec. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	961	1060	1020	708	623	811	786	779	1270	743	772	1230
2	797	1170	2130	815	670	760	781	773	1290	735	900	1250
3	792	1150	1810	650	643	949	920	842	1310	756	806	1220
4	799	1270	1710	654	668	1180	751	921	1350	770	785	1230
5	798	1240	1720	674	647	997	924	1680	1330	773	772	1260
6	1080	1270	1890	656	838	692	988	1310	1340	782	735	1210
7	814	1280	2300	627	683	831	1370	1390	1350	762	924	1180
8	808	1300	1990	614	668	918	1290	980	1220	889	1200	1170
9	785	1280	1870	603	670	685	1190	1040	688	864	1310	1200
10	767	1320	1810	619	680	670	1180	1130	702	726	1290	1170
11	770	1330	1740	771	681	633	834	1130	725	752	1200	1150
12	799	1250	1730	1360	689	709	821	1070	717	791	1200	1080
13	797	721	1750	955	749	772	822	1080	742	754	1210	1100
14	834	784	1710	622	1790	757	780	1090	735	745	1200	1090
15	865	753	1720	621	2090	825	751	1130	753	1040	1220	1180
16	811	788	1670	659	1600	839	822	1100	789	798	1210	1180
17	836	788	1700	658	1230	1690	926	1090	799	835	1200	1170
18	905	754	1610	719	1750	2620	1270	1130	709	752	1220	1130
19	1470	778	1510	1280	2150	1540	1620	1180	759	753	1220	1170
20	1950	794	923	1600	1480	1050	2030	1120	724	818	1260	1190
21	1010	783	870	1360	1140	865	1510	1120	700	785	1240	1130
22	823	757	839	725	748	841	899	1130	740	760	1290	1160
23	806	748	792	671	704	838	1290	1150	721	766	1250	1250
24	825	763	761	660	732	850	933	1180	706	761	1260	678
25	795	747	816	668	738	927	1140	1190	680	755	1230	639
26	797	736	702	671	2380	907	935	1230	680	960	1230	634
27	818	752	645	663	2780	840	871	1250	688	861	1260	737
28	829	771	630	653	1210	727	816	1330	703	806	1270	726
29	1150	754	629	626	---	738	796	1280	747	801	1250	706
30	1680	777	598	629	---	784	789	1350	731	791	1260	660
31	1300	---	601	624	---	785	---	1280	---	784	1270	---
TOTAL	29271	28668	42196	23815	31431	29030	30835	35455	26398	24668	35444	31880
MEAN	944	956	1361	768	1123	936	1028	1144	880	796	1143	1063
MAX	1950	1330	2300	1600	2780	2620	2030	1680	1350	1040	1310	1260
MIN	767	721	598	603	623	633	751	773	680	726	735	634
AC-FT	58060	56860	83700	47240	62340	57580	61160	70320	52360	48930	70300	63230

CAL YR 2002 TOTAL 395746 MEAN 1084 MAX 3420 MIN 586 AC-FT 785000
WTR YR 2003 TOTAL 369091 MEAN 1011 MAX 2780 MIN 598 AC-FT 732100

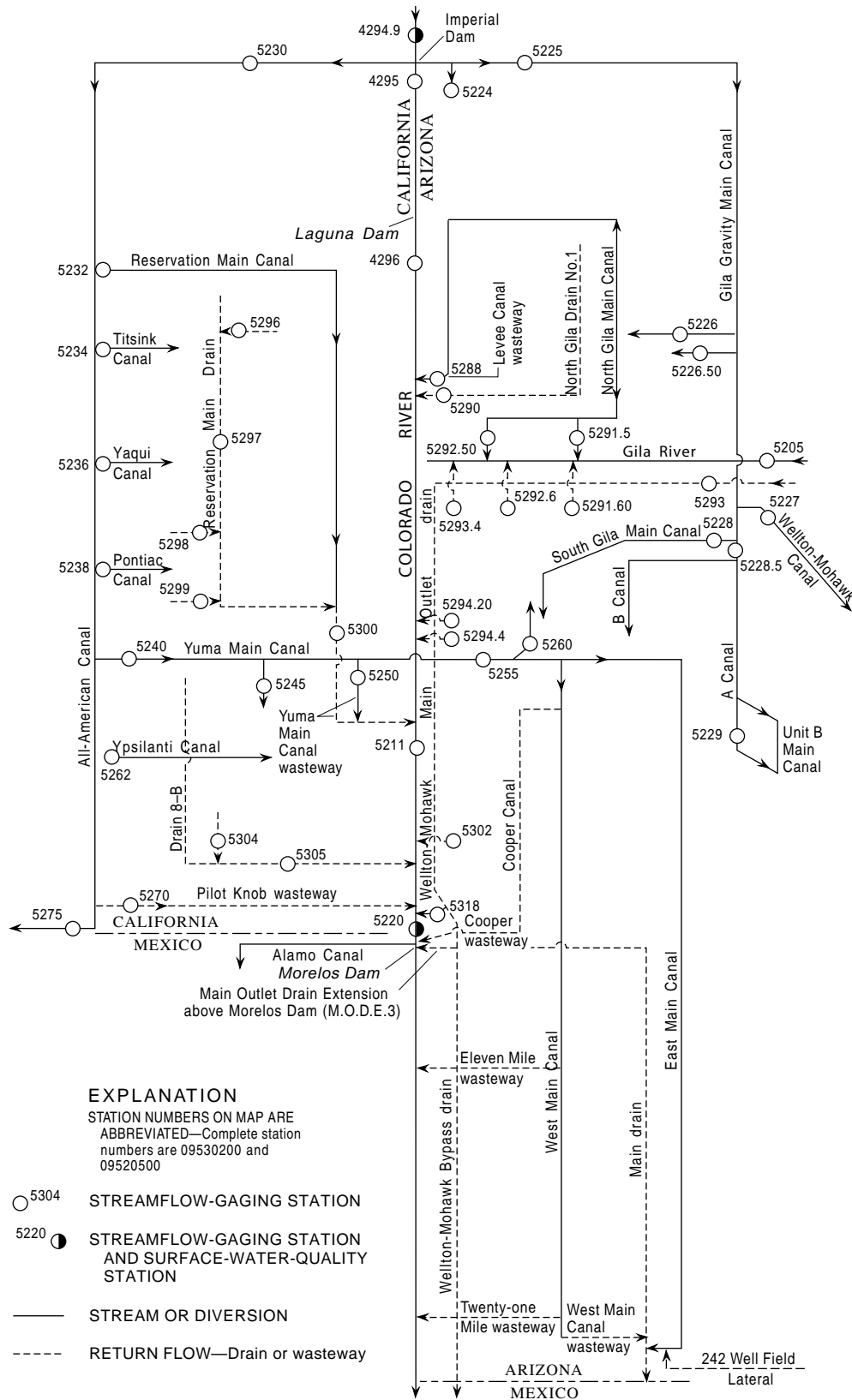


Figure 6. Streamflow-gaging stations and water-quality stations on streams, diversions, and return flows between Imperial Dam and the southerly international boundary.

COLORADO RIVER MAIN STEM

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY, ABOVE MORELOS DAM, NEAR ANDRADE, CA
(NATIONAL STREAM-QUALITY ACCOUNTING NETWORK)

LOCATION.--Lat 32°43'07", long 114°43'05", in NE1/4SE1/4 sec. 21, T.8 S., R.24 W., Gila and Salt River meridian, in Yuma County, AZ, Hydrologic Unit 15030108, on left bank at northerly international boundary, 0.5 mi east of Andrade, 1.1 mi upstream from Morelos Dam, 1.1 mi downstream from Rockwood Gate, and 6.4 mi downstream from gaging station on Colorado River below Yuma Main Canal wasteway.

DRAINAGE AREA.--246,700 mi², approximately, including all closed basins entirely within the drainage boundary, also 3,959 mi² in Great Divide Basin in southern Wyoming.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--Jan. 1950 to current year. Prior to Oct. 1958 published as "at international boundary."

GAGE.--Water-stage recorder. Datum of gage is mean sea level. Supplementary water-stage recorder 1,680 ft upstream at same datum.

REMARKS.--No estimated daily discharges. This record shows water passing northerly international boundary. Minor diversions to the United States below this station by pumping from ground water for irrigation in the floodway between river and Yuma levee.

COOPERATION.--Records furnished by International Boundary and Water Commission, U.S. Section (discharge figures rounded in accordance with U.S. Geological Survey standard practice).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,600 ft³/s Aug. 20, 1983; maximum elevation, 115.65 ft Aug. 18 and 19, 1983; minimum discharge, 495 ft³/s Sept. 28, 1970; minimum elevation, 101.72 ft, Nov. 2, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 5,370 ft³/s Mar. 18. Minimum daily discharge, 720 ft³/s Oct. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1200	1260	1790	1620	2470	2530	3220	2400	1430	1840	1740	1320
2	879	1270	2110	1770	2520	2520	3220	1970	1440	1840	1760	1290
3	826	1360	1980	1580	2680	2820	3320	1950	1480	1890	1710	1320
4	819	1410	1850	1560	2560	3030	3260	1760	1560	1840	1630	1290
5	830	1440	1840	1600	2410	2900	3210	2660	1540	1800	1670	1310
6	1240	1470	1960	1760	2500	2870	3290	2320	1520	1840	1600	1290
7	961	1490	2280	1720	2420	2890	3640	2510	1580	1800	1710	1270
8	848	1530	2100	1760	2430	2890	3530	2030	1500	1790	1650	1280
9	858	1510	2070	1720	2460	2960	3450	1810	1640	1680	1560	1350
10	795	1500	1960	1810	2400	3070	3350	1430	1590	1610	1580	1310
11	720	1510	1970	1920	2400	3200	3220	1420	1620	1660	1480	1350
12	780	1500	1920	2460	2490	3440	3250	1340	1650	1660	1400	1290
13	862	1500	1960	2280	2380	3450	3230	1370	1680	1660	1430	1290
14	925	1570	1950	1930	3570	3090	3220	1340	1650	1640	1410	1260
15	1010	1480	1960	1950	4270	2910	3220	1460	1650	1890	1420	1210
16	939	1510	1850	1910	3880	2840	3190	1370	1700	1760	1400	1350
17	964	1530	1880	1950	3470	4270	3190	1360	1610	1670	1410	1330
18	1020	1530	1870	1970	3850	5370	3640	1390	1510	1580	1350	1300
19	1430	1530	1830	2290	4200	3880	3880	1480	1660	1640	1310	1230
20	1860	1560	1820	2700	3780	3450	4340	1370	1700	1670	1360	1320
21	1290	1540	1830	2720	3050	3050	3810	1340	1660	1650	1300	1270
22	1000	1510	1780	2080	2750	3080	2820	1350	1680	1890	1390	1250
23	964	1500	1710	2110	2820	3120	3340	1370	1800	2340	1330	1370
24	982	1550	1690	2120	2860	3180	2840	1420	2060	2090	1340	1530
25	957	1580	1660	2100	2950	3150	2790	1400	2030	1950	1320	1490
26	932	1600	1580	2130	4240	3170	2790	1440	1950	1970	1320	1500
27	975	1590	1510	2190	4910	3020	2790	1440	1960	1980	1370	1590
28	1050	1610	1510	2220	3470	3090	2580	1580	2030	1940	1300	1640
29	1220	1600	1510	2170	---	3070	2420	1520	2060	1790	1320	1610
30	1700	1600	1570	2220	---	3180	2410	1560	2100	1640	1340	1520
31	1510	---	1600	2260	---	3160	---	1560	---	1790	1410	---
TOTAL	32346	45140	56900	62580	86190	98650	96460	50720	51040	55790	45320	40730
MEAN	1043	1505	1835	2019	3078	3182	3215	1636	1701	1800	1462	1358
MAX	1860	1610	2280	2720	4910	5370	4340	2660	2100	2340	1760	1640
MIN	720	1260	1510	1560	2380	2520	2410	1340	1430	1580	1300	1210
AC-FT	64160	89540	112900	124100	171000	195700	191300	100600	101200	110700	89890	80790
CAL YR 2002	TOTAL 748846	MEAN 2052	MAX 4870	MIN 720	AC-FT 1485000							
WTR YR 2003	TOTAL 721866	MEAN 1978	MAX 5370	MIN 720	AC-FT 1432000							

COLORADO RIVER MAIN STEM

09522000 COLORADO RIVER AT NORTHERLY INTERNATIONAL BOUNDARY, ABOVE MORELOS DAM, NEAR ANDRADE, CA—CONTINUED

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Date	Pendi- meth- alin, water, fltrd 0.7u GF ug/L (82683)	Phorate water fltrd 0.7u GF ug/L (82664)	Prome- ton, water, fltrd, 0.7u GF ug/L (04037)	Pron- amide, water, fltrd 0.7u GF ug/L (82676)	Pro- chlor, water, fltrd, 0.7u GF ug/L (04024)	Pro- panil, water, fltrd 0.7u GF ug/L (82679)	Propar- gite, water, fltrd 0.7u GF ug/L (82685)	Sima- zine, water, fltrd, 0.7u GF ug/L (04035)	Tebu- thiuron water fltrd 0.7u GF ug/L (82670)	Terba- cil, water, fltrd 0.7u GF ug/L (82665)	Terbu- fos, water, fltrd 0.7u GF ug/L (82675)	Thio- bencarb water fltrd 0.7u GF ug/L (82681)	Tri- allate, water, fltrd 0.7u GF ug/L (82678)
NOV													
19...	<.022	<.011	<.01	.011	<.010	<.011	<.02	<.005	<.02	E.005	<.02	<.005	<.002
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN													
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR													
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY													
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL													
29...	<.022	<.011	<.01	<.004	<.010	<.011	<.02	<.005	<.02	<.034	<.02	<.005	<.002
29...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG													
19...	<.022	<.011	<.01	<.004	<.010	<.011	<.02	<.005	<.02	E.051	<.02	<.005	<.002
19...	--	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	Tri- flur- alin, water, fltrd 0.7u GF ug/L (82661)	Alpha radio- activy water, fltrd, Th-230, pCi/L (04126)	Gross beta radioac water, fltrd, Cs-137, pCi/L (03515)	Ra-226, water, fltrd, radon method pCi/L (09511)	Uranium natural water, fltrd, ug/L (22703)	U-234, water, fltrd, pCi/L (22610)	U-235, water, fltrd, pCi/L (22620)	U-238, water, fltrd, pCi/L (22603)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)	Sus- pended sedi- ment load, tons/d (80155)
NOV											
19...	<.009	--	--	--	3.63	--	--	--	93	10	41
19...	--	--	--	--	--	--	--	--	--	10	41
19...	--	--	--	--	--	--	--	--	98	7	--
JAN											
22...	--	--	--	--	4.35	--	--	--	98	10	56
22...	--	--	--	--	--	--	--	--	98	10	56
22...	--	--	--	--	--	--	--	--	96	8	--
APR											
16...	--	--	--	--	3.96	--	--	--	86	15	130
16...	--	--	--	--	--	--	--	--	89	15	--
MAY											
20...	--	--	--	--	4.53	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	92	9	34
20...	--	--	--	--	--	--	--	--	93	12	--
JUL											
29...	<.009	--	--	--	3.82	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--	--	--	--
AUG											
19...	<.009	2	3	.10	3.88	2.1	.1	1.3	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--

Remark codes used in this report:

< -- Less than
E -- Estimated value
M -- Presence verified, not quantified
Value qualifier codes used in this report:
+ -- Improper preservation
c -- See laboratory comment
d -- Diluted sample: method hi range exceeded
k -- Counts outside acceptable range
n -- Below the NDV
t -- Below the long-term MDL

Two major diversions for irrigation water are located at Imperial Dam, the Gila Gravity Main Canal, and the All-American Canal. The Gila Gravity Main Canal diverts water for irrigation in the Gila Project, which is located entirely in Arizona. The All-American Canal diverts water for irrigation in Imperial Valley in California and the Yuma Project in Arizona and California. Between Imperial Dam and the northerly international boundary with Mexico, water is diverted from these principal canals for the individual diversions of the Gila and Yuma Projects.

Between Imperial Dam and the northerly international boundary with Mexico, flows from irrigated areas enter the Colorado River through many drains and wasteways in Arizona and California. Other return flows enter the Gila River below the gaging station near Dome (09520500).

See figure 6 on p. 267 for schematic diagram showing location of diversions and return flows.

Diversions at and below Imperial Dam, AZ-CA

09522500. GILA GRAVITY MAIN CANAL AT IMPERIAL DAM.--See p. 278

09522600. NORTH GILA MAIN CANAL.

LOCATION.--Water-stage recorder and sharp-crested weir, in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.23, T.7 S., R.22 W., Yuma County, Hydrologic Unit 15030107, about 700 ft downstream from turnout from Gila Gravity Main Canal and 1.2 mi south of Laguna Dam.

PERIOD OF RECORD.--Oct. 1965 to current year (monthly discharge only).

REMARKS.--Record shows water available for irrigation in North Gila Valley.

09522650. NORTH GILA MAIN CANAL NO. 2.

LOCATION.--Water-stage recorder in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.11, T.8 S., R.22 W., Yuma County, Hydrologic Unit 15070201, at turnout from Gila Gravity Main Canal and 3.5 mi downstream from turnout to North Gila Main Canal.

PERIOD OF RECORD.--June 1969 to current year (monthly discharge only).

REMARKS.--Record shows water available for irrigation in North Gila Valley.

09522700. WELLTON-MOHAWK CANAL.

LOCATION.--Three water-stage recorders to record forebay and tailrace elevations and gate openings since June 1, 1974, in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.17, T.8 S., R.21 W., Yuma County, Hydrologic Unit 15070201, at turnout from Gila Gravity Main Canal.

PERIOD OF RECORD.--Oct. 1965 to current year (monthly discharge only).

REMARKS.--Record shows water available for irrigation in the Dome, Wellton, and Mohawk areas of the lower Gila Valley.

COOPERATION.--Supplementary record of gate openings furnished by Wellton-Mohawk Irrigation District.

09522800. SOUTH GILA MAIN CANAL.

LOCATION.--Sparling flowmeter, in SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.36, T.8 S., R.22 W., Yuma County, Hydrologic Unit 15070201, 110 ft downstream from turnout from Gila Gravity Main Canal.

PERIOD OF RECORD.--Oct. 1965 to current year (monthly discharge only).

REMARKS.--Record shows water available for irrigation in South Gila Valley.

COOPERATION.--Daily discharges furnished by Yuma Irrigation District.

09522850. GILA GRAVITY MAIN CANAL AT PUMPING PLANT.

LOCATION.--Intake consisting of five pumps, in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec.1, T.9 S., R.22 W., Yuma County, Hydrologic Unit 15070201, at end of Gila Gravity Main Canal and head of Yuma Mesa canals.

PERIOD OF RECORD.--Oct. 1965 to current year (monthly discharge only).

REMARKS.--Record shows water available for irrigation on Yuma Mesa and in Yuma Auxiliary Division of Yuma Valley.

COOPERATION.--Records furnished by Yuma Mesa Irrigation and Drainage District.

09522900. UNIT B MAIN CANAL.

LOCATION.--Headworks in NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.28, T.9 S., R.23 W., Yuma County, Hydrologic Unit 15030108, 5 mi northeast of Somerton.

PERIOD OF RECORD.--Oct. 1965 to current year (monthly discharge only).

REMARKS.--Record shows water available for irrigation in Yuma Auxiliary Division of the Yuma Project.

COOPERATION.--Records furnished by Yuma Mesa Irrigation and Drainage District.

09523000. ALL-AMERICAN CANAL NEAR IMPERIAL DAM.--See p. 279

09523200. RESERVATION MAIN CANAL.

LOCATION.--Water-stage recorder and, since Sept. 5, 1975, gate-opening recorder, in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.35, T.15 S., R.23 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030107, at turnout from All-American Canal and 5.8 mi downstream from Imperial Dam.

PERIOD OF RECORD.--Aug. 1950 to current year (monthly discharge only). Prior to Oct. 1965 included in total diversions from All-American Canal and Yuma Main Canal above siphon-drop powerplant and published as part of sta 09524000.

REMARKS.--Record computed from rated gate on turnout from All-American Canal and shows water available for irrigation in parts of Reservation Division of Yuma Project in California.

COOPERATION.--Record of gate openings furnished by Bard Water District.

09523400. TITSINK CANAL.

LOCATION.--Water-stage recorder and Parshall flume in NE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.27, T.15 S., R.23 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030107, 0.6 mi downstream from turnout from All-American Canal and 7.2 mi downstream from Imperial Dam.

PERIOD OF RECORD.--Aug. 1950 to current year (monthly discharge only). Prior to Oct. 1965 included in total diversions from All-American Canal and Yuma Main Canal above siphon-drop powerplant and published as part of sta 09524000.

REMARKS.--Record shows water available for irrigation in parts of Reservation Division of Yuma Project in California.

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

Diversions at and below Imperial Dam, AZ-CA—Continued

09523600. YAQUI CANAL.

LOCATION.--Water-stage recorder and Parshall flume in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.31, T.15 S., R.23 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030107, 700 ft downstream from turnout from All-American Canal and 11.1 mi downstream from Imperial Dam.

PERIOD OF RECORD.--June 1950 to current year (monthly discharge only). Prior to Oct. 1965 included in total diversions from All-American Canal and Yuma Main Canal above siphon-drop powerplant and published as part of sta 09524000.

REMARKS.--Record shows water available for irrigation in parts of Reservation Division of Yuma Project in California.

09523800. PONTIAC CANAL.

LOCATION.--Water-stage recorder and Parshall flume in NW $\frac{1}{4}$ W $\frac{1}{4}$ sec.1, T.16 S., R.22 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030107, 500 ft downstream from turnout from All-American Canal and 13.1 mi downstream from Imperial Dam.

PERIOD OF RECORD.--Aug. 1950 to current year (monthly discharge only). Prior to Oct. 1965 included in total diversions from All-American Canal and Yuma Main Canal above siphon-drop powerplant and published as part of sta 09524000.

REMARKS.--Record shows water available for irrigation in parts of Reservation Division of Yuma Project in California.

09524000. YUMA MAIN CANAL AT SIPHON-DROP POWERPLANT.--See p. 280**09524500. DIVERSIONS FROM YUMA MAIN CANAL BETWEEN SIPHON-DROP POWERPLANT AND YUMA MAIN CANAL WASTEWAY.**

LOCATION.--Turnouts for several canals diverting from Yuma Main Canal between siphon-drop powerplant, 4 mi north of Yuma, and Yuma Main Canal wasteway, 1,600 ft upstream from Colorado River siphon, in Imperial County.

PERIOD OF RECORD.--Oct. 1940 to current year (monthly discharge only). Prior to Oct. 1947 in WSP 1313.Oct. 1947 to Sept. 1965 published as supplemental table with records for Yuma Main Canal at siphon-drop powerplant.

REMARKS.--Record shows water available for irrigation in parts of Reservation Division of Yuma Project in California.

COOPERATION.--Record furnished by Bard Water District.

09525500. YUMA MAIN CANAL BELOW COLORADO RIVER SIPHON.--See p. 282**09526000. DIVERSION FROM YUMA MAIN CANAL FOR MUNICIPAL SUPPLY FOR YUMA.**

LOCATION.--Sparling and Venturi flowmeters, in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.35, T.16 S., R.22 E., San Bernardino meridian, Yuma County, Hydrologic Unit 15030107, on two pipelines, respectively, about 1,000 ft downstream from intake, which is at outlet of Colorado River siphon of Yuma Main Canal, on Arizona side of Colorado River at Yuma.

PERIOD OF RECORD.--June 1945 to current year (monthly discharge only). Prior to Oct. 1973 published as a supplemental table with records for Yuma Main Canal below Colorado River siphon.

REMARKS.--Record shows water for Yuma municipal supply. Figures shown in table herewith are also included in record for Yuma Main Canal below Colorado River siphon (sta 09525500).

COOPERATION.--Records furnished by Yuma County Water Users' Association.

09526200. YPSILANTI CANAL NEAR WINTERHAVEN, CA.

LOCATION.--Water-stage recorder and Cippoletti weir in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.16, T.16 S., R.22 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030107, 700 ft downstream from turnout from All-American Canal and 1.5 mi northwest of Winterhaven, CA.

PERIOD OF RECORD.--Apr. 1995 to current year (monthly discharge only).

REMARKS.--Records shows water available for irrigation in parts of Reservation Division of Yuma Project in California.

09527500. ALL-AMERICAN CANAL BELOW PILOT KNOB WASTEWAY.--See p. 288

Diversions at and below Imperial Dam, AZ-CA—Continued

MONTHLY DIVERSIONS, IN ACRE-FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Month	North Gila Main Canal 09522600	North Gila Main Canal No. 2 09522650	Wellton-Mohawk Canal 09522700	South Gila Main Canal 09522800	Gila Gravity Main Canal at pumping plant 09522850
October	4,010	863	32,290	4,370	19,105
November.....	3,010	637	25,130	3,250	11,102
December	1,840	430	18,640	2,560	10,028
CAL YR 2002	40,000	7,040	416,500	40,970	240,076
January	1,830	432	18,570	2,700	10,419
February.....	1,920	534	16,400	2,620	7,581
March.....	3,130	781	35,340	3,920	13,242
April.....	4,040	687	44,020	5,070	19,586
May.....	4,280	909	40,410	4,570	22,402
June.....	4,110	994	47,330	3,460	24,769
July.....	3,380	1,040	45,330	2,980	30,084
August.....	1,240	554	35,800	2,250	24,151
September	2,830	674	35,440	2,980	22,316
WTR YR 2003	35,630	8,530	394,700	40,730	214,785

Month	Unit B Main Canal 09522900	Reservation Main Canal 09523200	Titsink Canal 09523400	Yaqui Canal 09523600	Pontiac Canal 09523800
October	2,346	5,470	46	853	603
November.....	1,081	4,510	7.6	625	955
December	1,416	2,930	32	373	522
CAL YR 2002	28,378	56,960	453	8,590	6,320
January	1,175	2,860	29	333	500
February.....	1,070	2,300	14	301	333
March.....	1,607	5,920	36	806	620
April.....	2,500	7,030	71	1,150	1,120
May.....	2,668	7,260	73	1,050	848
June.....	3,130	4,930	29	865	257
July.....	3,710	5,190	29	780	174
August.....	2,458	2,980	17	542	266
September	2,712	3,920	51	528	376
WTR YR 2003	25,873	55,290	434	8,210	6,570

Month	Diversions from Yuma Main Canal 09524500	Division from Yuma Main Canal for Yuma supply 09526000	Ypsilanti Canal near Winterhaven, CA 09526200
October	1,320	2,305	1,620
September.....	980	1,950	1,300
December	569	2,047	622
CAL YR 2002	11,080	27,239	12,650
January	599	2,305	985
February.....	592	1,807	704
March.....	1,430	2,030	1,910
April.....	1,560	1,936	2,020
May.....	1,230	2,356	1,660
June.....	540	2,884	333
July.....	380	3,089	556
August.....	619	2,784	559
September	681	2,430	439
WTR YR 2003	10,500	27,923	12,710

NOTE.--Yearly totals given above have been computed from total cfs-days and may differ slightly from the summation of monthly total acre-feet on occasion.

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09522500 GILA GRAVITY MAIN CANAL AT IMPERIAL DAM, AZ-CA

LOCATION--Lat 32°52'34", long 114°27'18", in SE₁/₄SW₁/₄ sec. 30, T.6 S., R.21 W., Gila and Salt River meridian, Yuma County, Hydrologic Unit 15030107, on right bank 3,200 ft downstream from intake at east end of Imperial Dam.

PERIOD OF RECORD--Aug. 1943 to current year.

GAGE--Water-stage recorder. Datum of gage is 160.00 ft above sea level.

REMARKS--No estimated daily discharges. Records good except those below 500 ft³/s, which are fair. Gila Gravity Main Canal diverts water from Colorado River at left end of Imperial Dam for irrigation of lands in the Gila Project area in Arizona. Diversions to this canal began Aug. 17, 1943. Diversions to North Gila Valley from this canal began Dec. 16, 1954.

EXTREMES FOR PERIOD OF RECORD--Maximum daily discharge, 2,240 ft³/s May 25, 1965; no flow at canal intake at times in several years when intake gates were closed.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1650	900	437	272	481	352	1670	1630	564	1800	1120	1160
2	1330	628	1040	1000	226	326	1840	1390	1680	1880	665	1330
3	1480	525	917	833	1270	1000	1700	556	1730	1800	640	1270
4	1430	1150	1010	665	1220	1180	1240	429	1740	1310	1650	1210
5	937	1050	891	472	1240	1210	670	1380	1670	894	1770	1260
6	517	1100	614	986	1010	1290	583	1580	1650	774	1650	783
7	1340	992	577	949	738	1080	1240	1540	934	1900	1460	541
8	1430	850	266	740	302	597	1360	1630	681	1940	1490	1420
9	1380	678	650	543	477	491	1360	1250	1790	1930	705	1480
10	1330	487	566	434	1160	1420	1720	613	1980	1830	524	1390
11	1290	1180	626	339	1070	1380	1440	582	2060	1770	1390	1250
12	753	1180	668	209	970	1230	692	1640	1920	1140	1400	980
13	562	1290	738	901	361	1060	560	1760	1650	878	1370	772
14	1270	1310	503	811	196	773	1480	1650	992	1860	1550	679
15	1250	879	490	803	231	437	1580	1660	755	1960	1150	1530
16	1230	586	1060	849	171	277	1880	1380	1660	1780	546	1480
17	1090	464	1100	601	480	948	1850	762	1820	1620	497	1690
18	1100	1130	1010	396	422	935	1140	611	1820	1520	1490	1530
19	665	986	1160	247	634	1310	710	1690	1810	759	1420	1470
20	500	985	709	797	640	1200	474	1750	1760	474	1410	913
21	1300	1120	579	847	678	960	1450	1760	1080	1680	1200	1000
22	1240	905	319	807	243	695	1620	1730	933	1740	1110	1360
23	1130	796	1130	721	294	450	1630	1680	1820	2040	468	1380
24	1060	552	509	599	1190	1270	1480	1020	1690	1880	320	1320
25	981	1210	147	510	949	1370	1350	662	1580	1440	1530	1190
26	547	1150	857	340	609	1470	807	1440	1750	794	1450	1010
27	408	1050	810	837	446	1480	743	1640	1700	533	1180	706
28	1170	455	579	906	341	1200	1630	1610	944	1560	1210	657
29	1150	584	566	1020	---	866	1660	1730	753	1560	1210	1230
30	1230	686	1040	1000	---	804	1720	1500	1830	1520	556	1460
31	1240	---	583	758	---	1480	---	1040	---	1350	440	---
TOTAL	33990	26858	22151	21192	18049	30541	39279	41295	44746	45916	34571	35451
MEAN	1096	895	715	684	645	985	1309	1332	1492	1481	1115	1182
MAX	1650	1310	1160	1020	1270	1480	1880	1760	2060	2040	1770	1690
MIN	408	455	147	209	171	277	474	429	564	474	320	541
AC-FT	67420	53270	43940	42030	35800	60580	77910	81910	88750	91070	68570	70320

CAL YR 2002 TOTAL 417319 MEAN 1143 MAX 2030 MIN 147 AC-FT 827800
WTR YR 2003 TOTAL 394039 MEAN 1080 MAX 2060 MIN 147 AC-FT 781600

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09523000 ALL-AMERICAN CANAL NEAR IMPERIAL DAM, AZ-CA

LOCATION--Lat 32°52'17", long 114°28'47", in SE¹/₄NW¹/₄ sec. 17, T.15 S., R.24 E., San Bernardino meridian, in Imperial County, CA, Hydrologic Unit 15030107, on left bank 6,000 ft downstream from intake at west end of Imperial Dam and 13.7 mi upstream from turnout to Yuma Main Canal.

PERIOD OF RECORD--Oct. 1938 to current year. Prior to Oct. 1939 monthly discharge only, published in WSP 1313.

GAGE--Water-stage recorder. Datum of gage is 150.00 ft above sea level (subject to undetermined changes caused by earthquake of May 18, 1940). Since Aug. 21, 1952, auxiliary water-stage recorder 18.5 mi downstream from base gage.

REMARKS--No estimated daily discharges. Records excellent. All-American Canal diverts water from Colorado River at Imperial Dam. Water is used for power development and for irrigation in Yuma, Coachella, and Imperial Valleys. Water can be released back to the river through Pilot Knob powerplant and wasteway for power, regulatory purposes, or for downstream use in Mexico. First diversion to All-American Canal began Oct. 1938, but prior to Oct. 1940 was used only for priming canal.

COOPERATION--Daily discharge figures furnished by Imperial Irrigation District.

EXTREMES FOR PERIOD OF RECORD--Maximum daily discharge, 14,400 ft³/s, Apr. 17, July 15, 16, 1980; no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6210	5150	4040	3140	5360	4440	10800	8860	6700	8050	7200	5560
2	6390	4960	3870	3660	5000	4870	10100	8560	7140	8210	6680	5940
3	6330	4780	3830	3930	5330	5490	10200	7940	7340	7910	6250	6060
4	5970	5090	3790	3930	5720	6320	9880	7400	7560	7710	6570	6150
5	5800	5110	3880	3650	5820	6840	9600	7770	7260	7620	6500	6280
6	5910	5200	3770	4330	5920	7740	9540	7990	7800	7140	6660	5950
7	6070	5490	3790	4390	5820	7810	10100	8160	7750	7390	7030	5260
8	6320	5270	3710	4660	5600	7750	10000	8170	6910	7670	7080	5640
9	6520	4980	3900	4870	5220	7780	9990	7700	7520	7950	6980	5980
10	6650	4780	3830	4860	5420	8790	9860	6610	7650	8340	6170	6120
11	6660	5010	3830	4480	5470	8830	9880	6220	7740	8330	6960	6040
12	6250	5170	3940	4280	5060	9040	9400	7050	7940	8320	7060	6450
13	5830	5370	4000	4420	4570	8790	9110	7410	7910	7730	7240	6510
14	6000	5650	4030	4740	3980	8410	9790	7680	7340	7650	7260	6180
15	6160	5620	3660	4710	3810	8220	9910	7720	6680	7980	7080	6580
16	6310	5410	3800	4800	3650	7420	9820	7360	7040	8100	6230	6550
17	6050	4920	4030	5040	3870	7100	9530	6760	7370	7990	5640	6600
18	5800	5100	4080	4880	4100	7350	9010	6500	7620	7950	5920	6630
19	5800	5270	4140	4460	4180	7290	8230	7410	7750	7680	6480	6390
20	5440	5300	4560	4750	4600	7910	7780	7690	7880	7270	6310	6100
21	5240	5310	4660	4800	5160	8210	8990	7800	7640	7530	6260	5640
22	5480	5230	4000	5020	5180	8360	9320	7930	7060	7970	6000	6430
23	5450	5300	3790	5180	5110	8040	9140	7760	7270	8240	5960	6620
24	5380	4950	3320	4920	6090	9260	9210	7350	7560	8140	5620	6770
25	5140	5230	2900	4720	5680	9590	8830	6850	7590	8000	5380	6860
26	5080	5380	3390	4360	4700	9450	8860	7510	7770	7450	5800	6760
27	4640	4770	3560	4860	4550	9360	8670	7900	7850	7250	5980	6370
28	4870	4220	3530	5140	4480	9120	8940	7820	7680	7640	5970	6290
29	4870	4530	3630	5410	---	9520	9060	7630	7310	7460	5890	6570
30	5080	4300	3930	5650	---	9930	9030	7540	8110	7500	5600	6840
31	5180	---	3480	5710	---	10600	---	7030	---	7520	5340	---
TOTAL	178880	152850	118670	143750	139450	249630	282580	234080	224740	241690	197100	188120
MEAN	5770	5095	3828	4637	4980	8053	9419	7551	7491	7796	6358	6271
MAX	6660	5650	4660	5710	6090	10600	10800	8860	8110	8340	7260	6860
MIN	4640	4220	2900	3140	3650	4440	7780	6220	6680	7140	5340	5260
AC-FT	354800	303200	235400	285100	276600	495100	560500	464300	445800	479400	390900	373100
CAL YR 2002	TOTAL 2451220	MEAN 6716	MAX 10000	MIN 2900	AC-FT 4862000							
WTR YR 2003	TOTAL 2351540	MEAN 6443	MAX 10800	MIN 2900	AC-FT 4664000							

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09524000 YUMA MAIN CANAL AT SIPHON-DROP POWERPLANT, NEAR YUMA, AZ

LOCATION.--Lat 32°46'36", long 114°38'05", in SE_{1/4}SE_{1/4} sec. 10, T.16 S., R.22 E., San Bernardino meridian, in Imperial County, CA, Hydrologic Unit 15030107, 500 ft from turnout from All-American Canal to Yuma Main Canal, 4.0 mi north of Yuma, and 14.9 mi downstream from intake of All-American Canal at Imperial Dam.

PERIOD OF RECORD.--July 1926 to current year. Prior to Oct. 1938, monthly discharge only published in WSP 1313. Diversions from All-American Canal and Yuma Main Canal previously published with this record are listed separately in this report.

GAGE.--Accusonic flowmeters.

REMARKS.--Records are good above 100 ft³/s and poor below. New powerplant began operation Sept. 14, 1987, replacing former powerplant located 500 ft downstream that ended operation Dec. 8, 1972. A weir, installed in forebay of former powerplant, is used to measure flow bypassing the new powerplant. Separate gates on the All-American Canal to powerplant and bypass weir are controlled automatically on signal from the powerplant accusonic flowmeters on the two generators. Records of daily discharge show quantity of water diverted from All-American Canal to Yuma Main Canal (powerplant and bypass), except that diverted from forebay of former powerplant to Walapai Canal (see sta. 09523900).

COOPERATION.--Daily discharge record furnished by Yuma County Water Users' Association.

EXTREMES.--1930 to current year: Maximum daily discharge, 2,040 ft³/s Nov. 11, 1943; no flow for several days in 1937--39, 1945.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1080	858	749	363	455	461	1000	906	865	697	520	959
2	930	1210	780	413	407	515	1020	873	1010	812	416	1040
3	1000	972	605	468	381	446	1290	847	1110	821	377	989
4	1020	1080	760	431	525	384	999	716	1180	723	180	1000
5	994	1160	808	362	583	437	964	737	1170	608	15	1030
6	923	1250	773	502	851	447	901	859	1300	415	43	944
7	860	1300	701	563	618	702	900	952	1300	402	189	823
8	926	1310	984	531	530	809	903	977	989	713	1060	820
9	904	1240	852	470	424	816	910	1140	454	778	1240	909
10	835	1230	964	459	484	879	1040	1020	507	733	1140	890
11	1040	1300	855	418	507	974	1090	1070	516	762	1100	875
12	1030	1230	852	360	557	979	1060	1190	507	688	1142	892
13	850	651	1030	374	424	1010	1020	1280	517	554	1100	910
14	957	700	1050	417	386	1040	896	1290	530	554	997	861
15	942	736	841	401	384	1080	805	1180	510	560	974	1110
16	1080	660	832	374	383	831	853	1040	504	607	929	1030
17	1140	529	1000	455	383	629	845	943	565	551	828	1050
18	1230	503	911	479	384	565	1200	765	662	417	913	1070
19	1610	562	807	378	381	535	994	1050	609	370	951	1170
20	1540	598	497	429	361	533	893	1140	529	354	781	1250
21	887	644	506	509	692	759	776	1210	518	443	906	1130
22	1020	607	448	543	350	818	756	1250	493	559	728	1180
23	945	586	449	532	350	685	838	1210	476	670	823	1200
24	962	508	386	513	440	813	989	1070	537	612	774	661
25	920	540	369	458	462	950	1050	990	578	513	796	605
26	912	636	405	376	350	999	1020	1100	643	452	884	712
27	747	626	499	393	350	824	1040	1230	645	405	783	714
28	774	449	497	502	350	843	990	1280	675	481	923	775
29	775	561	421	518	---	925	937	1080	641	532	926	758
30	777	660	468	533	---	961	972	1080	630	596	975	764
31	754	---	427	526	---	960	---	931	---	625	958	---
TOTAL	30364	24896	21526	14050	12752	23609	28951	32406	21170	18007	24371	28121
MEAN	979	830	694	453	455	762	965	1045	706	581	786	937
MAX	1610	1310	1050	563	851	1080	1290	1290	1300	821	1240	1250
MIN	747	449	369	360	350	384	756	716	454	354	15	605
AC-FT	60230	49380	42700	27870	25290	46830	57420	64280	41990	35720	48340	55780
CAL YR 2002	TOTAL 277824	MEAN 761	MAX 1610	MIN 146	AC-FT 551100							
WTR YR 2003	TOTAL 280223	MEAN 768	MAX 1610	MIN 15	AC-FT 555800							

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09525000 YUMA MAIN CANAL WASTEWAY AT YUMA, AZ

LOCATION--Lat 32°44'00", long 114°37'20", in SW1/4SE1/4 sec. 26, T.16 S., R.22 E., San Bernardino meridian, in Imperial County, CA, Hydrologic Unit 15030107, 45 ft downstream from wasteway gates from Yuma Main Canal, which are 1,645 ft upstream from intake of Colorado River siphon on Yuma Main Canal, 0.5 mi north of Yuma, and 3.2 mi downstream from siphon-drop powerplant on Yuma Main Canal.

PERIOD OF RECORD--Apr. 1913 to current year. Monthly discharge only for some periods, published in WSP 1313.

GAGE--Water-stage recorder for low flows only prior to Jan. 29, 1988. Datum of gage is 122.51 ft above sea level. Prior to Apr. 1, 1968, gate-opening record used for low flows only.

REMARKS--Records fair above 100 ft³/s and poor below. The wasteway discharges into Colorado River 1,000 ft upstream from station on Colorado River below Yuma Main Canal wasteway at Yuma. Discharges are computed as difference between discharge of Yuma Main Canal at siphon-drop powerplant and Yuma Main Canal below Colorado River siphon, with deductions for small irrigation diversions from canal between these stations. Records do not include flow of Reservation Main Drain No. 4.

EXTREMES--1930 to current year: Maximum daily discharge, 2,020 ft³/s Dec. 24, 25, 1948; no flow for several days in 1937-39, 1945, 1950, 1971, 1997 and 1999.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	348	105	300	163	27	151	159	58	629	76	14	513
2	189	417	317	85	81	139	160	44	697	80	10	537
3	212	401	315	55	36	142	421	52	739	73	6.0	498
4	238	552	486	60	52	112	145	62	750	62	10	498
5	226	578	549	103	55	98	117	41	729	67	10	527
6	200	659	270	71	278	105	146	50	839	40	26	507
7	131	711	220	68	63	124	145	73	867	20	81	475
8	191	690	581	37	42	98	58	89	653	222	623	474
9	149	675	505	22	44	97	13	287	29	187	689	516
10	82	710	632	53	36	99	130	210	41	49	628	459
11	253	739	528	49	51	117	216	387	111	68	570	455
12	246	610	575	73	48	104	299	429	93	85	602	428
13	196	10	591	33	87	141	365	408	93	46	553	432
14	166	23	573	17	177	156	167	415	71	42	520	415
15	61	34	559	30	231	216	32	370	101	48	529	631
16	179	38	501	36	229	150	10	357	100	40	527	584
17	240	24	563	63	147	152	10	446	75	49	472	590
18	375	10	487	71	117	178	360	437	96	31	497	584
19	781	18	414	93	104	171	345	507	108	42	488	622
20	786	28	100	73	33	131	299	438	82	93	315	667
21	135	54	102	51	340	126	81	437	79	67	449	588
22	226	52	102	52	41	110	10	489	100	47	314	594
23	195	42	77	59	35	135	10	559	74	56	503	560
24	252	46	93	49	40	167	125	595	68	38	538	64
25	216	46	204	53	88	174	218	610	60	40	514	62
26	220	41	88	72	77	155	195	684	62	50	537	67
27	160	54	68	62	73	59	260	703	64	46	350	58
28	140	68	63	106	112	68	163	753	84	32	479	69
29	22	62	55	76	---	81	129	583	105	45	501	36
30	20	78	51	52	---	131	139	617	78	47	538	17
31	13	---	83	36	---	147	---	600	---	32	546	---
TOTAL	6848	7575	10052	1923	2744	4034	4927	11790	7677	1920	12439.0	12527
MEAN	221	252	324	62.0	98.0	130	164	380	256	61.9	401	418
MAX	786	739	632	163	340	216	421	753	867	222	689	667
MIN	13	10	51	17	27	59	10	41	29	20	6.0	17
AC-FT	13580	15030	19940	3810	5440	8000	9770	23390	15230	3810	24670	24850
CAL YR 2002	TOTAL 73332.0	MEAN 201	MAX 809	MIN 2.0	AC-FT 145500							
WTR YR 2003	TOTAL 84456.0	MEAN 231	MAX 867	MIN 6.0	AC-FT 167500							

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09525500 YUMA MAIN CANAL BELOW COLORADO RIVER SIPHON, AT YUMA, AZ

LOCATION.--Two gages, one at each end of canal siphon passing under Colorado River. At intake, lat 32°43'49", long 114°37'09", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 35, T.16 S., R.22 E., San Bernardino meridian, in Imperial County, CA, Hydrologic Unit 15030107, on left bank 1,645 ft downstream from center of Yuma Main Canal wasteway gates and 3.5 mi downstream from siphon-drop powerplant. At outlet, in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 35, T.16 S., R.22 E., San Bernardino meridian, in Yuma County, AZ, on right bank. Siphon crossing is 1,300 ft upstream from 4th Avenue bridge over Colorado River at Yuma.

PERIOD OF RECORD.--Jan. 1924 to current year. Prior to Oct. 1938, monthly discharge only published in WSP 1313. Diversion from Yuma Main Canal for municipal supply for Yuma (sta 09526000), published with this record prior to Oct. 1973, is listed separately in this report.

REVISED RECORDS.--WSP 1713: 1958, 1959 (Yuma municipal supply).

GAGE.--Water-stage recorder at each end of siphon. Datum of each gage is 100.62 ft above sea level. Prior to Oct. 1, 1963, at datum 0.05 ft lower. Elevation of sill of inlet is 125.5 ft above sea level. Prior to Oct. 29, 1938, nonrecording gages at approximately same sites, read simultaneously.

REMARKS.--Records good except those below 100 ft³/s, which are poor. Daily discharge computed from relation between discharge and head on siphon, which is the difference between intake and outlet gages. Records show quantity of water delivered through Colorado River siphon for irrigation in the Valley Division of the Yuma Project and for municipal supply for city of Yuma (see sta 09526000).

EXTREMES.--1930 to current year: Maximum daily discharge, 984 ft³/s Oct. 9, 1992; no flow at times.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	706	717	444	200	406	295	841	828	236	621	e483	446
2	715	760	438	325	321	356	849	813	295	732	399	490
3	764	552	282	405	328	289	811	776	350	747	356	489
4	760	505	266	363	436	252	820	634	417	661	242	500
5	756	544	249	259	511	293	806	652	441	530	e37	492
6	710	576	501	418	571	310	745	764	461	366	e17	424
7	716	586	481	480	555	551	723	843	433	374	e105	334
8	719	617	403	483	468	696	793	868	336	483	e409	342
9	729	565	337	437	361	703	858	853	414	591	531	393
10	741	517	308	400	432	734	852	799	449	684	492	431
11	779	557	310	352	446	808	840	668	400	676	503	419
12	784	596	263	267	491	838	756	719	397	593	520	464
13	637	637	438	340	336	857	655	810	422	508	517	478
14	772	657	465	395	209	870	696	850	444	501	460	446
15	854	658	281	353	153	850	766	786	388	499	430	470
16	859	600	311	336	153	681	828	670	388	565	387	438
17	860	479	422	372	224	477	870	497	474	487	354	446
18	827	480	409	395	251	383	840	328	552	386	401	477
19	806	525	386	279	260	352	649	543	500	328	443	529
20	753	544	385	346	313	386	579	666	446	261	466	570
21	747	590	404	447	337	608	639	723	439	362	449	536
22	782	555	346	479	306	671	778	742	393	495	399	554
23	738	536	351	464	315	530	825	646	400	614	320	594
24	694	453	288	445	367	616	818	475	458	574	236	566
25	689	481	165	391	374	730	825	380	508	473	282	536
26	670	581	314	304	273	811	821	403	556	402	347	625
27	567	553	413	313	277	740	780	480	566	359	433	638
28	616	379	425	390	236	742	790	497	575	e436	444	698
29	710	498	363	432	---	823	795	497	532	e472	425	702
30	702	561	405	479	---	809	814	460	552	e535	437	724
31	686	---	334	476	---	792	---	327	---	e580	412	---
TOTAL	22848	16859	11187	11825	9710	18853	23462	19997	13222	15895	11736	15251
MEAN	737	562	361	381	347	608	782	645	441	513	379	508
MAX	860	760	501	483	571	870	870	868	575	747	531	724
MIN	567	379	165	200	153	252	579	327	236	261	17	334
AC-FT	45320	33440	22190	23450	19260	37390	46540	39660	26230	31530	23280	30250
CAL YR 2002	TOTAL 199700	MEAN 547	MAX 872	MIN 165	AC-FT 396100							
WTR YR 2003	TOTAL 190845	MEAN 523	MAX 870	MIN 17	AC-FT 378500							

e Estimated

Return surface flows below Imperial Dam, AZ-CA

09525000. YUMA MAIN CANAL WASTEWAY.--See p. 281**09527000. PILOT KNOB POWERPLANT AND WASTEWAY.--See p. 287****09528800. LEVEE CANAL WASTEWAY.**

LOCATION.--Water-stage recorder at sharp-crested weir, in SE_{1/4}SW_{1/4} sec.4, T.8 S., R.22 W., Yuma County, Hydrologic Unit 15030107, 1,000 ft upstream from outlet to Colorado River.

PERIOD OF RECORD.--Oct. 1960 to current year (monthly discharge only).

REMARKS.--Record shows waste water from North Gila Valley Irrigation District.

09529000. NORTH GILA DRAIN NO. 1.

LOCATION.--Water-stage recorder, in SE_{1/4}SW_{1/4} sec.4, T.8 S., R.22 W., Yuma County, Hydrologic Unit 15030107, 0.25 mi upstream from outlet to Colorado River and 5.5 mi downstream from Laguna Dam.

PERIOD OF RECORD.--Oct. 1960 to current year (monthly discharge only).

REMARKS.--Record shows waste water from North Gila Valley Irrigation District.

09529150. NORTH GILA MAIN CANAL WASTEWAY.

LOCATION.--Water-stage recorder, in NE_{1/4}NW_{1/4} sec.22, T.8 S., R.22 W., Yuma County, Hydrologic Unit 15070201, 1,000 ft upstream from outlet to Gila River.

PERIOD OF RECORD.--Oct. 1960 to current year (monthly discharge only).

REMARKS.--Record shows waste water from North Gila Valley Irrigation District.

09529160. SOUTH GILA PUMP OUTLET CHANNEL NO. 3.

LOCATION.--In NW_{1/4}SE_{1/4} sec.22, T.8 S., R.22 W., Yuma County, Hydrologic Unit 15070201, 0.5 mi upstream from outlet to Gila River.

PERIOD OF RECORD.--Jan. 1965 to current year (monthly discharge only).

REMARKS.--Record shows water pumped from wells in South Gila Valley.

COOPERATION.--Records furnished by Bureau of Reclamation.

09529240. SOUTH GILA PUMP OUTLET CHANNEL NO. 2.

LOCATION.--In SW_{1/4}NW_{1/4} sec.28, T.8 S., R.22 W., Yuma County, Hydrologic Unit 15070201, 0.6 mi upstream from outlet to Gila River.

PERIOD OF RECORD.--Jan. 1962 to current year (monthly discharge only).

REMARKS.--Record shows water pumped from wells in South Gila Valley.

COOPERATION.--Record furnished by Bureau of Reclamation.

09529250. BRUCE CHURCH WASTEWAY.

LOCATION.--Water-stage recorder and sharp-crested weir, in SE_{1/4}SE_{1/4} sec.20, T.8 S., R.22 W., Yuma County, Hydrologic Unit 15070201, 500 ft upstream from outlet to Gila River.

PERIOD OF RECORD.--Oct. 1960 to current year (monthly discharge only).

REMARKS.--Record shows waste water from North Gila Valley Irrigation District.

09529300. WELLTON-MOHAWK MAIN OUTLET DRAIN (CONVEYANCE CHANNEL).

LOCATION.--Water-stage recorder and Parshall flume in NE_{1/4}NW_{1/4} sec.17, T.8 S., R.21 W., Yuma County, Hydrologic Unit 15070201, 7.8 mi upstream from outlet to Gila River (M.O.D.E. 1), which is 0.6 mi upstream from mouth of Gila River.

PERIOD OF RECORD.--Oct. 1960 to current year (monthly discharge only).

REMARKS.--Record shows water pumped from numerous wells in Wellton-Mohawk Irrigation and Drainage District to lower the water table. Flow can be discharged to the Gila River or Colorado River by any one of or combination of four outlets. These outlets are: M.O.D.E. 1 (release to Gila River about 7.8 mi below station); an overflow flume about 11.3 mi below station releases water to Colorado River; M.O.D.E. 2 (see sta 09531800) releases water to Colorado River above Morelos Dam; and M.O.D.E. 3 releases water to Colorado River below Morelos Dam.

09529360. SOUTH GILA PUMP OUTLET CHANNEL NO. 1.

LOCATION.--In SW_{1/4}NE_{1/4} sec.30, T.8 S., R.22 W., Yuma County, Hydrologic Unit 15070201, 0.2 mi upstream from outlet to Gila River, which is 0.6 mi upstream from mouth of Gila River.

PERIOD OF RECORD.--Aug. 1961 to current year (monthly discharge only).

REMARKS.--Record shows water pumped from wells in South Gila Valley.

COOPERATION.--Record furnished by Bureau of Reclamation.

09529420. SOUTH GILA TERMINAL WASTEWAY.

LOCATION.--Water-stage recorder and Parshall flume, in SW_{1/4}NW_{1/4} sec.36, T.8 S., R.23 W., Yuma County, Hydrologic Unit 15030107, 2.0 mi upstream from outlet to Colorado River.

PERIOD OF RECORD.--Mar. 1965 to current year (monthly discharge only).

REMARKS.--Record shows waste water from South Gila Canal of South Gila Valley.

09529440. SOUTH GILA PUMP OUTLET CHANNEL NO. 4.

LOCATION.--In NW_{1/4}NW_{1/4} sec.26, T.8 S., R.23 W., Yuma County, Hydrologic Unit 15030107, 1.5 mi upstream from outlet to Colorado River.

PERIOD OF RECORD.--July 1965 to current year (monthly discharge only).

REMARKS.--Records show water pumped from wells in South Gila Valley.

COOPERATION.--Records furnished by Bureau of Reclamation.

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

Return surface flows below Imperial Dam, AZ-CA--Continued

09529600. RESERVATION DRAIN NO. 7.

LOCATION.--At downstream end of culvert on State Road 24, in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.33, T.15 S., R.23 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030107, 0.5 mi upstream from outlet to Reservation Main Drain.

PERIOD OF RECORD.--Mar. 1966 to current year (monthly discharge only).

REMARKS.--Record shows drainage water from sec.34, T.15 S., R.23 E., in Reservation Division.

09529700. RESERVATION MAIN DRAIN NO. 6.

LOCATION.--Nonrecording gage on upstream right piling of Stallnacker Road Bridge, SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.32, T.15 S., R.23 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030107.

PERIOD OF RECORD.--Mar. 1966 to current year (monthly discharge only).

REMARKS.--Record shows waste and drainage water from the Reservation Division.

09529800. RESERVATION DRAIN NO. 2.

LOCATION.--At upstream side of bridge on White Road, in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.6, T.16 S., R.23 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030107, 0.9 mi upstream from outlet to Reservation Main Drain.

PERIOD OF RECORD.--Mar. 1966 to current year (monthly discharge only).

REMARKS.--Record shows drainage water from sec.31, T.15 S., R.22 E., in Reservation Division.

09529900. RESERVATION DRAIN NO. 3.

LOCATION.--At Jackson Road Bridge, in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.10, T.16 S., R.22 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030107, 1.0 mi upstream from outlet to Reservation Main Drain.

PERIOD OF RECORD.--Mar. 1966 to current year (monthly discharge only).

REMARKS.--Record shows drainage water from Reservation Division upstream from Yuma Main Canal.

09530000. RESERVATION MAIN DRAIN NO. 4.

LOCATION.--Water-stage recorder in NW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.26, T.16 S., R.22 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030107, 500 ft upstream from railroad culvert.

PERIOD OF RECORD.--Jan. 1913 to Apr. 1920, Oct. 1921 to Mar. 1925, Jan. 1934 to current year (monthly discharge only) (calendar year discharge only 1934-36). Prior to Oct. 1955, published as California drainage canal.

REMARKS.--Record shows waste and drainage water from area east of Yuma Main Canal on Reservation Division.

09530200. YUMA MESA OUTLET DRAIN.

LOCATION.--In SE $\frac{1}{4}$ SW $\frac{1}{4}$ sec.28, T.16 S., R.22 E., San Bernardino meridian, Yuma County, in Arizona, Hydrologic Unit 15030108, 0.3 mi from outlet to Colorado River.

PERIOD OF RECORD.--July 1970 to current year (monthly discharge only).

REMARKS.--Record shows water pumped from wells on the Yuma Mesa and conveyed by underground conduit to Colorado River.

COOPERATION.--Records furnished by Bureau of Reclamation.

09530400. RESERVATION DRAIN NO. 11.

LOCATION.--At outlet to Drain 8-B, in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.19, T.16 S., R.22 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030107.

PERIOD OF RECORD.--Mar. 1966 to current year (monthly discharge only).

REMARKS.--Record shows drainage from sec.20, T.16 S., R.22 E. in Reservation Division.

09530500. DRAIN 8-B.

LOCATION.--Enters Colorado River in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.19, T.16 S., R.22 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030107, 4 mi downstream from outlet of Yuma Main Canal wasteway.

PERIOD OF RECORD.--Mar. 1948 to current year (monthly discharge only). Prior to Oct. 1955, published as Araz Drain.

REMARKS.--Record shows waste and drainage water west of Yuma Main Canal on the Reservation Division.

09531800. MAIN OUTLET DRAIN EXTENSION ABOVE MORELOS DAM (M.O.D.E. 2).

LOCATION.--Nonrecording gage and Parshall flume, in NW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.36, T.16 S., R.21 E., San Bernardino meridian, Yuma County in Arizona, Hydrologic Unit 15030107, at outlet to Colorado River, 1.7 mi upstream from Morelos Dam.

PERIOD OF RECORD.--Nov. 1965 to current year (monthly discharge only).

REMARKS.--Record shows water conveyed to Colorado River, 1.7 mi above Morelos Dam, from Wellton-Mohawk Main Outlet Drain (see sta 09529300).

COOPERATION.--Records furnished by Bureau of Reclamation.

**DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM
RETURN SURFACE FLOWS BELOW IMPERIAL DAM, AZ-CA--CONTINUED**

285

MONTHLY RETURN FLOWS, IN ACRE-FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Month	Levee Canal wasteway 09528800	North Gila Drain No. 1 09529000	North Gila Main Canal wasteway 09529150	South Gila Pump Outlet Channel No. 3 09529160	South Gila Pump Outlet Channel No. 2 09529240
October	134	575	273	332	1,170
November.....	118	474	378	321	1,210
December	87	318	532	545	2,060
CAL YR 2002	1,000	5,150	2,690	9,220	21,600
January	54	245	464	545	2,020
February.....	57	196	370	1,040	1,890
March.....	84	232	245	1,240	2,040
April.....	41	282	124	1,210	1,980
May.....	60	393	94	631	2,020
June.....	71	424	90	459	1,480
July.....	85	448	42	459	2,170
August.....	76	382	21	1,190	2,340
September	70	378	127	1,070	2,040
WTR YR 2003	938	4,350	2,760	9,060	22,420

Month	Bruce Church wasteway 09529250	Wellton-Mohawk Main Outlet Drain 09529300	South Gila Pump Outlet Channel No. 1 09529360	South Gila Terminal wasteway 09529420	South Gila Pump Outlet Channel No. 4 09529440
October	104	10,590	2,500	216	0.00
November.....	149	10,490	2,150	265	0.00
December	177	10,120	2,440	271	0.00
CAL YR 2002	1,380	119,400	27,960	2,190	1,570
January	162	9,960	2,250	270	0.00
February.....	134	8,650	2,240	214	0.00
March.....	79	9,980	2,790	253	0.00
April.....	69	8,540	2,680	211	0.00
May.....	61	9,030	2,210	191	0.00
June.....	111	9,320	1,620	110	0.00
July.....	98	9,910	2,820	178	65
August.....	91	10,480	2,830	149	0.00
September	77	10,260	2,700	245	0.00
WTR YR 2003	1,310	117,300	29,220	2,570	65

Month	Reservation Drain No. 7 09529600	Reservation Main Drain No. 6 09529700	Reservation Drain No. 2 09529800	Reservation Drain No. 3 09529900	Reservation Main Drain No. 4 09530000
October	152	1,000	67	389	4,000
September.....	151	1,210	58	438	3,620
December	176	1,150	62	391	3,880
CAL YR 2002	1,800	13,500	733	4,480	46,830
January	97	891	48	336	3,580
February.....	26	770	25	291	3,430
March.....	84	960	27	296	3,680
April.....	143	1,140	48	342	3,660
May.....	189	1,260	67	474	4,560
June.....	179	1,030	84	384	4,150
July.....	170	1,190	83	391	3,890
August.....	162	1,140	67	384	4,030
September	130	1,210	63	391	3,370
WTR YR 2003	1,660	12,960	700	4,510	45,850

NOTE.--Yearly totals given above have been computed from total cfs-days and may differ slightly from the summation of monthly total acre-feet on occasion.

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM
Return surface flows below Imperial Dam AZ-CA—Continued

MONTHLY RETURN FLOWS, IN ACRE-FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

Month	Yuma Mesa Outlet Drain 09530200	Reservation Drain No. 11 09530400	Drain 8-B 09530500	M.O.D.E. 2 (above) Morelos Dam 09531800
October	4,620	216	877	0
November	4,240	217	817	0
December	4,990	158	674	0
CAL YR 2002	57,710	1,900	8,500	0
January	5,560	119	567	0
February	5,480	103	521	0
March	6,100	105	574	0
April	6,070	145	661	0
May	6,160	181	780	0
June	5,380	175	612	0
July	5,490	171	531	0
August	5,140	140	697	0
September	4,620	151	793	0
WTR YR 2003	63,840	1,880	8,100	0

NOTE.--Yearly totals given above have been computed from total cfs-days and may differ slightly from the summation of monthly total acre-feet on occasion.

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM

09527000 PILOT KNOB POWERPLANT AND WASTEWAY NEAR PILOT KNOB, CA

LOCATION.--Lat 32°44'15", long 114°42'56", in NW1/4SW1/4 sec. 25, T.16 S., R.21 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030107, 2 mi east of summit of Pilot Knob, 6 mi west of Yuma, AZ, and 20.8 mi downstream from intake of All-American Canal at Imperial Dam.

PERIOD OF RECORD.--Feb. 1939 to current year. Prior to Oct. 1943 monthly discharge only, published in WSP 1313. Prior to Oct. 1956, published as Pilot Knob wasteway near Pilot Knob.

GAGE.--Water-stage recorder in forebay on right bank of All-American Canal (also used as auxiliary gage for sta 09527500); tailrace gage with remote recorder logged hourly in control house; calibrated wicket gates for turbine flow and calibrated bypass gates for wasteway flow, which are logged for each change. Datum of forebay staff gage is 150.00 ft; that of tailrace staff gage is 0.00 ft; elevation of sill of bypass gates is 147.88 ft above sea level.

REMARKS.--No estimated daily discharges. Records good. Daily discharge computed from head and gate openings on wicket gates. Records show water released through Pilot Knob powerplant and wasteway from All-American Canal and returned to Colorado River through Rockwood gates. Pilot Knob wasteway was completed in summer of 1938 and first flow occurred Feb. 5, 1939. Pilot Knob powerplant was completed in Jan. 1957 and first flow occurred Jan. 14, 1957. See table below for monthly return flow by Pilot Knob wasteway only.

COOPERATION.--Daily discharges furnished by Imperial Irrigation District.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 9,930 ft³/s Dec. 6, 1985; no flow for long periods.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	918	757	1820	1910	2310	1420	0.0	1100	966	0.00
2	0.0	0.0	0.0	720	1860	1950	2350	1070	0.0	1110	855	0.00
3	0.0	0.0	0.0	722	1920	1940	2270	1050	0.00	1090	880	0.00
4	0.0	0.0	0.0	718	1840	1750	2420	762	0.00	1030	766	0.00
5	0.0	0.0	0.0	718	1890	1780	2190	801	0.00	1020	833	0.00
6	0.0	0.0	0.0	1010	1620	2150	2280	803	0.00	1000	834	0.00
7	0.0	0.0	0.0	991	1860	2090	2180	801	0.00	998	673	0.00
8	0.0	0.0	0.0	1020	1840	1980	2190	804	0.00	881	199	0.00
9	0.0	0.0	0.0	1010	1850	2270	2190	550	960	757	0.00	0.00
10	0.0	0.0	0.0	1050	1820	2390	2060	0.0	891	991	0.00	0.00
11	0.0	0.0	0.0	976	1828	2570	2410	0.0	891	979	0.00	0.00
12	0.0	30	0.0	998	1840	2690	2460	0.0	920	907	0.00	0.00
13	0.0	868	0.0	944	1790	2480	2390	0.0	900	943	0.00	0.00
14	0.0	847	0.0	1160	1860	2260	2410	0.0	875	945	0.00	0.00
15	0.0	781	0.0	1150	1860	2130	2480	0.0	852	906	0.00	0.00
16	0.0	805	0.0	1040	1860	2050	2370	0.0	869	937	0.00	0.00
17	0.0	805	0.0	1110	1870	2420	2220	0.0	762	816	0.00	0.00
18	0.0	852	0.0	1080	1860	2410	2250	0.0	932	867	0.00	0.00
19	0.0	887	45	994	1860	2190	2280	0.0	950	954	0.00	0.00
20	0.0	890	901	1000	1860	2270	2300	0.0	967	875	0.00	0.00
21	0.0	891	977	1000	1610	2210	2070	0.0	980	925	0.00	0.00
22	0.0	892	913	1290	1890	2240	1900	0.0	953	1200	0.00	0.00
23	0.0	923	850	1420	1900	2180	1870	0.0	1030	1450	0.00	0.00
24	0.0	954	941	1420	1890	2220	1810	0.0	1170	1250	0.00	941
25	0.0	1010	718	1420	1930	2100	1500	0.0	1190	1170	0.00	922
26	0.0	1024	726	1400	1980	2110	1760	0.0	1240	971	0.00	954
27	0.0	1000	777	1510	2020	2150	1820	0.0	1370	1060	0.00	929
28	0.0	1000	806	1520	1870	2330	1720	0.0	1350	1100	0.00	958
29	0.0	1000	810	1630	---	2270	1710	0.0	1410	1016	0.00	889
30	0.0	1000	885	1700	---	2260	1710	0.0	1490	928	0.00	1000
31	0.0	---	916	1810	---	2250	---	0.0	---	1020	0.00	---
TOTAL	0.0	16459.0	11183.0	35288	51898	68000	63880	8061.0	22952.00	31196	6006.00	6593.00
MEAN	0.000	549	361	1138	1854	2194	2129	260	765	1006	194	220
MAX	0.00	1020	977	1810	2020	2690	2480	1420	1490	1450	966	1000
MIN	0.00	0.00	0.00	718	1610	1750	1500	0.00	0.00	757	0.00	0.00
AC-FT	0.00	32650	22180	69990	102900	134900	126700	15990	45530	61880	11910	13080
CAL YR 2002	TOTAL	318486.0	MEAN	873	MAX	3560	MIN	0.00	AC-FT	631700		
WTR YR 2003	TOTAL	321516.00	MEAN	881	MAX	2690	MIN	0.00	AC-FT	637700		

DIVERSIONS AND RETURN FLOWS AT AND BELOW IMPERIAL DAM
09527500 ALL-AMERICAN CANAL BELOW PILOT KNOB WASTEWAY, CA

LOCATION--Lat 32°44'07", long 114°43'25", in NE¹/₄SE¹/₄ sec. 26, T.16 S., R.21 E., San Bernardino meridian, Imperial County, Hydrologic Unit 15030107, on left bank 0.4 mi downstream from Pilot Knob wasteway, 6 mi west of Yuma, AZ, 15 mi upstream from turnout to Coachella Canal, and 21.2 mi downstream from intake at Imperial Dam.

PERIOD OF RECORD--Oct. 1961 to current year.

GAGE--Water-stage recorder. Datum of gage is 150.00 ft above sea level. Auxiliary water-stage recorder on right bank 0.4 mi upstream, used to determine head on Pilot Knob check gates (also used as forebay gage for sta 09527000, Pilot Knob powerplant and wasteway). Datum of auxiliary gage is 150.00 ft above NGVD.

REMARKS--No estimated daily discharges. Records excellent. Water is used for power development at four sites below station and for irrigation in Coachella and Imperial Valleys.

COOPERATION--Daily discharges furnished by Imperial Irrigation District.

EXTREMES FOR PERIOD OF RECORD--Maximum daily discharge, 7,610 ft³/s Apr. 27, 28, 1976; no flow Jan. 4, 1967.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4700	3830	2030	1690	3020	1770	6980	6100	5340	5930	5610	4400
2	4970	3350	2490	2300	2590	2200	6370	6210	5670	5910	5270	4770
3	4930	3270	2580	2550	2710	3130	6450	5650	5830	5630	4760	4900
4	4560	3570	2710	2590	3160	3830	6170	5500	5940	5580	5350	4960
5	4370	3580	2760	2310	3200	4190	6160	5860	5710	5610	5360	5120
6	4420	3610	2680	2620	3370	4900	6160	5980	6060	5370	5480	4830
7	4850	3860	2630	2680	3230	4910	6590	6030	6070	5620	5900	4190
8	5050	3640	2390	2950	3020	4910	6500	6030	5450	5740	5710	4500
9	5250	3270	2470	3360	2650	4760	6440	5750	5770	6010	5660	4800
10	5350	3030	2490	3320	3010	4900	6440	5230	5970	6270	4960	4950
11	5250	3430	2530	3010	3050	4740	6350	4640	6050	6280	5470	4840
12	4870	3650	2740	2770	2580	4940	5940	5540	6200	6350	5590	5220
13	4530	3670	2700	2870	2240	4900	5810	5860	6200	5900	5750	5260
14	4720	3950	2690	3010	1470	4680	6410	6070	5700	5840	5860	5000
15	4860	3850	2460	2980	1220	4680	6460	6230	5050	6160	5720	5170
16	4890	3770	2580	3230	1060	4050	6450	6000	5400	6220	5020	5220
17	4630	3350	2610	3400	1290	3560	6230	5680	5650	6230	4410	5190
18	4270	3410	2830	3250	1530	3900	5830	5430	5730	6230	4720	5190
19	4000	3550	3000	2890	1620	4090	5190	5920	5840	5990	5270	4870
20	3700	3620	2970	3110	2090	4600	4740	6000	6010	5690	5270	4540
21	3880	3580	3140	3080	2780	4830	5870	6080	5820	5870	5140	4150
22	4010	3520	2480	3050	2830	4900	6100	6230	5290	5980	5030	4830
23	4010	3570	2360	3130	2760	4750	5980	6120	5520	5930	4880	5050
24	3930	3290	1730	2830	3750	5720	6140	5890	5640	6060	4580	5010
25	3670	3540	1440	2620	3350	6090	6020	5460	5620	6040	4350	5140
26	3570	3650	1940	2300	2090	5970	5850	5900	5640	5850	4700	4940
27	3250	3040	2010	2670	1860	6100	5740	6170	5710	5520	4990	4540
28	3640	2490	1980	2890	1910	5760	5950	6070	5510	5850	4880	4340
29	3590	2710	2170	3090	---	6150	6120	6080	5120	5730	4790	4640
30	3870	2380	2580	3330	---	6600	6110	5950	5790	5800	4420	4850
31	3980	---	2100	3360	---	6820	---	5630	---	5810	4140	---
TOTAL	135570	103030	76270	89240	69440	147330	183550	181290	171300	183000	159040	145410
MEAN	4373	3434	2460	2879	2480	4753	6118	5848	5710	5903	5130	4847
MAX	5350	3950	3140	3400	3750	6820	6980	6230	6200	6350	5900	5260
MIN	3250	2380	1440	1690	1060	1770	4740	4640	5050	5370	4140	4150
AC-FT	268900	204400	151300	177000	137700	292200	364100	359600	339800	363000	315500	288400
CAL YR 2002	TOTAL	1753750	MEAN	4805	MAX	7200	MIN	1400	AC-FT	3479000		
WTR YR 2003	TOTAL	1644470	MEAN	4505	MAX	6980	MIN	1060	AC-FT	3262000		

**RIO SONOYA BASIN
SAN SIMON WASH BASIN**

09535100 SAN SIMON WASH NEAR PISINIMO, AZ

LOCATION--Lat 32°02'39", long 112°22'13", in SE1/4 sec. 9, T.16 S., R.1 W. (unsurveyed), Pima County, Hydrologic Unit 15080101, in Tohono O'Odham Indian Reservation, on right bank about 100 ft downstream from road, just upstream from Gu Vo Wash, and 3.2 mi west of Pisinimo.

DRAINAGE AREA--569 mi².

PERIOD OF RECORD--Feb. 1972 to current year.

GAGE--Water-stage recorder. Elevation of gage is 1,830 ft above sea level, from topographic map. Prior to Oct. 1, 1980, at site 120 ft upstream at same datum.

REMARKS--Records fair, except for daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 12,500 ft³/s Sept. 24, 1976, gage height, 10.82 ft, from rating curve extended above 1,700 ft³/s on basis of slope-area measurement of peak flow; no flow for most of each year.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 500 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 28.....	2140	1,520	7.83
Sept. 5.....	0030	1,320	7.64
Sept. 24.....	1400	*2,050	*8.21

Minimum daily discharge, no flow for most of year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.14
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	86
5	0.00	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.00	e0.00	e180
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	e0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e1.2	0.00
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
14	0.00	0.00	0.00	0.00	e13	0.00	0.00	0.00	0.00	0.00	0.24	0.00
15	0.00	0.00	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.2	0.00
17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.7	0.00
20	0.00	0.00	0.00	0.00	2.4	0.00	0.00	0.00	0.00	0.00	3.4	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
23	0.00	0.00	110	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	67
24	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1290
25	0.00	0.00	e0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	242
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46	e13
27	2.8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.2	e0.00
28	0.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	277	6.1	e0.00
29	0.00	3.7	0.00	0.00	---	0.00	0.00	0.00	0.00	e60	5.0	0.00
30	0.00	3.4	0.00	0.00	---	0.00	0.00	0.00	0.00	e31	0.06	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	e0.00	0.00	---
TOTAL	3.38	7.10	110.00	0.00	37.40	0.19	0.00	0.00	0.00	368.00	68.19	1878.14
MEAN	0.11	0.24	3.55	0.000	1.34	0.006	0.000	0.000	0.000	11.9	2.20	62.6
MAX	2.8	3.7	110	0.00	22	0.19	0.00	0.00	0.00	277	46	1290
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	6.7	14	218	0.00	74	0.4	0.00	0.00	0.00	730	135	3730
CFSM	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.11
IN.	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)	MEAN	MAX	(WY)	MIN	(WY)	MEAN	MAX	(WY)	MIN	(WY)
1973	4.21	44.2	1984	0.000	1974	1.80	21.1	1998	0.000	1973	2.15	39.0	1993	0.000	1973
1974	1.08	14.3	1979	0.000	1978	1.80	21.1	1998	0.000	1974	1.71	26.0	1998	0.000	1974
1975	1.80	21.1	1998	0.000	1973	1.16	8.50	1983	0.000	1973	0.028	0.35	1997	0.000	1973
1976	2.15	39.0	1993	0.000	1974	1.16	8.50	1983	0.000	1975	0.068	1.97	1976	0.000	1975
1977	1.71	26.0	1998	0.000	1973	1.16	8.50	1983	0.000	1976	0.017	0.50	2000	0.000	1976
1978	1.16	8.50	1983	0.000	1973	1.16	8.50	1983	0.000	1977	6.82	39.5	1976	0.006	1975
1979	0.028	0.35	1997	0.000	1973	0.068	1.97	1976	0.000	1978	11.8	92.5	1984	0.000	1978
1980	0.017	0.50	2000	0.000	1973	6.82	39.5	1976	0.000	1979	11.8	92.5	1984	0.000	1979
1981	6.82	39.5	1976	0.000	1973	11.8	92.5	1984	0.000	1980	10.7	140	1976	0.000	1980
1982	11.8	92.5	1984	0.000	1973	10.7	140	1976	0.000	1981	10.7	140	1976	0.000	1981

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1973 - 2003
ANNUAL TOTAL	278.37	2472.40	
ANNUAL MEAN	0.76	6.77	3.48
HIGHEST ANNUAL MEAN			15.2
LOWEST ANNUAL MEAN			0.13
HIGHEST DAILY MEAN	110	1290	3320
LOWEST DAILY MEAN	0.00	0.00	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	0.00	0.00
ANNUAL RUNOFF (AC-FT)	552	4900	2520
ANNUAL RUNOFF (CFSM)	0.001	0.012	0.006
ANNUAL RUNOFF (INCHES)	0.02	0.16	0.08
10 PERCENT EXCEEDS	0.00	0.00	0.00
50 PERCENT EXCEEDS	0.00	0.00	0.00
90 PERCENT EXCEEDS	0.00	0.00	0.00

e Estimated

**RIO SONOYTA BASIN
SAN SIMON WASH BASIN**

09535300 VAMORI WASH AT KOM VO, AZ

LOCATION.--Lat 31°57'04", long 112°20'50", in NW¹/₄ sec. 14, T.17 S., R.1 W (unsurveyed), Pima County, Hydrologic Unit 15080101, in Tohono O'Odham Indian Reservation, on right bank 200 ft downstream from road crossing, 0.6 mi south of Kom Vo (Santa Cruz Village) and 5 mi upstream from mouth.

DRAINAGE AREA.--1,250 mi², approximately, of which about 250 mi² is in Mexico.

PERIOD OF RECORD.--Feb. 1972 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,770 ft above sea level, from topographic map.

REMARKS.--Records fair except for estimated daily discharges, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,400 ft³/s Oct. 3, 1983, gage height, 10.54 ft, from rating curve extended above 550 ft³/s on basis of slope-area measurement of peak flow; no flow for most of each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 30.....	0140	*4,130	*9.90	Aug. 29	0315	838	9.16
Aug. 15.....	0100	1,460	9.25	Sept. 24	1415	557	8.98
Aug. 19.....	1900	535	8.68	Sept. 26	0330	994	9.23
Aug. 26.....	0615	1,980	9.43				

Minimum daily discharge, no flow for most of year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	7.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	129	e1.8
2	0.00	0.00	26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36	e0.50
3	0.00	0.00	e1.1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18	e0.39
4	0.00	0.00	e0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e11	e1.4
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e5.1	e8.4
6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e1.8	e0.00
7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	e11
8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39	e0.11
9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18	0.00
10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e7.4	0.00
11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e3.4	0.00
12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e1.3	0.00
13	0.00	0.00	0.00	0.00	6.3	0.00	0.00	0.00	0.00	0.00	e0.31	0.00
14	0.00	0.00	0.00	0.00	e1.5	0.00	0.00	0.00	0.00	0.00	215	0.00
15	0.00	0.00	0.00	0.00	e6.7	0.00	0.00	0.00	0.00	0.00	325	0.00
16	0.00	0.00	0.00	0.00	e7.8	0.00	0.00	0.00	0.00	0.00	56	0.00
17	0.00	0.00	0.00	0.00	e0.11	0.00	0.00	0.00	0.00	0.00	24	0.00
18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12	0.00
19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	137	0.00
20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	138	0.00
21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	190	0.00
22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15	22	0.00
23	0.00	0.00	39	0.00	0.00	0.00	0.00	0.00	0.00	35	e6.4	5.4
24	0.00	0.00	e12	0.00	0.00	0.00	0.00	0.00	0.00	2.6	e10	248
25	0.00	0.00	e2.4	0.00	0.00	0.00	0.00	0.00	0.00	5.5	32	299
26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	703	475
27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	96	341	14
28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	494	406	1.6
29	0.00	6.3	0.00	0.00	---	0.00	0.00	0.00	0.00	1560	361	0.00
30	0.00	37	0.00	0.00	---	0.00	0.00	0.00	0.00	2540	15	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	1270	4.3	---
TOTAL	0.00	43.30	88.43	0.00	22.41	0.00	0.00	0.00	0.00	6018.55	3268.04	1066.60
MEAN	0.000	1.44	2.85	0.000	0.80	0.000	0.000	0.000	0.000	194	105	35.6
MAX	0.00	37	39	0.00	7.8	0.00	0.00	0.00	0.00	2540	703	475
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00
AC-FT	0.00	86	175	0.00	44	0.00	0.00	0.00	0.00	11940	6480	2120
CFSM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.08	0.03
IN.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.10	0.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)	28.6	3.25	4.45	6.94	3.81	2.21	0.41	0.034	0.003	22.3	30.2	14.3
	463	36.7	1984	0.000	1974	26.4	61.3	1983	33.1	27.8	10.2	0.49	0.067	194	106	103	
	1984	1973	1983	1993	1983	1983	1992	1987	1984	2003	1984	1976	1984	2003	1984	1976	
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.73	0.000	
	1974	1974	1973	1973	1974	1974	1973	1973	1973	1973	1973	1973	1973	1973	1977	1985	1973

SUMMARY STATISTICS

	FOR 2003 WATER YEAR	WATER YEARS 1973 - 2003
ANNUAL TOTAL	10507.33	
ANNUAL MEAN	28.8	9.97
HIGHEST ANNUAL MEAN		52.3
LOWEST ANNUAL MEAN		0.97
HIGHEST DAILY MEAN	2540	8030
LOWEST DAILY MEAN	0.00	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	0.00
ANNUAL RUNOFF (AC-FT)	20840	7220
ANNUAL RUNOFF (CFSM)	0.023	0.008
ANNUAL RUNOFF (INCHES)	0.31	0.11
10 PERCENT EXCEEDS	11	4.4
50 PERCENT EXCEEDS	0.00	0.00
90 PERCENT EXCEEDS	0.00	0.00

e Estimated

**SULPHUR SPRING VALLEY
WHITEWATER DRAW BASIN**

09537200 LESLIE CREEK NEAR MCNEAL, AZ

LOCATION--Lat 31°35'24", long 109°30'30", in SE1/4NE1/4 sec. 20, T.21 S., R.28 E., Cochise County, Hydrologic Unit 15080301, on right bank 10 mi east of McNeal.

DRAINAGE AREA--79.1 mi².

PERIOD OF RECORD--Oct. 1969 to Sept. 1977, July 1982 to current year.

GAGE--Water-stage recorder and concrete control with shallow sharp-crested V-notch weir. Elevation of gage is 4,620 ft above sea level, from topographic map.

REMARKS--Records good except for period of estimated record, which are poor.

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 5,200 ft³/s Sept. 1, 1994, gage height, 9.00 ft, from rating curve extended above 12 ft³/s on basis of slope-area measurements of peak flow at gage height 7.33 ft and 8.54 ft; no flow for many days in 1976, 1977, 1990, and 1999.

EXTREMES OUTSIDE PERIOD OF RECORD--Maximum discharge, Oct. 1977 to July 1982, 468 ft³/s, date unknown, gage height, 4.76 ft in gage well.

EXTREMES FOR CURRENT YEAR--Peak discharges greater than base discharge of 100 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 26	1815	*2,750	*7.16

Minimum daily discharge, no flow Sept. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.08	0.07	0.36	0.14	0.16	0.16	0.17	0.12	0.28	0.04	0.06	0.06
2	0.08	0.08	0.37	0.14	0.16	0.17	0.22	0.12	0.25	0.04	0.07	0.05
3	0.09	0.08	0.37	0.14	0.16	0.19	0.24	0.11	0.15	0.04	0.06	0.05
4	0.14	0.10	0.26	0.14	0.16	0.22	0.22	0.11	0.09	0.03	0.06	0.04
5	0.12	0.12	0.24	0.14	0.16	0.24	0.16	0.11	0.09	0.01	0.06	0.03
6	0.12	0.14	0.24	0.14	0.16	0.24	0.16	0.11	0.08	0.01	0.08	0.02
7	0.11	0.15	0.24	0.14	0.16	0.24	0.16	0.10	0.06	0.01	0.08	0.02
8	0.07	0.16	0.25	0.15	0.18	0.21	0.16	0.10	0.05	0.01	0.13	0.04
9	0.10	0.17	0.35	0.16	0.17	0.17	0.16	0.10	0.06	0.01	0.13	0.04
10	0.09	0.19	0.35	0.16	0.17	0.16	0.16	0.10	0.06	0.01	0.12	0.02
11	0.06	0.16	0.37	0.16	0.17	0.16	0.16	0.10	0.05	0.03	0.10	0.02
12	0.09	0.11	0.37	0.16	0.17	0.16	0.16	0.10	0.05	0.04	0.09	0.03
13	0.10	0.12	0.38	0.17	0.18	0.16	0.16	0.09	0.05	0.04	0.07	0.00
14	0.10	0.12	0.38	0.19	0.18	0.17	0.16	0.09	0.05	0.04	0.05	0.01
15	0.11	0.12	0.39	0.21	0.17	0.17	0.16	0.09	0.04	0.04	0.04	0.01
16	0.15	0.13	0.26	0.21	0.17	0.18	0.16	0.09	0.03	0.04	0.06	0.01
17	0.16	0.13	0.13	0.23	0.17	0.18	0.16	0.09	0.03	0.09	0.04	0.01
18	0.16	0.11	0.13	0.23	0.17	0.18	0.16	0.08	0.04	0.10	0.05	0.02
19	0.16	0.10	0.13	0.24	0.17	0.17	0.16	0.08	0.03	0.10	0.03	0.02
20	0.18	0.11	0.13	0.24	0.18	0.16	0.16	0.08	0.02	0.10	0.11	0.04
21	0.21	0.17	0.13	0.24	0.18	0.16	0.15	0.08	0.02	0.10	0.11	0.04
22	0.22	0.17	0.13	0.22	0.17	0.21	0.16	0.08	0.02	0.08	0.05	0.03
23	0.16	0.16	0.14	0.19	0.17	0.19	0.15	0.07	0.02	0.02	0.02	0.01
24	0.03	0.16	0.13	0.16	0.17	0.16	0.14	0.07	0.02	0.02	0.07	0.02
25	0.04	0.14	0.13	0.16	0.17	0.16	0.14	0.06	0.02	0.07	0.06	0.01
26	0.06	0.14	0.13	0.16	0.20	0.17	0.14	0.06	0.01	166	0.03	0.04
27	0.06	0.20	0.14	0.16	0.17	0.16	0.14	0.06	0.01	2.1	0.03	0.05
28	0.08	0.23	0.14	0.16	0.16	0.16	0.13	0.11	0.01	0.08	0.07	0.05
29	0.10	0.24	0.14	0.16	---	0.16	0.13	0.19	0.01	0.06	0.04	0.03
30	0.08	0.28	0.14	0.16	---	0.16	0.12	0.25	0.03	0.05	0.88	0.02
31	0.10	---	0.14	0.16	---	0.16	---	0.26	---	0.06	0.06	---
TOTAL	3.41	4.36	7.19	5.42	4.76	5.54	4.81	3.26	1.73	169.47	2.91	0.84
MEAN	0.11	0.15	0.23	0.17	0.17	0.18	0.16	0.11	0.058	5.47	0.094	0.028
MAX	0.22	0.28	0.39	0.24	0.20	0.24	0.24	0.26	0.28	166	0.88	0.06
MIN	0.03	0.07	0.13	0.14	0.16	0.16	0.12	0.06	0.01	0.01	0.02	0.00
AC-FT	6.8	8.6	14	11	9.4	11	9.5	6.5	3.4	336	5.8	1.7
CFSM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00
IN.	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2003, BY WATER YEAR (WY)

	2001	2001	2001	2001	2001	2001	2001	2001	2001	2003	1999	1999
MEAN	2.35	0.37	0.24	0.26	0.27	0.28	0.26	0.22	0.16	2.06	6.86	0.74
MAX	13.4	1.35	0.35	0.46	0.57	0.55	0.52	0.50	0.41	5.47	34.8	3.99
(WY)	2001	2001	2001	2001	2001	2001	2001	2001	2001	2003	1999	1999
MIN	0.11	0.060	0.10	0.13	0.14	0.15	0.10	0.074	0.007	0.15	0.094	0.028
(WY)	2003	1998	1998	1998	1999	1999	2002	1999	2002	2000	2003	2003

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1998 - 2003
ANNUAL TOTAL	188.15	213.70	
ANNUAL MEAN	0.52	0.59	1.19
HIGHEST ANNUAL MEAN			3.55 1999
LOWEST ANNUAL MEAN			0.25 2000
HIGHEST DAILY MEAN	65 Aug 2	166 Jul 26	611 Aug 15 1999
LOWEST DAILY MEAN	0.00 Jun 18	0.00 Sep 13	0.00 Jun 5 1999
ANNUAL SEVEN-DAY MINIMUM	0.00 Jun 18	0.01 Sep 13	0.00 Jun 18 2002
ANNUAL RUNOFF (AC-FT)	373	424	861
ANNUAL RUNOFF (CFSM)	0.007	0.007	0.015
ANNUAL RUNOFF (INCHES)	0.09	0.10	0.20
10 PERCENT EXCEEDS	0.24	0.22	0.40
50 PERCENT EXCEEDS	0.12	0.13	0.17
90 PERCENT EXCEEDS	0.01	0.03	0.05

WHITEWATER DRAW BASIN

09537500 WHITEWATER DRAW NEAR DOUGLAS, AZ

LOCATION.--Lat 31°21'08", long 109°35'04", in SE_{1/4}SE_{1/4} sec. 10, T.24 S., R.27 E., Cochise County, Hydrologic Unit 15080301, on downstream side of pier of bridge on U.S. Highway 80, 1.5 mi upstream from international boundary and 2 mi west of Douglas.

DRAINAGE AREA.--1,023 mi².

PERIOD OF RECORD.--Aug. to Oct. 1911 (gage heights and discharge measurements only), July to Oct. 1912, Jan. to June 1913, Oct. 1913, Dec. 1913 to June 1914, Feb. to June 1915, Oct. 1915 to Sept. 1919, Oct. 1919 to April 1922 (gage heights and discharge measurements only), June 1930 to Dec. 1933, May 1935 to July 1947, Oct. 1947 to Sept. 1982, Oct. 1983 to Sept. 1990 (crest-stage gage), Oct. 2002 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 3,909.14 ft (1,191.506 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Diversions upstream by pumping from ground water. Records show flow at international boundary except for smelter wastewater, which enters stream below station.

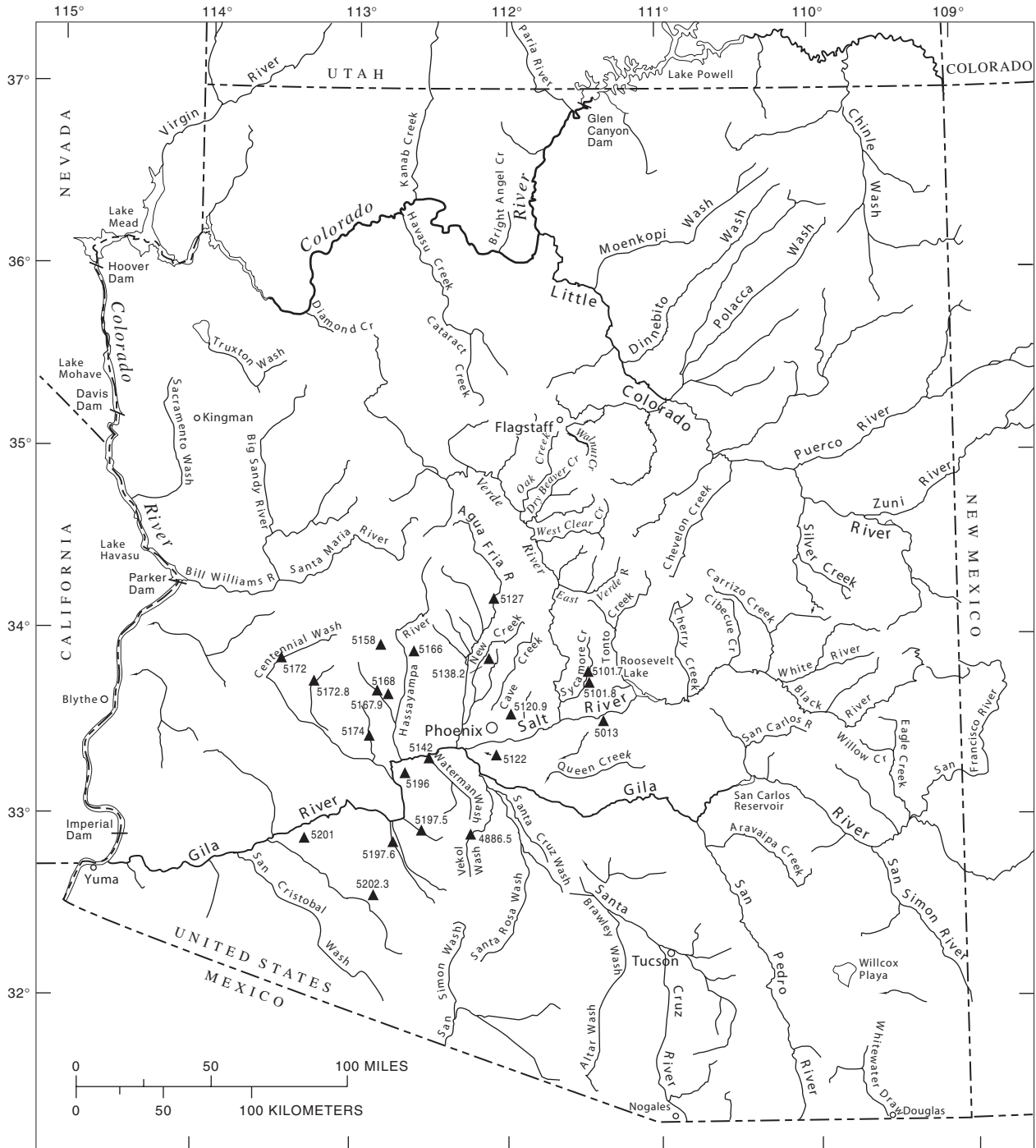
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,060 ft³/s Aug. 7, 1955, gage height of 16.55 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 107 ft³/s Aug. 11 at 1300, gage height, 6.62 ft. Minimum daily discharge, no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39	2.9
2	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.8	1.7
3	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.5	1.3
4	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.2	1.1
5	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	0.90
6	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.65	0.74
7	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	e0.60
8	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	e0.0
9	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.6	e0.0
10	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.9	0.00
11	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30	0.00
12	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.8	0.00
13	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.3	0.00
14	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.2	0.00
15	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.9	0.00
16	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.6	0.00
17	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.3	0.00
18	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.1	0.00
19	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99	0.00
20	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.82	0.00
21	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.66	0.00
22	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
23	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
24	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	e0.00	0.00
25	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.3	0.00
26	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.0	2.1	0.00
27	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14	1.4	0.00
28	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.4	1.2	0.00
29	---	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	2.6	1.1	0.00
30	---	0.00	0.00	0.00	---	0.00	0.00	0.00	0.00	1.3	1.7	0.00
31	0.00	---	0.00	0.00	---	0.00	---	0.00	---	4.2	1.4	---
TOTAL	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.50	119.40	9.24
MEAN	---	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.02	3.85	0.31
MAX	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14	39	2.9
MIN	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AC-FT	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62	237	18

e Estimated



Base from U.S. Geological Survey
State base maps, 1:500,000,
Arizona, 1974; Nevada, 1965;
New Mexico, 1965; and Utah, 1959

EXPLANATION

▲5201 PARTIAL-RECORD STREAMFLOW-GAGING STATION EQUIPPED WITH CREST-STAGE GAGE ONLY
Abbreviated number is station identifier. The complete station number is 09520100

Figure 7. Locations of partial-record streamflow-gaging stations, water year 2003.

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at crest-stage partial-record stations are presented in the following table. Discharge measurements made at low-flow partial-record sites and at miscellaneous sites and for special studies are given in separate tables.

Crest-stage partial-record stations

The following table contains annual maximum discharges of independent peaks at crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, and discharge measurements may have been made for purposes of establishing the stage-discharge relation, but these are not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Maximum discharge at crest-stage partial-record stations

Station name and number	Location and drainage area (mi ²)	Period of record	Water year 2003 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft ³ /s)	Date	Gage height (ft)	Discharge (ft ³ /s)
Gila River Basin								
Vekol Wash near Stanfield, AZ (09488650)	Lat 32°50'30", long 112°15'04", in SW ¹ / ₄ SW ¹ / ₄ sec.3, T.7 S., R.1 E., Maricopa County, Hydrologic Unit 15050303, on left bank 400 ft downstream from I-8 highway bridge. Drainage area, 150 mi ² .	1991–96*, 1997–2003	07-28-03	6.61	1,240	07–25–96	9.77	7,780
Tortilla Creek at Tortilla Flat, AZ (09501300)	Lat 33°31'38", long 111°23'13", in NW ¹ / ₄ sec. 13, T.2 N., R.9 E (unsurveyed), Maricopa County, Hydrologic Unit 15060106, 600 ft upstream from State Highway 88 and Tortilla Flat Store, and 3.7 mi southeast of Mormon Flat Dam. Drainage area, 24.3 mi ² .	1966–83, 1991–2003	02-13-03	4.63	112	09–01–71	13.23	7,500
Camp Creek near Sunflower, AZ (09510170)	Lat 33°45'35", long 111°29'44", in SW ¹ / ₄ sec.24, T.5 N., R.8 E Maricopa County, Hydrologic Unit 15060203, on right bank at upstream side of culvert on State Highway 87, half a mile upstream from mouth and 7 mi south of Sunflower. Drainage area, 2.6 mi ² .	1963–66*, 1967–79, 1991–2003	03-02-03	1.17	29.6	03–02–78	5.05	402
Rock Creek near Sunflower, AZ (09510180)	Lat 33°43'49", long 111°30'28", in SW ¹ / ₄ sec.24, T.5 N., R.8 E., Maricopa County, Hydrologic Unit 15060203, on left bank 300 ft from culvert on State Highway 87, 0.3 mi upstream from mouth, and 10 mi south of Sunflower. Drainage area, 15.2 mi ² .	1963–72, 1991–2003	08-14-03	4.71	192	01–08–93	7.30	2,550
Indian Bend Wash at Shea Boulevard at Phoenix, AZ (09512090)	Lat 33°35'05", long 111°58'10", in SW ¹ / ₄ SW ¹ / ₄ SE ¹ / ₄ sec.20, T.3 N., R.4 E., Maricopa County, Hydrologic Unit 15060106, on left bank 500 ft upstream from Shea Boulevard bridge. Drainage area, 24.5 mi ² .	1984–2003	02-14-03	2.58	1,630	10–06–93	3.89	4,700
Salt River tributary in South Mountain Park at Phoenix, AZ (09512200)	Lat 33°20'49", long 112°05'03", in NE ¹ / ₄ NE ¹ / ₄ sec.18, T.1 N., R.3 E., Maricopa County, Hydrologic Unit 15060106, in South Mountain Park, on left bank 7.4 mi south of Phoenix main post office. Drainage area, 1.75 mi ² .	1961–98*, 1999–2003	--	a	--	08–15–90	10.31	1,210

See footnotes at end of table.

Station name and number	Location and drainage area (mi ²)	Period of record	Water year 2003 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft ³ /s)	Date	Gage height (ft)	Discharge (ft ³ /s)
Gila River Basin—Continued								
Agua Fria River tributary No. 2 near Rock Springs, AZ (09512700)	Lat 33°02'00", long 112°08'42", in SW ¹ / ₄ sec.14, T.8 N., R.2 E., Maricopa County, Hydrologic Unit 15070102, at culvert on Interstate Highway 17 (southbound lane), 1 mi south of Rock Springs, and 9 mi north of New River. Drainage area, 1.07 mi ² .	1963–80 1991–2003	09-06-03	4.43	238	08–02–64	19.54	1,200
Deadman Wash near New River, AZ (09513820)	Lat 33°50'30", long 112°08'40", in NW ¹ / ₄ sec.27, T.6 N., R.2 E., Maricopa County, Hydrologic Unit 15070102, 300 ft down-stream from bridge on Interstate Highway 17, 4.5 mi south of New River. Drainage area, 11.1 mi ² .	1960–79, 1991–2003	02-14-03	8.22	1,050	12–25–59	7.00	1,850
Waterman Wash near Buckeye, AZ (09514200)	Lat 33°19'49", long 112°30'33", in SW ¹ / ₄ NE ¹ / ₄ sec.24, T.1 S., R.3 W., Maricopa County, Hydrologic Unit 15070101, 2.4 mi above mouth, 5.2 mi southeast of Buckeye. Drainage area, 420 mi ² .	1964–2003	02-14-03	3.95	390	08–08–97	7.80	9,400
Hartman Wash near Wickenburg, AZ (09515800)	Lat 33°57'46", long 112°49'40", in SW ¹ / ₄ sec.12, T.7 S., R.6 W., Maricopa County, Hydrologic Unit 15070103, at U.S. Highway 60, 5.7 mi west of Wickenburg. Drainage area, 5.57 mi ² .	1964–79, 1983, 1991–2003	09-04-03	3.92	508	09–14–67	8.05	2,600
Ox Wash near Morristown, AZ (09516600)	Lat 33°53'00", long 112°39'00", in NW ¹ / ₄ sec.11, T.6 N., R.4 W., Maricopa County, Hydrologic Unit 15070103, at U.S. Highway 60, 2.4 mi northwest of Morristown, and 7.6 mi southeast of Wickenburg. Drainage area, 6.31 mi ² .	1960, 1963–79, 1991–2003	08-26-03	5.10	993	09-07-02	12.24	3,840
Star Wash near Tonopah, AZ (09516790)	<u>Main Gage:</u> Lat 33°37'59", long 112°46'44", in SW ¹ / ₄ , NW ¹ / ₄ , sec.4, T.3 N., R.5 W., Maricopa County, Hydrologic Unit 15070104 on left bank 0.3 mi SW from Star Well, 12 mi NE of Tonopah, AZ. <u>Secondary Gage:</u> approximately 500 ft NE of main gage on left bank in secondary channel. Drainage area undetermined.	9/2000-2003	08-28-03	^b 8.11 ^c 8.39	^d 2,051	08-28-03	^b 8.11 ^c 8.39	^d 2,051
Jack Rabbit Wash near Tonopah, AZ (09516800)	Lat 33°39'32", long 112°49'40", in NE ¹ / ₄ NW ¹ / ₄ sec.25, T.4 N., R.6 W., Maricopa County, Hydrologic Unit 15070103, 35 ft downstream from Wickenburg-Hassayampa Road, 4.5 mi upstream from Star Wash, and 14 mi northeast of Tonopah. Drainage area, 137 mi ² .	1964–79, ^e 1983, 1991–2003	10-26-02	11.69	6,790	10–27–00	15.11	27,000
Centennial Wash tributary near Wenden, AZ (09517200)	Lat 33°50'40", long 113°28'00", in SW ¹ / ₄ SW ¹ / ₄ sec.24, T.6 N., R.12 W., La Paz County, Hydrologic Unit 15070104, at U.S. Highway 60, 5 mi northeast of Wenden. Drainage area, 2.79 mi ² .	1963–79, 1983, 1991–2003	08-27-03	3.12	224	09–05–70	4.66	790
Tiger Wash near Aguila, AZ (09517280)	Lat 33°44'30", long 113°16'43", in SW ¹ / ₄ SW ¹ / ₄ sec.26, T.5 N., R.10 W., Maricopa County, Hydrologic Unit 15070104, 17 mi south of Aguila. Drainage area, 85.2 mi ² .	1963–79, 1983, 1991–2003	09-06-03	7.14	2,819	09–26–97	10.17	8,070

See footnotes at end of table.

Station name and number	Location and drainage area (mi ²)	Period of record	Water year 2003 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft ³ /s)	Date	Gage height (ft)	Discharge (ft ³ /s)
Gila River Basin—Continued								
Winter's Wash near Tonopah, AZ (09517400)	Lat 33°29'22", long 112°55'05", in SW ¹ / ₄ NW ¹ / ₄ sec.30, T.2 N., R.6 W., Maricopa County, Hydrologic Unit 15070104, on right bank 0.3 mi downstream from Interstate 10 and 1 mi east of Tonopah. Drainage area, 47.8 mi ² .	1963–79, 1999–2003	07-29-03	4.84	1,066	09–25–76	10.10	3,640
Rainbow Wash tributary near Buckeye, AZ (09519600)	Lat 33°14'35", long 112°38'15", in NE ¹ / ₄ sec.23, T.2 S., R.4 W., Maricopa County, Hydrologic Unit 15070101, at U.S. Highway 85, 9.5 mi southwest of Buckeye. Drainage area, ^c 3.45 (1.02) mi ² .	1963–79, 1983, 1991–2003	08-14-03	3.28	140	09–03–67	7.42	1,430
Bender Wash near Gila Bend, AZ (09519750)	Lat 32°54'25", long 112°33'05", in NE ¹ / ₄ sec.15, T.6 S., R.3 W., Maricopa County, Hydrologic Unit 15070101, along side of Interstate 8, 10 mi southeast of Gila Bend. Prior to Aug. 26, 1966, at site 0.65 mi downstream. Drainage area, 68.8 mi ² .	1963–79, 1983, 1991–2003	08-14-03	4.34	467	09-07-02	10.78	8,250
Sauceda Wash near Gila Bend, AZ (09519760)	Lat 32°52'14", long 112°45'30", in SE ¹ / ₄ SW ¹ / ₄ sec.27, T.6 S., R.5 W., Black Gap Quadrangle, Maricopa County, Hydrologic Unit 15070101 on the east side of State Highway 85, 5.3 mi south of Gila Bend at Mile Marker 5.3. Drainage area, 126 mi ² .	1963–79, 1990–94*, 1995–2003	08-15-03	3.49	972	09–25–76	6.30	3,153
Military Wash near Sentinel, AZ (09520100)	Lat 32°50'43", long 113°16'44", in SW ¹ / ₄ sec.3, T.7 S., R.10 W., Maricopa County, Hydrologic Unit 15070201, at Interstate Highway 8, 4.1 mi west of Sentinel. Drainage area, 8.70 mi ² .	1963–79, 1983, 1991–2003	02-29-03	2.76	190	10-07-01	5.31	1,670
Crater Range Wash near Ajo, AZ (09520230)	Lat 32°33'44", long 112°52'37", in NW ¹ / ₄ NW ¹ / ₄ sec.15, T.10 S., R.6 W., Maricopa County, Hydrologic Unit 15070202, at State Highway 85, 4.1 mi north of Maricopa-Pima County line, and 13.5 north of Ajo. Drainage area, 1.49 mi ² .	1963–79, 1983, 1991–2003	09-05-03	3.04	366	09–04–69	3.70	590

* Operated as a continuous-record gaging station.

^a No highwater marks recorded.

^b Main channel gage height.

^c Secondary channel gage height.

^d Combined discharge of main and secondary channels.

^e Portion of drainage basin is generally noncontributing.

Discharge measurements at miscellaneous sites

Measurements of streamflow or spring flow at points other than gaging stations are given in the following table. Those that are measurements of base flow are designated by one asterisk (*); measurements of peak flow by two asterisks (**).

DISCHARGE MEASUREMENTS AT MISCELLANEOUS SITES

Stream or Spring	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
Colorado River Basin						
Cottonwood Spring in Grand Canyon	Colorado River	Lat 36°00'55", long 111°57'30", sec. 5, T.30N., R.4E., Coconino County, Hydrologic Unit 15010001	----		04-26-03	0.0003
					06-07-03	0.0003
					08-11-03	0.0003
Cottonwood Creek #2 in Grand Canyon	do.	Lat 36°01'10", long 111°59'27", sec. 31, T.32N., R.4E., Coconino County, Hydrologic Unit 15010001	----		04-26-03	0.0016
					06-07-03	0.0007
					08-11-03	0.0005
Cottonwood Creek #3 in Grand Canyon	do.	Lat 36°01'52", long 111°59'17", sec. 32, T.31N., R.4E., Coconino County, Hydrologic Unit 15010001	----	2002	04-26-03	0.026
					06-07-03	0.0011
Cottonwood Creek #4 in Grand Canyon	do.	Lat 36°01'21", long 111°59'19", sec. 32, T.31N., R.4E., Coconino County, Hydrologic Unit 15010001	----		04-27-03	0.0059
Cottonwood Spring above confluence with Cottonwood Creek near Grand Canyon	do.	Lat 36°01'25", long 111°59'15", sec. 32, T.31N., R.4E., Coconino County, Hydrologic Unit 15010001	0.54	2002	04-25-03	0.002
Pumphouse Spring in Grand Canyon	do.	Lat 36°04'39", long 112°07'31", sec. 13, T.31N., R.2E., Coconino County, Hydrologic Unit 15010002	----	2002	04-19-03	0.0027
					06-06-03	0.0022
					08-23-03	0.0015
Horn Creek 1W in Grand Canyon	do.	Lat 36°05'03", long 112°08'36", sec. 11, T.31N., R.2E., Coconino County, Hydrologic Unit 15010002	----		04-19-03	0.0004
Horn Creek 1L in Grand Canyon	do.	Lat 36°05'03", long 112°08'35", sec. 11, T.31N., R.2E., Coconino County, Hydrologic Unit 15010002	----		04-19-03	0.0031
					06-06-03	0.00003
Pipe Spring Creek	do.	Lat 36°04'19", long 112°06'05", sec. 07, T.31N., R.3E., Coconino County, AZ, Hydrologic Unit 15010002.	1.7	-----	10-30-01	0.02
					12-06-01	0.03
					01-10-02	0.03
					02-12-02	0.03
					03-05-02	0.02
					04-15-02	0.02
					05-16-02	0.02
					07-09-02	0.01
					09-17-02	0.02
					10-07-02	0.02
					11-07-02	0.02
					12-03-02	0.02
					01-08-03	0.02
					02-11-03	0.02
					03-04-03	0.02
					04-08-03	0.02
					05-06-03	0.02
06-06-03	0.01					
07-09-03	0.01					
08-11-03	0.01					
09-09-03	0.02					

DISCHARGE MEASUREMENTS AT MISCELLANEOUS SITES

Colorado River Basin—Continued						
Monument Creek	Colorado	Lat 36°05'00", long 112°11'10", sec. 07, T.31N., R.2E.,	-----	-----	11-18-01	0.10
	River	Coconino County, AZ, Hydrologic Unit 15010002.			11-20-01	0.08
					01-19-02	0.09
					02-26-02	0.09
					03-30-02	0.10
					05-02-02	0.07
					05-15-02	0.09
					06-12-02	0.06
					07-13-02	0.06
					09-15-02	0.07
					10-11-02	0.10
					10-31-02	0.08
					11-22-02	0.11
					12-03-02	0.12
					01-17-03	0.11
					02-11-03	0.13
					03-10-03	0.12
					04-04-03	0.09
					05-05-03	0.14
					06-11-03	0.08
					07-08-03	0.08
					08-12-03	0.06
					09-18-03	0.05

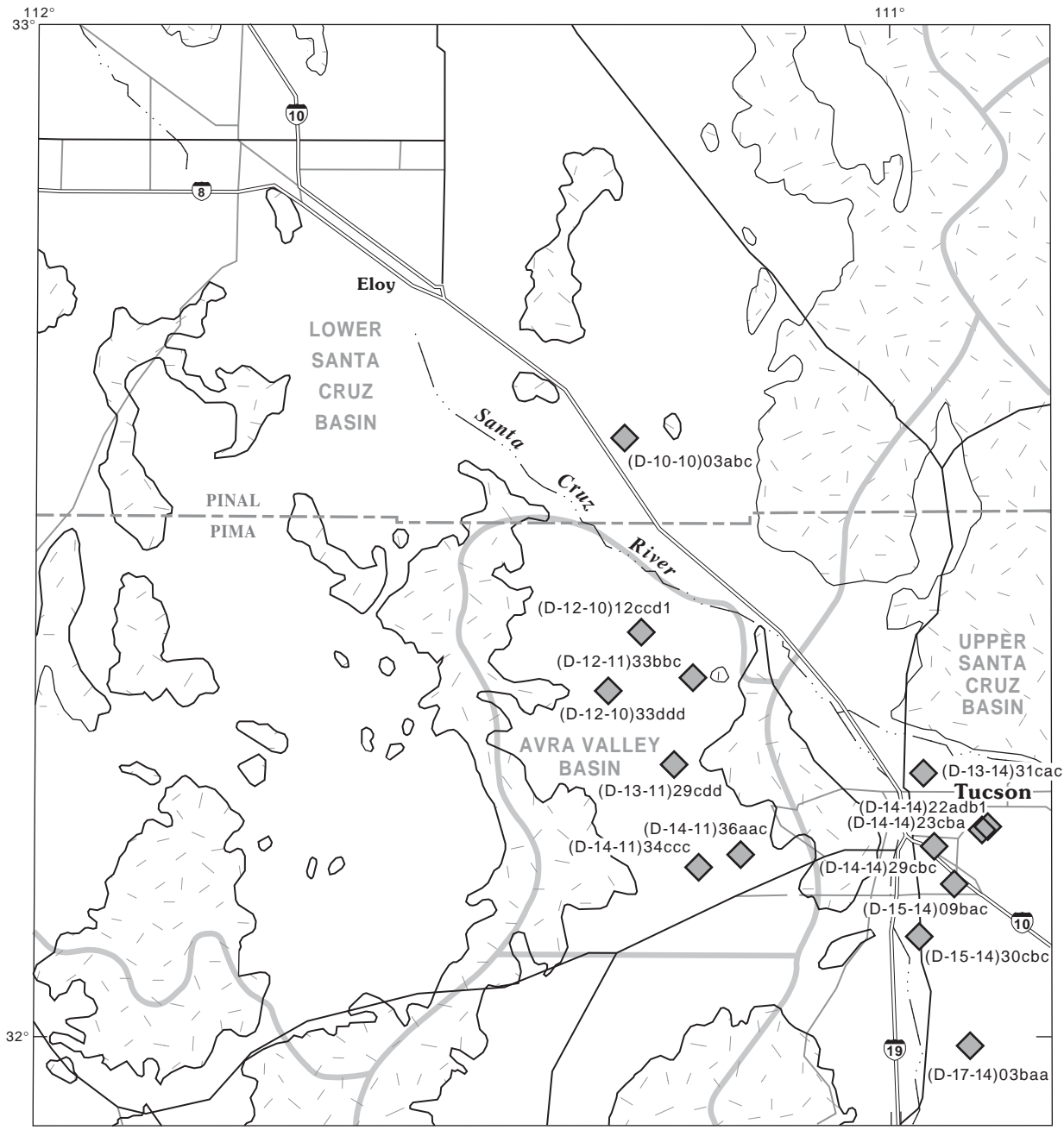


Base from U.S. Geological Survey State base maps, 1:500,000, Arizona, 1974; Nevada, 1965; New Mexico, 1965; and Utah, 1959

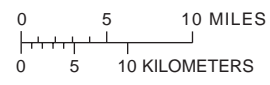
EXPLANATION

- BOUNDARY OF GROUND-WATER BASIN OR SUBBASIN
- BOUNDARY OF ACTIVE MANAGEMENT AREA (AMA)

Figure 8. Index map of Arizona Department of Water Resources ground-water basins, Active Management Areas, and Irrigation Non-Expansion Areas.



Base from U.S. Geological Survey digital data, 1:100,000, 1982 Universal Transverse Mercator projection, Zone 12



EXPLANATION





-  BASIN SEDIMENTS AND SURFICIAL ALLUVIAL DEPOSITS
-  BEDROCK
-  BOUNDARY OF GROUND-WATER BASIN
-  WELL AND EXTENSOMETER SITE CURRENTLY MONITORED BY U.S. GEOLOGICAL SURVEY—(D-13-11)29cdd is local well number

Figure 9. Locations of wells and extensometer sites, south-central Arizona.

GROUND-WATER LEVELS AND COMPACTION VALUES

PINAL COUNTY

32351011181001. Local number, (D-10-10)03abc

LOCATION.--Lat 32°35'10", long 111°18'10", Hydrologic Unit 15050303, within the Picacho ground-water basin in Redrock, off Interstate 10 on Park Link Drive, along the CAP canal. Owner: U.S. Geological Survey.

WELL CHARACTERISTICS.--Drilled observation well fitted with a borehole, pipe extensometer, diameter 12 in., depth 1,400 ft, open throughout casing.

INSTRUMENTATION.--Water-level and compaction recorders.

DATUM.--Elevation of land surface is 1,920.0 ft above sea level, from topographic map. Measuring point: Top of casing 1.8 ft above land-surface datum.

REMARKS.--Water level affected by pumping from nearby wells. For previous record, contact the District Office in Tucson, AZ.

PERIOD OF RECORD.--Mar. 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 240.2 ft below land-surface datum, Jan. 31, 1990; lowest recorded, 247.6 ft below land-surface datum, July 31, Aug. 1, 2, 3, 5, 6, 7, 9, 10, 16, 2001.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	246.1	245.6	245.4	245.2	245.1	---	---	---	---	---	245.7	245.7
2	246.1	245.6	245.4	245.2	245.1	---	---	---	---	---	245.7	245.7
3	246.1	245.5	245.4	245.2	245.1	---	---	---	---	---	245.7	245.7
4	246.1	245.5	245.4	245.2	245.1	---	---	---	---	---	245.7	245.7
5	246.1	245.6	245.4	245.1	245.1	---	---	---	---	---	245.7	245.7
6	246.1	245.6	245.4	245.1	245.1	---	---	---	---	---	245.7	245.7
7	246.0	245.5	245.4	245.2	245.1	---	---	---	---	---	245.7	245.7
8	246.0	245.5	245.4	245.2	245.1	---	---	---	---	---	245.7	245.7
9	246.0	245.5	245.4	245.2	245.2	---	---	---	---	---	245.7	245.7
10	245.9	245.5	245.3	245.2	245.2	---	---	---	---	---	245.8	245.7
11	245.9	245.5	245.3	245.2	245.1	---	---	---	---	---	245.8	245.7
12	245.9	245.5	245.4	245.2	245.1	---	---	---	---	---	245.8	245.7
13	245.9	245.5	245.4	245.2	---	---	---	---	---	---	245.8	245.7
14	245.8	245.5	245.3	245.2	---	---	---	---	---	---	245.8	245.7
15	245.8	245.5	245.3	245.2	---	---	---	---	---	---	245.9	245.7
16	245.7	245.5	245.3	245.2	---	---	---	---	---	---	245.9	245.7
17	245.7	245.4	245.2	245.2	---	---	---	---	---	---	245.8	245.6
18	245.7	245.5	245.2	245.2	---	---	---	---	---	---	245.8	245.6
19	245.7	245.5	245.3	245.2	---	---	---	---	---	---	245.9	245.6
20	245.7	245.5	245.2	245.2	---	---	---	---	---	---	245.9	245.6
21	245.7	245.5	245.2	245.2	---	---	---	---	---	---	245.9	245.6
22	245.7	245.4	245.2	245.2	---	---	---	---	---	---	245.8	245.6
23	245.7	245.4	245.2	245.2	---	---	---	---	---	---	245.8	245.6
24	245.7	245.4	245.2	245.2	---	---	---	---	---	---	245.8	245.6
25	245.6	245.5	245.2	245.2	---	---	---	---	---	---	245.8	245.6
26	245.6	245.5	245.3	245.2	---	---	---	---	---	---	245.8	245.6
27	245.6	245.5	245.3	245.2	---	---	---	---	---	---	245.8	245.6
28	245.6	245.5	245.2	245.2	---	---	---	---	---	---	245.8	245.6
29	245.6	245.5	245.1	245.2	---	---	---	---	---	245.7	245.8	245.6
30	245.6	245.4	245.2	245.2	---	---	---	---	---	245.7	245.8	245.6
31	245.6	---	245.2	245.2	---	---	---	---	---	245.7	245.7	---
MEAN	245.8	245.5	245.3	245.2	---	---	---	---	---	---	245.8	245.7
MAX	246.1	245.6	245.4	245.2	---	---	---	---	---	---	245.9	245.7
MIN	245.6	245.4	245.1	245.1	---	---	---	---	---	---	245.7	245.6

COMPACTION, SEDIMENT, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	0.012	0.012	0.011	0.011	0.009	0.010	0.011	0.012	0.012	0.013	0.013
2	---	0.012	0.012	0.011	0.011	0.009	0.010	0.011	0.012	0.012	0.013	0.013
3	---	0.012	0.012	0.011	0.011	0.010	0.010	0.011	0.012	0.012	0.013	0.014
4	---	0.013	0.012	0.011	0.011	0.009	0.010	0.011	0.012	0.012	0.013	0.013
5	---	0.013	0.012	0.011	0.011	0.009	0.010	0.011	0.012	0.013	0.013	0.014
6	---	0.013	0.012	0.011	0.011	0.009	0.010	0.011	0.012	0.013	0.013	0.014
7	---	0.013	0.012	0.011	0.011	0.009	0.010	0.011	0.012	0.013	0.013	0.014
8	---	0.013	0.011	0.011	0.011	0.009	0.010	0.011	0.012	0.013	0.013	0.014
9	0.013	0.013	0.011	0.011	0.010	0.009	0.010	0.011	0.012	0.013	0.013	0.013
10	0.014	0.013	0.012	0.011	0.010	0.009	0.010	0.011	0.012	0.013	0.013	0.013
11	0.014	0.013	0.011	0.011	0.011	0.009	0.010	0.011	0.012	0.013	0.013	0.014
12	0.014	0.013	0.011	0.011	0.011	0.009	0.010	0.011	0.012	0.013	0.013	0.013
13	0.014	0.013	0.011	0.011	0.011	0.009	0.010	0.011	0.012	0.013	0.013	0.013
14	0.014	0.013	0.011	0.011	0.011	0.009	0.010	0.011	0.012	0.013	0.013	0.013
15	0.014	0.012	0.011	0.011	0.010	0.009	0.010	0.011	0.012	0.013	0.013	0.013
16	0.014	0.012	0.011	0.011	0.011	0.009	0.010	0.012	0.012	0.012	0.013	0.013
17	0.013	0.013	0.011	0.011	0.011	0.009	0.010	0.012	0.012	0.012	0.013	0.013
18	0.013	0.012	0.011	0.011	0.011	0.009	0.010	0.012	0.012	0.012	0.013	0.013
19	0.013	0.012	0.010	0.011	0.011	0.009	0.010	0.012	0.012	0.012	0.013	0.013
20	0.013	0.012	0.011	0.011	0.011	0.009	0.011	0.012	0.012	0.012	0.013	0.013
21	0.013	0.012	0.011	0.011	0.010	0.009	0.011	0.012	0.012	0.012	0.013	0.013
22	0.013	0.012	0.011	0.011	0.011	0.009	0.011	0.012	0.012	0.012	0.013	0.013
23	0.013	0.012	0.010	0.011	0.010	0.009	0.011	0.012	0.012	0.012	0.013	0.013
24	0.013	0.012	0.010	0.011	0.009	0.009	0.011	0.012	0.012	0.012	0.013	0.013
25	0.013	0.012	0.011	0.011	0.010	0.009	0.011	0.012	0.012	0.013	0.013	0.013
26	0.013	0.012	0.011	0.011	0.009	0.010	0.011	0.012	0.012	0.013	0.013	0.013
27	0.013	0.012	0.012	0.011	0.009	0.009	0.011	0.012	0.012	0.013	0.013	0.013
28	0.013	0.012	0.012	0.011	0.009	0.009	0.011	0.012	0.012	0.013	0.013	0.013
29	0.013	0.012	0.012	0.011	---	0.009	0.011	0.012	0.012	0.013	0.013	0.013
30	0.013	0.012	0.011	0.011	---	0.010	0.011	0.012	0.012	0.013	0.013	0.013
31	0.012	---	0.012	0.011	---	0.010	---	0.012	---	0.013	0.014	---
MEAN	---	0.012	0.011	0.011	0.011	0.009	0.010	0.012	0.012	0.013	0.013	0.013
MAX	---	0.013	0.012	0.011	0.011	0.010	0.011	0.012	0.012	0.013	0.014	0.014
MIN	---	0.012	0.010	0.011	0.009	0.009	0.010	0.011	0.012	0.012	0.013	0.013

GROUND-WATER LEVELS AND COMPACTION VALUES

PIMA COUNTY

32233911170001. Local Number, (D-12-10)12ccd1

LOCATION.--Lat 32°23'39", long 111°17'00", Hydrologic Unit 15050304, within the Avra Valley ground-water basin, approximately 10 mi west of Interstate 10, on Avra Valley Road.
 Owner: U.S. Geological Survey.

WELL CHARACTERISTICS.--Drilled observation well fitted with a borehole, pipe extensometer, diameter 20 in., depth 1,010 ft, open throughout casing.

INSTRUMENTATION.--Water-level and compaction recorders.

DATUM.--Elevation of land surface is 1,996.20 ft above sea level, from topographic map. Measuring point: Top of casing 1.0 ft above land-surface datum.

REMARKS.--Water level affected by pumping from nearby wells. For previous record, contact the District Office in Tucson, AZ.

PERIOD OF RECORD.--Aug. 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 225.8 ft below land-surface datum, March 7, 2003; lowest recorded, 300.8 ft below land-surface datum, Sept. 14, 1989.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	231.9	229.8	228.1	227.0	228.5	226.1	235.6	229.9	231.4	230.6	232.9	230.1
2	231.9	229.7	228.0	227.0	228.2	226.0	235.6	229.7	230.9	230.4	231.9	230.3
3	231.9	229.6	228.1	227.0	228.3	225.9	236.0	229.7	230.2	231.4	231.6	230.5
4	231.8	229.6	228.1	226.9	228.2	225.8	236.4	229.8	229.9	232.5	231.5	230.7
5	231.7	229.7	228.1	226.8	228.1	225.8	236.8	231.0	229.7	232.8	232.8	230.7
6	231.6	229.5	228.0	226.7	228.0	225.9	237.2	232.9	229.4	232.8	233.8	230.5
7	231.5	229.4	227.9	226.8	227.9	225.8	237.5	233.6	229.2	232.9	234.0	230.3
8	231.4	229.3	227.9	226.7	228.3	226.4	237.6	234.0	228.8	233.3	234.1	230.2
9	231.3	229.2	227.9	226.7	228.5	226.8	237.5	234.1	228.9	233.7	234.2	230.2
10	231.2	229.1	227.8	226.6	228.0	227.0	237.2	233.7	229.6	234.3	234.3	230.2
11	231.2	229.2	227.7	226.6	227.8	227.1	237.0	233.4	230.3	234.7	234.3	230.2
12	231.2	229.2	227.8	226.7	227.7	227.4	236.6	233.2	230.6	234.8	234.4	230.0
13	231.1	229.0	227.8	227.4	227.5	227.6	236.5	233.0	230.8	234.5	234.7	230.1
14	230.9	229.0	227.7	226.9	227.4	227.7	236.4	232.6	230.7	234.4	234.9	230.2
15	230.8	229.0	227.6	229.6	227.3	227.7	236.4	232.3	230.6	234.3	234.4	229.9
16	230.7	229.0	227.5	230.9	227.1	227.5	236.3	232.1	231.7	234.3	233.0	229.7
17	230.6	228.8	227.3	230.9	226.9	228.4	235.5	231.1	233.0	234.1	232.2	229.4
18	230.6	228.8	227.4	231.4	226.8	230.1	234.9	230.4	233.1	232.9	231.8	229.3
19	230.6	228.8	227.6	231.9	226.7	231.3	234.5	230.4	233.2	231.8	231.7	229.1
20	230.4	228.7	227.5	232.1	226.5	231.8	234.2	230.3	233.3	231.7	231.6	229.0
21	230.3	228.6	227.5	232.3	226.5	232.0	234.0	230.2	233.1	231.6	231.5	228.9
22	230.3	228.5	227.3	232.6	226.4	232.0	232.9	230.2	233.1	231.9	232.2	228.8
23	230.3	228.4	227.3	232.6	226.3	231.8	232.0	230.2	232.6	232.0	233.7	228.8
24	230.2	228.4	227.5	232.7	226.2	231.8	231.7	230.2	232.1	232.9	233.9	228.7
25	230.1	228.3	227.4	232.5	226.2	232.3	231.4	230.2	232.1	233.7	234.0	228.6
26	230.0	228.3	227.5	231.0	226.2	232.7	231.3	231.3	231.5	233.8	233.9	228.5
27	230.1	228.3	227.4	229.7	226.2	233.4	231.2	232.9	231.6	234.0	232.0	228.4
28	230.1	228.3	227.1	229.4	226.1	234.2	231.1	233.2	231.7	234.0	231.2	228.3
29	229.9	228.2	227.0	229.3	---	234.9	230.5	233.2	231.4	233.9	230.7	228.2
30	229.9	228.2	227.1	229.2	---	235.3	230.1	232.1	230.9	233.9	230.3	228.2
31	229.8	---	227.0	228.8	---	235.4	---	231.5	---	234.0	230.1	---
TOTAL	7155.3	6867.9	7055.9	7104.7	6363.8	7113.9	7041.9	7182.4	6934.9	7227.9	7217.6	6886.0
MEAN	230.8	228.9	227.6	229.2	227.3	229.5	234.7	231.7	231.2	233.2	232.8	229.5
MAX	231.9	229.8	228.1	232.7	228.5	235.4	237.6	234.1	233.3	234.8	234.9	230.7
MIN	229.8	228.2	227.0	226.6	226.1	225.8	230.1	229.7	228.8	230.4	230.1	228.2
MED	230.7	229.0	227.6	229.2	227.3	227.7	235.6	231.5	231.1	233.7	232.9	229.8

COMPACTION, SEDIMENT, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	-0.025	-0.029	-0.036	-0.038	---	-0.035	-0.024	-0.025	-0.027	-0.023	-0.026	-0.025
2	-0.025	-0.030	-0.036	-0.038	---	-0.035	-0.024	-0.025	-0.027	-0.023	-0.026	-0.025
3	-0.026	-0.030	-0.036	-0.038	---	-0.035	-0.023	-0.026	-0.027	-0.023	-0.026	-0.025
4	-0.026	-0.031	-0.036	-0.038	---	-0.034	-0.023	-0.026	-0.028	-0.023	-0.026	-0.025
5	-0.026	-0.031	-0.036	-0.038	---	-0.034	-0.022	-0.026	-0.028	-0.023	-0.026	-0.025
6	-0.026	-0.031	-0.036	-0.038	---	-0.034	-0.022	-0.026	-0.028	-0.024	-0.026	-0.025
7	-0.025	-0.031	-0.036	-0.038	---	-0.034	-0.021	-0.026	-0.029	-0.024	-0.026	-0.026
8	-0.025	-0.031	-0.037	-0.038	---	-0.034	-0.021	-0.025	-0.029	-0.024	-0.026	-0.026
9	-0.025	-0.031	-0.038	-0.038	---	-0.034	-0.020	-0.025	-0.029	-0.024	-0.026	-0.026
10	-0.025	-0.032	-0.038	-0.038	---	-0.034	-0.020	-0.025	-0.029	-0.024	-0.026	-0.026
11	-0.025	-0.032	-0.038	-0.038	---	-0.034	-0.020	-0.025	-0.028	-0.024	-0.026	-0.026
12	-0.025	-0.032	-0.038	-0.038	---	-0.033	-0.020	-0.025	-0.028	-0.024	-0.026	-0.026
13	-0.026	-0.032	-0.038	-0.038	---	-0.033	-0.021	-0.025	-0.027	-0.025	-0.026	-0.026
14	-0.026	-0.032	-0.038	-0.037	---	-0.033	-0.021	-0.025	-0.027	-0.025	-0.026	-0.026
15	-0.026	-0.032	-0.038	-0.037	---	-0.033	-0.021	-0.025	-0.027	-0.025	-0.026	-0.027
16	-0.026	-0.032	-0.039	-0.036	---	-0.033	-0.021	-0.025	-0.027	-0.025	-0.026	-0.027
17	-0.026	-0.033	-0.039	-0.036	---	-0.033	-0.021	-0.025	-0.026	-0.025	-0.026	-0.027
18	-0.026	-0.034	-0.040	-0.035	---	---	-0.021	-0.025	-0.026	-0.025	-0.026	---
19	-0.026	-0.033	-0.040	-0.035	---	---	-0.022	-0.025	-0.026	-0.025	-0.026	---
20	-0.027	-0.033	-0.039	-0.035	---	---	-0.022	-0.026	-0.026	-0.024	-0.026	---
21	-0.027	-0.033	-0.038	-0.034	---	-0.030	-0.022	-0.026	-0.026	-0.024	-0.026	---
22	-0.027	-0.034	-0.038	---	---	-0.030	-0.023	-0.026	-0.026	-0.024	-0.026	---
23	-0.027	-0.034	-0.038	---	---	-0.029	-0.023	-0.026	-0.026	-0.024	-0.026	-0.029
24	-0.027	-0.035	-0.038	---	---	-0.029	-0.023	-0.026	-0.026	-0.024	-0.026	-0.029
25	-0.027	-0.035	-0.038	---	-0.034	-0.029	-0.023	-0.026	-0.025	-0.024	-0.026	-0.029
26	-0.028	-0.035	-0.038	---	-0.034	-0.028	-0.024	-0.026	-0.024	-0.024	-0.026	-0.030
27	-0.029	-0.035	-0.038	---	-0.035	-0.028	-0.024	-0.026	-0.024	-0.024	-0.026	-0.030
28	-0.029	-0.035	-0.038	---	-0.035	-0.027	-0.024	-0.026	-0.024	-0.025	-0.025	-0.030
29	-0.029	-0.035	-0.038	---	---	-0.026	-0.024	-0.026	-0.024	-0.027	-0.025	-0.030
30	-0.029	-0.035	-0.038	---	---	-0.025	-0.025	-0.026	-0.024	-0.027	-0.025	-0.030
31	-0.029	---	-0.038	---	---	-0.025	---	-0.027	---	-0.026	-0.025	---
MEAN	-0.026	-0.033	-0.038	---	---	---	-0.022	-0.026	-0.027	-0.024	-0.026	---
MAX	-0.025	-0.029	-0.036	---	---	---	-0.020	-0.025	-0.024	-0.023	-0.025	---
MIN	-0.029	-0.035	-0.040	---	---	---	-0.025	-0.027	-0.029	-0.027	-0.026	---

GROUND-WATER LEVELS AND COMPACTION VALUES

PIMA COUNTY

32205711134801. Local number, (D-12-11)33bbc

LOCATION.--Lat 32°20'57", long 111°13'22", Hydrologic Unit 15050304, within the Avra Valley ground-water basin, on Magee Road next to CAP canal. Owner: U.S. Geological Survey.

WELL CHARACTERISTICS.--Drilled observation well fitted with a borehole, pipe extensometer, diameter 15.0 in., depth 998 ft, open throughout casing.

INSTRUMENTATION.--Water-level and compaction recorders.

DATUM.--Elevation of land surface is 2,104.0 ft above sea level, from topographic map. Measuring point: Top of casing 1.7 ft above land-surface datum.

REMARKS.--Water level affected by pumping from nearby wells. For previous record, contact the District Office in Tucson, AZ.

PERIOD OF RECORD.--Mar. 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 340.8 ft below land-surface datum, March 27, 2003; lowest recorded, 354.5 ft below land-surface datum, Sept. 29, 1989.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	341.7	341.5	341.3	341.1	---	---	341.0	341.3	341.3	---	341.7	341.6
2	341.7	341.6	341.2	341.1	---	---	341.0	341.3	341.3	---	341.7	341.6
3	341.8	341.5	341.2	341.0	---	---	341.0	341.2	341.3	---	341.6	341.6
4	341.7	341.5	341.3	341.0	---	---	341.1	341.3	341.3	---	341.6	341.6
5	341.7	341.6	341.3	340.9	---	---	341.1	341.2	341.2	---	341.6	341.7
6	341.7	341.6	341.2	340.9	---	---	341.1	341.2	341.2	---	341.6	341.6
7	341.7	341.6	341.2	341.0	---	---	341.2	341.2	341.2	---	341.7	341.6
8	341.6	341.6	341.3	341.0	---	---	341.2	341.2	341.2	---	341.6	341.5
9	341.6	341.5	341.3	341.0	---	---	341.2	341.2	341.2	---	341.7	341.5
10	341.6	341.5	341.2	341.0	---	---	341.2	341.3	341.2	---	341.7	341.5
11	341.6	341.6	341.1	340.9	---	---	341.2	341.3	341.2	---	341.7	341.6
12	341.7	341.6	341.2	341.1	---	---	341.2	341.3	341.2	---	341.6	341.5
13	341.7	341.5	341.3	341.1	---	---	341.3	341.3	341.2	---	341.7	341.5
14	341.6	341.5	341.2	341.0	---	---	341.3	341.3	341.2	---	341.7	341.6
15	341.6	341.6	341.2	341.0	---	---	341.3	341.3	341.2	---	341.7	341.6
16	341.5	341.6	341.1	341.0	---	---	341.3	341.3	341.2	---	341.7	341.5
17	341.5	341.5	340.9	341.0	---	---	341.3	341.2	341.2	---	341.7	341.5
18	341.6	341.6	340.9	341.0	---	---	341.3	341.3	341.1	---	341.7	341.6
19	341.6	341.6	341.1	341.0	---	---	341.4	341.4	341.1	---	341.7	341.6
20	341.6	341.5	341.1	341.0	---	---	341.4	341.4	341.1	---	341.7	341.5
21	341.6	341.5	341.0	341.0	---	---	341.2	341.3	341.1	---	341.7	341.4
22	341.6	341.5	340.9	341.0	---	---	341.2	341.3	341.1	---	341.7	341.4
23	341.6	341.4	340.9	340.9	---	---	341.3	341.3	341.1	---	341.7	341.4
24	341.6	341.4	341.0	340.9	---	---	341.3	341.3	341.1	---	341.7	341.4
25	341.5	341.3	341.2	340.9	---	---	341.3	341.2	---	---	341.7	341.4
26	341.5	341.3	341.2	341.0	---	341.0	341.2	341.2	---	---	341.6	341.3
27	341.5	341.4	341.3	---	---	340.9	341.2	341.3	---	---	341.6	341.3
28	341.6	341.4	341.1	---	---	341.0	341.2	341.3	---	---	341.6	341.3
29	341.6	341.4	341.0	---	---	341.2	341.2	341.4	---	341.7	341.6	341.4
30	341.5	341.3	341.1	---	---	341.2	341.2	341.3	---	341.7	341.6	341.4
31	341.5	---	341.1	---	---	341.1	---	341.3	---	341.7	341.6	---
MEAN	341.6	341.5	341.1	---	---	---	341.2	341.3	---	---	341.7	341.5
MAX	341.8	341.6	341.3	---	---	---	341.4	341.4	---	---	341.7	341.7
MIN	341.5	341.3	340.9	---	---	---	341.0	341.2	---	---	341.6	341.3

COMPACTION, SEDIMENT, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.065	0.065	0.065	0.066	0.068	0.068	0.069	0.070	0.071	0.071	0.071	0.071
2	0.065	0.065	0.065	0.066	0.068	0.068	0.069	0.070	0.071	0.071	0.071	0.071
3	0.065	0.065	0.065	0.066	0.068	0.068	0.069	0.070	0.071	0.071	0.071	0.071
4	0.065	0.065	0.065	0.066	0.068	0.068	0.069	0.070	0.071	0.071	0.071	0.071
5	0.065	0.065	0.065	0.066	0.068	0.069	0.069	0.070	0.071	0.071	0.071	0.071
6	0.065	0.065	0.065	0.066	0.068	0.069	0.070	0.070	0.071	0.071	0.071	0.071
7	0.065	---	0.065	0.066	0.068	0.069	0.070	0.070	0.071	0.071	0.071	0.071
8	0.065	---	0.065	0.066	0.068	0.069	0.070	0.070	0.071	0.071	0.071	0.071
9	0.065	---	0.065	0.066	0.068	0.069	0.070	0.070	0.071	0.071	0.071	0.071
10	0.065	---	0.065	0.066	0.068	0.069	0.070	0.071	0.071	0.071	0.071	0.071
11	0.065	0.065	0.065	0.066	0.068	0.069	0.070	0.071	0.071	0.071	0.071	0.071
12	0.065	0.065	0.065	0.066	0.068	0.069	0.070	0.071	0.071	0.071	0.071	0.071
13	0.065	0.065	0.065	0.066	0.068	0.069	0.070	0.071	0.071	0.071	0.071	0.071
14	0.065	0.065	0.065	0.066	0.068	0.069	0.070	0.071	0.072	0.071	0.071	0.071
15	0.065	0.065	0.066	0.066	0.068	0.069	0.070	0.071	0.071	0.071	0.071	0.071
16	0.065	0.065	0.066	0.066	0.068	0.069	0.070	0.071	0.071	0.072	0.071	0.071
17	0.065	0.065	0.066	0.066	0.068	0.069	0.070	0.071	0.071	0.072	0.071	0.071
18	0.065	0.065	0.066	0.066	0.068	0.069	0.070	0.071	0.071	0.072	0.072	0.071
19	0.065	0.065	0.066	0.066	0.068	0.069	0.070	0.071	0.071	0.072	0.072	0.071
20	0.065	0.065	0.066	0.066	0.068	0.069	0.070	0.071	0.071	0.072	0.072	0.071
21	0.065	0.065	0.066	0.066	0.068	0.069	0.070	0.071	0.071	0.072	0.072	0.072
22	0.065	0.065	0.066	0.066	0.068	0.069	0.070	0.071	0.071	0.072	0.072	0.072
23	0.065	0.065	0.066	0.067	0.068	0.069	0.070	0.071	0.071	0.072	0.072	0.072
24	0.065	0.065	0.066	0.067	0.068	0.069	0.070	0.071	0.071	0.072	0.072	0.072
25	0.065	0.065	0.066	0.067	0.068	0.069	0.070	0.071	0.071	0.072	0.072	0.072
26	0.065	0.065	0.066	0.067	0.068	0.069	0.070	0.071	0.071	0.071	0.071	0.072
27	0.065	0.065	0.066	0.067	0.068	0.069	0.070	0.071	0.071	0.071	0.071	0.072
28	0.065	0.065	0.066	0.067	0.068	0.069	0.070	0.071	0.071	0.071	0.071	0.072
29	0.065	0.065	0.066	0.068	---	0.069	0.070	0.071	0.071	0.071	0.071	0.071
30	0.065	0.065	0.066	0.068	---	0.069	0.070	0.071	0.071	0.071	0.071	0.072
31	0.065	---	0.066	0.068	---	0.069	---	0.071	---	0.071	0.071	---
MEAN	0.065	---	0.066	0.066	0.068	0.069	0.070	0.071	0.071	0.071	0.071	0.071
MAX	0.065	---	0.066	0.068	0.068	0.069	0.070	0.071	0.072	0.072	0.072	0.072
MIN	0.065	---	0.065	0.066	0.068	0.068	0.069	0.070	0.071	0.071	0.071	0.071

GROUND-WATER LEVELS AND COMPACTION VALUES

PIMA COUNTY

32200911191801. Local number, (D-12-10)33ddd

LOCATION.--Lat 32°20'09", long 111°19'18", Hydrologic Unit 15050304, within the Avra Valley ground-water basin, approximately 12 mi west of Interstate 10, 3 mi south on corner of Anway and Tucker. Owner: U.S. Geological Survey

WELL CHARACTERISTICS.--Drilled observation well fitted with a borehole, pipe extensometer, diameter 20 in., depth 1,000 ft, open throughout casing.

INSTRUMENTATION.--Water-level and compaction recorders.

DATUM.--Elevation of land surface is 2,068 ft above sea level, from topographic map. Measuring point: Top of casing, 2.0 ft above land-surface datum.

REMARKS.--Water level affected by pumping from nearby wells. For previous record, contact the District Office in Tucson, AZ.

PERIOD OF RECORD.--Aug. 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 329.6 ft below land-surface datum, Mar. 02, 2003; lowest recorded, 349.8 ft below land-surface datum, Aug. 22, 1985.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	334.4	333.7	332.0	330.7	330.7	329.6	331.4	331.7	332.3	332.8	332.4	332.4
2	334.5	333.7	331.9	330.7	330.5	---	331.4	331.7	332.3	332.9	332.3	332.5
3	334.6	333.4	331.9	330.7	330.6	---	331.5	331.6	332.2	332.9	332.1	332.5
4	334.5	333.4	332.0	330.8	330.4	---	331.5	331.7	331.9	332.9	332.3	332.5
5	334.3	333.5	332.1	330.7	330.3	---	331.6	331.8	332.1	332.9	332.4	332.6
6	334.2	333.4	332.3	330.7	330.3	---	331.6	331.8	332.2	332.8	332.6	332.5
7	334.1	333.3	332.5	330.8	330.2	---	331.7	331.7	332.1	332.7	332.7	332.4
8	334.1	333.3	332.6	330.8	330.2	---	331.8	331.7	332.0	332.8	332.6	332.4
9	333.9	333.2	332.6	330.7	330.3	---	331.9	331.7	332.0	332.9	332.8	332.3
10	333.9	333.1	332.6	330.7	330.2	---	331.9	331.7	332.1	333.0	333.0	332.1
11	333.8	333.2	332.5	330.7	330.2	---	332.0	331.7	332.2	333.1	333.1	331.9
12	333.8	333.3	332.4	330.9	330.1	---	332.0	331.6	332.3	333.2	333.0	331.9
13	333.8	333.2	332.5	330.8	329.9	---	331.9	331.7	332.4	333.1	333.2	331.9
14	333.7	333.2	332.6	330.6	329.7	---	331.9	331.8	332.4	333.1	333.3	332.1
15	333.9	333.2	332.5	330.7	329.7	---	331.7	331.9	332.4	333.3	333.2	332.1
16	333.9	333.2	332.2	330.8	329.8	---	331.4	331.9	332.4	332.8	332.6	332.2
17	333.9	333.0	332.0	330.7	329.8	---	331.5	331.8	332.5	333.1	332.7	332.1
18	333.8	333.1	331.9	330.7	329.8	---	331.5	331.8	332.4	333.3	332.8	332.1
19	333.9	333.1	---	330.8	330.0	---	331.6	331.8	332.1	333.3	332.6	332.0
20	333.8	333.1	---	330.7	329.8	---	331.5	331.9	332.5	333.2	332.0	332.0
21	333.9	333.1	331.0	330.6	329.8	---	331.5	332.0	332.6	333.2	331.8	331.9
22	334.0	333.0	330.8	330.7	329.9	---	331.4	332.1	332.5	333.3	331.6	331.9
23	334.0	332.9	330.6	330.7	330.0	---	331.5	332.0	332.5	333.4	331.6	332.0
24	333.9	332.8	330.5	330.5	330.0	---	331.5	331.9	332.7	333.3	331.6	331.5
25	333.8	332.7	330.4	330.7	329.8	---	331.4	332.0	332.8	332.7	331.5	330.6
26	333.8	332.8	330.5	330.7	329.7	331.1	331.4	332.1	332.8	332.1	331.5	330.5
27	333.6	332.7	330.7	330.7	329.6	331.0	331.4	332.3	332.7	332.2	331.6	331.2
28	333.5	332.7	330.7	330.6	329.6	331.1	331.4	332.3	332.6	332.6	331.0	331.5
29	333.5	332.5	330.5	330.7	---	331.4	331.5	332.3	332.6	332.8	331.4	331.6
30	333.4	332.2	330.6	330.8	---	331.4	331.6	332.2	332.7	332.5	332.1	331.7
31	333.4	---	330.7	330.7	---	331.4	---	332.3	---	332.1	332.4	---
MEAN	333.9	333.1	---	330.7	330.0	---	331.6	331.9	332.4	332.9	332.3	332.0
MAX	334.6	333.7	---	330.9	330.7	---	332.0	332.3	332.8	333.4	333.3	332.6
MIN	333.4	332.2	---	330.5	329.6	---	331.4	331.6	331.9	332.1	331.0	330.5

COMPACTION, SEDIMENT, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.169	0.169	0.167	0.165	0.167	0.168	0.168	0.169	0.171	0.170	0.171	---
2	0.169	0.168	0.168	0.165	0.167	0.168	0.168	0.169	0.171	0.170	0.171	---
3	0.168	0.169	0.167	0.165	0.165	0.167	0.167	0.169	0.171	0.170	0.171	---
4	0.168	0.169	0.166	0.165	0.167	0.169	0.168	0.169	---	0.171	0.172	---
5	0.168	0.166	0.167	0.166	0.168	0.168	0.168	0.169	---	0.171	0.172	---
6	0.168	0.166	0.167	0.166	0.166	0.167	0.168	0.169	---	0.171	0.172	---
7	0.168	0.167	0.168	0.164	0.167	0.168	0.168	---	---	---	---	---
8	0.168	0.167	0.166	0.164	0.167	0.167	0.168	---	---	---	---	---
9	0.169	0.168	0.166	0.165	0.165	0.167	0.169	---	---	---	---	---
10	0.169	0.168	0.168	0.165	0.165	0.168	0.169	---	---	---	---	---
11	0.168	0.167	0.168	0.165	0.167	0.169	0.169	---	---	---	---	---
12	0.168	0.166	0.166	0.165	0.167	0.169	0.169	---	---	---	---	---
13	0.168	0.167	0.166	0.163	0.167	0.168	0.169	---	---	---	---	---
14	0.169	0.167	0.166	0.163	0.168	0.169	0.169	---	---	---	---	---
15	0.169	0.166	0.167	0.164	0.167	0.169	0.168	---	---	---	---	---
16	0.169	0.166	0.167	0.164	0.165	0.170	0.169	---	---	---	---	---
17	0.169	0.167	0.167	0.164	0.166	0.169	0.169	---	---	---	---	---
18	0.169	0.166	0.166	0.164	0.167	0.169	0.169	---	---	---	---	---
19	0.168	0.166	0.163	0.165	0.167	0.167	0.168	---	---	---	---	---
20	0.169	0.167	0.165	0.164	0.168	0.167	0.169	---	---	---	---	---
21	0.169	0.167	0.166	0.164	0.168	0.167	0.170	---	---	---	---	---
22	0.169	0.167	0.167	0.165	0.166	0.166	0.170	---	---	---	---	---
23	0.169	0.168	0.167	0.167	0.168	0.168	0.168	---	---	---	---	---
24	0.169	0.168	0.164	0.167	0.169	0.168	0.169	---	---	---	---	0.170
25	0.169	0.168	0.164	0.166	0.169	0.166	0.169	---	---	---	---	0.170
26	0.169	0.167	0.163	0.165	0.169	0.167	0.169	---	0.170	---	---	0.170
27	0.168	0.167	0.162	0.167	0.168	0.168	0.169	---	0.170	---	---	0.170
28	0.168	0.166	0.165	0.167	0.168	0.165	0.169	---	0.170	---	---	0.170
29	0.169	0.167	0.166	0.166	---	0.165	0.169	0.170	0.170	0.171	---	0.170
30	0.169	0.167	0.164	0.166	---	0.166	0.169	0.170	0.170	0.171	---	---
31	0.168	---	0.164	0.167	---	0.168	---	0.171	---	0.171	---	---
MEAN	0.169	0.167	0.166	0.165	0.167	0.168	0.169	---	---	---	---	---
MAX	0.169	0.169	0.168	0.167	0.169	0.170	0.170	---	---	---	---	---
MIN	0.168	0.166	0.162	0.163	0.165	0.165	0.167	---	---	---	---	---

GROUND-WATER LEVELS AND COMPACTION VALUES

PIMA COUNTY

32154711144001. Local number, (D-13-11)29cdd

LOCATION.--Lat 32°15'47", long 111°14'40", Hydrologic Unit 15050304, within the Avra Valley ground-water basin on Mile Wide Road along CAP canal. Owner: U.S. Geological Survey.

WELL CHARACTERISTICS.--Drilled observation well fitted with a borehole, pipe extensometer, diameter 10 in., depth 790 ft, open throughout casing.

INSTRUMENTATION.--Water-level and compaction recorders.

DATUM.--Elevation of land surface is 2,192.0 ft above sea level, from topographic map. Measuring point: Top of casing 1.0 ft above land-surface datum.

REMARKS.--Water level affected by pumping from nearby wells. For previous record, contact the District Office in Tucson, AZ.

PERIOD OF RECORD.--Mar. 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 340.6 ft below land-surface datum, Nov. 8, 2000; lowest recorded, 361.5 ft below land-surface datum, Mar. 22, 1998.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	344.7	345.2	345.8	346.0	345.9	346.4	347.1	348.9	350.9	353.3	355.4	356.6
2	344.7	345.2	345.8	346.0	345.8	346.4	347.2	348.9	351.0	353.3	355.4	356.6
3	344.9	345.2	345.8	346.0	346.1	346.4	347.4	348.9	351.1	353.3	355.4	356.7
4	344.8	345.3	345.9	346.0	346.0	346.3	347.4	349.0	351.1	353.4	355.5	356.8
5	344.8	345.4	345.9	345.9	345.9	346.4	347.4	349.0	351.2	353.5	355.5	356.8
6	344.9	345.5	345.9	345.9	346.1	346.6	347.5	349.0	351.4	353.5	355.6	356.8
7	344.8	345.5	345.8	346.0	346.1	346.5	347.6	349.1	351.4	353.6	355.6	356.8
8	344.8	345.4	346.0	346.0	346.0	346.6	347.7	349.2	351.4	353.8	355.7	356.8
9	344.8	345.4	346.0	346.0	346.2	346.7	347.7	349.2	351.6	353.8	355.8	356.8
10	344.8	345.5	345.9	346.0	346.2	346.6	347.7	349.4	351.7	353.9	355.8	356.9
11	344.8	345.6	345.9	346.0	346.1	346.5	347.8	349.4	351.8	354.0	355.8	357.0
12	344.9	345.7	346.0	346.2	346.1	346.6	347.9	349.4	351.8	354.1	355.9	357.0
13	344.9	345.6	346.0	346.2	346.0	346.8	347.9	349.4	351.9	354.1	356.0	356.9
14	344.9	345.6	346.0	346.0	346.0	346.7	348.0	349.4	352.0	354.1	356.1	357.1
15	344.8	345.7	346.0	346.0	346.2	346.7	348.1	349.5	352.1	354.2	356.2	357.1
16	344.7	345.8	345.9	346.0	346.3	346.6	348.1	349.6	352.1	354.3	356.2	357.0
17	344.6	345.6	345.6	345.9	346.2	346.7	348.0	349.6	352.2	354.5	356.1	357.0
18	344.7	345.7	345.8	346.0	346.2	346.8	348.1	349.7	352.2	354.6	356.1	357.1
19	344.7	345.8	346.1	346.1	346.2	347.0	348.3	349.8	352.3	354.6	356.3	357.1
20	344.6	345.7	346.0	346.0	346.0	347.1	348.3	349.8	352.4	354.6	356.3	357.1
21	344.6	345.7	346.1	346.0	346.3	347.1	348.2	349.8	352.5	354.7	356.3	357.1
22	344.8	345.6	346.0	346.1	346.3	347.2	348.3	349.9	352.6	354.7	356.3	357.1
23	344.9	345.5	346.0	346.0	346.2	347.1	348.5	350.0	352.5	354.8	356.3	357.2
24	344.9	345.6	346.3	345.9	346.3	347.1	348.5	350.1	352.7	354.8	356.5	357.2
25	344.9	345.6	346.3	346.0	346.3	347.2	348.5	350.3	352.9	354.7	356.5	357.2
26	344.9	345.6	346.4	346.1	346.3	347.1	348.6	350.4	353.0	354.9	356.5	357.1
27	345.1	345.8	346.3	346.0	346.4	346.9	348.6	350.5	352.9	355.0	356.6	357.1
28	345.1	345.8	346.0	346.0	346.4	347.2	348.6	350.6	353.0	355.1	356.5	357.2
29	345.1	345.8	345.8	346.1	---	347.5	348.7	350.7	353.1	355.2	356.4	357.2
30	345.1	345.8	346.0	346.1	---	347.4	348.7	350.8	353.2	355.3	356.5	357.2
31	345.2	---	346.0	346.0	---	347.2	---	350.9	---	355.3	356.6	---
MEAN	344.8	345.6	346.0	346.0	346.1	346.8	348.0	349.7	352.1	354.3	356.1	357.0
MAX	345.2	345.8	346.4	346.2	346.4	347.5	348.7	350.9	353.2	355.3	356.6	357.2
MIN	344.6	345.2	345.6	345.9	345.8	346.3	347.1	348.9	350.9	353.3	355.4	356.6

COMPACTION, SEDIMENT, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.006	0.007	0.009	0.007	0.005	---	---	0.007	0.007	0.008	0.008	0.009
2	0.006	0.007	0.007	0.007	0.004	---	---	0.006	0.007	0.007	0.008	0.009
3	0.006	0.008	0.007	0.008	0.004	---	---	0.007	0.007	0.007	0.008	0.009
4	0.006	0.008	0.008	0.009	0.004	---	---	0.007	0.007	0.007	0.008	0.009
5	0.006	0.005	0.009	0.008	0.005	---	---	0.007	0.007	0.007	0.008	0.009
6	0.007	0.006	0.008	0.007	0.003	---	---	0.007	0.007	0.007	0.008	0.009
7	0.007	0.007	0.007	0.007	0.003	---	---	0.007	0.007	0.008	0.008	0.009
8	0.007	0.009	0.008	0.007	0.003	---	---	0.007	0.007	0.008	0.008	0.009
9	0.006	0.010	0.009	0.007	0.004	---	---	0.007	0.007	0.008	0.008	0.009
10	0.006	0.010	0.009	0.007	0.004	---	---	0.007	0.007	0.008	0.008	0.009
11	0.006	0.009	0.007	0.005	0.006	---	---	0.006	0.007	0.008	0.008	0.009
12	0.006	0.008	0.007	0.005	0.006	---	---	0.007	0.007	0.008	0.008	0.009
13	0.006	0.009	0.008	0.006	0.005	---	---	0.007	0.007	0.007	0.008	0.009
14	0.007	0.010	0.008	0.007	0.003	---	---	0.007	0.007	0.007	0.008	0.009
15	0.007	0.008	0.009	0.006	0.003	---	---	0.007	0.007	0.007	0.008	0.009
16	0.007	0.008	0.010	0.007	0.004	---	---	0.007	0.007	0.007	0.008	0.009
17	0.005	0.010	0.010	0.007	0.005	---	---	0.007	0.007	0.008	0.008	0.009
18	0.006	0.009	0.007	0.006	0.004	---	---	0.007	0.007	0.007	0.008	0.008
19	0.006	0.009	0.005	0.006	0.005	---	---	0.007	0.007	0.007	0.008	0.009
20	0.006	0.010	0.008	0.007	0.007	---	---	0.007	0.007	0.007	0.008	0.009
21	0.006	0.009	0.008	0.007	0.003	---	---	0.007	0.007	0.007	0.008	0.009
22	0.006	0.010	0.004	0.005	0.004	---	---	0.007	0.007	0.007	0.008	0.009
23	0.006	0.009	0.006	0.004	0.005	---	---	0.007	0.007	0.007	0.008	0.009
24	0.006	0.009	0.005	0.004	0.006	---	---	0.008	0.007	0.007	0.008	0.008
25	0.007	0.008	0.004	0.004	---	---	0.007	0.008	0.007	0.007	0.008	0.009
26	0.008	0.008	0.007	0.004	---	0.006	0.007	0.008	0.007	0.008	0.009	0.009
27	0.006	0.008	0.008	0.005	---	0.009	0.007	0.008	0.007	0.008	0.008	0.009
28	0.006	0.009	0.007	0.006	---	---	0.007	0.008	0.007	0.008	0.008	0.009
29	0.007	0.009	0.006	0.005	---	---	0.007	0.007	0.008	0.008	0.009	0.008
30	0.007	0.010	0.008	0.003	---	---	0.007	0.007	0.008	0.008	0.009	0.009
31	0.007	---	0.007	0.004	---	---	---	0.007	---	0.008	0.008	---
MEAN	0.006	0.009	0.007	0.006	---	---	---	0.007	0.007	0.007	0.008	0.009
MAX	0.008	0.010	0.010	0.009	---	---	---	0.008	0.008	0.008	0.009	0.009
MIN	0.005	0.005	0.004	0.003	---	---	---	0.006	0.007	0.007	0.008	0.008

GROUND-WATER LEVELS AND COMPACTION VALUES

PIMA COUNTY

321517110571802. Local number, (D-13-14)31cac

LOCATION.--Lat 32°15'17", long 110°57'18", Hydrologic Unit 15050301, within the Tucson ground-water basin, between Park Avenue and Mountain Avenue on Mitchell Street at Mitchell Park. Owner: U.S. Geological Survey.

WELL CHARACTERISTICS.--Drilled observation well fitted with a borehole, pipe extensometer, diameter 6.0 in., depth 808 ft, open throughout casing.

INSTRUMENTATION.--Water-level and compaction recorders.

DATUM.--Elevation of land surface is 2,395.0 ft above sea level, from topographic map. Measuring point: Top of casing 1.5 ft above land-surface datum.

REMARKS.--Water level affected by pumping from nearby wells. For previous record, contact the District Office in Tucson, AZ.

PERIOD OF RECORD.--Sept. 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 174.42 ft below land-surface datum, Dec. 1, 1982; lowest recorded, 251.5 ft below land-surface datum, Sept. 23, 2003.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	249.1	247.8	249.0	249.9	247.8	247.9	---	---	250.5	251.2	251.0	251.4
2	249.1	247.9	248.4	250.0	247.7	247.6	---	---	250.7	251.1	249.9	251.4
3	249.3	248.8	248.6	250.0	247.9	247.8	---	---	250.8	251.1	250.0	251.4
4	249.0	249.4	249.4	250.0	247.9	249.0	---	---	250.8	251.0	250.7	251.5
5	248.9	249.6	249.6	249.9	247.8	249.2	---	---	250.8	251.1	251.0	251.5
6	249.1	249.7	249.7	249.9	247.9	249.4	---	---	250.9	251.0	251.1	251.5
7	249.2	249.6	249.7	250.1	247.9	248.8	---	---	250.9	251.1	251.1	251.4
8	249.1	249.6	250.0	249.0	247.8	248.6	---	---	250.9	251.2	251.2	251.4
9	249.1	249.5	250.1	248.1	248.0	248.5	---	---	250.9	251.2	250.6	251.3
10	249.2	249.5	250.0	248.2	248.0	248.5	---	---	251.0	251.2	250.3	251.3
11	249.2	249.6	249.9	248.1	247.9	248.4	---	---	251.0	251.3	250.2	251.4
12	249.2	249.7	250.1	248.4	247.9	248.5	---	---	251.0	251.3	250.1	251.4
13	249.2	249.6	250.2	249.2	247.8	248.6	---	---	250.9	250.5	250.3	251.3
14	249.2	249.6	250.2	249.1	247.8	248.6	---	---	250.9	250.2	251.1	251.4
15	249.1	249.7	250.2	248.6	247.8	248.5	---	---	250.3	250.7	251.3	251.5
16	249.1	249.6	250.1	248.4	247.8	248.4	---	---	250.0	250.4	251.2	251.4
17	249.2	247.9	250.0	248.2	247.8	248.4	---	---	250.4	250.3	251.1	251.3
18	249.3	247.3	250.1	249.0	247.8	248.1	---	---	250.7	250.2	251.2	251.4
19	249.3	247.8	250.3	249.3	247.7	247.5	---	---	250.9	250.1	251.4	251.4
20	249.3	248.1	250.1	249.5	247.5	248.2	---	---	250.9	250.0	251.4	251.4
21	249.3	249.0	249.5	249.7	247.7	247.8	---	---	250.9	249.9	251.3	251.4
22	249.4	249.3	249.6	249.1	247.0	248.4	---	---	250.8	249.9	251.3	251.5
23	249.4	249.3	249.8	248.6	246.5	248.5	---	---	250.9	249.9	251.3	251.5
24	249.4	249.4	250.1	248.1	247.3	248.4	---	---	251.0	249.9	251.4	251.2
25	249.3	249.4	250.1	247.5	247.5	248.6	---	---	251.2	249.9	251.3	250.5
26	249.2	249.0	250.3	247.9	247.7	248.6	---	---	251.2	250.5	251.0	249.8
27	249.2	248.3	250.3	247.9	247.8	248.4	---	---	251.1	251.0	250.6	249.6
28	248.7	248.7	250.0	247.9	247.9	248.6	---	250.3	251.0	251.1	251.0	250.5
29	248.3	249.3	249.8	248.0	---	248.7	---	250.0	251.0	251.2	251.2	250.5
30	248.1	249.5	250.0	248.0	---	248.7	---	249.8	251.1	251.2	251.3	250.4
31	247.9	---	250.0	247.9	---	---	---	249.9	---	251.2	251.3	---
MEAN	249.1	249.1	249.8	248.8	247.7	---	---	---	250.8	250.7	250.9	251.2
MAX	249.4	249.7	250.3	250.1	248.0	---	---	---	251.2	251.3	251.4	251.5
MIN	247.9	247.3	248.4	247.5	246.5	---	---	---	250.0	249.9	249.9	249.6

COMPACTION, SEDIMENT, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.119	0.118	0.118	0.119	0.120	0.121	0.121	0.123	0.124	0.126	0.127	0.129
2	0.119	0.118	0.119	0.119	0.120	0.120	0.121	0.123	0.124	0.126	0.127	0.129
3	0.119	0.118	0.118	0.119	0.121	0.121	0.122	0.123	0.124	0.126	0.127	0.129
4	0.118	0.118	0.118	0.119	0.120	0.121	0.122	0.123	0.124	0.126	0.127	0.129
5	0.118	0.117	0.118	0.119	0.120	0.121	0.121	0.123	0.124	0.126	0.128	0.129
6	0.118	0.117	0.118	0.120	0.121	0.120	0.123	0.124	0.124	0.126	0.128	0.129
7	0.118	0.117	0.118	0.120	0.120	0.120	0.122	0.124	0.124	0.126	0.128	0.129
8	0.118	0.118	0.118	0.119	0.120	0.120	0.122	0.124	0.125	0.126	0.128	0.129
9	0.118	0.118	0.118	0.119	0.120	0.120	0.121	0.123	0.124	0.126	0.128	0.129
10	0.118	0.118	0.118	0.119	0.119	0.120	0.122	0.123	0.124	0.126	0.128	0.129
11	0.118	0.118	0.119	0.120	0.119	0.121	0.122	0.123	0.124	0.126	0.129	0.129
12	0.118	0.117	0.118	0.120	0.119	0.121	0.122	0.123	0.124	0.126	0.129	0.129
13	0.118	0.118	0.118	0.119	0.120	0.120	0.122	0.123	0.124	0.126	0.129	0.129
14	0.118	0.118	0.118	0.119	0.120	0.121	0.122	0.123	0.124	0.126	0.129	0.129
15	0.118	0.117	0.118	0.119	0.121	0.122	0.122	0.123	0.124	0.126	0.129	0.129
16	0.118	0.117	0.118	0.120	0.120	0.123	0.122	0.123	0.124	0.126	0.128	0.129
17	0.118	0.118	0.119	0.119	0.119	0.123	0.121	0.123	0.125	0.126	0.128	0.129
18	0.118	0.118	0.118	0.119	0.119	0.123	0.121	0.124	0.125	0.126	0.129	0.129
19	0.118	0.117	0.117	0.120	0.120	0.122	0.122	0.124	0.125	0.126	0.129	0.129
20	0.118	0.118	0.118	0.120	0.120	0.121	0.122	0.124	0.125	0.126	0.129	0.129
21	0.118	0.118	0.119	0.119	0.121	0.121	0.121	0.124	0.125	0.127	0.128	0.129
22	0.118	0.118	0.120	0.118	0.121	0.121	0.121	0.124	0.125	0.127	0.128	0.129
23	0.118	0.118	0.120	0.118	0.121	0.121	0.122	0.124	0.125	0.127	0.128	0.130
24	0.118	0.118	0.118	0.119	0.122	0.121	0.122	---	0.125	0.127	0.129	0.130
25	0.118	0.119	0.118	0.119	0.122	0.121	0.122	---	0.125	0.127	0.129	0.129
26	0.118	0.119	0.117	0.118	0.122	0.121	0.123	---	0.125	0.127	0.129	0.130
27	0.118	0.118	0.117	0.118	0.121	0.122	0.124	0.124	0.125	0.127	0.128	0.129
28	0.118	0.117	0.118	0.119	0.121	0.122	0.123	0.123	0.125	0.127	0.128	0.129
29	0.118	0.118	0.119	0.119	---	0.120	0.124	0.123	0.125	0.127	0.128	0.130
30	0.118	0.118	0.119	0.118	---	0.120	0.124	0.123	0.126	0.127	0.128	0.129
31	0.118	---	0.118	0.119	---	0.120	---	0.123	---	0.127	0.128	---
MEAN	0.118	0.118	0.118	0.119	0.120	0.121	0.122	---	0.125	0.126	0.128	0.129
MAX	0.119	0.119	0.120	0.120	0.122	0.123	0.124	---	0.126	0.127	0.129	0.130
MIN	0.118	0.117	0.117	0.118	0.119	0.120	0.121	---	0.124	0.126	0.127	0.129

GROUND-WATER LEVELS AND COMPACTION VALUES

PIMA COUNTY

321208110525001. Local number, (D-14-14)22adb1

LOCATION.--Lat 32°12'08", long 110°53'45", Hydrologic Unit 15050301, within the Tucson ground-water basin, on Belvedere Avenue south of 26th street. Owner: U.S. Geological Survey.

WELL CHARACTERISTICS.--Drilled observation well fitted with a borehole, pipe extensometer, diameter 12 in., depth 485 ft, open throughout casing.

INSTRUMENTATION.--Water-level and compaction recorders.

DATUM.--Elevation of land surface is 2,555.0 ft above sea level, from topographic map. Measuring point: Top of well 1.0 ft above land-surface datum.

REMARKS.--Water level affected by pumping from nearby wells. For previous record, contact the District Office in Tucson, AZ.

PERIOD OF RECORD.--Dec. 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 252.75 ft below land-surface datum, Jan. 24, 1980; lowest recorded, 322.7 ft below land-surface datum, Sept. 4, 2003.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	322.4	322.1	322.1	322.0	---	---	---	---	---	322.0	322.4	322.5
2	322.5	322.1	322.0	322.0	---	---	---	---	---	322.0	322.4	322.6
3	322.5	322.0	322.1	322.0	---	---	---	---	---	322.0	322.4	322.6
4	322.5	322.1	322.2	322.0	---	---	---	---	---	322.0	322.4	322.6
5	322.5	322.1	322.1	322.0	---	---	---	---	---	322.0	322.4	322.5
6	322.6	322.1	322.0	322.1	---	---	---	---	---	322.0	322.4	322.4
7	322.4	322.0	322.1	322.1	---	---	---	---	---	322.0	322.4	322.4
8	322.4	322.0	322.2	322.0	---	---	---	---	---	322.0	322.4	322.4
9	322.4	322.0	322.1	322.0	---	---	---	---	---	322.0	322.4	322.4
10	322.3	322.1	322.1	321.9	---	---	---	---	---	322.0	322.4	322.3
11	322.3	322.1	322.1	321.9	---	---	---	---	---	322.1	322.4	322.4
12	322.3	322.1	322.2	322.0	---	---	---	---	---	322.1	322.4	322.3
13	322.2	322.0	322.1	321.9	---	---	---	---	---	322.1	322.4	322.3
14	322.3	322.0	322.1	321.9	---	---	---	---	---	322.1	322.4	322.3
15	322.2	322.1	322.1	322.1	---	---	---	---	---	322.1	322.5	322.2
16	322.1	322.1	322.0	322.2	---	---	---	---	---	322.2	322.4	322.2
17	322.2	322.0	322.0	322.1	---	---	---	---	---	322.2	322.4	322.2
18	322.3	322.1	322.2	322.1	---	---	---	---	---	322.2	322.5	322.3
19	322.1	322.1	322.2	322.0	---	---	---	---	---	322.2	322.5	322.2
20	322.1	322.0	322.0	321.9	---	---	---	---	---	322.2	322.5	322.1
21	322.2	322.0	322.1	322.0	---	---	---	---	---	322.2	322.5	322.1
22	322.1	322.0	322.0	322.0	---	---	---	---	---	322.2	322.5	322.2
23	322.2	322.0	322.1	321.9	---	---	---	---	---	322.2	322.6	322.2
24	322.2	322.1	322.2	---	---	---	---	---	---	322.3	322.6	322.0
25	322.1	322.1	322.0	---	---	---	---	---	321.9	322.3	322.5	322.0
26	322.1	322.2	322.1	---	---	---	---	---	321.8	322.3	322.5	322.0
27	322.2	322.2	322.1	---	---	---	---	---	321.8	322.3	322.5	322.1
28	322.1	322.1	322.0	---	---	---	---	321.7	321.8	322.4	322.5	322.1
29	322.1	322.1	322.0	---	---	---	---	321.6	321.9	322.4	322.5	322.1
30	322.2	322.1	322.2	---	---	---	---	321.6	321.9	322.4	322.5	322.1
31	322.1	---	322.0	---	---	---	---	321.6	---	322.4	322.5	---
MEAN	322.3	322.1	322.1	---	---	---	---	---	---	322.2	322.5	322.3
MAX	322.6	322.2	322.2	---	---	---	---	---	---	322.4	322.6	322.6
MIN	322.1	322.0	322.0	---	---	---	---	---	---	322.0	322.4	322.0

COMPACTION, SEDIMENT, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.303	0.305	0.306	0.309	0.311	---	0.314	0.314	0.316	0.318	0.320	0.322
2	0.303	0.305	0.307	0.308	0.312	---	0.314	0.314	0.316	0.318	0.320	0.322
3	0.303	0.305	0.306	0.309	0.310	---	0.313	0.314	0.316	0.318	0.320	0.322
4	0.303	0.305	0.306	0.309	0.311	---	0.313	0.314	0.316	0.318	0.320	0.322
5	0.303	0.303	0.307	0.309	0.312	---	0.314	0.314	0.316	0.318	0.320	0.322
6	0.303	0.304	0.307	0.310	0.310	---	0.314	0.314	0.316	0.318	0.320	0.322
7	0.303	0.305	0.307	0.309	0.311	---	0.313	0.314	0.316	0.318	0.320	0.322
8	0.303	0.305	0.306	0.308	0.312	---	0.312	0.314	0.316	0.318	0.320	0.322
9	0.303	0.305	0.306	0.310	0.310	---	0.312	0.314	0.316	0.318	0.320	0.322
10	0.303	0.305	0.307	0.310	0.311	---	0.313	0.314	0.316	0.318	0.320	0.322
11	0.303	0.305	0.307	0.310	0.312	---	0.313	0.314	0.316	0.318	0.320	0.322
12	0.303	0.304	0.305	0.310	0.312	---	0.312	0.314	0.317	0.319	0.320	0.322
13	0.303	0.305	0.306	0.308	0.312	---	0.313	0.314	0.316	0.319	0.320	0.322
14	0.303	0.305	0.307	0.309	0.313	---	0.313	0.314	0.316	0.319	0.320	0.321
15	0.304	0.305	0.307	0.310	0.312	---	0.313	0.314	0.317	0.319	0.321	0.321
16	0.304	0.305	0.308	0.310	0.312	---	0.312	0.314	0.317	0.319	0.321	0.321
17	0.304	0.306	0.308	0.309	0.312	---	0.312	0.314	0.317	0.319	0.321	0.322
18	0.304	0.304	0.306	0.310	0.313	---	0.313	0.314	0.317	0.319	0.321	0.322
19	0.304	0.305	0.304	0.310	0.313	---	0.313	0.314	0.317	0.319	0.321	0.322
20	0.303	0.305	0.308	0.310	---	---	0.313	0.314	0.317	0.319	0.321	0.322
21	0.304	0.305	0.308	0.310	---	---	0.312	0.314	0.317	0.319	0.321	0.322
22	0.304	0.306	0.309	0.310	---	0.313	0.313	0.314	0.317	0.319	0.321	0.321
23	0.304	0.306	0.308	0.311	---	0.314	0.313	0.315	0.317	0.319	0.321	0.322
24	0.304	0.306	0.305	0.311	---	0.314	0.313	0.315	0.318	0.319	0.321	0.322
25	0.305	0.306	0.307	0.311	---	0.313	0.314	0.315	0.317	0.319	0.321	0.322
26	0.305	0.306	0.307	0.310	---	0.313	0.314	0.315	0.318	0.319	0.321	0.322
27	0.304	0.305	0.307	0.311	---	0.314	0.314	0.315	0.318	0.319	0.321	0.322
28	0.304	0.305	0.309	0.311	---	0.313	0.314	0.315	0.318	0.320	0.322	0.322
29	0.305	0.306	0.309	0.311	---	0.311	0.314	0.315	0.318	0.320	0.322	0.322
30	0.305	0.306	0.308	0.311	---	0.312	0.314	0.316	0.318	0.320	0.322	0.322
31	0.304	---	0.307	0.311	---	0.314	---	0.316	---	0.320	0.322	---
MEAN	0.304	0.305	0.307	0.310	---	---	0.313	0.314	0.317	0.319	0.321	0.322
MAX	0.305	0.306	0.309	0.311	---	---	0.314	0.316	0.318	0.320	0.322	0.322
MIN	0.303	0.303	0.304	0.308	---	---	0.312	0.314	0.316	0.318	0.320	0.321

GROUND-WATER LEVELS AND COMPACTION VALUES

PIMA COUNTY

321142110530301. Local Number, (D-14-14)23cba

LOCATION.--Lat 32°11'57", long 110°53'15", Hydrologic Unit 15050301, within the Tucson ground-water basin, on 29th Street and Swan at Freedom Park. Owner: U.S. Geological Survey.

WELL CHARACTERISTICS.--Drilled observation well fitted with a borehole, pipe extensometer, diameter 16 in., depth 1,030 ft, open throughout casing.

INSTRUMENTATION.--Water-level and compaction recorders.

DATUM.--Elevation of land surface is 2,592.0 ft above sea level, from topographic map. Measuring point: Top of casing 1.0 ft above land-surface datum.

REMARKS.--Water level affected by pumping from nearby wells. For previous record, contact the District Office in Tucson, AZ.

PERIOD OF RECORD.--Mar. 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 270.4 ft below land-surface datum, Apr. 9, 1980; lowest recorded, 332.4 ft below land-surface datum, Sept. 30, 2003.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	331.0	330.9	331.2	331.2	331.4	---	---	331.6	331.8	332.2	332.2
2	---	331.0	330.9	331.2	331.1	331.4	---	---	331.6	331.9	332.1	332.2
3	---	331.0	331.0	331.2	331.3	331.4	---	---	331.7	331.9	332.1	332.3
4	---	331.0	331.0	331.2	331.2	331.4	---	---	331.7	331.9	332.1	332.3
5	---	331.1	330.9	331.2	331.2	331.5	---	---	331.7	331.9	332.1	332.3
6	---	331.0	330.9	331.2	331.2	331.5	---	---	331.7	331.9	332.1	332.3
7	---	331.0	330.9	331.3	331.2	331.4	---	---	331.6	331.9	332.2	332.2
8	---	331.0	331.0	331.2	331.2	331.5	---	---	331.7	331.9	332.2	332.3
9	---	331.0	331.0	331.2	331.3	331.5	---	---	331.7	331.9	332.2	332.3
10	---	331.0	330.9	331.2	331.2	331.4	---	---	331.7	331.9	332.2	332.3
11	---	331.1	331.0	331.2	331.2	331.5	---	---	331.7	332.0	332.2	332.3
12	---	331.1	331.1	331.3	331.2	331.5	---	---	331.7	332.0	332.2	332.2
13	---	331.0	331.0	331.2	331.1	331.6	---	---	331.7	332.0	332.3	332.3
14	---	331.0	330.9	331.2	331.2	331.5	---	---	331.7	332.0	332.3	332.3
15	---	331.1	330.9	331.2	331.3	331.5	---	---	331.7	332.1	332.3	332.3
16	---	331.1	330.9	331.3	331.3	331.5	---	---	331.7	332.1	332.2	332.3
17	---	331.0	330.8	331.2	331.2	331.5	---	---	331.7	332.2	332.2	332.3
18	---	331.1	331.1	331.2	331.2	331.7	---	---	331.7	332.1	332.3	332.3
19	---	331.1	331.3	331.3	331.2	331.7	---	---	331.7	332.1	332.3	332.3
20	---	331.0	331.1	331.2	331.1	331.6	---	---	331.8	332.1	332.3	332.3
21	330.8	330.9	331.1	331.2	331.3	---	---	---	331.8	332.1	332.2	332.3
22	330.9	330.9	331.0	331.2	331.2	---	---	---	331.7	332.2	332.3	332.3
23	330.9	330.8	331.1	331.0	331.2	---	---	---	331.8	332.2	332.3	332.4
24	330.9	330.9	331.3	331.0	331.3	---	---	---	331.9	332.2	332.3	332.3
25	330.8	330.9	331.2	331.0	331.3	---	---	---	331.8	332.2	332.3	332.3
26	330.9	330.9	331.2	331.1	331.3	---	---	---	331.8	332.2	332.3	332.3
27	331.0	331.0	331.2	331.0	331.3	---	---	---	331.8	332.2	332.2	332.3
28	331.0	331.0	331.1	331.1	331.3	---	---	331.6	331.8	332.2	332.1	332.3
29	331.0	330.9	331.1	331.2	---	---	---	331.6	331.9	332.2	332.1	332.3
30	331.0	331.0	331.3	331.2	---	---	---	331.6	331.9	332.2	332.1	332.4
31	331.0	---	331.2	331.2	---	---	---	331.6	---	332.2	332.1	---
MEAN	---	331.0	331.0	331.2	331.2	---	---	---	331.7	332.1	332.2	332.3
MAX	---	331.1	331.3	331.3	331.3	---	---	---	331.9	332.2	332.3	332.4
MIN	---	330.8	330.8	331.0	331.1	---	---	---	331.6	331.8	332.1	332.2

COMPACTION, SEDIMENT, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.239	0.241	0.241	0.241	0.241	0.241	---	---	0.242	---	0.247	0.250
2	0.239	0.241	0.241	0.241	0.241	0.241	---	0.242	0.242	---	0.247	0.250
3	0.239	0.241	0.241	0.241	0.241	0.241	---	0.242	0.242	---	0.247	0.250
4	0.239	0.241	0.241	0.241	0.241	0.241	---	0.242	0.241	---	0.247	0.250
5	0.239	0.241	0.241	0.241	0.241	0.241	---	0.242	0.241	---	0.247	0.250
6	0.239	0.241	0.241	0.241	0.241	0.241	---	0.242	0.241	---	0.247	0.250
7	0.239	0.241	0.241	0.241	0.241	0.241	---	0.242	0.243	---	0.247	0.250
8	0.239	0.240	0.241	0.241	0.241	0.241	---	0.242	0.241	---	0.247	0.250
9	0.239	0.240	0.241	0.241	0.241	0.241	---	0.242	0.241	---	0.248	0.250
10	0.239	0.240	0.241	0.241	0.241	0.241	---	0.242	0.241	---	0.248	0.251
11	0.239	0.240	0.241	0.241	0.241	0.241	---	0.242	0.241	---	0.249	0.251
12	0.239	0.240	0.241	0.241	0.241	0.241	---	0.242	0.241	---	0.249	0.251
13	0.239	0.241	0.241	0.241	0.241	0.241	---	0.242	0.241	---	0.249	0.251
14	0.239	0.240	0.241	0.241	0.241	0.241	---	0.242	0.241	---	0.249	0.251
15	0.239	0.240	0.241	0.241	0.241	0.241	---	0.242	0.241	---	0.249	0.251
16	0.239	0.240	0.241	0.241	0.241	0.241	---	0.242	0.241	---	0.249	0.251
17	0.239	0.240	0.241	0.241	0.241	0.241	---	0.242	0.240	---	0.249	0.251
18	0.239	0.240	0.241	0.241	0.241	0.241	---	0.242	0.240	---	0.249	0.251
19	0.239	0.240	0.241	0.241	0.241	0.241	---	0.242	0.240	---	0.249	0.251
20	0.239	0.240	0.241	0.241	0.241	0.241	---	0.242	0.240	---	0.249	0.251
21	0.240	0.240	0.241	0.241	0.241	---	---	0.242	0.240	---	0.249	0.251
22	0.241	0.241	0.241	0.241	0.241	---	---	0.242	0.240	---	0.249	0.251
23	0.241	0.241	0.241	0.241	0.241	---	---	0.242	0.240	---	0.249	0.251
24	0.241	0.241	0.241	0.241	0.241	---	---	0.242	---	---	0.249	0.251
25	0.241	0.241	0.241	0.241	0.241	---	---	0.242	---	---	0.249	0.251
26	0.241	0.241	0.241	0.241	0.241	---	---	0.242	---	---	0.250	0.252
27	0.241	0.241	0.241	0.241	0.241	---	---	0.242	---	---	0.250	0.252
28	0.241	0.241	0.241	0.241	0.241	---	---	0.242	---	---	0.250	0.252
29	0.241	0.241	0.241	0.241	---	---	---	0.242	---	---	0.249	0.252
30	0.241	0.241	0.241	0.241	---	---	---	0.242	---	0.247	0.250	0.252
31	0.241	---	0.241	0.241	---	---	---	0.242	---	0.247	0.250	---
MEAN	0.240	0.241	0.241	0.241	0.241	---	---	---	---	---	0.249	0.251
MAX	0.241	0.241	0.241	0.241	0.241	---	---	---	---	---	0.250	0.252
MIN	0.239	0.240	0.241	0.241	0.241	---	---	---	---	---	0.247	0.250

GROUND-WATER LEVELS AND COMPACTION VALUES

PIMA COUNTY

321058110563301. Local number, (D-14-14)29cbc

LOCATION.--Lat 32°10'58", long 110°56'33", Hydrologic Unit 15050301, within the Tucson ground-water basin, on the northeast corner of Campbell and Granito Vista. Owner: U.S. Geological Survey.

WELL CHARACTERISTICS.--Drilled observation well fitted with a borehole, pipe extensometer, diameter 16 in., depth 885 ft, open throughout casing.

INSTRUMENTATION.--Water-level and compaction recorders.

DATUM.--Elevation of land surface is 2,502.0 ft above sea level, from topographic map. Measuring point: Top of casing 2.6 ft above land-surface datum.

REMARKS.--Water level affected by pumping from nearby wells. For previous record, contact the District Office in Tucson, AZ.

PERIOD OF RECORD.--Apr. 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 191.9 ft below land-surface datum, Apr. 10, 1981; lowest recorded, 230.3 ft below land-surface datum, July 28, 2003.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	226.5	227.4	227.3	227.0	226.7	226.8	226.8	226.7	229.1	229.6	228.7	227.2
2	226.6	227.4	227.2	227.0	226.6	226.9	226.8	226.7	229.2	229.6	228.6	227.2
3	226.8	227.2	227.2	227.1	226.8	226.8	226.9	226.6	229.2	229.4	228.5	227.2
4	226.6	227.2	227.4	227.1	226.7	226.7	226.8	226.6	229.1	229.3	228.4	227.3
5	226.6	227.4	227.4	227.1	226.7	226.9	226.7	226.6	229.1	229.4	228.3	227.3
6	226.7	227.5	227.3	227.0	226.8	227.0	226.8	226.6	229.1	229.4	228.3	227.4
7	226.6	227.3	227.2	227.3	226.7	226.8	226.9	226.5	229.0	229.5	228.3	227.4
8	226.6	227.3	227.3	227.2	226.6	226.8	226.9	226.6	229.0	229.7	228.3	227.4
9	226.6	227.2	227.4	227.2	226.8	226.8	226.8	226.6	229.3	229.6	228.3	227.5
10	226.6	227.2	227.2	227.2	226.8	226.7	226.8	226.7	229.4	229.7	228.4	227.5
11	226.6	227.3	227.2	227.3	226.7	226.7	226.9	226.8	229.4	229.7	228.4	227.6
12	226.8	227.3	227.3	227.5	226.7	226.7	226.8	226.9	229.4	229.8	228.3	227.4
13	226.8	227.3	227.3	227.5	226.6	226.8	226.9	226.8	229.4	229.7	228.3	227.4
14	226.7	227.3	227.4	227.5	226.6	226.6	226.9	227.0	229.5	229.6	228.4	227.4
15	226.8	227.4	227.4	228.1	226.7	226.6	227.0	227.9	229.4	229.6	228.5	227.5
16	227.6	227.5	227.2	227.7	226.8	226.5	226.9	228.5	229.4	229.7	228.4	227.5
17	228.2	227.2	227.0	227.3	226.8	226.5	226.8	228.6	229.4	229.8	228.3	227.4
18	228.9	227.5	227.2	227.2	226.8	226.5	226.8	228.0	229.4	229.9	228.3	227.5
19	229.1	227.5	227.5	227.3	226.8	226.7	226.9	227.7	229.4	229.9	228.4	227.5
20	229.2	227.4	227.2	227.1	226.6	226.9	226.8	227.5	229.4	229.9	228.4	227.4
21	229.3	227.4	227.2	227.1	226.9	226.8	226.8	227.6	229.5	229.8	228.3	227.4
22	229.1	227.4	227.1	227.1	226.8	227.0	226.7	228.4	229.5	229.8	228.2	227.5
23	228.3	227.2	227.1	227.0	226.7	226.9	226.9	228.5	229.4	229.8	228.2	227.7
24	227.9	227.3	227.4	226.8	226.7	226.8	226.8	227.8	229.6	229.8	228.0	227.6
25	227.7	227.2	227.3	226.9	226.7	227.1	226.7	227.5	229.8	229.9	227.7	227.8
26	227.5	227.2	227.4	227.0	226.7	227.0	226.6	227.5	229.7	230.2	227.6	227.8
27	227.6	227.4	227.4	226.9	226.8	226.7	226.7	227.5	229.6	230.2	227.7	227.9
28	227.6	227.4	227.1	226.8	226.8	227.0	226.7	228.2	229.8	230.1	227.6	227.9
29	227.5	227.3	226.9	226.9	---	227.2	226.6	228.6	229.8	229.4	227.3	227.9
30	227.5	227.3	227.1	226.9	---	227.1	226.7	228.9	229.7	228.9	227.3	228.0
31	227.5	---	227.1	226.8	---	226.9	---	229.0	---	228.8	227.2	---
MEAN	227.4	227.3	227.2	227.2	226.7	226.8	226.8	227.5	229.4	229.7	228.2	227.5
MAX	229.3	227.5	227.5	228.1	226.9	227.2	227.0	229.0	229.8	230.2	228.7	228.0
MIN	226.5	227.2	226.9	226.8	226.6	226.5	226.6	226.5	229.0	228.8	227.2	227.2

COMPACTION, SEDIMENT, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	0.347	0.351	0.352	0.353	0.354	---	---	0.359	---	0.365	0.367
2	---	0.347	0.351	0.352	0.353	0.354	---	---	0.360	---	0.365	0.367
3	---	0.347	0.351	0.352	0.353	0.354	---	---	0.361	---	0.365	0.367
4	---	0.347	0.351	0.352	0.353	0.354	---	---	0.361	---	0.365	0.367
5	---	0.347	0.351	0.352	0.353	0.354	---	---	0.361	---	0.365	0.367
6	---	0.347	0.351	0.352	0.353	0.354	---	---	0.361	---	0.366	0.367
7	---	0.347	0.351	0.352	0.353	0.354	---	---	0.362	---	0.366	0.367
8	---	0.347	0.351	0.352	0.353	0.354	---	---	0.362	---	0.366	0.367
9	---	0.347	0.351	0.352	0.354	0.354	---	---	0.362	---	0.366	0.367
10	---	0.347	0.351	0.352	0.354	0.354	---	---	0.362	---	0.366	0.368
11	---	0.347	0.351	0.352	0.354	0.354	---	---	0.362	---	0.366	0.368
12	---	0.347	0.351	0.352	0.354	0.354	---	---	0.363	---	0.366	0.368
13	---	0.347	0.351	0.352	0.354	0.354	---	---	0.363	---	0.367	0.368
14	---	0.347	0.351	0.352	0.354	0.355	---	---	0.363	---	0.367	0.368
15	---	0.347	0.351	0.352	0.354	0.355	---	---	0.364	---	0.367	0.368
16	---	0.348	0.351	0.352	0.354	0.355	---	---	0.364	---	0.367	0.368
17	---	0.348	0.351	0.352	0.354	0.355	---	---	0.364	---	0.367	0.368
18	---	0.348	0.351	0.352	0.354	0.355	---	---	0.364	---	0.367	0.368
19	---	---	0.351	0.352	0.354	0.356	---	---	0.365	---	0.367	0.368
20	---	---	0.351	0.352	0.354	0.356	---	---	0.365	---	0.367	0.369
21	---	0.351	0.351	0.352	0.354	0.356	---	---	0.365	---	0.367	0.369
22	0.347	0.351	0.351	0.353	0.354	0.356	---	---	0.366	---	0.367	0.369
23	0.347	0.351	0.351	0.353	0.354	0.356	---	---	0.366	---	0.367	0.369
24	0.347	0.351	0.351	0.353	0.354	---	---	---	---	---	0.367	0.369
25	0.347	0.351	0.351	0.353	0.354	---	---	---	---	---	0.367	0.369
26	0.347	0.351	0.351	0.353	0.354	---	---	---	---	---	0.367	0.369
27	0.347	0.351	0.352	0.353	0.354	---	---	---	---	---	0.367	0.369
28	0.347	0.351	0.352	0.353	0.354	---	0.358	---	---	---	0.367	0.369
29	0.347	0.351	0.352	0.353	---	---	0.358	---	---	---	0.367	0.369
30	0.347	0.351	0.352	0.353	---	---	0.358	---	---	---	0.367	0.369
31	0.347	---	0.352	0.353	---	---	0.359	---	0.365	0.367	---	---
MEAN	---	---	0.351	0.352	0.354	---	---	---	---	---	0.366	0.368
MAX	---	---	0.352	0.353	0.354	---	---	---	---	---	0.367	0.369
MIN	---	---	0.351	0.352	0.353	---	---	---	---	---	0.365	0.367

GROUND-WATER LEVELS AND COMPACTION VALUES

PINAL COUNTY

32102811100301. Local number, (D-14-11)36aac

LOCATION.--Lat 32°10'28", long 111°10'03", Hydrologic Unit 15050304, within the Avra Valley ground-water basin, approximately 3 mi north of Ajo Highway on Bopp Road along CAP canal. Owner: U.S. Geological Survey.

WELL CHARACTERISTICS.--Drilled observation well fitted with a borehole, pipe extensometer, diameter 11.9 in., depth 1,400 ft, open throughout casing.

INSTRUMENTATION.--Water-level and compaction recorders.

DATUM.--Elevation of land surface is 2,377 ft above sea level, from topographic map. Measuring point: Top of casing 0.6 ft above land-surface datum.

REMARKS.--Water level affected by pumping from nearby wells. For previous record, contact the District Office in Tucson, AZ.

PERIOD OF RECORD.--April 1989 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 400.2 ft below land-surface datum, May 1, 1989; lowest recorded, 437.2 ft below land-surface datum, Sept. 30, 2003.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003 DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	434.6	434.9	435.1	435.5	435.6	436.1	436.5	436.8
2	---	---	---	---	434.6	434.9	435.1	435.5	435.6	436.1	436.4	436.8
3	---	---	---	---	434.8	434.9	435.2	435.4	435.7	436.1	436.4	436.8
4	---	---	---	---	434.7	434.8	435.2	435.5	435.7	436.1	436.5	436.9
5	---	---	---	---	434.6	435.0	435.2	435.4	435.8	436.2	436.5	436.9
6	---	---	---	---	434.7	435.0	435.3	435.5	435.8	436.1	436.5	436.8
7	---	---	---	---	434.7	434.9	435.3	435.5	435.8	436.2	436.5	436.8
8	---	---	---	---	434.7	435.0	435.3	435.6	435.8	436.2	436.5	436.8
9	---	---	---	---	434.8	435.0	435.2	435.6	435.9	436.2	436.5	436.8
10	---	---	---	---	434.8	434.9	435.2	435.6	435.9	436.2	436.5	436.9
11	---	---	---	---	434.7	434.9	435.3	435.6	435.9	436.3	436.5	436.9
12	---	---	---	---	434.7	435.0	435.3	435.6	435.8	436.3	436.5	436.9
13	---	---	---	---	434.7	435.1	435.3	435.6	435.9	436.2	436.5	436.9
14	---	---	---	---	434.7	435.0	435.3	435.6	435.9	436.2	436.6	437.0
15	---	---	---	---	434.9	435.0	435.3	435.6	435.9	436.2	436.6	437.0
16	---	---	---	---	434.9	434.9	435.3	435.6	435.9	436.3	436.5	436.9
17	---	---	---	---	434.8	435.0	435.2	435.6	435.9	436.4	436.4	436.9
18	---	---	---	---	434.8	435.1	435.3	435.6	435.9	436.4	436.5	437.0
19	---	---	---	---	434.8	435.1	435.4	435.7	435.9	436.3	436.6	437.0
20	---	---	---	---	434.7	435.1	435.3	435.7	436.0	436.3	436.6	437.0
21	---	---	---	---	434.9	435.1	435.3	435.7	436.0	436.3	436.5	437.0
22	---	---	---	---	434.8	435.2	435.3	435.7	436.0	436.3	436.5	437.0
23	---	---	---	---	434.7	435.1	435.4	435.6	435.9	436.3	436.6	437.1
24	---	---	---	---	434.8	435.1	435.4	435.6	436.0	436.3	436.6	437.1
25	---	---	---	---	434.8	435.2	435.4	435.6	436.1	436.4	436.6	437.1
26	---	---	---	---	434.9	435.1	435.4	435.6	436.1	436.4	436.6	437.0
27	---	---	---	---	434.9	435.0	435.4	435.6	436.1	436.4	436.6	437.1
28	---	---	---	---	434.9	435.2	435.4	435.7	436.1	436.4	436.7	437.1
29	---	---	---	---	---	435.4	435.4	435.6	436.1	436.4	436.7	437.1
30	---	---	---	---	---	435.2	435.4	435.6	436.2	436.4	436.8	437.2
31	---	---	---	434.6	---	435.0	---	435.6	---	436.4	436.8	---
MEAN	---	---	---	---	434.8	435.0	435.3	435.6	435.9	436.3	436.6	437.0
MAX	---	---	---	---	434.9	435.4	435.4	435.7	436.2	436.4	436.8	437.2
MIN	---	---	---	---	434.6	434.8	435.1	435.4	435.6	436.1	436.4	436.8

COMPACTION, SEDIMENT, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003 DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.026	0.029	0.031	0.029	0.033	0.030	0.027	---	0.029	0.030	---	0.030
2	0.026	0.029	0.031	0.029	0.033	0.030	0.027	---	0.029	0.030	---	0.030
3	0.026	0.030	0.030	0.030	0.033	0.029	0.027	---	0.029	0.030	---	0.030
4	0.027	0.030	0.030	0.030	0.032	0.030	0.027	---	0.029	0.030	---	0.030
5	0.028	0.029	0.030	0.030	0.032	0.029	0.027	---	0.029	0.031	---	0.030
6	0.028	0.029	0.031	0.030	0.032	0.028	0.027	---	0.029	0.030	---	0.030
7	0.028	0.030	0.031	0.031	0.032	0.029	0.027	---	0.029	0.030	---	0.029
8	0.028	0.030	0.031	0.030	0.032	0.029	0.027	---	0.029	0.031	---	0.029
9	0.028	0.030	0.031	0.030	0.032	0.028	0.027	0.027	0.029	0.031	---	0.029
10	0.028	0.030	0.031	0.030	0.032	0.029	0.027	0.027	0.029	0.031	---	0.030
11	0.028	0.030	0.031	0.030	0.032	0.029	0.027	0.027	0.030	0.031	---	0.030
12	0.028	0.030	0.030	0.030	0.032	0.029	0.027	0.028	0.030	0.031	---	0.029
13	0.028	0.030	0.030	0.030	0.031	0.028	0.027	0.028	0.030	0.030	---	0.030
14	0.028	0.030	0.030	0.030	0.031	0.029	0.027	0.028	0.030	0.030	---	0.030
15	0.029	0.030	0.031	0.030	0.031	0.029	0.027	0.028	0.030	0.031	---	0.030
16	0.029	0.030	0.031	0.030	0.031	0.029	0.027	0.028	0.030	0.031	---	0.030
17	0.029	0.031	0.031	0.030	0.031	0.028	0.027	0.028	0.030	0.031	---	0.030
18	0.029	0.030	0.030	0.030	0.031	0.028	0.027	0.028	0.030	0.031	---	0.030
19	0.029	0.030	0.028	0.030	0.031	0.028	0.027	0.028	0.030	0.031	---	0.030
20	0.029	0.031	0.029	0.030	0.030	0.027	0.028	0.028	0.030	0.030	---	0.030
21	0.029	0.031	0.030	0.030	0.030	0.027	0.028	0.028	0.030	0.031	---	0.030
22	0.029	0.031	0.030	0.032	0.030	0.027	0.027	0.028	0.030	0.031	---	0.030
23	0.029	0.031	0.030	0.034	0.030	0.027	0.027	0.028	0.030	0.031	---	0.030
24	0.029	0.031	0.028	0.034	0.031	0.028	---	0.028	0.030	0.030	---	0.030
25	0.029	0.031	0.028	0.034	0.030	0.027	---	0.028	0.030	0.031	---	0.031
26	0.029	0.031	0.028	0.034	0.030	0.027	---	0.028	0.030	0.031	---	0.030
27	0.029	0.031	0.028	0.033	0.030	0.027	---	0.028	0.030	0.031	---	0.030
28	0.029	0.031	0.029	0.033	0.030	0.027	---	0.029	0.030	---	---	0.030
29	0.029	0.031	0.030	0.033	---	0.025	---	0.029	0.030	---	0.030	0.030
30	0.029	0.031	0.029	0.033	---	0.026	---	0.029	0.031	---	0.030	0.030
31	0.029	---	0.028	0.033	---	0.027	---	0.029	---	---	0.030	---
MEAN	0.028	0.030	0.030	0.031	0.031	0.028	---	---	0.030	---	---	0.030
MAX	0.029	0.031	0.031	0.034	0.033	0.030	---	---	0.031	---	---	0.031
MIN	0.026	0.029	0.028	0.029	0.030	0.025	---	---	0.029	---	---	0.029

GROUND-WATER LEVELS AND COMPACTION VALUES

PIMA COUNTY

32094411125701. Local number, (D-14-11)34ccc

LOCATION.--Lat 32°09'44", long 111°12'57", Hydrologic Unit 15050304, within the Avra Valley ground-water basin, approximately 2.5 mi north of Ajo Way (Highway 86), on northeast corner of Sandario and Snyder Hill. Owner: U.S. Geological Survey.

WELL CHARACTERISTICS.--Drilled observation well fitted with a borehole, pipe extensometer, diameter 20 in., depth 780 ft, open throughout casing.

INSTRUMENTATION.--Water-level and compaction recorders.

DATUM.--Elevation of land surface is 2,322.0 ft above sea level, from topographic map. Measuring point: Top of casing 1.0 ft above land-surface datum.

REMARKS.--Water level affected by pumping from nearby wells. For previous record, contact the District Office in Tucson, AZ.

PERIOD OF RECORD.--Aug. 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 335.59 ft below land-surface datum, May 26, 1985; lowest recorded, 407.6 ft below land-surface datum, Sept. 25, 2003.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	405.7	406.2	404.8	404.4	403.2	403.1	401.4	401.8	403.5	405.4	406.4	407.0
2	405.7	406.2	404.6	404.5	403.1	403.1	401.3	401.8	403.5	405.4	406.3	407.0
3	405.9	406.1	404.7	404.4	403.3	403.0	401.4	401.9	403.6	405.4	406.3	407.1
4	405.9	406.2	404.7	404.4	403.2	402.9	401.5	401.9	403.6	405.4	406.3	407.2
5	405.9	406.3	404.6	404.2	403.1	403.0	401.4	401.9	403.7	405.5	406.3	407.2
6	405.9	406.3	404.6	404.2	403.2	403.0	401.5	401.9	403.8	405.5	406.4	407.2
7	405.9	406.2	404.5	404.3	403.2	402.9	401.5	402.0	403.9	405.5	406.4	407.1
8	405.9	406.1	404.5	404.3	403.2	403.0	401.5	402.1	403.9	405.6	406.5	407.1
9	405.9	406.0	404.5	404.2	403.3	402.9	401.4	402.1	404.0	405.6	406.5	407.1
10	406.1	406.0	404.3	404.2	403.3	402.8	401.4	402.2	404.1	405.7	406.6	407.2
11	406.1	406.1	404.3	404.2	403.2	402.7	401.5	402.2	404.2	405.8	406.6	407.2
12	406.2	406.2	404.4	404.3	403.3	402.7	401.5	402.3	404.3	405.8	406.6	407.2
13	406.1	406.1	404.4	404.2	403.2	402.7	401.5	402.3	404.4	405.8	406.7	407.1
14	406.1	406.1	404.3	404.1	403.2	402.6	401.5	402.3	404.5	405.8	406.7	407.3
15	406.0	406.1	404.3	404.0	403.3	402.5	401.6	402.4	404.5	405.8	406.8	407.3
16	406.0	406.1	404.2	404.0	403.4	402.4	401.6	402.4	404.6	405.9	406.7	407.3
17	406.0	405.9	404.1	403.9	403.3	402.4	401.5	402.5	404.6	406.0	406.6	407.2
18	406.1	405.9	404.3	403.9	403.3	402.4	401.5	402.5	404.6	406.0	406.7	407.3
19	406.2	405.9	404.6	403.9	403.2	402.5	401.6	402.6	404.7	406.0	406.8	407.4
20	406.1	405.8	404.3	403.8	403.0	402.5	401.5	402.7	404.7	406.0	406.8	407.4
21	406.1	405.7	404.4	403.7	403.2	402.4	401.5	402.7	404.8	406.0	406.8	407.4
22	406.2	405.5	404.2	403.7	403.2	402.5	401.5	402.8	404.9	406.1	406.8	407.4
23	406.3	405.4	404.3	403.6	403.1	402.3	401.6	402.9	404.9	406.1	406.8	407.6
24	406.3	405.4	404.7	403.5	403.1	402.2	401.6	402.9	405.0	406.1	406.9	407.6
25	406.2	405.3	404.6	403.5	403.1	402.3	401.6	402.9	405.2	406.2	406.9	407.6
26	406.2	405.3	404.7	403.6	403.1	401.7	401.6	403.1	405.3	406.2	406.9	407.4
27	406.4	405.4	404.7	403.4	403.2	401.4	401.6	403.2	405.3	406.2	406.9	407.4
28	406.4	405.3	404.5	403.3	403.2	401.6	401.7	403.3	405.2	406.3	406.9	407.4
29	406.3	404.9	404.3	403.4	--	401.8	401.7	403.3	405.3	406.3	406.9	407.3
30	406.3	404.8	404.5	403.4	--	401.7	401.7	403.4	405.4	406.4	406.9	407.3
31	406.2	--	404.4	403.3	--	401.5	--	403.4	--	406.4	406.9	--
TOTAL	12588.6	12174.8	12538.3	12521.8	11289.7	12476.5	12045.7	12477.7	12134.0	12582.2	12606.6	12218.3
MEAN	406.1	405.8	404.5	403.9	403.2	402.5	401.5	402.5	404.5	405.9	406.7	407.3
MAX	406.4	406.3	404.8	404.5	403.4	403.1	401.7	403.4	405.4	406.4	406.9	407.6
MIN	405.7	404.8	404.1	403.3	403.0	401.4	401.3	401.8	403.5	405.4	406.3	407.0
MED	406.1	406.0	404.5	404.0	403.2	402.5	401.5	402.4	404.5	405.9	406.7	407.3

COMPACTION, SEDIMENT, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.118	0.119	0.120	0.116	0.120	0.115	0.117	0.115	0.115	0.118	0.120	0.121
2	0.118	0.119	0.122	0.115	0.121	0.115	0.118	0.115	0.115	0.118	0.120	0.121
3	0.116	0.119	0.120	0.115	0.119	0.114	0.117	0.115	0.115	0.118	0.121	0.121
4	0.116	0.120	0.118	0.116	0.118	0.117	0.116	0.115	0.116	0.118	0.121	0.121
5	0.117	0.116	0.119	0.116	0.120	0.119	0.117	0.116	0.115	0.118	0.121	0.120
6	0.117	0.115	0.121	0.118	0.119	0.115	0.115	0.116	0.115	0.118	0.121	0.120
7	0.117	0.116	0.121	0.118	0.118	0.116	0.114	0.116	0.115	0.118	0.120	0.120
8	0.118	0.118	0.120	0.115	0.119	0.117	0.114	0.116	0.116	0.118	0.120	0.121
9	0.118	0.119	0.119	0.116	0.117	0.115	0.116	0.115	0.115	0.118	0.120	0.121
10	0.118	0.119	0.121	0.117	0.114	0.117	0.116	0.115	0.115	0.119	0.120	0.120
11	0.118	0.118	0.121	0.117	0.116	0.118	0.115	0.114	0.115	0.119	0.120	0.120
12	0.117	0.117	0.118	0.118	0.117	0.119	0.116	0.114	0.116	0.120	0.120	0.120
13	0.118	0.118	0.118	0.115	0.118	0.117	0.116	0.114	0.116	0.119	0.120	0.121
14	0.118	0.119	0.119	0.113	0.119	0.118	0.116	0.115	0.115	0.119	0.121	0.120
15	0.119	0.117	0.120	0.114	0.119	0.119	0.115	0.115	0.116	0.119	0.120	0.120
16	0.119	0.116	0.121	0.117	0.115	0.121	0.115	0.116	0.116	0.119	0.120	0.120
17	0.120	0.119	0.122	0.116	0.115	0.121	0.116	0.115	0.116	0.119	0.120	0.120
18	0.119	0.118	0.119	0.116	0.116	0.121	0.117	0.116	0.116	0.120	0.120	0.120
19	0.118	0.117	0.111	0.118	0.117	0.118	0.115	0.116	0.117	0.120	0.120	0.120
20	0.119	0.119	0.115	0.118	0.117	0.115	0.115	0.116	0.117	0.119	0.120	0.120
21	0.120	0.120	0.117	0.116	0.120	0.116	0.117	0.116	0.116	0.119	0.120	0.121
22	0.119	0.121	0.119	0.117	0.116	0.114	0.117	0.116	0.116	0.120	0.120	0.120
23	0.119	0.122	0.119	0.119	0.117	0.116	0.115	0.116	0.117	0.120	0.120	0.120
24	0.119	0.122	0.112	0.120	0.119	0.118	0.115	0.116	0.117	0.120	0.120	0.120
25	0.120	0.122	0.112	0.120	0.118	0.116	0.115	0.116	0.117	0.120	0.120	0.120
26	0.120	0.122	0.111	0.117	0.118	0.116	0.116	0.116	0.116	0.120	0.120	0.120
27	0.119	0.119	0.109	0.119	0.116	0.119	0.116	0.117	0.117	0.120	0.120	0.121
28	0.118	0.118	0.113	0.121	0.115	0.116	0.116	0.115	0.117	0.120	0.121	0.120
29	0.119	0.119	0.116	0.119	--	0.112	0.116	0.115	0.117	0.120	0.121	0.120
30	0.119	0.120	0.116	0.118	--	0.112	0.116	0.115	0.118	0.121	0.121	0.120
31	0.118	--	0.112	0.119	--	0.115	--	0.115	--	0.121	0.121	--
MEAN	0.118	0.119	0.117	0.117	0.118	0.117	0.116	0.115	0.116	0.119	0.120	0.120
MAX	0.120	0.122	0.122	0.121	0.121	0.121	0.118	0.117	0.118	0.121	0.121	0.121
MIN	0.116	0.115	0.109	0.113	0.114	0.112	0.114	0.114	0.115	0.118	0.120	0.120

GROUND-WATER LEVELS AND COMPACTION VALUES

PIMA COUNTY

320845110551201. Local number, (D-15-14)09bac

LOCATION.--Lat 32°08'45", long 110°55'12", Hydrologic Unit 15050301, within the Tucson ground-water basin, about .25 mi east of Country Club on Alvord Road. Owner: U.S. Geological Survey.

WELL CHARACTERISTICS.--Drilled observation well fitted with a borehole, pipe extensometer, diameter 6 in., depth 1,030 ft, open throughout casing.

INSTRUMENTATION.--Water-level and compaction recorders.

DATUM.--Elevation of land surface is 2,636 ft above sea level, from topographic map. Measuring point: Top of casing 1.5 ft above land-surface datum.

REMARKS.--Water level affected by pumping from nearby wells. For previous record, contact the District Office in Tucson, AZ.

PERIOD OF RECORD.--Nov. 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 143.29 ft below land-surface datum, Apr. 6, 1984; lowest recorded, 151.0 ft below land-surface datum, Sept. 23, 2003.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	150.2	150.3	150.1	150.2	150.2	150.2	150.2	---	150.5	150.6	150.7	150.8
2	150.2	150.3	150.2	150.2	150.2	150.2	150.2	---	150.5	150.6	150.7	150.8
3	150.3	150.3	150.2	150.2	150.3	150.2	150.2	---	150.5	150.6	150.7	150.8
4	150.3	150.3	150.2	150.2	150.2	150.2	150.2	---	150.5	150.6	150.8	150.9
5	150.3	150.3	150.2	150.1	150.2	150.2	150.2	---	150.5	150.6	150.8	150.8
6	150.3	150.3	150.2	150.2	150.3	150.2	150.2	---	150.5	150.6	150.8	150.8
7	150.3	150.3	150.2	150.2	150.2	150.2	150.2	---	150.5	150.6	150.8	150.8
8	150.3	150.3	150.2	150.2	150.2	150.3	150.2	---	150.5	150.6	150.8	150.8
9	150.3	150.2	150.2	150.2	150.3	150.2	150.2	---	150.5	150.6	150.8	150.8
10	150.4	150.2	150.2	150.2	150.2	150.2	150.2	---	150.5	150.6	150.8	150.8
11	150.4	150.2	150.2	150.2	150.2	150.2	150.3	---	150.5	150.7	150.8	150.8
12	150.4	150.2	150.2	150.2	150.2	150.2	150.3	---	150.5	150.7	150.8	150.8
13	150.3	150.2	150.2	150.2	150.2	150.3	150.2	---	150.5	150.6	150.8	150.9
14	150.3	150.2	150.2	150.2	150.2	150.2	150.2	---	150.5	150.6	150.8	150.9
15	150.3	150.2	150.2	150.2	150.2	150.2	150.3	---	150.5	150.6	150.8	150.8
16	150.3	150.2	150.2	150.2	150.2	150.2	150.2	---	150.5	150.7	150.8	150.8
17	150.3	150.2	150.2	150.2	150.2	150.2	150.2	---	150.5	150.7	150.8	150.8
18	150.3	150.2	150.2	150.2	150.3	150.2	150.2	---	150.5	150.7	150.8	150.8
19	150.3	150.2	150.2	150.2	150.2	150.3	150.3	---	150.5	150.6	150.8	150.8
20	150.3	150.2	150.2	150.2	150.2	150.2	150.2	---	150.5	150.7	150.8	150.8
21	150.3	150.2	150.2	150.2	150.3	150.2	---	---	150.5	150.6	150.8	150.8
22	150.3	150.2	150.2	150.2	150.2	150.2	---	---	150.5	150.7	150.8	150.9
23	150.3	150.2	150.2	150.2	150.2	150.2	---	---	150.5	150.7	150.8	151.0
24	150.3	150.2	150.2	150.2	150.2	150.2	---	---	150.5	150.7	150.8	150.9
25	150.3	150.2	150.2	150.2	150.2	150.3	---	---	150.6	150.7	150.8	150.9
26	150.3	150.2	150.2	150.3	150.3	150.2	---	---	150.6	150.7	150.8	150.9
27	150.3	150.2	150.2	150.2	150.2	150.2	---	---	150.6	150.7	150.8	150.9
28	150.3	150.2	150.2	150.2	150.2	150.3	---	150.5	150.6	150.7	150.8	150.9
29	150.3	150.2	150.1	150.3	---	150.3	---	150.5	150.6	150.7	150.8	150.9
30	150.3	150.2	150.2	150.2	---	150.2	---	150.5	150.6	150.7	150.8	150.9
31	150.3	---	150.1	150.2	---	150.2	---	150.5	---	150.7	150.8	---
MEAN	150.3	150.2	150.2	150.2	150.2	150.2	---	---	150.5	150.7	150.8	150.8
MAX	150.4	150.3	150.2	150.3	150.3	150.3	---	---	150.6	150.7	150.8	151.0
MIN	150.2	150.2	150.1	150.1	150.2	150.2	---	---	150.5	150.6	150.7	150.8

COMPACTION, SEDIMENT, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.058	0.058	0.058	0.059	0.058	0.057	0.058	0.058	0.059	0.059	0.060	0.061
2	0.058	0.058	0.058	0.059	0.058	0.057	0.058	0.058	0.059	0.059	0.060	0.061
3	0.058	0.058	0.057	0.059	0.058	0.057	0.058	0.058	0.059	0.059	0.060	0.060
4	0.058	0.058	0.058	0.058	0.058	0.057	0.058	0.058	0.059	0.060	0.060	0.060
5	0.058	0.058	0.058	0.058	0.058	0.057	0.058	0.058	0.059	0.060	0.060	0.060
6	0.058	0.058	0.058	0.058	0.057	0.058	0.058	0.058	0.059	0.060	0.060	0.060
7	0.058	0.058	0.058	0.058	0.057	0.058	0.058	0.058	0.059	0.060	0.060	0.060
8	0.058	0.058	0.058	0.058	0.057	0.058	0.058	0.058	0.060	0.060	0.060	0.060
9	0.058	0.058	0.058	0.058	0.057	0.058	0.058	0.058	0.060	0.060	0.060	0.060
10	0.058	0.058	0.059	0.058	0.057	0.058	0.058	0.058	0.060	0.060	0.060	0.060
11	0.058	0.058	0.059	0.058	0.057	0.058	0.058	0.058	0.060	0.060	0.060	0.060
12	0.058	0.058	0.058	0.058	0.057	0.058	0.058	0.058	0.060	0.060	0.060	0.060
13	0.058	0.058	0.059	0.058	0.057	0.058	0.058	0.058	0.060	0.060	0.060	0.060
14	0.058	0.058	0.059	0.058	0.057	0.058	0.058	0.058	0.060	0.060	0.060	0.060
15	0.058	0.058	0.058	0.058	0.057	0.058	0.058	0.058	0.060	0.060	0.060	0.060
16	0.058	0.058	0.058	0.058	0.057	0.058	0.058	0.058	0.060	0.060	0.060	0.060
17	0.058	0.058	0.059	0.058	0.057	0.058	0.058	0.058	0.060	0.060	0.060	0.060
18	0.058	0.058	0.059	0.058	0.057	0.058	0.058	0.058	0.060	0.060	0.060	0.060
19	0.058	0.058	0.059	0.058	0.057	0.058	0.058	0.058	0.060	0.060	0.060	0.060
20	0.058	0.058	0.059	0.058	0.057	0.058	0.058	0.058	0.060	0.060	0.060	0.060
21	0.058	0.058	0.059	0.058	0.057	0.058	0.058	0.058	0.060	0.060	0.060	0.060
22	0.058	0.058	0.059	0.058	0.057	0.058	0.058	0.058	0.060	0.060	0.060	0.060
23	0.058	0.058	0.059	0.058	0.057	0.058	0.058	0.058	0.060	0.060	0.060	0.060
24	0.058	0.058	0.059	0.058	0.057	0.058	0.058	0.058	0.059	0.060	0.060	0.060
25	0.058	0.058	0.059	0.058	0.057	0.058	0.058	0.058	0.059	0.060	0.060	0.060
26	0.058	0.058	0.059	0.058	0.057	0.058	0.058	0.058	0.059	0.060	0.060	0.060
27	0.058	0.058	0.059	0.058	0.057	0.058	0.058	0.058	0.059	0.060	0.060	0.060
28	0.058	0.058	0.059	0.058	0.057	0.058	0.058	0.058	0.059	0.060	0.060	0.060
29	0.058	0.058	0.059	0.058	---	0.058	0.058	0.058	0.059	0.060	0.061	0.060
30	0.058	0.058	0.059	0.058	---	0.058	0.058	0.059	0.059	0.060	0.060	0.060
31	0.058	---	0.059	0.058	---	0.058	---	0.059	---	0.060	0.061	---
MEAN	0.058	0.058	0.059	0.058	0.057	0.058	0.058	0.058	0.060	0.060	0.060	0.060
MAX	0.058	0.058	0.059	0.059	0.058	0.058	0.058	0.059	0.060	0.060	0.061	0.061
MIN	0.058	0.058	0.057	0.058	0.057	0.057	0.058	0.058	0.059	0.059	0.060	0.060

GROUND-WATER LEVELS AND COMPACTION VALUES

PIMA COUNTY

320540110573401. Local number, (D-15-14)30cbc

LOCATION.--Lat 32°05'37", long 110°57'36", Hydrologic Unit 15050301, within the Tucson ground-water basin off Old Nogales Highway. Owner: U.S. Geological Survey.

WELL CHARACTERISTICS.--Drilled observation well fitted with a borehole, pipe extensometer, diameter 16 in., depth 805 ft, open throughout casing.

INSTRUMENTATION.--Water-level and compaction recorders.

DATUM.--Elevation of land surface is 2,587.0 ft above sea level, from topographic map. Measuring point: Top of casing 1.0 ft above land-surface datum.

REMARKS.--Water level affected by pumping from nearby wells. For previous record, contact the District Office in Tucson, AZ.

PERIOD OF RECORD.--Nov. 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 99.3 ft below land-surface datum, Apr. 09, 2003; lowest recorded, 120.82 ft below land-surface datum, Aug. 25, 1982.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	DAILY MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	107.7	104.8	107.4	---	105.6	105.5	99.9	104.5	105.4	105.8	105.6	105.2
2	107.6	104.9	107.0	---	105.7	104.9	99.8	104.6	105.4	105.8	105.6	105.2
3	107.7	104.5	---	---	106.1	105.3	99.8	104.6	105.4	105.8	105.6	105.2
4	107.2	104.4	---	---	106.1	105.3	99.6	104.6	105.4	105.8	105.6	105.3
5	107.4	104.7	---	---	105.9	104.5	100	104.6	105.4	105.8	105.6	105.3
6	107.5	104.8	---	---	105.8	103.6	99.8	104.7	105.5	105.8	105.6	105.2
7	107.5	104.7	---	---	106.0	103.0	99.6	104.8	105.4	105.8	105.5	105.2
8	107.4	104.6	---	---	106.2	102.8	99.5	104.9	105.4	105.9	105.6	105.2
9	107.4	104.6	---	---	106.4	102.5	99.3	104.9	105.5	105.9	105.6	105.1
10	107.2	104.6	---	---	106.4	103.1	99.5	105.0	105.5	105.9	105.5	105.2
11	106.7	104.7	---	---	106.3	103.3	100.2	105.0	105.5	106.0	105.5	105.3
12	106.4	104.7	---	---	106.3	103.0	101.0	105.0	105.5	105.9	105.4	105.2
13	105.8	104.5	---	---	106.3	103.8	101.2	105.1	105.5	105.7	105.5	105.2
14	105.5	104.2	---	---	106.4	104.1	101.9	105.1	105.5	105.3	105.6	105.3
15	105.5	104.4	---	---	106.5	103.4	102.4	105.1	105.5	105.3	105.6	105.3
16	105.5	105.8	---	---	106.6	103.4	102.7	105.2	105.5	105.4	105.4	105.2
17	105.5	106.2	---	---	106.5	103.0	102.9	105.1	105.5	105.6	105.3	105.2
18	105.6	106.7	---	---	106.5	102.3	103.2	105.2	105.5	105.7	105.3	105.2
19	105.5	106.9	106.4	---	106.5	101.9	103.6	105.2	105.5	105.3	105.4	105.2
20	105.4	107.1	106.0	---	106.4	102.1	103.7	105.2	105.5	105.0	105.3	105.2
21	105.4	106.9	105.8	---	106.6	102.1	103.8	105.2	105.6	105.2	105.3	105.2
22	105.4	106.8	105.5	106.5	106.5	102.0	103.9	105.3	105.6	105.4	105.2	105.2
23	105.2	107.1	105.5	106.2	106.3	101.6	104.1	105.3	105.6	105.5	105.3	105.3
24	105.2	107.3	105.8	106.0	106.3	101.1	104.1	105.2	105.7	105.6	105.4	105.3
25	105.1	107.3	106.1	105.9	106.1	101.0	104.2	105.3	105.8	105.7	105.3	105.3
26	105.1	107.5	105.7	105.9	106.3	100.7	104.0	105.4	105.8	105.7	105.3	105.4
27	105.2	107.7	106.1	105.6	106.4	100.4	103.8	105.4	105.7	105.6	105.2	105.5
28	105.2	107.8	---	105.5	106.4	100.4	103.8	105.5	105.7	105.5	105.1	105.5
29	105.1	107.8	---	105.5	---	100.5	104.1	105.4	105.8	105.5	105.1	105.5
30	105.0	107.7	---	105.4	---	100.4	104.3	105.4	105.8	105.6	105.2	105.6
31	104.8	---	---	105.4	---	100.2	---	105.4	---	105.6	105.2	---
MEAN	106.1	105.9	---	---	106.3	102.6	102.0	105.1	105.5	105.6	105.4	105.3
MAX	107.7	107.8	---	---	106.6	105.5	104.3	105.5	105.8	106.0	105.6	105.6
MIN	104.8	104.2	---	---	105.6	100.2	99.3	104.5	105.4	105.0	105.1	105.1

COMPACTION, SEDIMENT, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	DAILY MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.184	0.183	---	0.182	0.186	0.186	0.185	0.188	---	---	---	---
2	0.184	0.183	---	0.182	0.186	0.186	0.185	0.188	---	---	---	---
3	0.184	0.183	---	0.183	0.186	0.186	0.185	0.188	---	---	---	0.190
4	0.184	0.183	---	0.183	0.186	0.186	0.185	0.188	---	---	---	0.190
5	0.184	0.183	---	0.183	0.186	0.186	0.185	0.188	---	---	---	0.190
6	0.184	0.183	---	0.183	0.186	0.186	0.185	0.188	---	---	---	0.190
7	0.184	0.183	---	0.183	0.186	0.186	0.185	0.188	---	---	---	0.190
8	0.184	0.183	---	0.183	0.186	0.186	0.185	0.188	---	---	---	0.190
9	0.184	0.183	---	0.183	0.186	0.186	0.185	0.188	---	---	---	0.190
10	0.184	0.183	---	0.183	0.186	0.186	0.184	0.188	---	---	---	0.190
11	0.184	0.183	---	0.183	0.186	0.186	0.184	0.188	---	---	---	0.190
12	0.184	0.183	---	0.183	0.186	0.185	0.184	0.188	---	---	---	0.190
13	0.184	0.183	---	0.184	0.186	0.186	0.185	0.188	---	---	---	0.190
14	0.184	0.184	---	0.184	0.187	0.186	0.185	0.188	---	---	---	0.190
15	0.184	0.184	---	0.185	0.186	0.186	0.185	0.188	---	---	---	0.189
16	0.184	0.184	---	0.185	0.187	0.186	0.186	0.188	---	---	---	0.190
17	0.184	0.184	---	0.185	0.187	0.186	0.186	0.188	---	---	---	0.190
18	0.184	0.185	---	0.185	0.187	0.185	0.187	0.188	---	---	---	0.190
19	0.184	0.185	0.182	0.185	0.187	0.185	0.187	0.188	---	---	---	0.190
20	0.184	0.185	0.182	0.185	0.187	0.185	0.187	0.189	---	---	---	0.190
21	0.183	0.185	0.182	0.185	0.187	0.185	0.187	0.188	---	---	---	0.190
22	0.183	0.185	0.182	0.185	0.187	0.186	0.187	0.188	---	---	---	0.190
23	0.183	0.185	0.182	0.185	0.187	0.185	0.187	0.189	---	---	---	0.190
24	0.184	0.185	0.182	0.185	0.187	0.185	0.187	0.189	---	---	---	0.190
25	0.184	---	0.182	0.185	0.187	0.185	0.187	0.189	---	---	---	0.190
26	0.184	---	0.182	0.185	0.187	0.185	0.187	0.189	---	---	---	0.190
27	0.184	---	0.182	0.185	0.187	0.185	0.187	---	---	---	---	0.190
28	0.183	---	0.182	0.185	0.187	0.185	0.187	---	---	---	---	0.190
29	0.183	---	0.182	0.185	---	0.185	0.187	---	---	---	---	0.190
30	0.183	---	0.182	0.185	---	0.185	0.187	---	---	---	---	0.190
31	0.183	---	0.182	0.186	---	0.185	---	---	---	---	---	---
MEAN	0.184	---	---	0.184	0.186	0.186	0.186	---	---	---	---	---
MAX	0.184	---	---	0.186	0.187	0.186	0.187	---	---	---	---	---
MIN	0.183	---	---	0.182	0.186	0.185	0.184	---	---	---	---	---

GROUND-WATER LEVELS AND COMPACTION VALUES

PIMA COUNTY

315909110540601. Local number, (D-17-14)03baa

LOCATION.--Lat 31°59'09", long 110°54'06", Hydrologic Unit 15050301, in Sahuarita, about 10 mi south of Tucson, 6 mi east of Old Nogales Highway. Owner: U.S. Geological Survey.

WELL CHARACTERISTICS.--Drilled observation well fitted with a borehole, pipe extensometer, diameter 16 in., depth 965 ft, open throughout casing.

INSTRUMENTATION.--Water-level and compaction recorders.

DATUM.--Elevation of land surface is 2,735.0 ft above sea level, from topographic map. Measuring point: Top of casing 0.0 ft above land-surface datum.

REMARKS.--Water level affected by pumping from nearby wells. For previous record, contact the District Office in Tucson, AZ.

PERIOD OF RECORD.--June 1980 to current year.

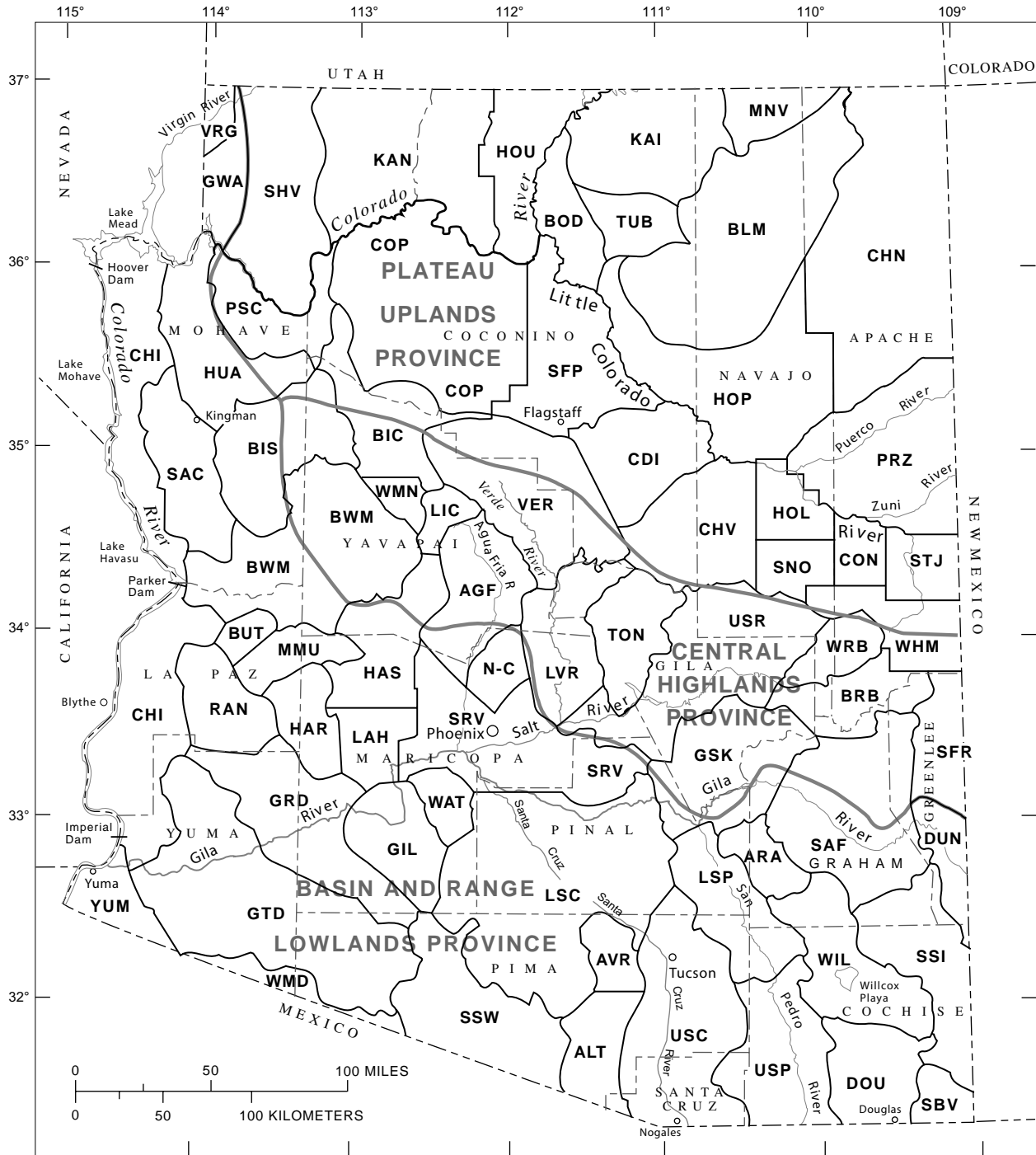
EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 182.4 ft below land-surface datum, Jan. 24, 1989; lowest recorded, 226.3 ft below land-surface datum, Sept. 8, 2000, Oct. 10, 11, 2001.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	222.5	220.5	202.2	208.9	210.4	207.8	208.7	214.6	218.4	220.5	221.1
2	---	222.4	220.2	202.6	209.0	210.5	207.6	208.8	214.7	218.6	220.4	221.2
3	---	222.2	219.7	203.1	209.3	210.6	207.5	208.9	214.8	218.7	220.4	221.3
4	---	221.8	218.9	203.6	209.6	210.6	207.4	209.2	214.9	218.8	220.3	221.4
5	---	221.4	217.9	204.0	209.8	210.7	207.1	209.4	215.1	218.9	220.3	221.5
6	---	221.5	216.9	204.5	209.8	210.7	206.6	209.7	215.2	219.0	220.4	221.6
7	---	221.6	216.0	205.1	209.9	210.6	206.1	210.0	215.3	218.8	220.5	221.7
8	---	221.7	215.2	205.5	210.0	210.6	205.8	210.2	215.4	218.7	220.6	221.8
9	---	221.8	214.4	205.9	210.3	210.5	205.7	210.5	215.6	218.8	220.7	221.9
10	---	221.8	213.6	206.3	210.4	210.4	205.8	210.7	215.8	219.0	220.8	222.0
11	---	221.8	212.8	206.5	210.6	210.3	205.9	210.8	215.9	219.2	220.9	222.1
12	---	221.7	212.1	206.5	210.7	210.3	206.0	210.6	216.0	219.3	221.0	222.1
13	---	221.6	211.4	206.3	210.8	210.2	206.1	210.6	216.2	219.4	221.1	222.2
14	---	221.6	210.8	206.3	210.9	210.2	206.1	210.8	216.3	219.5	221.2	222.3
15	---	221.7	210.1	206.7	211.0	210.0	206.2	211.1	216.5	219.6	221.3	222.3
16	---	221.7	209.5	207.1	210.9	209.9	206.3	211.4	216.6	219.7	221.3	222.4
17	---	221.7	208.8	207.5	210.7	209.8	206.4	211.7	216.7	219.8	221.3	222.4
18	---	221.8	208.3	207.9	210.5	209.7	206.5	211.9	216.8	219.9	221.4	222.5
19	---	221.7	207.7	208.2	210.4	209.6	206.5	212.2	217.0	220.0	221.5	222.6
20	---	221.7	207.1	208.6	210.4	209.5	206.2	212.4	217.1	220.1	221.5	222.7
21	222.8	221.6	206.6	208.8	210.2	209.4	205.9	212.6	217.2	220.2	221.6	222.7
22	222.7	221.5	206.0	209.0	210.0	209.2	205.9	212.8	217.3	220.3	221.6	222.8
23	222.8	221.2	205.5	209.0	210.0	209.1	206.2	213.0	217.4	220.3	221.6	222.9
24	222.9	221.0	205.1	209.0	209.9	208.9	206.5	213.2	217.6	220.4	221.6	222.9
25	223.0	220.9	204.6	209.2	209.9	208.8	206.9	213.4	217.7	220.5	221.3	222.9
26	223.0	220.8	204.2	209.4	209.9	208.6	207.2	213.6	217.8	220.5	221.0	222.9
27	223.1	220.8	203.8	209.4	210.0	208.4	207.5	213.8	218.0	220.6	220.8	222.9
28	223.0	220.7	203.3	209.3	210.2	208.3	207.8	214.0	218.1	220.6	220.8	222.8
29	222.8	220.6	202.9	209.2	---	208.2	208.1	214.2	218.2	220.7	220.8	222.8
30	222.6	220.6	202.6	209.1	---	208.1	208.4	214.4	218.3	220.7	220.9	222.7
31	222.5	---	202.2	208.9	---	207.9	---	214.5	---	220.6	221.0	---
MEAN	---	221.5	210.3	206.9	210.1	209.7	206.7	211.6	216.5	219.7	221.0	222.2
MAX	---	222.5	220.5	209.4	211.0	210.7	208.4	214.5	218.3	220.7	221.6	222.9
MIN	---	220.6	202.2	202.2	208.9	207.9	205.7	208.7	214.6	218.4	220.3	221.1

COMPACTION, SEDIMENT, FEET, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.190	0.192	0.193	0.187	0.183	0.184	0.181	0.181	0.186	0.190	0.193	0.192
2	0.190	0.192	0.193	0.187	0.183	0.184	0.181	0.182	0.186	0.191	0.192	0.192
3	0.190	0.192	0.193	0.187	0.183	0.183	0.181	0.182	0.187	0.191	0.192	0.192
4	0.190	0.192	0.193	0.186	0.183	0.183	0.181	0.182	0.187	0.191	0.192	0.192
5	0.190	0.192	0.193	0.186	0.183	0.183	0.181	0.182	0.187	0.191	0.192	0.192
6	0.190	0.192	0.193	0.186	0.183	0.183	0.181	0.182	0.187	0.191	0.192	0.192
7	0.190	0.192	0.193	0.186	0.184	0.183	0.180	0.182	0.187	0.191	0.192	0.192
8	0.191	0.192	0.192	0.186	0.184	0.183	0.180	0.183	0.187	0.191	0.192	0.192
9	0.191	0.192	0.192	0.186	0.184	0.183	0.180	0.183	0.187	0.192	0.192	0.192
10	0.191	0.192	0.192	0.186	0.184	0.183	0.180	0.183	0.187	0.192	0.192	0.193
11	0.191	0.192	0.192	0.185	0.184	0.183	0.180	0.183	0.188	0.192	0.192	0.193
12	0.191	0.192	0.191	0.185	0.184	0.183	0.180	0.183	0.188	0.192	0.193	0.193
13	0.191	0.192	0.191	0.185	0.184	0.182	0.180	0.183	0.188	0.192	0.192	0.193
14	0.191	0.192	0.191	0.185	0.184	0.182	0.180	0.183	0.188	0.192	0.193	0.193
15	0.191	0.192	0.191	0.185	0.185	0.182	0.180	0.183	0.188	0.192	0.193	0.193
16	0.191	0.192	0.191	0.185	0.185	0.182	0.180	0.184	0.188	0.192	0.193	0.193
17	0.191	0.192	0.190	0.185	0.184	0.182	0.180	0.184	0.188	0.192	0.193	0.193
18	0.191	0.192	0.190	0.185	0.184	0.182	0.180	0.184	0.189	0.192	0.193	0.193
19	0.191	0.192	0.190	0.184	0.184	0.182	0.180	0.184	0.189	0.192	0.193	0.193
20	0.191	0.192	0.190	0.184	0.184	0.182	0.180	0.184	0.189	0.193	0.193	0.193
21	0.191	0.192	0.190	0.184	0.184	0.182	0.180	0.185	0.189	0.193	0.193	0.194
22	0.191	0.192	0.189	0.184	0.184	0.182	0.180	0.185	0.189	0.193	0.193	0.194
23	0.192	0.193	0.189	0.184	0.184	0.182	0.180	0.185	0.189	0.193	0.193	0.194
24	0.192	0.193	0.189	0.184	0.184	0.181	0.180	0.185	0.189	0.193	0.193	0.194
25	0.192	0.193	0.189	0.184	0.184	0.181	0.180	0.185	0.190	0.193	0.193	0.194
26	0.192	0.193	0.189	0.184	0.184	0.181	0.180	0.185	0.190	0.193	0.193	0.194
27	0.192	0.193	0.188	0.184	0.184	0.181	0.181	0.185	0.190	0.193	0.192	0.194
28	0.192	0.193	0.188	0.184	0.184	0.181	0.181	0.186	0.190	0.193	0.192	0.195
29	0.192	0.193	0.188	0.184	---	0.181	0.181	0.186	0.190	0.193	0.192	0.194
30	0.192	0.193	0.188	0.183	---	0.181	0.181	0.186	0.190	0.193	0.192	0.194
31	0.192	---	0.187	0.183	---	0.181	---	0.186	---	0.193	0.192	---
MEAN	0.191	0.192	0.191	0.185	0.184	0.182	0.180	0.184	0.188	0.192	0.192	0.193
MAX	0.192	0.193	0.193	0.187	0.185	0.184	0.181	0.186	0.190	0.193	0.193	0.195
MIN	0.190	0.192	0.187	0.183	0.183	0.181	0.180	0.181	0.186	0.190	0.192	0.192



Base from U.S. Geological Survey
 State base maps, 1:500,000,
 Arizona, 1974; Nevada, 1965;
 New Mexico, 1965; and Utah, 1959

EXPLANATION

—— BOUNDARY OF GROUND-WATER AREA

Figure 10. Index map of U.S. Geological Survey ground-water areas in Arizona.

GROUND-WATER AREAS AND ABBREVIATIONS

AGF	— Agua Fria basin	LHA	— Lower Hassayampa
ALT	— Altar Valley	LSP	— Lower San Pedro basin
ARA	— Aravaipa Valley	LSC	— Lower Santa Cruz basin
AVR	— Avra Valley	LVR	— Lower Verde River
BIC	— Big Chino Valley	MMU	— McMullen Valley
BIS	— Big Sandy Valley	MNV	— Monument Valley
BWM	— Bill Williams	N-C	— New River-Cave Creek
BLM	— Black Mesa	PSC	— Peach Springs Canyon
BRB	— Black River basin	PRZ	— Puerco-Zuni
BOD	— Bodaway Mesa	RAN	— Ranegras Plain
BUT	— Butler Valley	SAC	— Sacramento Valley
CDI	— Canyon Diablo	SAF	— Safford basin
CHV	— Chevelon	SRV	— Salt River Valley
CHN	— Chinle	SBV	— San Bernardino Valley
COP	— Coconino Plateau	SFP	— San Francisco Peaks
CHI	— Colorado River, Hoover Dam to Imperial Dam	SFR	— San Francisco River basin
CON	— Concho	SSI	— San Simon basin
DOU	— Douglas basin	SSW	— San Simon Wash
DUN	— Duncan basin	SHV	— Shivwits
GIL	— Gila Bend basin	SNO	— Snowflake
GRD	— Gila River from Painted Rock Dam to Texas Hill	STJ	— St. Johns
GSK	— Gila River from head of San Carlos Reservoir to Kelvin	TON	— Tonto basin
GTD	— Gila River from Texas Hill to Dome	TUB	— Tuba City
GWA	— Grand Wash	USR	— Upper Salt River basin
HAR	— Harquahala Plains	USP	— Upper San Pedro basin
HAS	— Hassayampa basin	USC	— Upper Santa Cruz basin
HOL	— Holbrook	VER	— Upper Verde River
HOP	— Hopi	VRG	— Virgin River
HOU	— House Rock	WAT	— Waterman Wash
HUA	— Hualapai Valley	WMD	— Western Mexican drainage
KAI	— Kaibito	WHM	— White Mountains
KAN	— Kanab	WRB	— White River basin
LIC	— Little Chino Valley	WIL	— Willcox basin
		WMN	— Williamson Valley
		YUM	— Yuma

WATER LEVELS IN SELECTED WELLS IN GROUND-WATER AREAS IN ARIZONA
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

KANAB CREEK BASIN

SITE: 365403112452801
LOCAL NUMBER: B-40-04 06AAC

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 2002	86.8	FEB 04, 2003	86.2	APR 30, 2003	86.0	JUL 21, 2003	86.3
	HIGHEST	86.0	APR 30, 2003				
	LOWEST	86.8	OCT 01, 2002				

LITTLE COLORADO RIVER BASIN

SITE: 342024109220301
LOCAL NUMBER: A-11-28 22BDA2

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26, 2002	85.1	MAR 20, 2003	82.8	MAY 20, 2003	83.9	AUG 05, 2003	85.5
	HIGHEST	82.8	MAR 20, 2003				
	LOWEST	85.5	AUG 05, 2003				

SITE: 343637109374901
LOCAL NUMBER: A-14-26W18DBC

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26, 2002	36.0	MAR 20, 2003	34.0	MAY 20, 2003	39.3	AUG 06, 2003	44.2
	HIGHEST	34.0	MAR 20, 2003				
	LOWEST	44.2	AUG 06, 2003				

SITE: 344928109515301
LOCAL NUMBER: A-17-23 35DDB

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 20, 2003	311.9	MAY 22, 2003	313.6	AUG 06, 2003	320.0
	HIGHEST	311.9	MAR 20, 2003		
	LOWEST	320.0	AUG 06, 2003		

SITE: 345023110111401
LOCAL NUMBER: A-17-20 26DBC

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 06, 2001	303.	DEC 13, 2002	303.6	MAR 20, 2003	303.2	MAY 20, 2003	303.5
AUG 06, 2003	304.2						
	HIGHEST	303.2	MAR 20, 2003				
	LOWEST	304.2	AUG 06, 2003				

SITE: 345310110062501
LOCAL NUMBER: A-17-21 10CBA

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26, 2002	55.3	MAR 20, 2003	55.5	MAY 20, 2003	55.9	AUG 06, 2003	56.1
	HIGHEST	55.3	OCT 29, 2002				
	LOWEST	56.1	AUG 06, 2003				

SITE: 345333109474501
LOCAL NUMBER: A-17-24 09ABD

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 20, 2003	270.6	MAY 22, 2003	271.0	AUG 06, 2003	274.6
	HIGHEST	270.6	MAR 20, 2003		
	LOWEST	274.6	AUG 06, 2003		

WATER LEVELS IN SELECTED WELLS IN GROUND-WATER AREAS IN ARIZONA—CONTINUED

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

SITE: 345603110450301
LOCAL NUMBER: A-18-15 28AAD

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 31, 2003	267.0	MAR 20, 2003	267.2	MAY 20, 2003	267.1	AUG 06, 2003	267.0
	HIGHEST	267.0	JAN 31, 2002	AUG 06, 2003			
	LOWEST	267.0	MAR 20, 2003				

SITE: 350002110355501
LOCAL NUMBER: A-19-16 36DBB

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26, 2002	36.2	MAR 20, 2003	35.9	MAY 20, 2003	35.8	AUG 06, 2003	36.8
	HIGHEST	35.8	MAY 20, 2003				
	LOWEST	36.8	AUG 06, 2003				

SITE: 350828111391501
LOCAL NUMBER: A-20-07 04DAC

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 28, 2003	823.3	MAY 19, 2003	823.2	AUG 11, 2003	823.2
	HIGHEST	823.2	MAY 19, 2003	AUG 11, 2003	
	LOWEST	823.3	JAN 28, 2003		

SITE: 350848111381701
LOCAL NUMBER: A-20-07 03ACA

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 28, 2003	927.1	MAY 19, 2003	927.0	AUG 11, 2003	927.1
	HIGHEST	927.0	MAY 19, 2003		
	LOWEST	927.1	JAN 28, 2003	AUG 11, 2003	

SITE: 351025111303701
LOCAL NUMBER: A-21-08 26DAB

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21, 2002	1570.5	FEB 12, 2003	1573.9	JUN 20, 2003	1508.1	AUG 12, 2003	1683.7
	HIGHEST	1570.5	OCT 21, 2002				
	LOWEST	1573.9	FEB 12, 2003				

SITE: 351127111360001
LOCAL NUMBER: A-21-07 24AAD

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 2002	1446.0	JAN 30, 2003	1339.0	MAY 19, 2003	1332.0	AUG 07, 2003	1313.0
	HIGHEST	1313.0	AUG 07, 2003				
	LOWEST	1339.0	JAN 30, 2003				

SITE: 351223111342802
LOCAL NUMBER: A-21-08 17BCA2

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 2002	1468.0	FEB 06, 2003	1320.0	MAY 19, 2003	1314.0	AUG 07, 2003	1309.0
	HIGHEST	1314.0	MAY 19, 2003				
	LOWEST	1320.0	FEB 06, 2003				

WATER LEVELS IN SELECTED WELLS IN GROUND-WATER AREAS IN ARIZONA—CONTINUED

319

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

SITE: 352214111324601
LOCAL NUMBER: A-23-08 21AAD

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 2002	1961.4	FEB 10, 2003	1961.7	MAY 21, 2003	1961.6	AUG 11, 2003	1961.4
	HIGHEST	1961.4	OCT 15, 2002	AUG 11, 2003			
	LOWEST	1961.7	FEB 10, 2003				

SITE: 353410111284001
LOCAL NUMBER: A-25-09 06CCD

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 2002	1587.5	FEB 10, 2003	1587.8	MAY 21, 2003	1587.9	AUG 11, 2003	1587.8
	HIGHEST	1587.5	OCT 15, 2002				
	LOWEST	1587.9	MAY 21, 2003				

SITE: 354229109345801
LOCAL NUMBER: 17 110-04.68X02.91

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 20, 2003	139.3 R	MAY 20, 2003	139.5 R	AUG 05, 2003	138.5
	HIGHEST	138.5	AUG 05, 2003		
	LOWEST	139.3	MAR 20, 2003	MAY 20, 2003	

SITE: 354646111294801
LOCAL NUMBER: 03 098-13.94X15.20

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17, 2002	1075.2	FEB 20, 2003	1071.5	MAY 22, 2003	1070.4	AUG 12, 2003	1070.4
	HIGHEST	1070.4	MAY 22, 2003	AUG 12, 2003			
	LOWEST	1075.2	OCT 17, 2002				

	Page		Page
A			
Access to USGS water data	24	Bonita Creek near Morenci	132
Acid neutralizing capacity, definition of	25	Bottom material (see "Bed material")	26
Acre-foot, definition of	25	Brawley Wash near Three Points	185
Adenosine triphosphate, definition of	25	Bruce Church wasteway, return surface flows by	283
Adjusted discharge, definition of	25	Bulk electrical conductivity, definition of	26
Agua Fria River, near Humbolt	251	C	
near Mayer	252	Calva, Gila River at	137
near Rock Springs	253	Cameron, Little Colorado River near	82
Alamo Dam, Bill Williams River below	106	Camp Verde, Fossil Creek diversion near	232
Algal growth potential, definition of	25	Verde River near	231
Alkalinity, definition of	25	West Clear Creek near	228
All-American Canal below Pilot Knob		Cañada del Oro below Ina Road, near Tucson	180
wasteway, CA	288	Canadian geodetic vertical datum 1928, definition of	26
near Imperial Dam, AZ-CA	279	Carrizo Creek near Show Low	192
Altar Wash near Three Points	184	Carrizo Wash near St. Johns	65
Annual runoff, definition of	25	Cave Creek below Cottonwood Creek	
Annual 7-day minimum, definition of	25	near Cave Creek	249
Aquifer, water table, definition of	41	Cells/volume, definition of	27
Aravaipa Creek near Mammoth	158	Cells volume, definition of	26
Arivaca Creek near Arivaca	183	Centennial Wash, at Southern Pacific Railroad	
Arlington, Centennial Wash at Southern Pacific		bridge, near Arlington	259
Railroad Bridge, near	259	tributary near Wenden	295
Hassayampa River near	258	Central Arizona Project Canal at Havasu pumping	
Aroclor, definition of	25	plant near Parker	110
Artificial substrate, definition of	25	Cfs-day (see "Cubic foot per second-day")	27
Ash mass, definition of	25	Chambers, Puerco River near	72
Aspect, definition of	25	Channel bars, definition of	27
B			
Babocomari River near Tombstone	155	Charleston, San Pedro River at	148
Upper, near Huachuca City	154	Chemical oxygen demand, definition of	27
Bacteria, definition of	26	Cherry Creek near Globe	195
fecal coliform, definition of	30	Chevelon Creek below Wildcat Canyon near Winslow	74
Fecal streptococcal, definition of	30	Childs, East Verde River near	234
Total coliform, definition of	39	Wet Bottom Creek near	237
Bagdad, Santa Maria River near	105	Chinle Creek, at Chinle	49
Bankfull stage, definition of	26	near Mexican Water	52
Banning Creek near Bisbee	145	Chino Valley, Del Rio Springs near	214
Bartlett Dam, Verde River below	242	Chrysothile, Cibecue Creek near	194
Base discharge (for peak discharge), definition of	26	Salt River near	193
Base flow, definition of	26	Cibecue Creek near Chrysothile	194
Bedload, definition of	26	Cienega Creek near Sonoita	174
Bedload discharge, definition of	26	Clarkdale, Verde River near	221
Bed material, definition of	26	Clifton, Blue River, near	129
Bender Wash near Gila Bend	296	Gila River near	128
Benthic organisms, definition of	26	San Francisco River at	130
Big Sandy River near Wikieup	104	Clostridium perfringens, definition of	27
Bill Williams River, below Alamo Dam	106	Coliphages, definition of	27
at Mineral Wash near Planet	107	Color unit, definition of	27
near Parker	109	Colorado River, above Diamond Creek	
Bill Williams River basin, surface-water and		near Peach Springs	91
water-quality records in	104	Colorado River above Imperial Dam, AZ-CA	120
Biochemical oxygen demand, definition of	26	at Compact point, near Lees Ferry	62
Biomass pigment ratio, definition of	26	at Lees Ferry	55
Biomass, definition of	26	at Needles, CA	101
Bisbee, Banning Creek near	145	at northerly international boundary above	
Black River, below pumping plant, near Point of Pines	187	Morelos Dam, near Andrade, CA	268
near Fort Apache	188	below Glen Canyon Dam	54
Blue-green algae, definition of	26	below Davis Dam, AZ-NV	100
Blue Ridge Reservoir near Pine	75	below Imperial Dam	124
Blue River near Clifton	129	below Laguna Dam, AZ-CA	125
Blythe, CA, Palo Verde Canal near	118	below Palo Verde Dam, AZ-CA	119
		below Parker Dam, AZ-CA	113
		below Yuma Main Canal wasteway, at Yuma	266

INDEX

321

	Page		Page
near Grand Canyon.....	84	near Childs	234
Colorado River aqueduct near Parker Dam, AZ-CA	103	Embeddedness, definition of	29
Colorado River Indian Reservation Main		Enterococcus bacteria, definition of	29
Canal near Parker.....	117	EPT Index, definition of	29
Confined aquifer, definition of	27	Escherichia coli (E. coli), definition of	29
Contents, definition of	27	Estimated (E) value, definition of	29
Continental, Santa Cruz River at	168	Euglenoids, definition of	29
Continuous-record station, definition of	27	Extractable organic halides, definition of	29
Control, definition of	27		
Control structure, definition of	27	F	
Coolidge Dam, Gila River below	142	Fecal coliform bacteria, definition of	30
San Carlos Reservoir at	141	Fecal streptococcal bacteria, definition of	30
Cooperation.....	2	Fire algae, definition of.....	30
Cornville, Oak Creek near	225	Florence-Casa Grande Canal, near Florence	162
Cortaro, Santa Cruz River at.....	181	Flow-duration percentiles, definition of	30
Crater Range Wash near Ajo	296	Forestdale Creek Diversion from Show Low Creek,	
Crest-stage partial-record stations	294	near Show Low	191
Cubic foot per second, definition of	27	Fort Apache, Black River near	188
Cubic foot per second-day, definition of	27	East Fork White River near	189
Cubic foot per second per square mile, definition of.....	28	White River near	190
		Fort Huachuca, Garden Canyon near	147
D		Huachuca Canyon near	153
Daily mean suspended-sediment		Fort McDowell, Sycamore Creek near	245
concentration, definition of	28	Fossil Creek diversions to Childs Powerplant,	
Daily-record station, definition of	28	near Camp Verde.....	232
Data Collection Platform, definition of	28	Frye Creek near Thatcher	136
Data logger, definition of	28		
Dateland, Gila River near	264	G	
Datum, definition of	28	Gage datum, definition of	30
Davis Dam, AZ-NV, Colorado River, below	100	Gage height, definition of	30
diversions and return flows between and Parker Dam...	103	Gage values, definition of.....	30
Lake Mohave at	99	Gaging station, definition of	30
Deadman Wash near New River.....	295	Garden Canyon near Fort Huachuca.....	147
Definition of Terms	25	Gas chromatography/flame ionization detector,	
Del Rio Springs near Chino Valley	214	definition of	30
Diagram, schematic, showing gaging stations and water-		Geomorphic channel units, definition of	30
quality stations between Imperial Dam and southerly		Gila Gravity Main canal at Imperial Dam, AZ-CA	278
international boundary.....	267	at pumping plant, diversion by.....	275
well-numbering system	6	Gila River, above diversions at Gillespie Dam	260
Diamond Creek near Peach Springs	96	at Attaway Road, Florence.....	163
Diatoms, definition of	28	at Calva.....	137
Diel, definition of	28	at Duncan	127
Dinnebito Wash near Sand Springs	80	at Estrella Parkway, near Goodyear	256
Discharge, definition of	28	at head of Safford Valley, near Solomon.....	133
Discontinued surface-water-discharge or stage-only stations	xiii	at Kelvin	159
Discontinued surface-water-quality stations.....	xix	below Blue Creek, near Virden, NM	126
Dissolved, definition of	28	below Coolidge Dam.....	142
Dissolved oxygen, definition of.....	28	below Painted Rock Dam.....	263
Dissolved-solids concentration, definition of	28	near Clifton.....	128
Diversity index, definition of.....	29	near Dateland	264
Dome, Gila River near	265	near Dome	265
Downstream order and station number.....	3	near Maricopa	165
Drain 8-B, return surface flows by	284	Gila River basin, crest-stage partial-record stations in.....	294
Drainage area, definition of	29	surface-water and water-quality records in	126
basin, definition of.....	29	Gillespie Dam, Gila River above diversions, at	260
Dry Beaver Creek near Rimrock	227	Glen Canyon Dam, Colorado River below.....	54
Dry mass, definition of	29	Lake Powell at.....	53
Dry weight, definition of	29	Globe, Cherry Creek near.....	195
		Pinal Creek at Inspiration Dam near	196
E		Goodyear, Gila River at Estrella Parkway near.....	256
Eagle Creek above Pumping Plant, near Morenci	131	Grand Canyon, Colorado River near	84
East Verde River, diversion from East Clear Creek,		Granite Creek, at Prescott	215
near Pine.....	233	below Watson Lake near Prescott	219

	Page		Page
near Prescott	218	L	
Green algae, definition of	30	Laboratory Reporting Level, definition of	31
Greenbush Draw near Palominas	144	Laguna Creek at Dennehotso	51
Ground-water areas and abbreviations.....	316	Laguna Dam, AZ-CA, Colorado River below	125
Ground-water levels and compaction values	301	Lake Havasu, diversions from.....	103
Ground-water levels and compaction values, explanation of	22	Lake Havasu near Parker Dam, AZ-CA.....	111
Ground-water-level records, explanation of	22	Lake Mohave at Davis Dam, AZ-NV.....	99
H		Lake Powell at Glen Canyon Dam.....	53
Habitat, definition of.....	30	Lakes and reservoirs:	
Habitat quality index, definition of.....	31	Blue Ridge Reservoir near Pine.....	75
Hardness, definition of	31	Havasu, Lake, near Parker Dam, AZ-CA	111
Hartman Wash near Wickenburg	295	Mohave, Lake, at Davis Dam, AZ-NV	99
Hassayampa River, near Arlington.....	258	Powell, Lake, at Glen Canyon Dam.....	53
near Morristown	257	Reservoir system on Salt River at and below	
Havasu Creek, at Supai.....	89	Roosevelt Dam	209
above the mouth near Supai	90	Reservoir system on Verde River at and below	
Havasu Creek basin, surface-water and		Horseshoe Dam	241
water-quality records in	89	San Carlos Reservoir at Coolidge Dam	141
High tide, definition of.....	31	Lakeside, Show Low Creek near.....	68
Hilsenhoff's Biotic Index, definition of	31	Land-surface datum, definition of	31
Horizontal datum (See "Datum")	31	Latent heat flux, definition of	31
Horseshoe Dam, reservoir system on Verde		Latitude-longitude system	5
River at and below	241	Laveen, Santa Cruz River near	186
Verde River below Tangle Creek above Horseshoe Dam	238	Lees Ferry, Colorado River at	55
Huachuca Canyon near Fort Huachuca	153	Colorado River at Compact Point, near	62
Huachuca City, Upper Babocomari River near	154	Paria River at.....	61
Humboldt, Agua Fria River near	251	Leslie Creek near McNeal.....	291
Hydrologic-data station records.....	49	Levee Canal wasteway, return surface flows by	283
Hydrologic index stations, definition of	31	Light-attenuation coefficient, definition of	31
Hydrologic unit, definition of	31	Lipid, definition of	32
I		Little Colorado River, above Lyman Lake,	
Imperial Dam, AZ-CA, All-American Canal near.....	279	near St. Johns.....	63
Colorado River above.....	126	above the mouth near Desert View	83
Colorado River below	124	above Zion Reservoir near St. Johns.....	66
diversions and return flows at and below	275	at Woodruff.....	71
diversions at and below	275	below Salado Springs near St. Johns	64
Gila Gravity Main Canal at	2278	below Zion Reservoir near St. Johns	67
return surface flows below	283	near Cameron	82
schematic diagram of gaging stations and		near Joseph City.....	73
water-quality stations between, and		near Winslow	76
southerly international boundary	267	Little Colorado River basin, surface-water and	
Inch, definition of	31	water-quality records in.....	63
Indian Bend Wash at Curry Road, Tempe	247	Lochiel, Santa Cruz River near	166
at Shea Boulevard at Phoenix	294	Long-Term Method Detection Level, definition of.....	32
Inspiration Dam, Pinal Creek at, near Globe.....	196	Low Tide, definition of	32
Instantaneous discharge, definition of	31	Lukachukai Creek near Lukachukai.....	50
International boundary commission survey datum,		M	
definition of.....	31	Macrophytes, definition of	32
Introduction.....	1	Main outlet drain extension above Morelos Dam,	
Island, definition of	31	return surface flows by	284
J		Mammoth, Aravaipa Creek near	158
Jack Rabbit Wash near Tonopah	295	Maricopa, Gila River near	165
Jeddito Wash near Jeddito	79	Mayer, Agua Fria River near	252
Joseph City, Little Colorado River near	73	McNeal, Leslie Creek near	291
K		Mean concentration of suspended sediment	
Kanab Creek Basin, surface-water records in.....	88	definition of	32
Kanab Creek near Kanab, UT.....	88	Mean discharge, definition of	32
Kelvin, Gila River at	159	Mean high tide, definition of	32
Kom Vo, Vamori Wash at	290	Mean low tide, definition of	32
		Mean sea level, definition of	32
		Measuring point, definition of.....	32
		Megahertz, definition of	32

	Page		Page
Membrane filter, definition of	32	Palo Verde Canal near Blythe, CA	118
Metamorphic stage, definition of	32	Palo Verde Dam, Colorado River below	119
Method Detection Limit, definition of	32	Pantano Wash, at Broadway Blvd., at Tucson.....	177
Method of cubatures, definition of	32	near Vail	175
Methylene blue active substances, definition of	32	Parameter code, definition of.....	34
Miami, Pinto Creek below Haunted Canyon near	205	Paria River at Lees Ferry	61
Pinto Creek near	206	Paria River basin, surface-water records in	61
Micrograms per gram, definition of.....	32	Parker, Bill Williams River near	109
Micrograms per kilogram, definition of	32	Central Arizona Project Canal at Havasu	
Micrograms per liter, definition of	33	pumping plant near	110
Microsiemens per centimeter, definition of	33	Colorado River Indian Reservation,	
Military Wash near Sentinel	296	Main Canal near.....	117
Milligrams per liter, definition of	33	Parker Dam, AZ-CA, Colorado River aqueduct near.....	103
Minimum Reporting Level, definition of	33	Colorado River below	113
Miscellaneous site, definition of	33	diversions and return flows between, and Davis Dam ...	103
Miscellaneous sites,		diversions and return flows between,	
diagram showing numbering system for wells and	5	and Palo Verde Dam	118
discharge measurements made at	297	Lake Havasu near	111
Moenkopi Wash at Moenkopi.....	81	Partial-record stations, crest-stage, discharge at.....	294
Morenci, Bonita Creek near.....	132	map showing location of	293
Morristown, Hassayampa River near.....	257	definition of	34
Most probable number (MPN), definition of	33	Particle size, definition of	34
Multiple-plate samplers, definition of	33	Particle-size classification, definition of.....	34
N		Paulden, Verde River near	220
Nanograms per liter, definition of	33	Williamson Valley Wash near.....	213
National Geodetic Vertical Datum of 1929		Peach Springs, Colorado River above	
definition of	33	Diamond Creek near	91
Natural substrate, definition of	33	Diamond Creek near.....	96
Needles, CA, Colorado River at	101	Spencer Creek near.....	97
Topock Marsh Inlet near	102	Peak flow (peak stage), definition of.....	34
Nekton, definition of.....	33	Percent composition (percent of total), definition of.....	34
Nephelometric turbidity unit, definition of	33	Percent shading, definition of	35
New Mexico, Gila River below Blue Creek near Virden ...	126	Peridot, San Carlos River near.....	140
New River, near Rock Springs	254	Periodic-record station, definition of	35
Nogales, Santa Cruz River near	167	Periphyton, definition of	35
North American Datum of 1927, definition of	33	Pesticides, definition of	35
North American Datum of 1983, definition of	33	pH, definition of.....	35
North American Vertical Datum of 1988		Phoenix, Salt River at Priest Drive near	248
(NAVD 1988) definition of	33	Salt River Tributary in South Mountain Park, at	294
North Gila Drain No.1, return surface flows by	283	Skunk Creek, near	255
North Gila Main Canal, diversion by.....	275	Phytoplankton, definition of	35
North Gila Main Canal No. 2, diversion by.....	275	Picocurie, definition of	35
North Gila Main Canal wasteway, return		Pilot Knob powerplant and wasteway near	
surface flows by	283	Pilot Knob, CA	287
Numbering system for wells and miscellaneous sites	5	Pilot Knob wasteway, CA, All-American	
O		Canal below	288
Oak Creek near Cornville	225	Pinal Creek at Inspiration Dam near Globe	196
near Sedona	224	Pine, Blue Ridge Reservoir near.....	75
Open or screened interval, definition of	34	Pine, East Verde River diversion from	
Oraibi Wash near Tolani Lake.....	77	East Clear Creek near	233
Organic carbon, definition of	34	Pinto Creek, below Haunted Canyon near Miami	205
Organic mass, definition of	34	near Miami	206
Organism, count/area, definition of	34	Pisinimo, San Simon Wash near.....	289
count/volume	34	Planet, Bill Williams River at Mineral Wash near	107
Organochlorine compounds, definition of	34	Plankton, definition of	35
Ox Wash near Morrilltown.....	295	Point of Pines, Black River below	
P		pumping plant near	187
Painted Rock Dam, Gila River below.....	263	Polacca Wash near Second Mesa	78
Palominas, Greenbush Draw near.....	144	Polychlorinated biphenyls (PCB's), definition of	35
San Pedro River at.....	143	Polychlorinated naphthalenes, definition of	35
		Pontiac Canal, diversion by	276
		Pool, definition of	35
		Precipitation records, explanation of	15

	Page		Page
Preface	iii	San Francisco River, at Clifton	130
Prescott, Granite Creek at	215	San Juan River basin, surface water records in	49
Granite Creek below Watson Lake near Prescott.....	219	San Pedro River, at Charleston.....	148
Granite Creek near.....	218	at Palominas	143
Primary productivity, definition of.....	35	near Tombstone.....	156
Carbon method, definition of	35	San Pedro River at Redington Bridge near Redington.....	157
Oxygen method, definition of	35	San Simon Wash near Pisinimo	289
Publications on techniques of water-resources		San Simon Wash basin, surface-water records in	289
investigations of the USGS.....	42	Sand Springs, Dinnebito Wash near.....	80
Puerco River, near Chambers	72	Santa Cruz River, at Continental	168
		at Cortaro	181
Q		at Trico Road near Marana	182
Queen Creek below Whitlow Dam near Superior	164	at Tucson.....	169
		near Laveen.....	186
R		near Lochiel	166
Radioisotopes, definition of.....	36	near Nogales.....	167
Rainbow Wash tributary near Buckeye	296	Santa Maria River near Bagdad.....	105
Ramsey Canyon near Sierra Vista	146	Sauceda Wash near Gila Bend	296
Reach, definition of.....	36	Scottsdale, Verde River near	246
Recoverable, bed (bottom) material, definition of.....	36	Sea level, definition of.....	37
Recurrence interval, definition of	36	Second Mesa, Polacca Wash near	78
Redington, San Pedro River at Redington Bridge near	157	Sediment, definition of	37
Replicate samples, definition of.....	36	total load, definition of.....	40
Reservation Drain No. 2, return surface flows by	284	Sedona, Oak Creek near	224
Reservation Drain No. 3, return surface flows by	284	Sensible heat flux	37
Reservation Drain No. 7, return surface flows by	284	Seven-day 10-year low flow, definition of.....	37
Reservation Drain No. 11, return surface flows by	284	Shelves, definition of.....	37
Reservation Main Canal, diversion by.....	275	Show Low, Carrizo Creek near	192
Reservation Main Drain No. 4, return surface flows by.....	284	Forestdale Creek diversion from Show	
Reservation Main Drain No. 6, return surface flows by.....	284	Low Creek near	191
Reservoirs. See Lakes and reservoirs.		Show Low Creek, below Jacques Dam, near Show Low....	70
Return period (see "Recurrence interval").....	36	near Lakeside	68
Riffle, definition of	36	Show Low Lake near Show Low	69
Rillito Creek, at Dodge Blvd., at Tucson.....	178	Sierra Vista, Ramsey Canyon near.....	146
Rillito Creek, at La Cholla Blvd., near Tucson	179	Skunk Creek near Phoenix	255
Rimrock, Dry Beaver Creek near	227	Sodium-adsorption ratio, definition of	37
Wet Beaver Creek near.....	226	Soil heat flux, definition of.....	37
Rincon Creek near Tucson.....	176	Soil-water content, definition of.....	37
Rio Sonoyta basin, surface-water records in	289	Sonoita, Cienega Creek near	174
River mileage, definition of	36	South Fork Parker Creek near Roosevelt	207
Rock Creek near Sunflower	294	South Gila Main Canal, diversion by	275
Rock Springs, Agua Fria River near.....	253	South Gila Pump Outlet Channel No. 1,	
New River near.....	254	return surface flows by	283
Roosevelt, Salt River near	199	South Gila Pump Outlet Channel No. 2,	
South Fork Parker Creek near	207	return surface flows by	283
Tonto Creek above Gun Creek near.....	208	South Gila Pump Outlet Channel No. 3,	
Roosevelt Dam, reservoir system on Salt River		return surface flows by	283
at and below	209	South Gila Pump Outlet Channel No. 4,	
Run, definition of.....	36	return surface flows by	283
Runoff, definition of	36	South Gila Terminal wasteway, return	
		surface flows by.....	283
S		Special Networks and Programs.....	7
Sabino Creek near Tucson	170	Specific electrical conductance, definition of	37
Salado Springs, Little Colorado River below	64	Spencer Creek near Peach Springs.....	97
Salt River, at Priest Drive near Phoenix	248	St. Johns, Carrizo Wash near.....	65
at 51st Avenue, Phoenix	250	Little Colorado River below Salado Springs, near	64
tributary in South Mountain Park at Phoenix.....	294	Little Colorado River above Zion Reservoir, near.....	66
below Stewart Mountain Dam.....	210	Little Colorado River below Zion Reservoir, near	67
near Chrysotile	193	Stable isotope ratio, definition of	37
Salt River, near Roosevelt	199	Stage (see "gage height").....	37
reservoir system on, at and below Roosevelt Dam	209	Stage and water-discharge records,	
San Carlos Reservoir at Coolidge Dam	141	explanation of	9
San Carlos River near Peridot.....	140	Stage-discharge relation, definition of	37

	Page		Page
Star Wash near Tonopah	295	Pantano Wash at Broadway Boulevard, at	177
Stewart Mountain Dam, Salt River below	210	Rillito Creek at Dodge Boulevard, at	178
Streamflow, definition of	37	Rillito Creek at La Cholla Boulevard, near	179
Substrate, definition of	37	Rincon Creek near	176
artificial, definition of	25	Sabino Creek near	170
embeddedness class, definition of	37	Santa Cruz River at	169
natural, definition of	33	Tanque Verde Creek at	173
Sulphur Spring Valley, surface-water records	291	Turbidity, definition of	40
Summary of hydrologic conditions	3		
Supai, Havasu Creek above the mouth near	90	U	
Havasu Creek at	89	Ultraviolet (UV) absorbance (absorption), definition of	40
Superior, Queen Creek below Whitlow Dam near	164	Unconfined aquifer, definition of	40
Surface area of a lake, definition of	38	Unit B Main Canal, diversion by	275
Surface-water stations in downstream order	vii	Upper Babocomari River near Huachuca City	154
Surface-water quality records, explanation of	16	Utah, Kanab Creek near Kanab	88
Surficial bed material, definition of	38		
Surrogate, definition of	38	V	
Suspended, definition of	38	Vail, Pantano Wash near	175
Recoverable, definition of	38	Valentine, Truxton Wash near	98
Total, definition of	38	Vamori Wash at Kom Vo	290
Suspended sediment, definition of	38	Vekol Wash near Stanfield	294
Mean concentration of, definition of	28	Verde River, below Bartlett Dam	242
Suspended-sediment concentration, definition of	38	below Tangle Creek, above Horseshoe Dam	238
Suspended-sediment discharge, definition of	38	near Camp Verde	231
Suspended-sediment load, definition of	38	near Clarkdale	221
Suspended solids, total residue, definition of	38	near Paulden	220
Sycamore Creek near Fort McDowell	245	near Scottsdale	246
Synoptic studies, definition of	39	reservoir system on, at and below Horseshoe Dam	241
		Vertical datum (see "Datum")	40
T		Virgin River basin, surface-water and	
Tanque Verde Creek at Tucson	173	water-quality records in	100
Taxa richness, definition of	39	Volatile organic compounds, definition of	40
Taxonomy, definition of	39		
Tempe, Indian Bend Wash at Curry Road	247	W	
Thalweg, definition of	39	Water levels in selected wells in ground-water	
Thatcher, Frye Creek near	136	areas in Arizona	317
Thermograph, definition of	39	Water-quality stations, map showing location of	48
Three Points, Altar Wash near	184	Water table, definition of	41
Brawley Wash near	185	Water year, definition of	41
Tiger Wash near Aguila	295	Waterman Wash near Buckeye	295
Time-weighted average, definition of	39	Water-table aquifer, definition of	41
Titsink Canal, diversion by	275	Water-quality records, explanation of	15
Tolani Lake, Oraibi Wash near	77	Watson Lake, Granite Creek below, near Prescott	219
Tombstone, Babocomari River near	155	WDR, definition of	41
San Pedro River near	156	Weighted average, definition of	41
Tons per acre-foot, definition of	39	Well-numbering system in Arizona	5
Tons per day, definition of	39	Wells, water levels in selected	317
Tonto Creek above Gun Creek, near Roosevelt	208	Wellton-Mohawk Canal, diversion by	275
Topock Marsh Inlet near Needles, CA	102	Wellton-Mohawk main outlet drain,	
Tortilla Creek at Tortilla Flat	294	return surface flows by	283
Total, definition of	39	West Clear Creek near Camp Verde	228
Total coliform bacteria, definition of	39	Wet Beaver Creek near Rimrock	226
Total discharge, definition of	39	Wet Bottom Creek near Childs	237
Total in bottom material, definition of	39	Wet mass, definition of	41
Total length, definition of	40	Wet weight, definition of	41
Total load, definition of	40	White River, East Fork, near Fort Apache	189
Total organism count, definition of	40	Fort Apache, near	190
Total recoverable, definition of	40	Whitewater Draw near Douglas	292
Total sediment discharge, definition of	40	Whitlow Dam, Queen Creek below, near Superior	164
Total sediment load, definition of	40	Wikieup, Big Sandy River near	104
Transect, definition of	40	Williamson Valley Wash near Paulden	213
Truxton Wash near Valentine	98	Winslow, Chevelon Creek below Wildcat Canyon near ...	74
Tucson, Canada del Oro below Ina Road, near	180	Little Colorado River near	76

	Page		Page
Winter's Wash near Tonopah, AZ	296	Yuma Main Canal wasteway at Yuma	281
Woodruff, Little Colorado River at	71	Yuma Mesa Outlet Drain, return surface flows by.....	284
WSP, definition of	41		
Y			
Yaqui Canal, diversion by	276	Z	
Ypsilanti Canal near Winterhaven, CA, diversion by	276	Zion Reservoir, Little Colorado River, above,	
Yuma, Colorado River below Yuma Main Canal		near St. Johns.....	66
wasteway at	266	Little Colorado River, below, near St. Johns	67
Yuma Main Canal at siphon-drop powerplant,		Zooplankton, definition of	41
near Yuma	280		
below Colorado River Siphon, at Yuma	282		
diversions from, between siphon-drop powerplant			
and Yuma Main Canal wasteway	276		
diversions from, for municipal supply for Yuma	276		

Conversion Factors

Multiply	By	To obtain
Length		
inch (in.)	2.54×10^1	millimeter (mm)
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter (m)
mile (mi)	1.609×10^0	kilometer (km)
Area		
acre	4.047×10^3	square meter (m ²)
	4.047×10^{-1}	square hectometer (hm ²)
	4.047×10^{-3}	square kilometer (km ²)
square mile (mi ²)	2.590×10^0	square kilometer (km ²)
Volume		
gallon (gal)	3.785×10^0	liter (L)
	3.785×10^{-3}	cubic meter (m ³)
	3.785×10^0	cubic decimeter (dm ³)
million gallons (Mgal)	3.785×10^3	cubic meter (m ³)
	3.785×10^{-3}	cubic hectometer (hm ³)
cubic foot (ft ³)	2.832×10^{-2}	cubic meter (m ³)
	2.832×10^1	cubic decimeter (dm ³)
cubic-foot-per-second-per-day [(ft ³ /s/d)]	2.447×10^3	cubic meter (m ³)
	2.447×10^{-3}	cubic hectometer (hm ³)
acre-foot (acre-ft)	1.223×10^3	cubic meter (m ³)
	1.223×10^{-3}	cubic hectometer (hm ³)
	1.223×10^{-6}	cubic kilometer (km ³)
Flow rate		
cubic foot per second (ft ³ /s)	2.832×10^1	liter (L/s)
	2.832×10^{-2}	cubic meter per second (m ³ /s)
	2.832×10^1	cubic decimeter per second (dm ³ /s)
gallon per minute (gal/min)	6.309×10^{-2}	liter per second (L/s)
	6.309×10^{-5}	cubic meter per second (m ³ /s)
	6.309×10^{-2}	cubic decimeter per second (dm ³ /s)
million gallons per day (Mgal/d)	4.381×10^{-2}	cubic meter per second
	4.381×10^1	cubic decimeter per second (dm ³ /s)
Mass		
ton, short (2,000 lb)	9.072×10^{-1}	megagram (Mg) or metric ton

Temperature in degrees Celsius (°C) may be converted to degrees Fahrenheit (°F) as follows:

$$^{\circ}\text{F} = (1.8 \times ^{\circ}\text{C}) + 32$$

**U.S. Department of Interior
U.S. Geological Survey
520 N. Park Avenue, Suite 221
Tucson, AZ 85719**