

SGS

science changing world

92086241

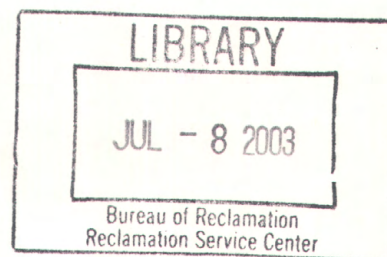


BUREAU OF RECLAMATION DENVER LIBRARY

AMATION LIBRARY

SURPLUS

Water Resources Data Oklahoma Water Year 2002



Volume 1. Arkansas River Basin

Water-Data Report OK-02-1



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



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

CALENDAR FOR WATER YEAR 2002

2001

OCTOBER

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

NOVEMBER

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

DECEMBER

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

2002

JANUARY

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

FEBRUARY

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

MARCH

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

APRIL

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

MAY

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

JUNE

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

JULY

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

AUGUST

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

SEPTEMBER

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

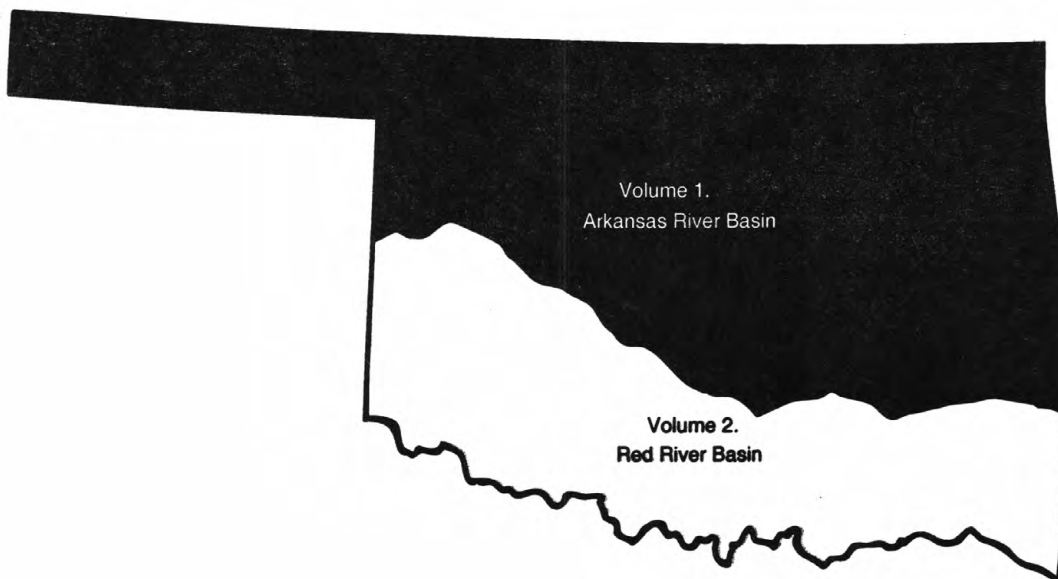
U.S. Department of the Interior
U.S. Geological Survey

Water Resources Data Oklahoma Water Year 2002

Volume 1. Arkansas River Basin

By R.L. Blazs, D.M. Walters, T.E.Coffey, D.L. Boyle and J.J.Wellman

Water-Data Report OK-02-1



Prepared in cooperation with the
State of Oklahoma and with other agencies.

U.S. DEPARTMENT OF THE INTERIOR

GALE A. NORTON, *Secretary*

U.S. GEOLOGICAL SURVEY

Charles G. Groat, Director

For information on the water program in Oklahoma write to
District Chief, Water Resources Division
U.S. Geological Survey
202 N.W. 66 St., Building 7
Oklahoma City, Oklahoma 73116

PREFACE

This hydrologic-data report for Oklahoma is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface-water and ground-water data-collection networks in each state, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and water quality 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 U.S. Geological 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 Geological Survey policy and established guidelines.

The data were collected, computed, and processed by the following personnel:

D.L. Adams	K. C. Davis	J.R. Hanlon	E.W. Smith
L.A. Alf	D.M. Ferree	R.E. Johnson	S.D. Smith
D.L. Boyle	R.A. Gibbs	J.E. Norvell	R.L. Tortorelli
P.A. Carpenter	R.D. Gist	M.L. Phillips	D.M. Walters
T.E. Coffey	J.R. Greer	B. E. Pickup }	J.J. Wellman
K.L. Collins	G.H. Haff	M.L. Schneider	

L.A. Alf typed the text of the report.

This report was prepared in cooperation with the State of Oklahoma and with other agencies under the general supervision of Robert L. Blazs, Hydrologic Records Section Chief, and Kim D. Winton, District Chief.

Data for Oklahoma are in two volumes as follows:

Volume 1. Arkansas River Basin

Volume 2. Red River Basin and Ground-Water Records

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 (Leave blank)		2. REPORT DATE March 2003	3. REPORT TYPE AND DATES COVERED Annual-Oct. 1, 2001 to Sept. 30, 2002	
4. TITLE AND SUBTITLE Water Resources Data for Oklahoma, Water Year 2002			5. FUNDING NUMBERS	
6. AUTHOR(S) R.L. Blazs, D.M. Walters, T.E. Coffey, D.L. Boyle, J.J Wellman				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Geological Survey Water Resources Division 202 NW 66 St., Bldg. 7 Oklahoma City, OK 73116			8. PERFORMING ORGANIZATION REPORT NUMBER USGS-WDR-OK-02-1	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)			10. SPONSORING / MONITORING AGENCY REPORT NUMBER USGS-WDR-OK-02-1	
11. SUPPLEMENTARY NOTES Prepared in cooperation with the State of Oklahoma and with other agencies.				
12a. DISTRIBUTION / AVAILABILITY STATEMENT No restrictions on distribution. This report may be purchased from: National Technical Information Service Springfield, VA 22161			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) Volumes 1 and 2 of the water resources data for the 2002 water year for Oklahoma consists of record of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes or reservoirs; and water levels of ground-water wells. This report contains discharge records for 138 gaging stations; stage and contents for 19 lakes or reservoirs and 2 gage height stations; water quality for 48 gaging stations; 33 partial-record or miscellaneous streamflow stations and 3 ground-water sites. Also included are lists of discontinued surface-water discharge and water-quality sites. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Oklahoma.				
14. SUBJECT TERMS *Oklahoma, *Hydrologic data, *Surface water, *Water quality, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediment, Water temperature, Sampling sites, Water analyses, Ground water, Gage height			15. NUMBER OF PAGES 404	
			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 UL	

CONTENTS

	Page
Preface	iii
List of surface-water stations, in downstream order, for which records are published in this volume	vi
List of discontinued surface-water discharge stations	ix
List of discontinued surface-water-quality stations	xiii
Introduction.....	1
Cooperation.....	1
Special networks and programs	2
Explanation of records	2
Station identification numbers	2
Downstream order system	2
Latitude-longitude system	3
Records of stage and water discharge.....	3
Data collection and computation	4
Data presentation	4
Station manuscript	5
Data table of mean daily values.....	6
Statistics of monthly mean data.....	6
Summary statistics	6
Hydrographs	7
Identifying estimated daily discharge	7
Accuracy of the records.....	7
Other records available.....	7
Records of surface-water quality	8
Classification of records	8
Arrangement of records.....	8
On-site measurements and sample collection.....	8
Water temperature	9
Sediment	9
Laboratory measurements	9
Data presentation	9
Remark codes	10
Dissolved trace-element concentrations	10
Records of ground-water levels	11
Data collection and computation	11
Data presentation	11
Access to USGS water data	12
Definition of terms.....	12
Publications on Techniques of Water-Resources Investigations	18
Station records, surface water	24
Discharge at partial-record stations	370
Station records, ground-water: See Volume 2	
Index	373

ILLUSTRATIONS

Figures 1-3. Maps of Oklahoma showing:

1. Locations of continuous- and partial-record surface-water stations, water year 2002.....	21
2. Locations of water-quality stations, water year 2002	22
3. Locations of ground-water wells, water year 2002	23

**SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS
ARE PUBLISHED IN THIS VOLUME**

[Letters after station names designate type of data: (d) discharge,
(c) chemical, (b) biological, (m) microbiological, (s) sediment, (t) temperature, (e) elevation, gage heights, or contents]

	Station Number	Page
<u>LOWER MISSISSIPPI RIVER BASIN</u>		
<u>MISSISSIPPI RIVER</u>		
ARKANSAS RIVER BASIN		
Salt Fork Arkansas River near Alva (d)	07148400	24
Salt Fork Arkansas River at Tonkawa (d)	07151000	26
Chikaskia River near Blackwell (d)	07152000	28
Arkansas River at Ralston (d)	07152500	30
Black Bear Creek at Pawnee (d)	07153000	32
Cimarron River near Kenton (d)	07154500	34
Cimarron River near Forgan (d)	07156900	36
Cimarron River near Buffalo (d)	07157950	38
Cimarron River near Waynoka (d)	07158000	40
Cimarron River near Dover (d)	07159100	42
Cottonwood Creek:		
Deer Creek:		
Bluff Creek:		
Lake Hefner at Oklahoma City (e)	07159550	44
Bluff Creek above Bethany and Warr Acres Sewage Treatment Plant near Edmond (c)	07159639	46
Deer Creek below Bluff Creek at Oklahoma City (c)	07159643	47
Deer Creek at Oklahoma City (c)	07159650	48
Chisholm Creek at Edmond (c)	07159730	49
Chisholm Creek near Edmond (c)	07159735	50
Cottonwood Creek near Seward (d)	07159750	52
Cimarron River near Guthrie (d)	07160000	54
Skeleton Creek at Enid(d)	07160350	56
Skeleton Creek near Lovell (d).....	07160500	58
Cimarron River near Ripley (d)	07161450	60
Arkansas River at Tulsa (dt)	07164500	62
Joe Creek at 61st Street at Tulsa (d).....	07164600	66
Haikey Creek at 101st Street South at Tulsa (d)	07165562	68
Little Haikey Creek at 101st Street South at Tulsa (d).....	07165565	70
Arkansas River near Haskell (d)	07165570	72
Verdigris River near Lenapah (d)	07171000	74
Caney River above Coon Creek at Bartlesville (d)	07174400	76
Caney River near Ramona (d)	07175500	78
Verdigris River near Claremore (d)	07176000	80
Bird Creek near Avant (d)	07176500	82
Bird Creek near Sperry (dct)	07177500	84
Flat Rock Creek at Cincinnati Avenue at Tulsa (d)	07177650	94
Coal Creek at Tulsa (d).....	07177800	96
Bird Creek near Owasso (dct)	07178000	98
Bird Creek at State Highway 266 near Catoosa (dct)	07178200	108
Dog Creek South of Claremore (dc)	07178520	118
Neosho River near Commerce (d).....	07185000	122

**SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH
RECORDS ARE PUBLISHED IN THIS VOLUME**

vii

[Letters after station names designate type of data: (d) discharge,
(c) chemical, (b) biological, (m) microbiological, (s) sediment, (t) temperature, (e) elevation, gage heights, or contents]

	Station Number	Page
<u>LOWER MISSISSIPPI RIVER BASIN</u>		
<u>MISSISSIPPI RIVER--Continued</u>		
ARKANSAS RIVER BASIN--Continued		
Neosho River at Miami (e)	07185080	124
Spring River near Quapaw (dc)	07188000	128
Elk River near Tiff City, MO (d)	07189000	130
Honey Creek:		
Cave Springs Branch near South West City, MO (dc)	07189540	132
Honey Creek near Southwest City, MO (dc)	07189542	136
Lake O' The Cherokees at Langley (e)	07190000	140
Neosho River near Langley (d)	07190500	142
Big Cabin Creek near Big Cabin (d)	07191000	144
Spavinaw Creek near Maysville, AR (dc)	07191160	146
Spavinaw Creek near Cherokee, AR (dc)	07191179	152
Spavinaw Creek near Sycamore (dc)	07191220	158
Spavinaw Creek near Colcord (dc)	071912213	162
Beaty Creek near Jay (dc)	07191222	168
Lake Eucha near Eucha (e)	07191285	174
Spavinaw Creek near Eucha (d)	07191288	176
Spavinaw Lake at Spavinaw (e)	07191300	178
Lake Hudson near Locust Grove (e)	07191400	180
Neosho River near Chouteau (d)	07191500	182
Illinois River near Watts (dc)	07195500	184
Flint Creek near West Siloam Springs(dc)	07195855	188
Sager Creek near West Siloam Springs(dc)	07195865	192
Flint Creek near Kansas (dc)	07196000	196
Illinois River at Chewey(c)	07196090	202
Illinois River near Moodys(c)	07196320	204
Illinois River near Tahlequah (dc)	07196500	206
Illinois River near Park Hill(c)	07196520	212
Baron Fork:		
Peachewater Creek at Christie (d)	07196973	214
Baron Fork at Eldon (dc)	07197000	216
Caney Creek near Barber (dc)	07197360	220
Illinois River near Gore (d)	07198000	224
Canadian River at Bridgeport (d)	07228500	226
Canadian River at Purcell (d)	07229200	228
Little River:		
Elm Creek:		
Stanley Draper Lake near Oklahoma City (e)	07229445	230
Lake Thunderbird near Norman (e)	07229900	232
Little River below Lake Thunderbird near Norman (d)	07230000	234
Little River near Tecumseh (d)	07230500	236
Little River near Sasakwa (d)	07231000	238

**SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS
ARE PUBLISHED IN THIS VOLUME**

[Letters after station names designate type of data: (d) discharge,
(c) chemical, (b) biological, (m) microbiological, (s) sediment, (t) temperature, (e) elevation, gage heights, or contents]

	Station Number	Page
<u>LOWER MISSISSIPPI RIVER BASIN</u>		
<u>MISSISSIPPI RIVER--Continued</u>		
ARKANSAS RIVER BASIN--Continued		
Canadian River at Calvin (d).....	07231500	240
Beaver River near Felt (d)	07232250	242
Beaver River near Goodwell (d).....	07232470	244
Coldwater Creek near Guymon (d)	07232900	246
Beaver River:		
Palo Duro Creek at Range (d).....	07233650	248
Beaver River at Beaver (d)	07234000	250
North Canadian River at Woodward (d).....	07237500	252
North Canadian River near Seiling (d).....	07238000	254
North Canadian River at Canton (d).....	07239000	256
North Canadian River below Weavers Creek near Watonga (d)	07239300	258
North Canadian River near Calumet (dct)	07239450	260
North Canadian River near El Reno (dct)	07239500	276
North Canadian River near Yukon (dc)	07239700	282
Lake Hefner Canal near Oklahoma City (d).....	07240000	288
North Canadian River at Highway 66 at Oklahoma City (e)	07240200	290
Lake Overholser at Oklahoma City (e)	07240500	294
North Canadian River blw Lake Overholser near Oklahoma City (dct)	07241000	296
North Canadian River at Britton Road at Oklahoma City (dct)	07241520	306
North Canadian River near Harrah (dct)	07241550	318
North Canadian River at Shawnee (d)	07241800	332
North Canadian River near Wetumka (d)	07242000	334
Deep Fork near Warwick (d)	07242380	336
Deep Fork near Beggs (d)	07243500	338
Coal Creek near Henryetta (dt)	07244100	340
Canadian River near Whitefield (d)	07245000	344
Poteau River at Cauthron, AR (d)	07247000	346
Poteau River at Loving (dc)	07247015	348
Black Fork Below Big Creek near Page (dc)	07247250	352
Black Fork at Hodgen (c),	07247345	356
Fourche Maline near Red Oak (d)	07247500	358
Fourche Maline near Leflore (c)	07247650	360
Holson Creek at Summerfield (c)	07247800	362
Poteau River near Panama (d)	07249413	364
Arkansas River at Ft. Smith, AR (dc)	07249455	366

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS

The following continuous-record surface-water discharge stations (gaging stations) in Oklahoma have been discontinued. Daily streamflow records were collected and published for the period of record, expressed in water years, shown for each station. Discontinued project stations with less than 2 years of record have not been included. Information regarding these stations may be obtained from the District Office at the address given on the back side of the title page of this report.

DISCONTINUED SURFACE-WATER STATIONS

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
Arkansas River near Ponca City, OK	07148140	46,530	1976-93
Salt Fork Arkansas River near Winchester, OK	07148350	856	1960-93
Salt Fork Arkansas River near Ingersoll, OK	07148450	1,140	1961-62 1974-79
Salt Fork Arkansas River near Cherokee, OK	07149500	2,439	1941-50
Salt Fork Arkansas River near Jet, OK	07150500	3,202	1938-93
Greasy Creek near Watchorn, OK	07152290	28.0	1974-76
Ranch Creek at Cleveland Dam near Cleveland, OK	07153100	21.9	1945-63
Cimarron River above Ute Creek near Boise City, OK	07155000	1,955	1906-07 1943-46 1947-54
Cimarron River near Boise City, OK	07155500	2,214	1939-42
Cimarron River near Mocane, OK	07157000	8,670	1943-65
Cimarron River near Englewood, KS	07157580	10,096	1982-87
Buffalo Creek near Lovedale, OK	07157960	408	1966-93
Cimarron River at Freedom, OK	07157980	12,706	1974-80
Salt Creek near Hitchcock, OK	07158150	44.4	1968-70
Salt Creek near Okeene, OK	07158400	196	1961-67 1974-79
Preacher Creek near Dover, OK	07158500	14.5	1952-57
Turkey Creek near Drummond, OK	07159000	248	1948-70
Cimarron River near Crescent, OK	07159400	16,453	1971-72
Bluff Creek above Lake Hefner near Oklahoma City, OK	07159500	1.62	1950-58
Cottonwood Creek near Navina, OK	07159720	247	1978-80 1982-89
Cimarron River near Perkins, OK	07161000	17,852	1940-89
Stillwater Creek near Stillwater, OK	07162000	168	1935-38
West Fork Brush Creek near Stillwater, OK	07162500	13.1	1935-38
Council Creek near Stillwater, OK	07163000	31	1934-93
Cimarron River at Oilton, OK	07163500	18,669	1935-45
Cimarron River at Mannford, OK	07164000	18,849	1939-50 1960-63
Arkansas River near Tullahasse, OK	07165600	75,815	1970-72
Verdigris River near Oologah, OK	07171400	4,339	1961-92
Verdigris River near Sageeyah, OK	07171500	4,402	1939-45
Caney River near Hulah, OK	07173000	733	1938-93

WATER RESOURCES DATA — OKLAHOMA, 2002
DISCONTINUED SURFACE-WATER DISCHARGE OR SURFACE-WATER-QUALITY STATIONS

DISCONTINUED SURFACE-WATER STATIONS

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
Little Caney River near Copan, OK	07174000	424	1944-58
Little Caney River below Cotton Creek near Copan, OK	07174200	502	1959-81
Caney River at Bartlesville, OK	07174500	1,465	1950-56 1986-87
Sand Creek at Okesa, OK	07174600	139	1960-93
Caney River near Ochelata, OK	07174700	1,753	1956-76
Double Creek subwater shed 5 near Ramona, OK	07175000	2.39	1955-69
Caney River near Collinsville, OK	07175550	2,046	1936-38
Birch Creek below Birch Lake near Barnsdall, OK	07176465	66.0	1977-92
Candy Creek near Wolco, OK	07176800	30.6	1970-81
Hominy Creek below Skiatook Lake near Skiatook, OK	07177410	354	1985-93
Bird Creek at 66th Street near Tulsa, OK	07177600	967	1987-91
Hominy Creek near Skiatook, OK	07177000	340	1944-81
Flat Rock Creek at U.S. Highway 75 at Tulsa, OK	07177700	22.6	1987-91
Mingo Creek at 36th Street North at Tulsa, OK	07178035	56.0	1987-89
Mingo Creek at 46th Street North at Tulsa, OK	07178040	59.9	1987-98
Verdigris River near Inola, OK	07178600	7,911	1945-70
Tar Creek at 22nd Street Bridge at Miami, OK	07185095	44.7	1984-93
Tar Creek at Miami, OK	07185100	52.0	1980-84
Lost Creek at Seneca, MO	07188500	42.0	1949-59
Neosho River near Grove, OK	07189500	9,969	1925-39
Big Cabin Creek near Pyramid Corners, OK	07190600	71.1	1964-72
Spavinaw Creek near Row, OK	07191200	128	1959-62
Black Hollow near Spavinaw, OK	07191297	6.0	1998-01
Pryor Creek near Pryor, OK	07192000	229	1948-63
Neosho River near Wagoner, OK	07192500	12,307	1924-25 1938-49
Neosho River below Fort Gibson Lake near Fort Gibson, OK	07193500	12,495	1951-89
Arkansas River near Muskogee, OK	07194500	96,674	1926-70
Dirty Creek near Warner, OK	07198500	227	1940-46
Deer Creek at Hydro, OK	07228400	274	1961-63 1978-80
Canadian River near Newcastle, OK	07229000	25,763	1939-45
Canadian River near Norman, OK	07229050	25,853	1996-98
Canadian River near Noble, OK	07229100	25,911	1960-61 1964-75
Walnut Creek at Purcell, OK	07229300	202	1966-93
Canadian Sandy Creek near Ada, OK	07229427	198	1987-88
Little River near Norman, OK	07229500	120	1952-55
Little River near Bowlegs, OK	07230597	550	1983-88
Salt Creek near Dewright, OK	07230800	210	1960-63 1966-67

DISCONTINUED SURFACE-WATER STATIONS

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
Ti Creek near Blanco, OK	07231965	4.82	1980-81
Brushy Creek near Haileyville, OK	07231975	139	1978-83
Peaceable Creek near Haileyville, OK	07231990	134	1978-83
Gaines Creek near Krebs, OK	07232000	588	1943-63
Blue Creek near Blocker, OK	07232010	12.1	1976-83
Deer Creek near McAlester, OK	07232024	38.3	1979-80
Beaver River near Guymon, OK	07232500	2,139	1938-93
Coldwater Creek near Hardesty, OK	07233000	1,967	1940-64
Beaver River near Hardesty, OK	07233210	5,029	1978-86
Clear Creek near Elmwood, OK	07234100	170	1966-93
Wolf Creek near Shattuck, OK	07235500	1,183	1938-46
Wolf Creek near Fargo, OK	07236000	1,624	1943-76
Wolf Creek near Fort Supply, OK	07237000	1,739	1938-93
Bent Creek near Seiling, OK	07237800	139	1967-70
North Canadian River near Watonga, OK	07239200	12,692	1980-83
North Canadian River near Oklahoma City, OK	07241500	13,354	1939-53 1960-61
Tecumseh Creek at Tecumseh, OK	07241750	2.38	1991-92
North Canadian River at NE 36th Street at Oklahoma City, OK	07241503	13,356	1989-91
Wewoka Creek near Wetumka, OK	07242100	396	1960-64 1967
Deep Fork at Hefner Rd. at Oklahoma City, OK	07242247	66.7	1995-98
Deep Fork near Arcadia, OK	07242350	105	1970-93
Bellcow Creek at Chandler, OK	07242500	46.0	1949-55
Dry Creek near Kendrick	07243000	69.0	1956-94
Deep Fork near Dewar, OK	07244000	2,307	1938-50
North Canadian River near Eufaula, OK	07244500	17,657	1960-62
Taloka Creek near Stigler, OK	07245030	20.1	1979-81
Sallisaw Creek near Sallisaw, OK	07245500	182	1943-76
Sans Bois Creek near Keota, OK	07246000	346	1939-42
Arkansas River near Sallisaw, OK	07246500	147,757	1948-70
Coal Creek near Spiro, OK	07246615	15.4	1979-82
Fourche Maline near Wilburton, OK	07247450	56.2	1978-81
Red Oak Creek near Red Oak, OK	07247550	12.8	1978-82
Poteau River near Wister, OK	07248500	993	1938-87
Caston Creek at Wister, OK	07248600	72.9	1979-82
Morris Creek at Howe, OK	07248620	19.4	1979-81
Sugarloaf Creek near Monroe, OK	07248700	53.6	1979-81
Poteau River at Poteau, OK	07249000	1,240	1938-45
Brazil Creek near Walls, OK	07249080	69.1	1979-81 1984-85
Owl Creek near McCurtain, OK	07249100	27.9	1978-81

WATER RESOURCES DATA — OKLAHOMA, 2002
DISCONTINUED SURFACE-WATER DISCHARGE OR SURFACE-WATER-QUALITY STATIONS

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

The following stations are discontinued surface-water-quality discontinued stations. Stations with one year's record or less are not included. Information regarding these stations may be obtained from the District Office at address given on back of title page of this report.

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
Beaver Creek near Kaw City, OK	07148126		1949, 1954-55, 1961
Arkansas River at Kaw City, OK	07148128	8,670	1948-51, 1961
Arkansas River near Ponca City, OK	07148140	46,530	1977-82, 1987-90
Salt Fork Arkansas River near Winchester, OK	07148350	856	1959-62, 1975-77, 1985-90
Greenwood Creek near Winchester, OK	07148360	41.2	1987-88
Salt Fork Arkansas River near Alva, OK	07148400	1,009	1938-54, 1962, 1977-79, 1985-90
Salt Fork Arkansas River near Ingersoll, OK	07148450	1,140	1961-62, 1973-80
Salt Fork Arkansas River near Cherokee, OK	07149500	2,439	1941-49
Cottonwood Canyon Creek near Cherokee, OK	07149704		1944-45
Salt Fork Arkansas River near Jet, OK	07150500	3,202	1924, 1938-63, 1965, 1968-90
Salt Fork Arkansas River near Pond Creek, OK	07150597		1951,1962
Pond Creek near Lamont, OK	07150700		1951-55, 1958, 1962
Deer Creek near Tonkawa, OK	07150900	150	1958,1962
Salt Fork Arkansas River at Tonkawa, OK	07151000	4,528	1943-45, 1948, 1951-64, 1968-79, 1985-90
Chikaskia River near Braman, OK	07151900	1,510	1976-77

WATER RESOURCES DATA — OKLAHOMA, 2002
DISCONTINUED SURFACE-WATER DISCHARGE OR SURFACE-WATER-QUALITY STATIONS

xiii

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
Chikaskia River near Blackwell, OK	07152000	1,859	1906, 1938, 1943-45, 1952-53, 1955-56, 1959-64, 1975-80, 1985-90
Chikaskia River near Tonkawa, OK	07152050		1948, 1952, 1960-63
Salt Fork Arkansas River near Marland, OK	07152200		1959-63
Bois D Arc Creek near Ponca City, OK	07152250	100	1952, 1959-63
Salt Fork Arkansas River near White Eagle, OK	07152260		1977-80
Red Rock Creek near Red Rock, OK	07152350		1951-58, 1961-63
Salt Creek near Shidler, OK	07152400		1954-55, 1958, 1961-63
Arkansas River at Ralston, OK	07152500	54,465	1950-63, 1965-93
Black Bear Creek at Pawnee, OK	07153000	576	1944-50, 1952-53, 1955-65, 1967-71, 1977-80, 1985-90
Cimarron River near Kenton, OK	07154500	1,106	1952-53, 1955-56, 1959-63, 1967-68, 1977, 1982, 1987-90
Cimarron River Ab Ute Creek near Boise City, OK	07155000	1,955	1938-48, 1950
Cimarron River near Forgan, OK	07156900	8,536	1967-68, 1970-71, 1974, 1987-90
Cimarron River near Mocane, OK	07157000	8,670	1942-49, 1952-53, 1955-56, 1959-66, 1977-78

WATER RESOURCES DATA — OKLAHOMA, 2002
DISCONTINUED SURFACE-WATER DISCHARGE OR SURFACE-WATER-QUALITY STATIONS

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
Cimarron River near Englewood, KS	07157580	10,096	1938-42, 1982-87
Buffalo Creek near Lovedale, OK	07157960	408	1917, 1973-80, 1987-90
Cimarron River near Buffalo	07157950	12,004	1953, 1961-63, 1968-94
Cimarron River at Freedom, OK	07157980	12,706	1953, 1973-80
Cimarron River near Waynoka, OK	07158000	13,334	1938-53, 1955-56, 1959-63, 1968-79, 1985-90
Main Creek near Waynoka, OK 23N-16W-03 DDD	07158010	89.7	1986, 1988
Eagle Chief Creek at Cleo Springs, OK 22N-12W-02	07158105	480	1986, 1988, 1991
Salt Creek near Hitchcock, OK	07158150	44.4	1968-70
Salt Creek near Okeene, OK	07158400	196	1973-80, 1986, 1988
Preacher Creek near Dover, OK 18N-08W-13 BBB	07158500	14.5	1952-53, 1986-89
Turkey Creek near Drummond, OK	07159000	248	1947-48, 1952-53, 1955-56, 1976
Cimarron River near Dover, OK	07159100	15,713	1953, 1973-80, 1986-90
Turkey Creek near Dover, OK	07159203		1961-62
Deer Creek Abv Waste Water Trmt Fac near Edmond, OK	07159630		1983-84
Deer Creek Blw Waste Wtr Trmt Fac near Edmond, OK	07159645		1983-84
Cottonwood Creek near Navina, OK	07159720	247	1977-80, 1982-89
Cottonwood Creek near Seward, OK	07159750	320	1973-82, 1989-91
Cottonwood Creek near Guthrie, OK	07159800	366	1953, 1955-56, 1960-61

WATER RESOURCES DATA — OKLAHOMA, 2002
DISCONTINUED SURFACE-WATER DISCHARGE OR SURFACE-WATER-QUALITY STATIONS

xv

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
Cimarron River near Guthrie, OK	07160000	16,892	1905, 1930-31, 1938-57, 1959-71, 1973-80, 1986-90
Skeleton Creek near Lovell, OK	07160500	410	1950-55, 1975-80, 1985-90
Cimarron River at Perkins	07161000	17,852	1950, 1953-63, 1965-94
Council Creek near Stillwater, OK	07163000	31	1986-90
Cimarron River near Ripley, OK	07161450	17,979	1987-90
Stillwater Creek at Stillwater, OK	07162000	168	1954-55
Council Creek near Stillwater, OK	07163000	31	1986-90
Cimarron River at Oilton, OK	07163500	18,669	1938, 1942, 1944-45, 1981
Cimarron River at Mannford, OK	07164000	18,849	1939-52, 1959-63
Arkansas River at Sand Springs near Tulsa, OK	07164400	74,615	1905, 1946-77, 1980
Polecat Creek Blw Heyburn Res near Heyburn, OK	07165500	123	1944-69, 1971-79
Polecat Creek near Jenks, OK	07165510		1959-63
Arkansas River at Bixby, OK	07165520		1948-49
Snake Creek near Leonard, OK	07165559		1960-61
Arkansas River near Haskell, OK	07165570	75,473	1972-83, 1986-88
Cane Creek near Jamesville, OK	07165581		1960-61
Arkansas River near Tullahassee, OK	07165600	75,815	1969-72
Arkansas River at Muskogee, OK	07165610		1956, 1958, 1961-63, 1969-70
Verdigris River near S Coffeyville, OK	07170950		1952-53, 1974-78
Verdigris River near Lenapah, OK	07171000	3,639	1940-83, 1985-87, 1989-90
California Creek near Nowata, OK	07171080		1952-53, 1959

WATER RESOURCES DATA — OKLAHOMA, 2002
DISCONTINUED SURFACE-WATER DISCHARGE OR SURFACE-WATER-QUALITY STATIONS

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
Verdigris River near Nowata, OK	07171100		1952-53
East Fork Big Creek near Hollow, OK	07171105	14.4	1979-80, 1982-83
Big Creek near Nowata, OK	07171220		1952-53, 1959, 1981
Salt Creek near Alluwe, OK	07171230		1952-53, 1959
Lightning Creek near Alluwe, OK	07171240		1952-53, 1959
Verdigris River near Talala, OK	07171260		1952-53
Verdigris River near Oologah, OK	07171400	4,339	1961-83, 1986, 1988-89
Verdigris River Ab Caney River near Claremore, OK	07171405		1941, 1945, 1948, 1952-55, 1959, 1961, 1978
Sweetwater Creek near Claremore, OK	07171490		1980-83
Verdigris River near Sageeyah, OK	07171500	4,402	1938, 1940-45, 1961
Caney River near Hulah, OK	07173000	733	1938, 1940-83, 1986
Little Caney River near Copan, OK	07174000	424	1976-77, 1979
Cotton Creek near Copan, OK	07174150		1967-68
Little Caney River Blw Cotton Cr, near Copan, OK	07174200	502	1944-81, 1983, 1986
Caney River Above Coon Creek at Bartlesville, OK	07174400	1,392	1985-86, 1989-90
Caney River at Bartlesville, OK	07174500	1,465	1944-45, 1947, 1949-51, 1966-68, 1978-82
Sand Creek at Okesa, OK	07174600	139	1951-55, 1960-78, 1980-83, 1985-86, 1989-90

WATER RESOURCES DATA — OKLAHOMA, 2002
DISCONTINUED SURFACE-WATER DISCHARGE OR SURFACE-WATER-QUALITY STATIONS

xvii

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
Caney River near Ochelata, OK	07174700	1,753	1959-61
Double Creek SWS 5 near Ramona, OK	07175000	2.39	1957-59, 1964-65, 1967-69
Caney River near Ramona, OK	07175500	1,955	1966-93
Caney River near Collinsville, OK	07175550	2,046	1949-53, 1959
Verdigris River near Claremore, OK	07176000	6,534	1944, 1947-54, 1977-81, 1985-87
Bird Creek at Pawhuska, OK	07176320		1944-46
Bird Creek near Barnsdall, OK	07176350		1949-53
Birch Creek near Barnsdall, OK	07176455		1964-66, 1978, 1980-81, 1983
Birch Creek Blw Birch Lake near Barnsdall, OK	07176465	66	1989-90
Bird Creek at Avant, OK	07176500	364	1945-55, 1957-81, 1983, 1986, 1989-90
Candy Creek near Wolco, OK	07176800	30.6	1978-80
Bird Creek near Skiatook, OK	07176910		1948-50, 1952-53
Hominy Creek near Hominy, OK	07176950		1949-53, 1955
Hominy Creek near Skiatook, OK	07177000	340	1944-55, 1957-71, 1977-78, 1980-81, 1983, 1986
Hominy C Bl Skiatook Lk near Skiatook, OK	07177410	354	1988-89
Bird Creek at 66th Street near Tulsa, OK	07177600	967	1988-90
Flat Rock Creek at Cincinnati Ave at Tulsa, OK	07177650	8.2	1988-89
Flat Rock Creek at Us Hwy 75 at Tulsa, OK	07177700	22.6	1988-90
Bird Creek near Owasso, OK	07178000	1,022	1948-50, 1987-90
Mingo Creek at 46th Street North at Tulsa, OK	07178040	59.9	1987-98
Bird Creek near Catoosa, OK	07178050	1,080	1963-90
Verdigris River near Inola, OK	07178600	7,911	1940-71, 1976-79
Verdigris River (Newt Graham L&D) near Inola, OK	07178620	7,911	1971-86

WATER RESOURCES DATA — OKLAHOMA, 2002
DISCONTINUED SURFACE-WATER DISCHARGE OR SURFACE-WATER-QUALITY STATIONS

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
Verdigris River near Okay, OK	07178670		1959-63
Neosho River near Commerce, OK	07185000	5,876	1944-54, 1959-73, 1975-83, 1985-89
Tar Creek at 22nd Street Bridge at Miami, OK	07185095	44.7	1988-92, 2000
Spring River near Quapaw, OK	07188000	2,510	1948-58 1960-63 1976-80 1986 1988-89 2000
Neosho River near Langley, OK	07190500	10,335	1944-47, 1949-51, 1956-59, 1975-80, 1988
Big Cabin Creek near Welch, OK	07190590	28.1	1979-83
Big Cabin Creek Tributary Blw Wolfe Ck near Welch, OK	07190597		1980-83
West Fork Big Cabin Creek near Centralia, OK	07190620	13.1	1979-83
Middle Fork Big Cabin Creek near Centralia, OK	07190622		1979-80
Middle Fork Big Cabin Creek near Pyramid Corners, OK	07190625	13.4	1979-83
Big Cabin Creek near Vinita, OK	07190650		1944, 1949-51, 1980
Little Cabin Creek near Vinita, OK	07190850		1948-51
Big Cabin Creek near Big Cabin, OK	07191000	450	1948, 1951-60, 1964-71, 1975-77, 1985-89
Spavinaw Creek near Jay, OK	07191223		1958-61
Spavinaw Creek near Spavinaw, OK	07191310		1944, 1948-51
Salina Creek near Salina, OK	07191350		1948-53, 1958-59
Neosho River near Chouteau, OK	07191500	11,534	1921, 1940-48, 1950-58, 1960, 1975-80
Pryor Creek near Pryor, OK	07192000	229	1942-44, 1948-58, 1960-63

WATER RESOURCES DATA — OKLAHOMA, 2002
DISCONTINUED SURFACE-WATER DISCHARGE OR SURFACE-WATER-QUALITY STATIONS

xix

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
Pryor Creek at Elliot St Br near Pryor, OK	07192030		1947, 1966-71
Pryor Creek at Hwy 69a near Pryor, OK	07192050		1962-63
Pryor Creek Blw Sulfur Creek near Pryor, OK	07192060		1966-74
Neosho River near Wagoner, OK	07192500	12,307	1930-31, 1938-50
Neosho River below Fort Gibson Lake near Fort Gibson, OK	07193500	12,495	1952-93
Arkansas River near Muskogee, OK	07194500	96,674	1943-71, 1976-80
Bayou Manard near Fort Gibson, OK	07194512		1960-61
Greenleaf Creek near Braggs, OK	07194545		1951-55
Illinois River at Savoy, AR	07194800	167	1968, 1974-91
Illinois River near Pedro, AR	07194830		1996-01
Illinois River at Siloam Springs, AR	07195400	509	1984-94 1996-01
Illinois River South of Siloam Springs, AR	07195430		1972-81
Illinois River abv. Flint Creek near Flint, OK	07195610		1996-00
Flint Creek at Springtown, AR	07195800	14.2	1975-79
Flint Creek North of Siloam Springs, AR	07195850		1972-81
Illinois River blw. Flint Creek near Flint, OK	07196040		1996-00
Illinois River at No Head Hollow near Tahlequah, OK	07196400		1996-00
Illinois River near Briggs, OK	07196490		1996-00
Tahlequah Creek at Tahlequah, OK	07196510	13.4	1976-77
Illinois River blw. Tahlequah Creek near Tahlequah, OK	07196513		1997-99
Peacheater Creek at Christe, OK	07196973	25	1991-93
Baron Fork at Welling, OK	07197080		1996-01
Dirty Creek near Warner, OK	07198500	227	1940-46, 1960-61, 1977
South Fork near Porum, OK	07198800		1979-82
Canadian River near Roll, OK	07228200	23,615	1950, 1953, 1961-63, 1974, 1976-77
Canadian River near Taloga, OK	07228250		1938-45
Deer Creek at Hydro, OK	07228400	274	1959-63, 1978-80, 1989
Canadian River at Bridgeport, OK	07228500	25,276	1949-61, 1964, 1970-92

WATER RESOURCES DATA — OKLAHOMA, 2002
DISCONTINUED SURFACE-WATER DISCHARGE OR SURFACE-WATER-QUALITY STATIONS

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
Canadian River near Union City, OK	07228700		1953, 1973
Canadian River Trib near Newcastle, OK	07228960	3.32	1938-45
Canadian River near Noble, OK	07229100	25,911	1963-75
Canadian River at Purcell, OK	07229200	25,939	1953, 1959-63, 1974-80, 1985-90
Walnut Creek at Purcell, OK	07229300	202	1949-50, 1952-53, 1959-61, 1973, 1975-77, 1985-90
Canadian Sandy Creek near Ada, OK	07229427		1986-88
Elm Creek near Moore, OK	07229441		1959-61
Little River Abv Lake Thunderbird near Norman, OK	07229460		1984-85
Little River near Norman, OK	07229500	120	1953, 1956, 1960-61
Clear Creek near Norman, OK	07229601		1960-61
Hog Creek near Stella, OK	07229801		1959-61
Little River Blw Lk Thunderbird near Norman, OK	07230000	257	1953-65, 1975-80, 1985-90
Little River near Tecumseh, OK	07230500	456	1944-64, 1967-70, 1972-75, 1986-90
Little River near Harjo, OK	07230531		1960-61
Little River near Maud, OK	07230558		1960-61
Little River near Bowlegs, OK	07230597		1960-61, 1983-88
Salt Creek near Pearson, OK	07230700		1959-61
Salt Creek near St Louis, OK	07230731		1959-61
Salt Creek near Dewright, OK	07230800	210	1959-63
Little River near Sasakwa, OK	07231000	865	1951-92
Canadian River at Calvin, OK	07231500	27,952	1944, 1951-53, 1960-61, 1965-95
Gaines Creek near Higgins, OK	07231955	152	1978-93
Pit Creek near Gowen, OK	07231958	5.74	1990-91
Pit Creek near Hartshorne, OK	07231959	8.95	1991-93
Gaines Creek near Gowen, OK	07231960	182	1990-93

WATER RESOURCES DATA — OKLAHOMA, 2002
DISCONTINUED SURFACE-WATER DISCHARGE OR SURFACE-WATER-QUALITY STATIONS

xxi

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
Ti Creek near Blanco, OK	07231965	4.82	1980-81
Brushy Creek near Haileyville, OK	07231975	139	1978-81
Peaceable Creek near Haileyville, OK	07231990	134	1978-82
Gaines Creek near Krebs, OK	07232000	588	1944-47, 1949-55, 1959-62
Blue Creek Tributary A near Blocker, OK	07232008		1978-81
Blue Creek Tributary B near Blocker, OK	07232009	0.22	1975-80
Blue Creek near Blocker, OK	07232010	12.1	1975-81
Deer Creek near Mcalester, OK	07232024	38.3	1978-81
Coal Creek near Mcalester, OK	07232027		1960-61
Mathuldy Creek near Crowder, OK	07232029	5.41	1975-81
Rock Creek near Crowder, OK	07232031		1960-61
Gaines Creek near Canadian, OK	07232050		1959-62
Beaver River near Guymon, OK	07232500	2,139	1937-65, 1967-77, 1988, 1990
Beaver River near Hooker, OK	07232630	3,017	1972-73, 1975, 1977, 1979
Coldwater Creek near Hardesty, OK	07233000	1,967	1939-64
Beaver River near Hardesty, OK	07233210	5,029	1938-39, 1979-82
Palo Duro Creek near Range, OK	07233700	1,745	1953-54, 1959-62
Beaver River at Beaver	07234000	7,955	1952, 1958-59, 1962-63 1968-94
Clear Creek near Elmwood, OK	07234100	170	1987-90
Kiowa Creek near Slapout, OK	07234200	371	1953-54, 1959-60, 1980
Clear Creek near May, OK	07234300	109	1953-54, 1960
Beaver River near Fort Supply, OK	07234500	9,615	1939-51, 1957, 1976
Wolf Creek near Shattuck, OK	07235500	1,183	1938-46

WATER RESOURCES DATA — OKLAHOMA, 2002
DISCONTINUED SURFACE-WATER DISCHARGE OR SURFACE-WATER-QUALITY STATIONS

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
Wolf Creek near Fargo, OK	07236000	1,624	1941-64, 1967-68, 1971-72, 1976, 1978
Wolf Creek near Fort Supply, OK	07237000	1,739	1938-63, 1971, 1973, 1979, 1987-90
North Canadian River at Woodward, OK	07237500	11,589	1955, 1958-59, 1961-63, 1975-95
North Canadian River near Seiling, OK	07238000	12,261	1943-44, 1946-72, 1974-83, 1987-90
North Canadian River at Canton, OK	07239000	12,484	1938-68, 1971-80, 1986-90
North Canadian River near Watonga, OK	07239200	12,692	1943-44, 1949-51, 1954-57, 1959, 1963, 1965
North Canadian R Blw Weavers Ck near Watonga, OK	07239300	12,736	1985-90
North Canadian River near Yukon, OK	07239700	13,183	1952-53, 1974, 1988-89
Lake Hefner Canal near OK City, OK	07240000		1979, 1988
North Canadian River near OK City, OK	07241500	13,354	1940, 1942, 1944-50, 1952, 1959-63, 1973, 1975
North Canadian River at NE 36th St at OKC, OK	07241503	13,356	1988-91
North Canadian River near Jones, OK	07241530		1973, 1982
North Canadian River near Shawnee, OK	07241700		1973, 1979-80
North Canadian River near Wetumka, OK	07242000	14,290	1944, 1952-95

WATER RESOURCES DATA — OKLAHOMA, 2002
DISCONTINUED SURFACE-WATER DISCHARGE OR SURFACE-WATER-QUALITY STATIONS

xxiii

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
Wewoka Creek at Wewoka, OK	07242050		1961-63
Little Wewoka Creek near Wetumka, OK	07242080		1960-63, 1978
Grief Creek near Wetumka, OK	07242090		1961-63
Wewoka Creek near Wetumka, OK	07242100	396	1926, 1950-64, 1984
Fish Creek near Wetumka, OK	07242109		1960-61
North Canadian River near Pierce, OK	07242190	17,712	1959-63
Deep Fork at Portland Ave, OK City, OK	07242200	2.98	1979-80
Deep Fork at Eastern Ave, OK City, OK	07242220	28.2	1973-74
Deep Fork near Witcher, OK	07242250		1959, 1973
Deep Fork at Witcher, OK	07242300		1960-62, 1975-76
Deep Fork near Arcadia, OK	07242350	105	1907, 1969-89
Deep Fork at Warwick, OK	07242380	532	1985-90
Deep Fork near Chandler, OK	07242400		1959-62, 1980
Bellcow Creek at Chandler, OK	07242500	46	1948-50, 1953-54, 1979-80
Deep Fork near Stroud, OK	07242900		1979, 1991
Dry Creek near Kendrick, OK	07243000	69	1960, 1965-68, 1970-71, 1973-74, 1979, 1985-89
Little Deep Fork near Edna, OK	07243450		1951-57, 1960-62
Deep Fork near Beggs, OK	07243500	2,018	1952-93
Deep Fork near Dewar, OK	07244000	2,307	1938-51, 1960-65, 1979
Deep Fork near Pierce, OK	07244200		1959-63
North Canadian River near Eufaula, OK	07244500	17,657	1952-53, 1959-61
Canadian River near Whitefield, OK	07245000	47,576	1900, 1938-90
Taloka Creek at Stigler, OK	07245020	3.98	1921, 1974, 1978-81

WATER RESOURCES DATA — OKLAHOMA, 2002
DISCONTINUED SURFACE-WATER DISCHARGE OR SURFACE-WATER-QUALITY STATIONS

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
Taloka Creek Trib near Stigler, OK	07245025		1978-81
Taloka Creek near Stigler, OK	07245030	20.1	1978-81
Jackson Creek near Stigler, OK	07245040		1980-81
Little Vian Creek near Vian, OK	07245119		1958-60
Sallisaw Creek near Sallisaw, OK	07245500	182	1959-63, 1976-77
Sans Bois Creek near Kinta, OK	07245703		1960-61
Mule Creek at Sr 31 near McCurtain, OK	07245980	3.64	1981-82
Mule Creek, Upper Gage, near McCurtain, OK	07245990	6.45	1980-83
East Pond Outlet to Mule Creek near McCurtain, OK	07245991		1980-83
Mule Creek, Middle Gage, near McCurtain, OK	07245992	6.49	1981-83
Mule Creek, Lower Gage, near McCurtain, OK	07245994	6.74	1980-83
Sans Bois Creek near Keota, OK	07246000	346	1938-42, 1958-63
Arkansas River near Sallisaw, OK	07246500	14,7757	1943-72
Cache Creek near Cowlington, OK	07246600	20.6	1958-61
Coal Creek near Spiro, OK	07246615	15.4	1910, 1978-81
Poteau River East Of Waldron, AR	07246940	15	1983-96
Poteau River Northwest Of Waldron, AR	07246950	46.1	1983-96
Poteau River near Hon, AR	07246960	69.5	1993-96
Jones Creek near Hon, AR	07246980	93.6	1993-96
Poteau River at Cauthren, AR	07247000	203	1945-61 1975-79 1991-98
Poteau River South Of Bates, AR	07247012		1972-83
Poteau River at Hontubby, OK	07247025	301	1992
Fourche Maline near Wilburton, OK	07247450	56.2	1978-81
Fourche Maline near Red Oak, OK	07247500	122	1954, 1954, 1956-60, 1978-79, 1992-96
Red Oak Creek near Red Oak, OK	07247550	12.8	1978-81
Poteau River near Wister, OK	07248500	993	1938-40, 1942, 1944-50, 1954-60, 1975-80, 1986
Caston Creek at Wister, OK	07248600	72.9	1975, 1977-81
Morris Creek at Howe, OK	07248620	19.4	1908, 1978-81

WATER RESOURCES DATA — OKLAHOMA, 2002
DISCONTINUED SURFACE-WATER DISCHARGE OR SURFACE-WATER-QUALITY STATIONS

xxv

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
Sugarloaf Creek near Monroe, OK	07248700	53.6	1978-81
Poteau River at Poteau, OK	07249000	1,240	1938, 1940-42, 1944
Brazil Creek near Red Oak, OK	07249060	2.74	1978-81
Rock Creek near Red Oak, OK	07249070	12	1978-81
Brazil Creek near Lodi, OK	07249073		1980-81
Brazil Creek near Walls, OK	07249080	69.1	1978-81, 1984-86
Owl Creek near McCurtain, OK	07249100	27.9	1978-81
Brazil Creek near Panama, OK	07249200		1959-61
James Fork near Williams, OK	07249410	198	1976-81
Poteau River near Panama, OK	07249413	1,767	1993-98
Coal Creek Tributary near Bokoshe, OK	07249415	1.26	1976-79
Coal Creek near Panama, OK	07249419	6.67	1976-79
Holi-tuska Creek near Panama, OK	07249422	4.39	1978-81
Poteau River near Braden, OK	07249438		1958-59, 1961-63
Poteau River near Fort Smith, AR	07249440		1972-79
Lee Creek near Short, OK	07249800	236	1958-61, 1975-77
Little Lee Creek near Short, OK	07249900		1960, 1977-79
Arkansas River at L&d #13 near Van Buren, AR	07250550	150,547	1975-77
08N-06E-26 DDA 1	350756096380501		1978, 1980
08N-06E-23 AAD 1	350924096380401		1978, 1980
09N-05E-23 BBB 1	351440096452001		1974-75
09N-06E-13 DDA 1	351455096370401		1978-79
09N-05E-16 ADD 1	351518096464001		1978-79
09N-06E-17 BBA 1	351538096421101		1978-79
09N-06E-09 CDC 1	351540096405801		1978-79
09N-06E-10 DAA 1	351601096391301		1978-79
09N-06E-04 BCA 1	351706096410801		1978-79
09N-06E-03 AAB 1	351723096392301		1978-79
Squirrel Creek near Shawnee, OK	351815096544301		1983-84
North Canadian River at Shawnee Bridge	351857096553001		1983-84
North Canadian River East of Shawnee, OK	351959096520901		1983-84
North Canadian River Above Lake Eufaula, OK	352305095531001		1983-84
N Canadian River near Prague, OK	352359096401201		1983-84
North Canadian River West of Okemah, OK	352546096242701		1983-84

WATER RESOURCES DATA — OKLAHOMA, 2002
DISCONTINUED SURFACE-WATER DISCHARGE OR SURFACE-WATER-QUALITY STATIONS

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
North Canadian River at 63rd St Bridge, OK City, OK	353211097222501		1983-84
Sallisaw Creek at Bunch, OK	354035094452001		1958-59
Bear Creek near Fallis, OK	354512097075301		1953-55
Eagle Creek near Hectorville, OK	355032095580401		1907, 1979
Tributary to Campbell Creek near Cashion, OK	355032097431501	3.15	1986, 1988
Campbell Creek near Cashion, OK	355032097432301	22.6	1986-88
Pawnee Creek near Crescent, OK	355125097371501	13.1	1986, 1988
Gar Creek near Guthrie, OK	355217097315601	10.6	1986-88
Cox Creek near Crescent, OK	355217097361901	7.47	1986, 1988
Kingfisher Creek near Kingfisher, OK	355342097541001	501	1986-88
Bird Creek near Kingfisher, OK	355415097464801	8.5	1986-88
Trail Creek near Kingfisher, OK	355421097521601	16.1	1986-87
Baron Fork near Baron, OK	355510094371001		1958-59
East Fork Sooner Creek near Crescent, OK	355540097440701	11.2	1986-88
West Fork Sooner Creek near Crescent, OK	355540097442301	9.79	1986-88
Treaty Creek near Loyal, OK	355810097590501	6.86	1986, 1988
Turkey Creek at Dover, OK	355842097551201	428	1986-88
Cooper Creek near Dover, OK	355902097594501	116	1986-88
Ballard Creek at Ballard, OK	360540094352001		1958-59
Indian Creek near Ringwood, OK	361723098175701	75.4	1986-89
Sand Creek near Fairview, OK	361835098252601	41.8	1986-88
Gypsum Creek near Fairview, OK	361901098260701	13.8	1986, 1988
Cherokee Creek near Sycamore, OK	361919094394501		1980-81
Spavinaw Creek near Jay, OK	362059094470601		1980-81
Beaty Creek near Sycamore, OK	362119094463001		1980-81
Cheyenne Creek near Orienta, OK	362137098370501	38.8	1986, 1988
Cottonwood Creek at Orienta, OK	362150098282301	54.3	1986, 1988
Barney Creek near Orienta, OK	362414098420201	41.1	1986, 1988
Griever Creek near Waynoka, OK	362446098470001	88.8	1986, 1988
West Creek near Waynoka, OK	362933098554201	31.9	1986, 1988
24N-23E-08 B1 OWRB 24R, Well on Monkey	363324094502501		1980-81

WATER RESOURCES DATA — OKLAHOMA, 2002
DISCONTINUED SURFACE-WATER DISCHARGE OR SURFACE-WATER-QUALITY STATIONS

xxvii

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
Sand Creek near Belva, OK	363436098590301	54.1	1986, 1988
Chimney Creek near Belva, OK	363731099015301	27.5	1986, 1988
Doe Creek near Freedom, OK	363823099065201	14.2	1986, 1988
Long Creek near Freedom, OK	364244099070801	53.1	1986, 1988
Anderson Creek near Freedom, OK	364521099053901	34.5	1986, 1988
27N-23E-05 BDA 1 OWRB 22B, Neosho R near I-44	365108094511801		1980-82
27N-23E-06 AAD 1 WRB 22a, Neosho R Ab Tar C	365112094514401		1980-82
27N-23E-05 BBB 1 OWRB 22, Tar C Ab Neosho R	365118094513201		1981-82
28N-23E-30 Ddd 1 OWRB 21, Tar C at Hwy 10	365215094514001		1980-81
28N-23E-30 Ddb 1 OWRB 20, Tar C at Central	365230094514301		1980-82, 1984
28N-23E-30 Aac 1 Tar C at Rockdale Blvd	365255094514301		1984-85
28N-23E-19 Abb 1 OWRB 16, Tar C at 22nd Ave	365359094520401		1980-81, 1984-86
28N-23E-18 Abb 1 OWRB 14b, Tar C Blw Spring	365451094520401		1981-82
28N-22E-07 CAA 1 OWRB 14a, Weir Blw Site 14	365522094521301		1981, 1984
28N-23E-09 BCC 1 OWRB 15, Garrett C	365523094503201		1980, 1985
28N-23E-07 BBD 1 OWRB 13, Cactus Mine Disch	365533094522801		1979-83
28N-23E-05 CCC 1 OWRB 5, Tar C near Commerce	365544094513201		1980, 1984-85
29N-23E-31 DCD 1 OWRB 10, Tar C at Hwy 66	365637094511201		1980-82, 1984-85
29N-23E-32 BCA 3 Tar C Below Mine Trib	365710094504401		1984-85
29N-23E-32 BCA 1 Mine Trib at Tar C, South	365714094504401		1983-85
29N-23E-32 BBD 2 Mine Trib Pond	365715094504301		1984-85
29N-23E-32 BBD 3 Outflow from Mine Trib Pd	365715094504302		1984-85
29N-23E-32 BAC 1 Mine Trib S of Rr Culvert	365720094503801		1983-85
29N-23E-32 BAB 1 1132 M from Rr Borehole	365723094503511		1984-85
29N-23E-32 BAB 3 138 M from Rr Borehole	365723094503513		1984-85
29N-23E-32 BAB 20 Mine Trib, N of Rr Culvert	365723094503520		1984-85
29N-23E-29 CDC 3 Lavrion Tailings Pond/col	365730094503301		1984-85
29N-23E-29 CCD 1 OWRB 4t, Tailings Runoff	365730094504601		1980-81, 1985
29N-23E-29 CCD 3 OWRB Site 4 Tar C at Lytl	365732094504400		1980-82
29N-23E-29 CCD 2 OWRB Site 4a Tar C Ab Lyt	365732094504401		1980-82

WATER RESOURCES DATA — OKLAHOMA, 2002
DISCONTINUED SURFACE-WATER DISCHARGE OR SURFACE-WATER-QUALITY STATIONS

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
29N-23E-29 CAC 2 Lytle C 400 M Ab Site 4	365744094503200		1981, 1985
29N-23E-29 CAC 1 Collapse W of Lytle C	365744094503201		1984-85
29N-23E-29 BCA 1 Tar C Above Mine Disch	365807094504301		1984-85
29N-23E-29 ABD 1 Lytle C Above Mine Disch	365811094501301		1984-85
29N-23E-18 AAC 1 OWRB 7, Tar C at State Ln	365956094510701		1980-82, 1984-85
34S-23E-35 DDC 1 Tar C at Rt 166	370153094511101		1984-85

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State agencies, obtains a large amount of data pertaining to the water resources of Oklahoma each water year (Oct. 1 to Sept. 30). These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the Geological Survey, the data are published annually in this report series entitled "Water Resources Data - Oklahoma."

Volumes 1 and 2 of this report includes records on both surface water and ground water in the State. Specifically they contain: (1) Discharge records for 138 streamflow-gaging stations, and 33 partial-record or miscellaneous streamflow stations, (2) stage and content records for 19 lakes, reservoirs and gage height records for 2 stations; (3) water-quality records for 48 streamflow-gaging stations; (4) water-level records for 3 observation wells.

This series of annual reports for Oklahoma began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report format was changed to include, in one volume, data on quantity and quality of surface water. Data on ground-water levels were added to this format from 1975-79 and 1990 to present.

Prior to introduction of this series and for several water years concurrent with it, water-resources data for Oklahoma were published in U.S. Geological Survey Water-Supply Papers. 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, Parts 7A and 7B." 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." Records of ground-water levels were published from 1935 to 1974 under the title "Ground-Water Levels in the United States," and 1980 to 1989 under the title "Ground-Water Levels in Observation Wells in Oklahoma." The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, CO 80225.

Publications similar to this report are published annually by the Geological Survey for all States. These official Survey 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 "U.S. Geological Survey Water-Data Report OK-02-1" 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. Beginning with the 1990 water year, all water-data reports also will be available on Compact Disc - Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc.

A limited number of CD-ROM discs will be available for sale by the Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, Colorado 80225.

COOPERATION

The U.S. Geological Survey and organizations of the State of Oklahoma have had cooperative agreements for the systematic collection of streamflow and ground-water records since 1935, and for water-quality records since 1941. Organizations that assisted in collecting the data through cooperative agreement with the Survey are:

Oklahoma Water Resources Board.
Oklahoma Conservation Commission
Oklahoma City Water Utilities Trust.
City of Tulsa.
Oklahoma State University
Oklahoma Geological Survey.

The following Federal agencies assisted in the data collection program by providing funds or services:

Corps of Engineers, U.S. Army
Bureau of Reclamation, U.S. Department of Interior

Assistance in the form of funds or services was rendered by the following organizations through the **Oklahoma Water Resources Board: Grand River Dam Authority; Central Oklahoma Master Conservancy District; Fort Cobb Reservoir Master Conservancy District; Lugert-Altus Irrigation District; Foss Reservoir Master Conservancy District; Mountain Park Master Conservancy District; Oklahoma Gas and Electric Company; the cities of Ada, Henryetta, and Lawton.**

Organizations that supplied data are acknowledged in the station descriptions.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-Mark Network is a network of sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

National Stream-Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

The National Trends Network (NTN) is a network of stations for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

The National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large, diverse, and geographically distributed part of the Nation's ground- and surface-water resources, and to identify, describe, and explain the major natural and human factors that affect these observed conditions and trends.

Assessment activities have begun in about two-thirds of the study units and ultimately will be conducted in 60 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 will be 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 decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Radiochemical Programs is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Tritium Network is a network of stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

EXPLANATION OF THE RECORDS

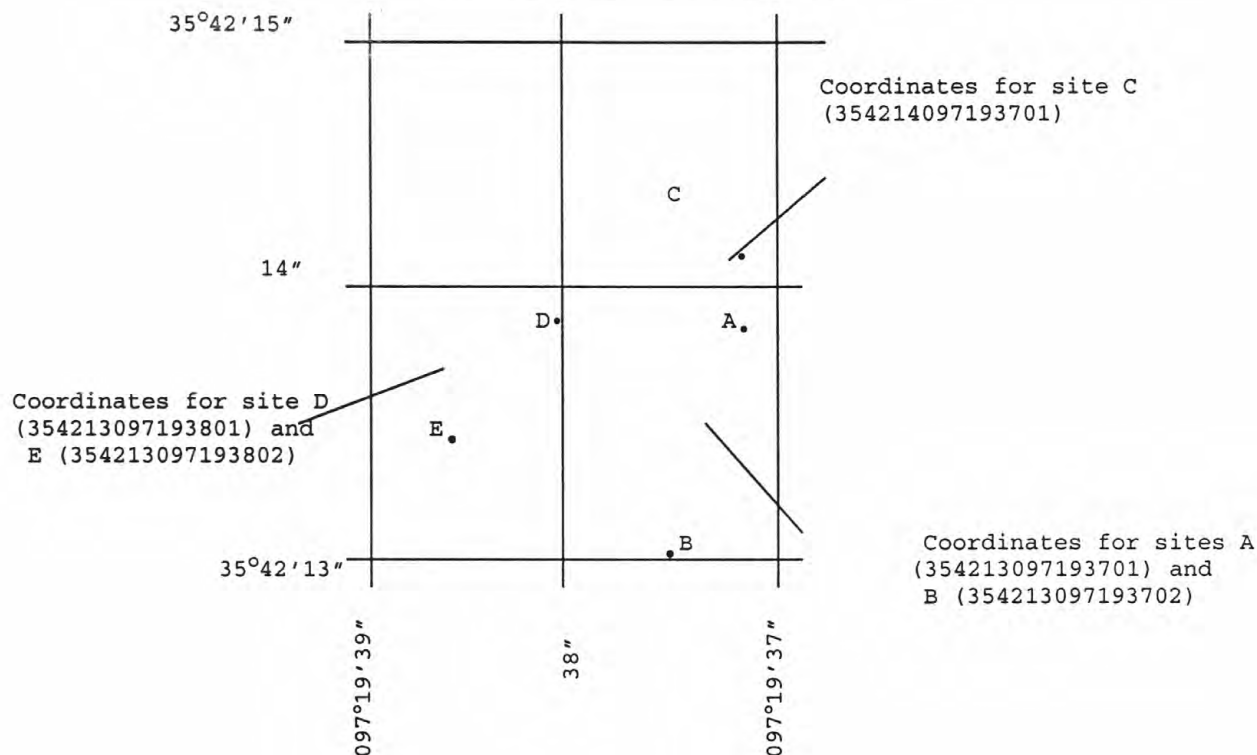
The surface-water and ground-water records published in this report are for the 2002 water year that began Oct. 1, 2001 and ended Sept. 30, 2002. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for surface water and water levels for ground water. The locations of the stations where the data were collected are shown in figures 1-3. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station in this report is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water wells sites differ, but both are based on geographic location. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells and, in Oklahoma, for surface-water stations where only miscellaneous measurements are made.

Downstream Order System

Since Oct. 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a mainstream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank



System for numbering miscellaneous and ground-water sites (latitude and longitude)

of any tributary with respect to the stream to which it is immediately tributary is indicated by an indentation in the "List of Stations" in the front of this report. Each indentation represents one rank. This downstream order and system of indentation show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to downstream order. In assigning station numbers, 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 made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete number for each station, such as 07152500, which appears just to the left of the station name, includes the two-digit Part number "07" plus the up to 13-digit downstream-order number "152500." The Part number designates the major river basin; for example, part "07" is the Lower Mississippi River basin.

Latitude-Longitude System

The identification numbers for wells and springs are

assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the sites within a 1-second grid. This site-identification number, once assigned, is a pure number, and has no locational significance. In instances where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description. (See figure above.)

Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a continuous stage-recording device through which either instantaneous or mean daily discharge may be computed for any time, or any period of time, during the period of record. Complete records of lake or reservoir content, similarly, are those for which stage or content may be computed or estimated with reasonable accuracy for any time, or period of time. They

may be obtained using a continuous stage-recording device, but need not be. Because daily mean discharges and end-of-day contents commonly are published for such stations, they are referred to as "daily stations."

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as "Crest-stage partial records," or "Low-flow partial records." Location of all complete-record, crest-stage partial-record, and low-flow partial-record stations for which data are given in this report are shown in figure 1.

Data Collection and Computation

The data obtained at a complete-record gaging station on a stream or canal consist of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relationships between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges. The data obtained at a complete-record gaging station on a lake or reservoir consist of a record of stage and of notations regarding factors that may affect the relationship between stage and lake content. These data are used with stage-area and stage-capacity curves or tables to compute water-surface areas and lake storage.

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage or with digital recorders that punch stage values on paper tapes at selected time intervals or with electronic data loggers. Measurements of discharge are made with current meters using methods adapted by the Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapter 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).

In computing discharge records, results of individual measurements are plotted against the corresponding stages, and stage-discharge relation curves are then constructed. From these curves, rating tables indicating the approximate discharge for any stage within the range of the measurements are prepared. It is necessary to define extremes of discharge outside the range of the current-meter measurements, the curves are extended using: (1) logarithmic plotting; (2) velocity-area studies; (3) results of indirect measurements of peak discharge, such as slope-area or contracted-opening measurements, and computations of flow-over-dams or weirs; or (4) step-backwater techniques.

Daily mean discharges are computed by applying the

daily mean stages (gage heights) to the stage-discharge curves or tables. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is determined by the shifting-control method, in which correction factors based on the individual discharge measurements and notes of the personnel making the measurements are applied to the gage heights before the discharges are determined from the curves or tables. This shifting-control method also is used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control. For some stations, formation of ice in the winter may so obscure the stage-discharge relations that daily mean discharges must be estimated from other information such as temperature and precipitation records, notes of observations, and records for other stations in the same or nearby basins for comparable periods.

At some stream-gaging stations the stage-discharge relation is affected by the backwater from reservoirs, tributary streams, or other sources. This 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 set at some distance from the base gage. At some stations the 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.

In computing records of lake or reservoir contents, it is necessary to have available from surveys, curves or tables defining the relationship of stage and content. The application of stage to the stage-content curves or tables gives the contents from which daily, monthly, or yearly changes then are determined. If the stage-content relationship changes because of deposition of sediment in a lake or reservoir, periodic resurveys may be necessary to redefine the relationship. Even when this is done, the contents computed may become increasingly in error as time since the last survey increases. Discharges over lake or reservoir spillways are computed from stage-discharge relationships much as other stream discharges are computed.

For some gaging stations there are periods when no gage-height record is obtained, or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information.

Data Presentation

Streamflow data in this report are presented in a new format that is considerably different from the format in data

reports prior to the 1992 water year. The major changes are that statistical characteristics of discharge now appear in tabular summaries following the water-year data table and less information is provided in the text or station manuscript above the table. These changes represent the results of a program to reformat the annual water-data report to most current user needs and data preferences.

The records published for each continuous-record surface-water discharge station (gaging station) now consist of five parts, the manuscript or station description; the data table of daily mean values of discharge for the current water year with summary data; a tabular statistical summary of monthly mean flow data for a designated period, by water year; 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 a hydrograph

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 to follow clarify information presented under the various headings of the station description.

LOCATION.--Information on locations is obtained from the most accurate maps available. The location of the gage 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 most 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 indicates the period for which there are published records 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 records from it can reasonably be considered equivalent with records from the present station.

REVISED RECORDS.--Published records, because of new information, occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of

discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

GAGE.--The type of gage in current use, the datum of the current gage referred to sea level (see glossary), 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 will either be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily discharge table. (See next section, "Identifying Estimated Discharge.") If a REMARKS paragraph is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph also is used to present information 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, outlet works and spillway, and purpose and use of the reservoir.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

EXTREMES OUTSIDE PERIOD OF RECORD.--Included here is information concerning 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 U.S. Geological Survey.

REVISIONS.--If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

Although rare, occasionally the records of a discontinued gaging station may need revision. Because, for these stations, there would be no current or, possibly, future station manuscript published 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 to determine if the published records were ever revised after the station was discontinued. Of course, if the data were obtained by computer retrieval, the data would be current and there would be no need to check because 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 skeleton stage-capacity

table when daily contents are given.

Headings for AVERAGE DISCHARGE, EXTREMES FOR PERIOD OF RECORD, AND EXTREMES FOR CURRENT YEAR have been deleted and the information contained in these paragraphs, except for the listing of secondary instantaneous peak discharges in the PEAK DISCHARGES FOR CURRENT YEAR paragraph, is now presented in the tabular summaries following the discharge table or in the REMARKS paragraph, as appropriate. No changes have been made to the data presentations of lake contents.

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 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 also is usually 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"). Figures for cubic feet per second per square mile and runoff in inches or in acre-feet may be omitted if there is extensive regulation or diversion 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 contents are given. These figures are identified by a symbol and corresponding footnote.

Statistics of Monthly Mean Data

A tabular summary of the mean (line headed "MEAN"), maximum (line headed MAX), and minimum (line headed "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 figures. 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. It will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be 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 the station record within the specified water years, inclusive, including complete months of record for partial water year, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be 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 this occurs, 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 there is extensive regulation or diversion of flow in the drainage basin.

The following summary statistics data, as appropriate, are provided with each continuous record of discharge. Comments to 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. At some stations the annual total discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnote.

ANNUAL MEAN.--The arithmetic mean of the individual daily mean discharges for the year noted or for the designated period. At some stations the yearly mean discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

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 analysis 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.)

INSTANTANEOUS PEAK FLOW.--The maximum instantaneous discharge occurring for the water year or for the designated period. Note that secondary instantaneous peak discharges above a selected base discharge are stored in District computer files for stations meeting certain criteria. Those discharge values may be obtained by writing to the District Office. (See address on back of title page of this report.)

INSTANTANEOUS PEAK STAGE.--The maximum instantaneous stage occurring for the water year or for the designated period. If the dates of occurrence for the instantaneous peak flow and instantaneous peak stage differ, 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 equal to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

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

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

10 PERCENT EXCEEDS.--The discharge is exceeded 10 percent of the time for the designated period.

50 PERCENT EXCEEDS.--The discharge is exceeded 50 percent of the time for the designated period.

90 PERCENT EXCEEDS.--The discharge is exceeded 90 percent of the time for the designated period.

Hydrograph

A hydrograph for the current year follows the table for most stations. Streamflow hydrographs are semi-log plot of mean daily values with no flow days showing as blanks. Lake hydrographs are rectangular plot of 2400-hour readings.

Data collected at partial-record stations follow the information for continuous-record sites. 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 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 miscellaneous sites.

Identifying Estimated Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified by flagging individual daily values with the letter symbol "e" and printing a table footnote, "e Estimated."

Accuracy of the Records

The accuracy of streamflow records 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 measurements of stage, measurements of discharge, and interpretation of records.

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of the true; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned, are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values less than 1 ft³/s; to the nearest tenth between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures for more than 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 discharges listed for partial-record stations and miscellaneous sites.

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, figures 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 Records Available

The National Water Data Exchange (NAWDEX), U.S. Geological Survey, Reston, VA 22092, maintains an index of these sites as well as an index of records of discharge collected by other agencies but not published by the Geological Survey. Information on records at specific sites can be obtained from that office upon request.

Information used in the preparation of the records in this publication, such as discharge-measurement notes, gage-height records, temperature measurements, and rating tables are on file in the Oklahoma District office. Also, most of the daily mean discharges are in computer-readable form.

Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data. Records of surface-water quality in this report may 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 continuing-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 continuing or partial-record station where random 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 "continuing records" as used in this report and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. 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 2.

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 needs to be assuring that the data obtained represent the in situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made onsite when the samples are taken. To assure that measurements made in the laboratory also represent the in situ water, carefully prescribed procedures need to 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 detailed in TWRI Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4. These references are listed in PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS section of this report. Additional guidance is provided in technical memoranda. These methods are consistent with ASTM standards and generally follow ISO standards.

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 through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. Whether samples are obtained from the centroid of flow or from several verticals, depends on flow conditions and other factors which must be evaluated by the collector.

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, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the U.S. Geological Survey District Office whose address is given on the back of the title page of this report.

Water Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at 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.

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 sections.

Suspended-sediment samples were collected periodically at many verticals in the stream cross section. Although data collected periodically may represent conditions only at the time of observations, such data are useful in establishing seasonal relations between quality and streamflow and in predicting long-term sediment-discharge characteristics of the stream. Methods used in the computation of sediment records are described in the TWRI Book 3, Chapters C1 and C3. These methods are consistent with ASTM standards and generally follow ISO standards.

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 (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. Sediment samples are analyzed in Missouri District Sediment Laboratory. All other samples are analyzed in the Geological Survey laboratories in Arvada, Colo. Methods used to analyze sediment samples and to compute sediment records are described in the TWRI, Book 5, Chapter C1. Methods used by the U.S. Geological Survey laboratories are given in the TWRI, Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, A4, and A5. These methods are consistent with ASTM standards and generally follow ISO standards.

In March 1989 the National Water-Quality Laboratory discovered a bias in the turbidimetric method for sulfate analysis, indicating that values below 75 mg/L have a median positive bias of 2 mg/L above the true value for the period between 1982 and 1989. Sulfate values for those years have not been corrected for this bias.

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, and dissolved oxygen then follow in sequence.

LOCATION.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

DRAINAGE AREA.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

PERIOD OF RECORD.--This indicates the periods for which there are published water-quality records for the station. 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 recorder, 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 Geological Survey by a cooperating organization are identified here.

EXTREMES.--Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently, because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to ensure the most recent updates.

WATER RESOURCES DATA — OKLAHOMA, 2002
Volume 1: ARKANSAS RIVER BASIN

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.

Remarks Codes

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

PRINTED OUTPUT	REMARK
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 (nonideal colony count).
L	Biological organism count less than 0.5 percent (organisms 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

Data generated from the 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 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.

Blank Samples--Blank samples are collected and analyzed to ensure that environmental samples have not been contaminated by 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. There are many types of blank samples possible, each 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 whose 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. There are many types of replicate samples 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:

Sequential samples - a type of replicate samples 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 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.

Dissolved Trace-Element Concentrations

NOTE: Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter ($\mu\text{g/L}$) level. Recent evidence, mostly from large rivers, indicates that actual dissolved-phase concentrations for a number of trace elements are within the range of 10's and 100's of nanograms per liter (ng/L). Data above the $\mu\text{g/L}$ level should be viewed with caution. Such data may actually represent elevated environmental concentrations from natural or human causes; however, these data could reflect contamination introduced during sampling, processing, or analysis. To confidently produce dissolved trace-element data with insignificant contamination, the U.S. Geological Survey began using new trace-element protocols at all stations in the water year 1994.

Nutrient Calculations

The values for many nitrogen parameters are calculated from other parameters. In some of these calculations, dissolved values are considered equivalent to total values.

Records of Ground-Water Levels

These data are intended to provide a sampling and historical record of water-level changes in the Nation's most important aquifers. Locations of the observation wells in this network in Oklahoma are shown in figure 3.

Although, in this report, records of water levels are presented for fewer than 10 wells, records are obtained through cooperative efforts of many Federal, State, and local agencies for several hundred observation wells throughout Oklahoma and are placed in computer storage. Information about the availability of the data in the water-level file may be obtained from the District chief, Oklahoma District. (See address on back of front page.)

Data Collection and Computation

Measurements of water levels are made in many types of wells under varying conditions, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used at each observation well ensure that measurements at each well are of consistent accuracy and reliability. Tables of water-level data are presented by counties arranged in alphabetical order. The prime identification number for a given well is the 15-digit number that appears in the upper left corner of the table. The secondary identification number is the local well number, an alphanumeric number, derived from the township-range location of the well.

Water-level records are obtained from direct measurements with a steel tape or punched tape of the water-stage recorder. The 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 is given in each well description.

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 to water of several hundred feet, the error of 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 to a tenth of a foot or a larger unit.

Data Presentation

Each well record consists of two parts, the station description and the data table of mean daily water levels observed during the water year. The description of the well is presented first through use of descriptive headings preceding the tabular data. The comments to follow clarify information presented under the various headings.

LOCATION.--This paragraph follows the well-identification number and reports the latitude and longitude (given in degrees, minutes, and seconds); the hydrologic-unit number; the distance and direction from a geographic point of reference.

AQUIFER.--This entry designates by name the aquifer(s) open to the well.

WELL CHARACTERISTICS.--This entry describes the well in terms of depth, diameter, method of construction, use, and additional information such as casing breaks, collapsed screen, and other changes since construction.

DATUM.--This entry describes both the measuring point and the land-surface elevation at the well. The measuring point is described physically (such as top of collar, notch in top of

WATER RESOURCES DATA — OKLAHOMA, 2002
Volume 1: ARKANSAS RIVER BASIN

casing, plug in pump base and so on), 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 (or below) sea level; it is reported with a precision depending on the method determination.

REMARKS.--This entry describes factors that may influence the water level in a well or the measurement of the water level. It is used to acknowledge the assistance of local (non-Survey) observers.

PERIOD OF RECORD.--This entry indicates the period for which there are published records for the well. It reports the year of the start of publication of water-level records by the U.S. Geological Survey and the words "to current year" if the records are to be continued into the following year. Periods for which water-level records are available, but are not published by the Geological Survey, may be noted.

EXTREMES FOR PERIOD OF RECORD.--This entry contains the highest and lowest levels of the period of published record, with respect to land-surface datum, and the dates of their occurrence.

An abbreviated table of mean daily water levels follows the station description for each well equipped with a digital recorder. For wells with no recorder, actual measurements are listed. Water levels are reported in feet below land-surface datum. A rectangular hydrograph of mean daily water levels for the last three years follows the table for recorder wells. Because all values are not published for wells with recorders, the extremes may be values that are not listed in the table. Missing records are indicated by blanks in place of the water level.

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 at

<http://www.water.usgs.gov>

Some water-quality and ground-water data also are available through the WWW. In addition, data can be provided in various machine-readable formats on magnetic tape or 3-1/2 inch floppy disk. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each of the Water Resources Division District Offices. (See address on the back of the title page.)

DEFINITIONS OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also table for converting English units to International System (SI) Units on the inside of the back cover.

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

Algae are mostly aquatic single-cell, colonial, or multicelled plants, containing chlorophyll and lacking roots, stems, and leaves.

Aquifer is a geologic formation, group of formations or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Aroclor is the registered trade mark for a group of polychlorinated biphenyls which were manufactured by the Monsanto Company prior to 1976. Aroclors are assigned specific four-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 weight percent of the hydrogen substituted chlorine.

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer tapped by the well. A flowing artesian well is one in which the water level is above the land surface.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, while 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.

Fecal coliform bacteria are bacteria that are present in the intestine or feces of warm-blooded animals. They are often 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 $44.5^{\circ}\text{C} \pm 0.2^{\circ}\text{C}$ on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in the intestine of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as Gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at $35^{\circ}\text{C} \pm 1.0^{\circ}\text{C}$ on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the sediment mixture of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

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 the mass per unit area of volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m³), and periphyton and benthic organisms in grams per square meter (g/m²).

Dry mass refers to the mass of residue present after drying in an oven at 105°C for zooplankton and periphyton, 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.

Organic mass or volatile mass of the living substance is the difference between the dry mass and the ash mass and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash and dry mass.

Wet mass is the mass of living matter plus contained water.

Bottom material: See Bed material.

Cells/volume refers to the number of cells of any organism which 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, usually milliliters (mL) or liters (L).

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 natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common green pigments in plants.

Code Numbers have been assigned for agencies collecting and analysing samples, and are listed in water-quality tables of this report as follows:

1028 Oklahoma District, Water Resources Division (WRD), U.S. Geological Survey

80020 National Water Quality Laboratory, WRD, U.S. Geological Survey

Contents are 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.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, 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.

Cubic foot per second (ft³/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

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

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment) that passes a given point within a given period of time.

Instantaneous discharge is the discharge at a particular instant of time.

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period.

Dissolved refers to that material in a representative water sample which passes through a 0.45 µm membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

Dissolved-solids concentration of water 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 of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the change.

Drainage area of a stream at a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise noted.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface

water.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

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

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

HWM is a high-water mark or flood mark.

Hydrologic Benchmark Network is a network of sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

Hydrologic unit is a geographic area representing part of all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an eight-digit number.

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

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

Micrograms per gram (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 liter (UG/L, µg/L) is a unit expressing the concentration of chemical constituents in solution as mass (micrograms) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter.

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

Organism is any living entity.

Organism count/area refers to the number of organisms

collected and enumerated in a sample and adjusted to the number per unit 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.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

Parameter Code is a 5-digit number used in the U.S. Geological Survey's data system, National Water Information System (NWIS), to uniquely identify a specific constituent. The codes used in NWIS are the same as those used in the U.S. Environmental Protection Agency's data system, STORET.

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of a particle determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) 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 used in this report agrees with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

<u>Classifi- cation</u>	<u>Size (mm)</u>	<u>Method of analysis</u>
Clay.....	0.00024 - 0.004	Sedimentation
Silt.....	.004 - .062	Sedimentation
Sand.....	.062 - 2.0	Sedimentation or sieve
Gravel....	2.0 - 64.0	Sieve

The particle-size distribution given in this report are not necessarily representative of all particles in transport in the stream. 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.

Percent composition 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, mass, or volume.

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

Pesticides are chemical compounds used to control

undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

Picocurie (PC, pCi) is one trillionth (10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 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.

Phytoplankton is the plant part of the plankton. They are usually 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 are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algae mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and are often 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.

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

Milligrams of carbon per area or volume per unit time [$\text{mg C}/(\text{m}^2 \cdot \text{time})$] for periphyton and macrophytes and

$[\text{mg C}/(\text{m}^3 \cdot \text{time})]$ for phytoplankton are units for expressing primary productivity. They define 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 in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time [$\text{mg O}/(\text{m}^2 \cdot \text{time})$] for periphyton and macrophytes and $[\text{mg O}/(\text{m}^3 \cdot \text{time})]$ for phytoplankton are the units for expressing primary productivity. They define 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.

Recoverable from 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 are likely to produce different analytical results.

Return period is the average time interval between occurrences of a hydrological event of a given or greater magnitude, usually expressed in years. May also be called recurrence interval.

Runoff in inches (IN, in) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sea level is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "National Geodetic Vertical Datum of 1929 (NGVD of 1929)," "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf or Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it 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 influenced by environmental factors. Some major factors are degree of slope, length of slope, soil

characteristics, land usage, and quantity and intensity of precipitation.

Bed load is the sediment that is transported in a stream by rolling, sliding, or skipping along the bed and very close to it. In this report, bed load is considered to consist of particles in transit within 0.25 ft of the streambed.

Bed load discharge (tons per day) is the quantity of bed load measured by dry weight that moves past a section as bed load in a given time.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

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 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

Suspended-sediment discharge (tons/day) is the rate at which dry mass of sediment passes a section of a stream or is the quantity of sediment, as measured by dry mass or volume, that passes a 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.

Suspended-sediment load is a general term that refers to material in suspension. It is not synonymous with either discharge or concentration.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry mass or volume, that passes a section during a given time.

Total-sediment load or total load is a term which refers to the total sediment (bed load plus suspended-sediment load) that is in transport. It is not synonymous with total-sediment discharge.

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. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25°C. Specific conductance

is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 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.

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

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.

Natural substrate refers to any naturally occurring or submersed solid surface, such as a rock or tree, upon which an organism lives.

Artificial substrate is a device which is purposely 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 taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multiplet samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton.

Surface area of a lake is that area outlined on the latest U.S. Geological Survey topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimetered. All areas shown are those for the stage when the planimetered map was made.

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

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of undissolved material in a water-sediment mixture. It is associated with 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 water-suspended sediment sample that is retained on a 0.45 µm 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 analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 µm membrane filter. 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 determine when the results should be reported as “suspended, total.”

Determinations of “suspended, total” constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

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	<u>Hexagenia</u>
Species	<u>hexagenia limbata</u>

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 that would be contained in a vessel or reservoir that had received equal quantities of water from the stream each day for the year.

Tons per acre-foot indicates the dry mass of dissolved solids in 1 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) is the quantity of a substance in solution or suspension that passes a stream section during a 24-hour period.

Total is the total amount of a given constituent in a

representative water-suspended sediment 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 determines all of the constituent in the sample.)

Total discharge is the total quantity of any individual constituent, as measured by dry mass or volume, that passes through a stream cross-section per unit of time. This term needs to be qualified, such as “total sediment discharge,” “total chloride discharge,” and so on.

Total recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment 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, equivalent digestion procedures are required of all laboratories performing such analyses, because different digestion procedures are likely to produce different analytical results.

Water year in Geological Survey reports dealing with surface-water supply is the 12-month period, Oct. 1 through Sept. 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 Sept. 30, 1995, is called the “1995 water year.”

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.

WSP is used as an abbreviation for “Water-Supply Paper” in references to previously published reports.

PUBLICATIONS ON TECHNIQUES OF WATER- RESOURCES INVESTIGATIONS

The U.S. Geological Survey publishes a series of manuals 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.

The reports listed below are for sale by the U.S. Geological Survey, Branch of Information Services, Box 25286, Federal Center, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

- | | |
|---|---|
| <p>1-D1. <i>Water temperature--influential factors, field measurement, and data presentation</i>, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.</p> <p>1-D2. <i>Guidelines for collection and field analysis of ground-water samples for selected unstable constituents</i>, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.</p> <p>2-D1. <i>Application of surface geophysics to ground-water investigations</i>, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.</p> <p>2-D2. <i>Application of seismic-refraction techniques to hydrologic studies</i>, by F. P. Haeni: USGS--TWRI Book 2, Chapter D2. 1988. 86 pages.</p> <p>2-E1. <i>Application of borehole geophysics to water-resources investigations</i>, by W. S. Keys and L.M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.</p> <p>2-E2. <i>Borehole geophysics applied to ground-water investigations</i>, by W. S. Keys: USGS--TWRI Book 2, Chapter E2. 1990. 150 pages.</p> <p>2-F1. <i>Application of drilling, coring, and sampling techniques to test holes and wells</i>, by Eugene Shuter and W. E. Teasdale: USGS--TWRI Book 2, Chapter F1. 1989. 97 pages.</p> | <p>3-A1. <i>General field and office procedures for indirect discharge measurements</i>, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.</p> <p>3-A2. <i>Measurement of peak discharge by the slope-area method</i>, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.</p> <p>3-A3. <i>Measurement of peak discharge at culverts by indirect methods</i>, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.</p> <p>3-A4. <i>Measurement of peak discharge at width contractions by indirect methods</i>, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.</p> <p>3-A5. <i>Measurement of peak discharge at dams by indirect methods</i>, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.</p> <p>3-A6. <i>General procedure for gaging streams</i>, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.</p> <p>3-A7. <i>Stage measurement at gaging stations</i>, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.</p> <p>3-A8. <i>Discharge measurements at gaging stations</i>, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.</p> <p>3-A9. <i>Measurement of time of travel in streams by dye tracing</i>, by F. A. Kilpatrick and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1989. 27 pages.</p> <p>3-A10. <i>Discharge ratings at gaging stations</i>, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 pages.</p> <p>3-A11. <i>Measurement of discharge by the moving-boat method</i>, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.</p> <p>3-A12. <i>Fluorometric procedures for dye tracing</i>, Revised, by J. F. Wilson, Jr., E. D. Cobb, and F. A. Kilpatrick: USGS--TWRI Book 3, Chapter A12. 1986. 34 pages.</p> <p>3-A13. <i>Computation of continuous records of streamflow</i>, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A13. 1983. 53 pages.</p> <p>3-A14. <i>Use of flumes in measuring discharge</i>, by F. A. Kilpatrick and V. R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 pages.</p> |
|---|---|

Volume 1: ARKANSAS RIVER BASIN

- 3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 pages.
- 3-A16. *Measurement of discharge using tracers*, by F. A. Kilpatrick and E. D. Cobb: USGS--TWRI Book 3, Chapter A16. 1985. 52 pages.
- 3-A17. *Acoustic velocity meter systems*, by Antonius Laenen: USGS--TWRI Book 3, Chapter A17. 1985. 38 pages.
- 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, Chapter A18. 1989. 52 pages.
- 3-A19. *Levels at streamflow gaging stations*, by E.J. Kennedy: USGS--TWRI Book 3, Chapter A19. 1990. 31 pages.
- 3-A20. *Simulation of soluble waste transport and buildup in surface waters using tracers*, by F. A. Kilpatrick: USGS--TWRI Book 3, Chapter A20. 1993. 38 pages.
- 3-B1. *Aquifer-test design, observation, and data analysis*, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.
- 3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.
- 3-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J. E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 pages.
- 3-B4. *Regression modeling of ground-water flow*, by R. L. Cooley and R. L. Naff: USGS--TWRI Book 3, Chapter B4. 1990. 232 pages.
- 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, Chapter B4. 1993. 8 pages.
- 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, Chapter B5. 1987. 15 pages.
- 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, Chapter B6. 1987. 28 pages.
- 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, Chapter B7. 1992. 190 pages.
- 3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.
- 3-C2. *Field methods for measurement of fluvial sediment*, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.
- 4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.
- 4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.
- 4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.
- 4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.
- 4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.
- 4-D1. *Computation of rate and volume of stream depletion by wells*, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.
- 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, Chapter A1. 1989. 545 pages.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.
- 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, Chapter A3. 1987. 80 pages.
- 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, Chapter A4. 1989. 363 pages.

WATER RESOURCES DATA — OKLAHOMA, 2002
Volume 1: ARKANSAS RIVER BASIN

- 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, Chapter A5. 1977. 95 pages.
- 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, Chapter A6. 1982. 181 pages.
- 5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.
- 6-A1. *A modular three-dimensional finite-difference ground-water flow model*, by M. G. McDonald and A. W. Harbaugh: USGS--TWRI Book 6, Chapter A1. 1988. 586 pages.
- 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, Chapter A2. 1991. 68 pages.
- 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, Chapter A3. 1993. 136 pages.
- 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, Chapter A4. 1992. 108 pages.
- 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, Chapter A5. 1993. 243 pages.
- 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, Chapter C1. 1976. 116 pages.
- 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, Chapter C2. 1978. 90 pages.
- 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, Chapter C3. 1981. 110 pages.
- 8-A1. *Methods of measuring water levels in deep wells*, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.
- 8-A2. *Installation and service manual for U.S. Geological Survey manometers*, by J. D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 pages.
- 8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

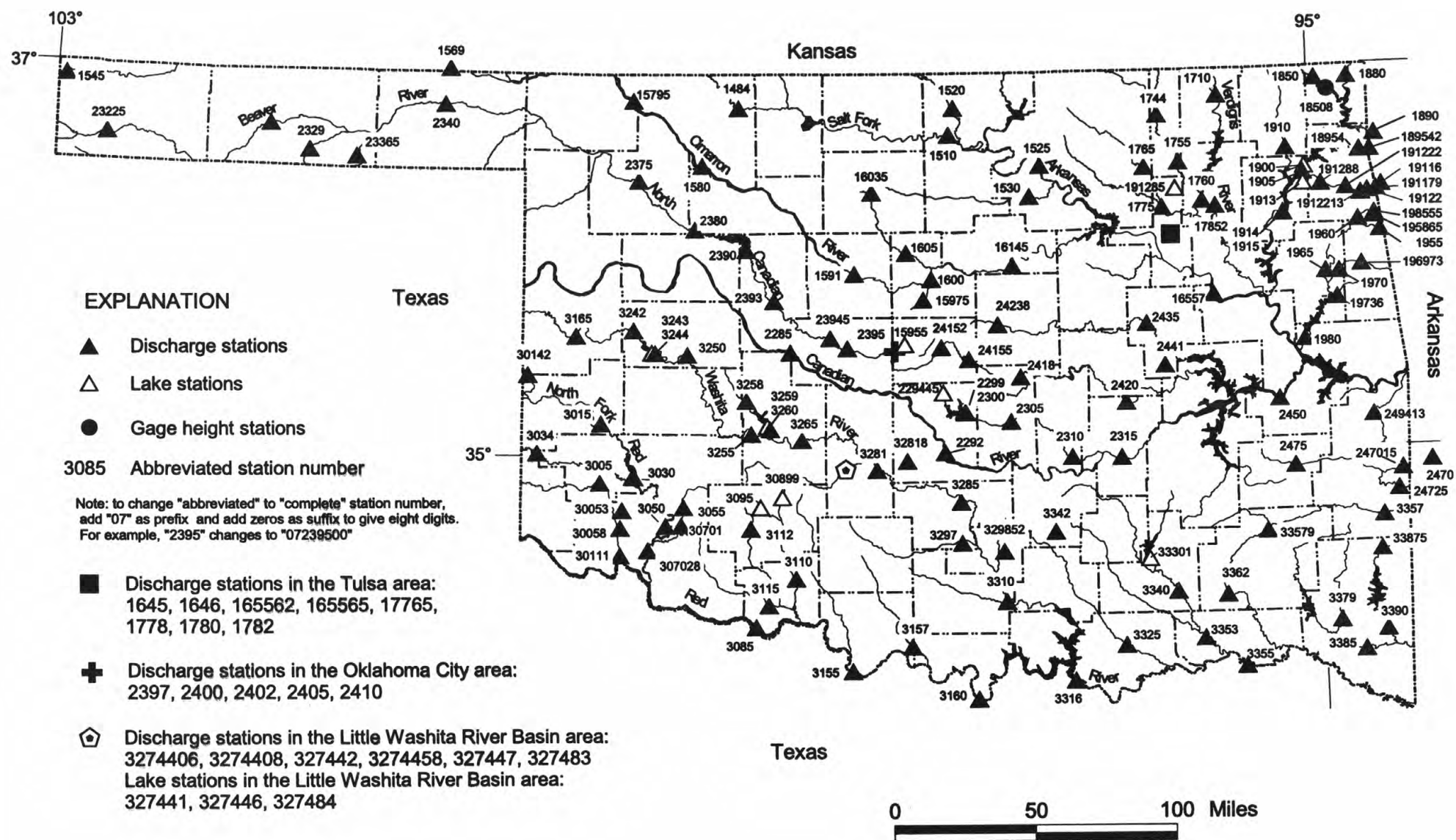


Figure 1.—Locations of continuous surface-water stations for water-year 2002.

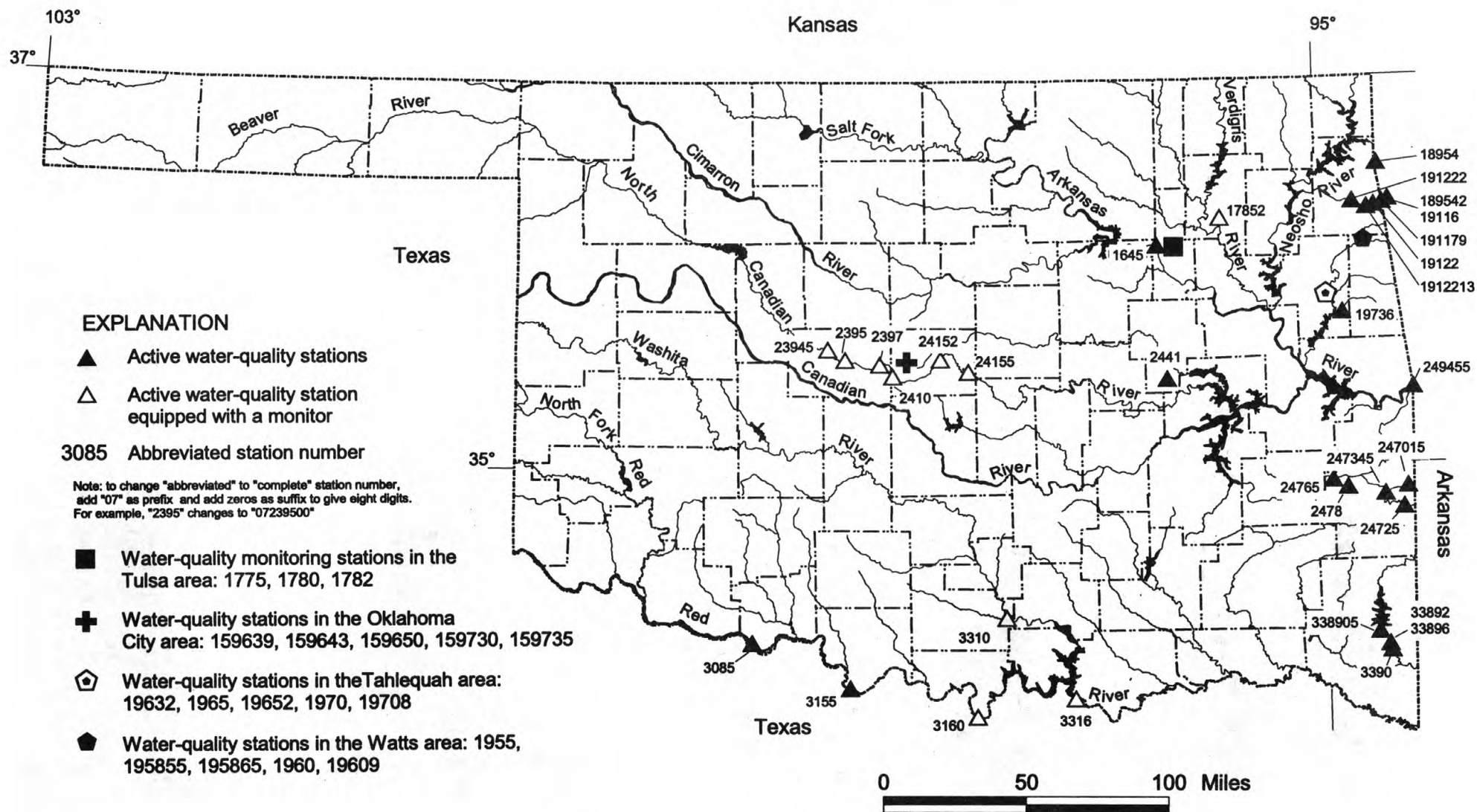


Figure 2.—Locations of water-quality stations for water-year 2002.

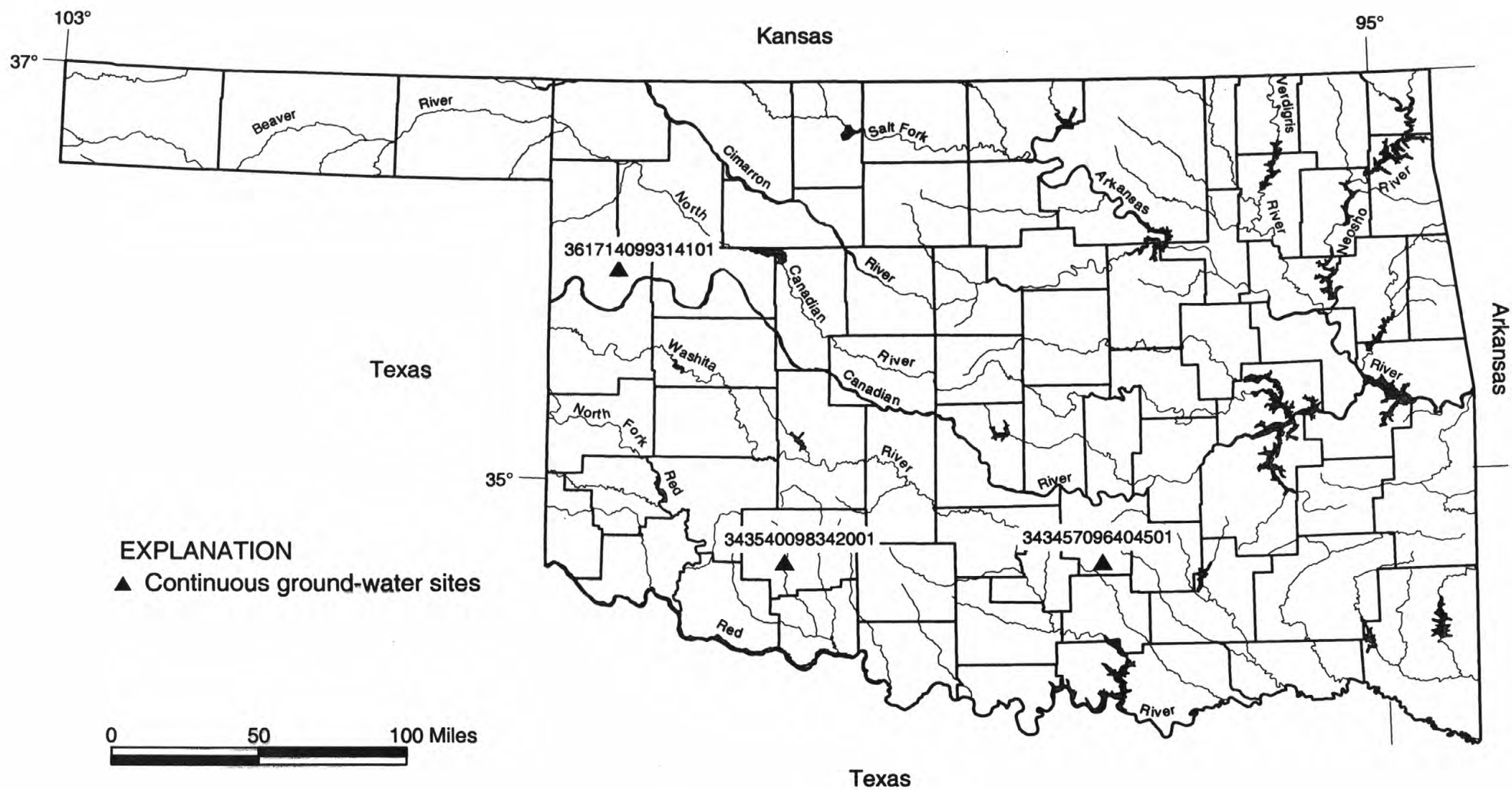


Figure 3.--Locations of ground-water wells for water-year 2002.

ARKANSAS RIVER BASIN

07148400 SALT FORK ARKANSAS RIVER NEAR ALVA, OK

LOCATION.--Lat 36°48'54", long 98°38'52", in SW 1/4 SW 1/4 sec.18, T.27 N., R.13 W., Woods County, Hydrologic Unit 11060002, at bridge on U.S. Highway 281, 1.0 mi northeast of Alva, 23.0 mi upstream from Medicine Lodge River, and at mile 141.0.

DRAINAGE AREA.--1,009 mi².

PERIOD OF RECORD.--April 1904 to December 1905 (gage heights only), October 1937 to September 1951, monthly discharge only for some periods, published in WSP 1311. Occasional low-flow measurements water years 1952-54, 1977-79. October 1979 to current year.

GAGE.--Water stage recorder. Datum of gage is 1,292.04 ft above sea level. April 1904 to December 1905, chain gage at site 0.8 mi upstream at different datum, and February 1938 to September 1951, water stage recorder at present site and at datum 5.00 ft higher.

REMARKS.--Records fair. U.S. Army Corps of Engineers telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	33	40	e33	49	56	43	44	29	20	135	16
2	23	33	39	e37	61	e41	41	40	23	19	87	14
3	21	38	39	e32	60	e31	36	38	19	18	61	12
4	20	36	41	e37	75	e35	38	39	27	17	46	10
5	19	36	42	53	78	55	40	39	30	15	37	9.0
6	18	35	39	62	78	74	43	36	64	14	31	7.1
7	19	35	39	61	76	74	45	37	63	13	28	5.8
8	18	35	40	56	76	66	50	36	47	12	24	4.6
9	18	34	40	55	77	59	57	34	39	12	22	5.7
10	22	36	39	55	75	53	60	32	32	21	21	5.6
11	22	37	41	53	72	51	54	32	27	37	21	4.7
12	23	38	44	51	69	50	52	34	45	42	45	4.6
13	25	37	46	53	65	50	54	81	737	66	183	15
14	26	36	45	52	63	49	52	111	556	33	331	14
15	28	37	46	51	63	44	47	78	197	28	99	19
16	26	39	46	52	60	44	46	61	149	26	70	13
17	26	38	45	51	57	44	45	62	132	21	56	8.3
18	26	37	44	50	58	45	43	49	90	17	42	5.6
19	26	34	45	49	71	52	42	46	69	13	34	8.7
20	26	32	44	49	68	50	60	42	59	10	30	7.7
21	26	37	43	51	65	53	51	37	53	7.7	25	4.9
22	27	38	45	51	61	49	52	35	48	11	21	3.9
23	26	37	45	52	56	51	56	34	42	429	22	3.9
24	28	39	43	51	56	53	56	38	38	77	28	3.7
25	28	37	e38	49	50	50	49	31	34	35	27	3.3
26	29	39	e31	50	e42	49	46	31	32	25	22	3.4
27	30	36	42	50	e43	50	46	34	30	19	25	3.6
28	30	34	48	51	e47	50	48	38	28	109	26	3.4
29	31	33	52	51	---	48	47	60	25	386	23	2.4
30	32	36	e37	57	---	45	46	45	21	341	20	2.4
31	31	---	e32	56	---	44	---	36	---	260	19	---
TOTAL	776	1082	1300	1561	1771	1565	1445	1390	2785	2153.7	1661	225.3
MEAN	25.03	36.07	41.94	50.35	63.25	50.48	48.17	44.84	92.83	69.47	53.58	7.510
MAX	32	39	52	62	78	74	60	111	737	429	331	19
MIN	18	32	31	32	42	31	36	31	19	7.7	19	2.4
AC-FT	1540	2150	2580	3100	3510	3100	2870	2760	5520	4270	3290	447

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2002, 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
MEAN	106.3	104.5	73.94	81.94	102.6	197.0	205.5	268.1	248.1	125.7	94.97	73.66											
MAX	620	542	251	269	227	822	620	856	689	411	598	557											
(WY)	1986	1999	1997	1998	1987	1987	1999	1993	1989	1982	1996	1996											
MIN	2.35	0.95	14.8	15.3	17.4	29.2	22.5	27.1	31.3	5.17	2.66	0.94											
(WY)	1992	1981	1981	1981	1981	1981	1981	1992	1994	1984	1980	1980											

e Estimated

ARKANSAS RIVER BASIN

25

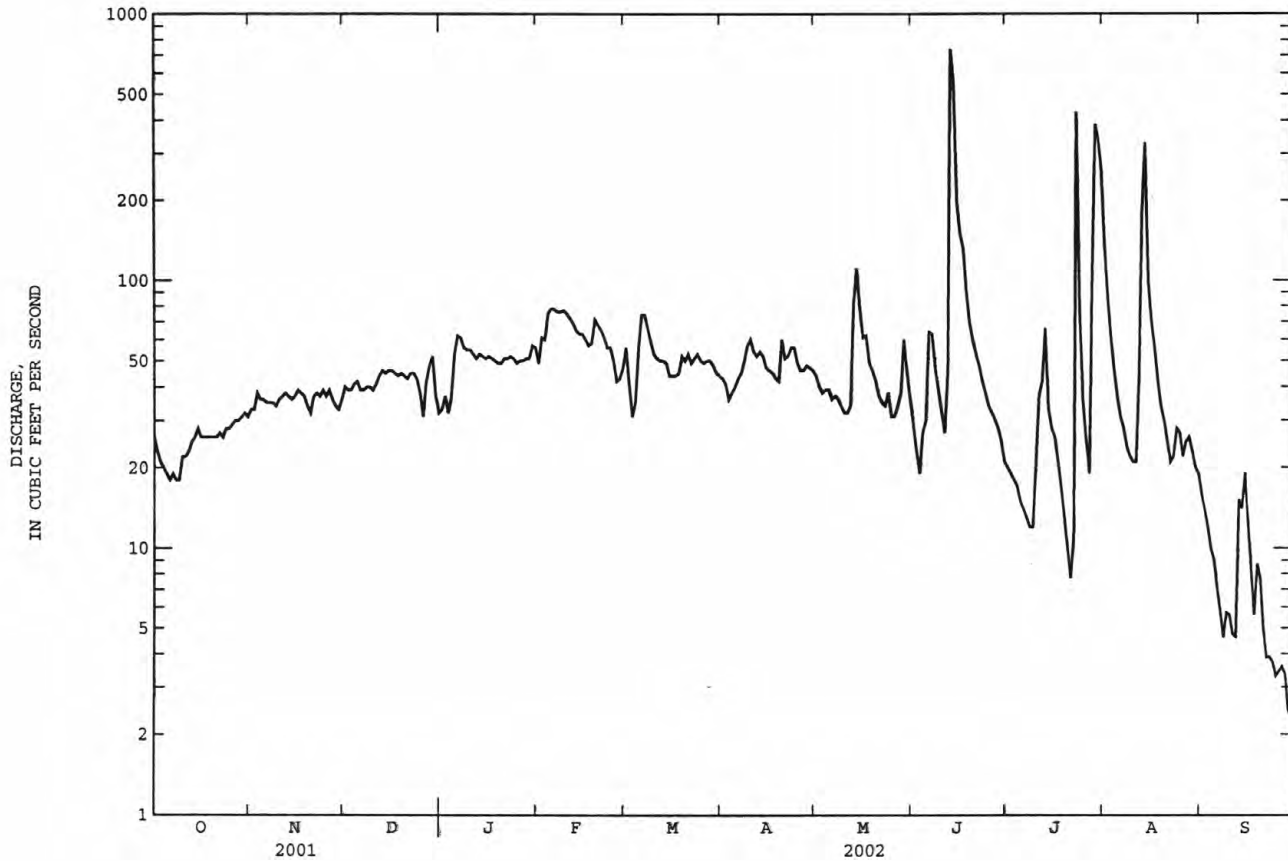
07148400 SALT FORK ARKANSAS RIVER NEAR ALVA, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1980 - 2002	
ANNUAL TOTAL	49554.4		17715.0		^a 140.3	
ANNUAL MEAN	135.8		48.53		295	
HIGHEST ANNUAL MEAN					40.5	
LOWEST ANNUAL MEAN					7880	
HIGHEST DAILY MEAN	1930	May 5	737	Jun 13	0.43	Mar 24 1987
LOWEST DAILY MEAN	2.6	Sep 12	2.4	Sep 29,30	0.48	Aug 24 1984
ANNUAL SEVEN-DAY MINIMUM	2.8	Sep 8	3.2	Sep 24	0.48	Aug 18 1984
MAXIMUM PEAK FLOW			1380	Jun 13	^c 12800	Oct 10 1985
MAXIMUM PEAK STAGE			8.40	Jun 13	15.24	Oct 10 1985
ANNUAL RUNOFF (AC-FT)	98290		35140		101600	
10 PERCENT EXCEEDS	282		66		295	
50 PERCENT EXCEEDS	72		39		65	
90 PERCENT EXCEEDS	8.6		15		6.8	

^aAverage discharge, water years 1938-51, 158 ft³/s.

^bNo flow in several years 1939-48.

^cMaximum discharge for period of record 27,000 ft³/s, Oct. 23, 1941, from rating curve extended above 13,000 ft³/s.



ARKANSAS RIVER BASIN

07151000 SALT FORK ARKANSAS RIVER AT TONKAWA, OK

LOCATION.--Lat 36°40'19", long 97°18'33", in NW 1/4 SE 1/4 sec.4, T.25 N., R.1 W., Kay County, Hydrologic Unit 11060004, on left bank near end of bridge on U.S. Highway 77 in Tonkawa, 4 mi downstream from Thompson Creek, 7.8 mi upstream from Chikaskia River, and at mile 33.8.

DRAINAGE AREA.--4,528 mi², of which 8 mi² is probably noncontributing.

PERIOD OF RECORD.--September 1903 to October 1905 (gage heights only), October 1935 to current year. Monthly discharge only for some periods, published as Arkansas River (Salt Fork) near Tonkawa 1903-4 and as "near Tonkawa" 1905.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 930.22 ft above sea level. September 1903 to October 1905, nonrecording gage near present site at different datum. Jan. 2, 1936 to Jan. 22, 1939, nonrecording gage, and Jan. 23, 1939 to June 20, 1960, water-stage recorder at site 100 ft upstream at same datum.

REMARKS.--Records good. Some regulation since June 1941 by Great Salt Plains Lake, 69.5 mi upstream (station 07150000). U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 10, 1923, reached a stage of 26.8 ft, from information by U.S. Army Corps of Engineers.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 11,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sep 19	1500	13,300	17.66	No other peak greater than base discharge.			

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	55	71	e78	173	199	115	155	378	192	886	266
2	52	54	71	e81	205	e140	103	142	334	220	575	230
3	51	1390	70	e77	265	e139	132	134	302	199	448	213
4	50	1030	70	e85	229	e128	158	130	288	184	358	200
5	554	260	70	e91	238	223	99	129	1790	155	288	177
6	680	217	68	126	242	196	97	128	1830	128	247	152
7	255	187	69	e112	234	167	107	119	1140	118	206	133
8	101	123	72	108	267	169	119	160	661	108	174	118
9	75	97	70	111	283	164	137	192	560	101	149	113
10	68	87	67	114	281	211	151	151	533	99	129	104
11	66	81	66	117	348	255	161	161	477	105	118	89
12	66	79	67	111	310	177	349	163	496	114	138	84
13	65	77	69	115	245	164	956	148	2800	115	1160	103
14	60	75	71	132	204	159	747	168	2530	164	3410	726
15	58	73	71	138	193	149	365	154	2010	168	3410	454
16	58	73	71	140	236	158	318	165	5050	143	2130	160
17	57	72	69	135	215	155	254	238	3570	127	2070	138
18	57	77	68	122	215	137	229	501	1980	118	1880	181
19	57	95	70	125	191	142	213	580	1320	110	1600	10200
20	57	81	73	120	184	150	202	535	994	103	1430	4650
21	58	73	86	132	193	127	207	431	786	98	1190	1200
22	57	71	89	141	204	137	171	339	629	92	1030	522
23	57	70	79	152	188	147	286	292	529	1560	834	285
24	55	72	84	135	184	122	273	565	444	825	772	190
25	55	71	120	145	170	141	167	2930	378	665	649	151
26	54	69	104	132	187	159	160	1510	315	458	513	132
27	55	92	94	138	e162	152	171	914	272	415	480	117
28	55	77	88	137	212	132	145	760	281	370	444	108
29	55	73	90	133	---	133	152	605	368	1610	381	100
30	54	75	e80	174	---	143	207	507	235	4010	354	94
31	55	---	e78	198	---	134	---	443	---	2080	320	---
TOTAL	3149	5026	2385	3855	6258	4909	6951	13549	33280	14954	27773	21390
MEAN	101.6	167.5	76.94	124.4	223.5	158.4	231.7	437.1	1109	482.4	895.9	713.0
MAX	680	1390	120	198	348	255	956	2930	5050	4010	3410	10200
MIN	50	54	66	77	162	122	97	119	235	92	118	84
AC-FT	6250	9970	4730	7650	12410	9740	13790	26870	66010	29660	55090	42430

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2002, BY WATER YEAR (WY)

	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956
MEAN	884.7	824.0	437.9	405.0	613.8	1129	1336	1718	1612	970.1	689.1	641.7			
MAX	9412	9203	2129	2124	5171	6455	7916	12770	8379	8821	6157	3448			
(WY)	1987	1999	1998	1998	1949	2000	1973	1993	1995	1951	1995	1949			
MIN	0.64	4.82	3.56	7.52	10.9	10.6	13.6	8.78	7.92	5.69	5.50	0.000			
(WY)	1957	1955	1955	1957	1957	1955	1955	1956	1956	1954	1956	1956			

e Estimated

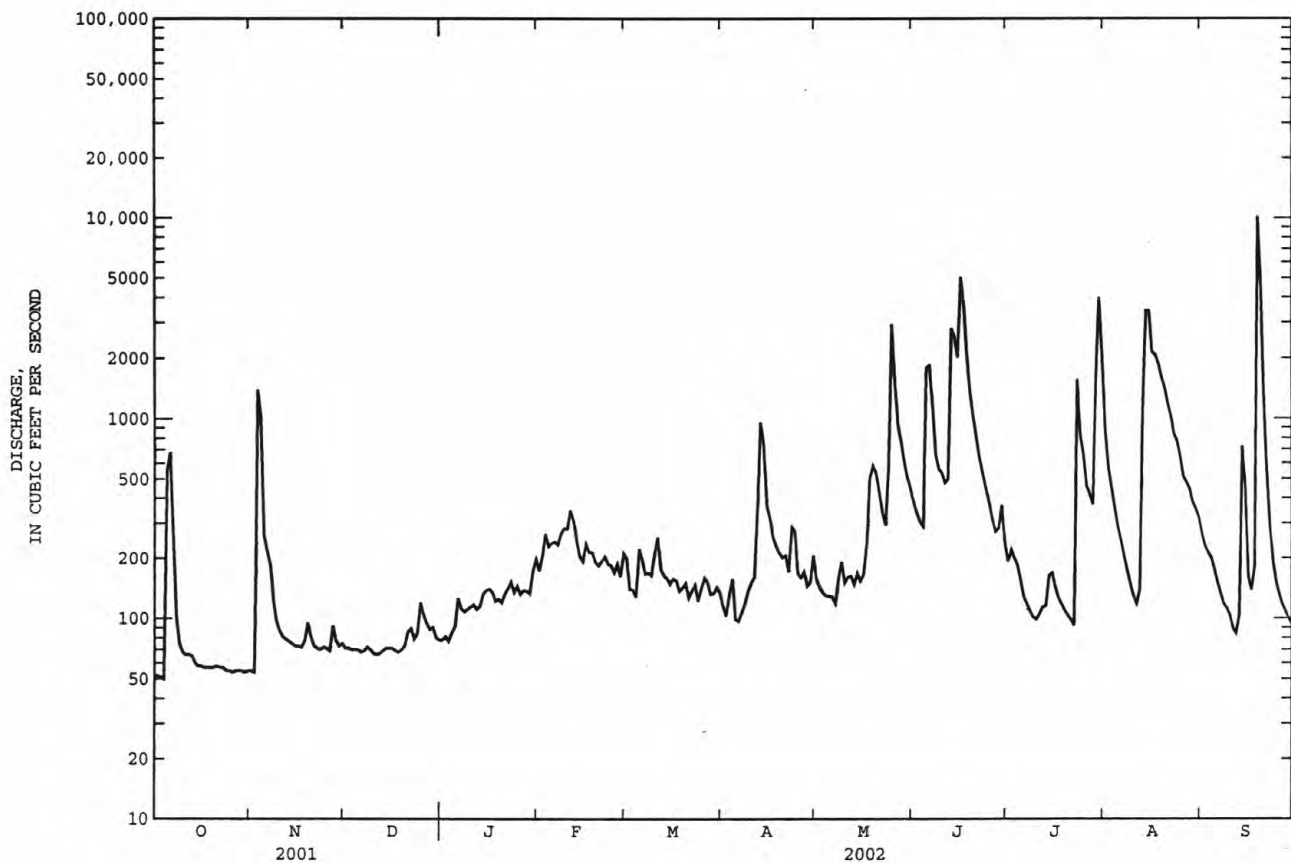
ARKANSAS RIVER BASIN

27

07151000 SALT FORK ARKANSAS RIVER AT TONKAWA, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1942 - 2002	
ANNUAL TOTAL	242566		143479		939.0	
ANNUAL MEAN	664.6		393.1		3717	
HIGHEST ANNUAL MEAN					95.5	
LOWEST ANNUAL MEAN					57800	
HIGHEST DAILY MEAN	9790	Feb 25	10200	Sep 19	1999	1954
LOWEST DAILY MEAN	50	Oct 4	50	Oct 4	1956	1956
ANNUAL SEVEN-DAY MINIMUM	52	Sep 28	55	Oct 24	1956	1956
MAXIMUM PEAK FLOW			13300	Sep 19	97300	Oct 11 1973
MAXIMUM PEAK STAGE			17.66	Sep 19	28.98	Oct 11 1973
ANNUAL RUNOFF (AC-FT)	481100		284600		680300	
10 PERCENT EXCEEDS	1480		829		2170	
50 PERCENT EXCEEDS	317		152		270	
90 PERCENT EXCEEDS	55		69		35	

^aAlso occurred Sept. 12, 14-16, 1956.



LOCATION.--Lat 36°48'41", long 97°16'37", in NE 1/4 NW 1/4 sec.23, T.27 N., R.1 W., Kay County Hydrologic Unit 11060005, near left bank on downstream side of State Highway 11 bridge at northeast edge of Blackwell, 0.1 mi downstream from Bitter Creek, and at mile 28.3.

PERIOD OF RECORD.--October 1935 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 967.41 ft above sea level. See WSP 1921 for history of changes prior to April, 1952.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 10, 1923, reached a stage of about 34 ft, present site and datum, from information provided by local residents, discharge 100,000 ft³/s.

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jun 13	1800	9,570	22.13	Jun 16	1930	10,200	22.98

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	132	114	135	e89	e131	133	116	158	251	131	107	84
2	125	113	137	e120	141	e141	119	139	196	127	80	72
3	120	627	139	e118	175	e97	108	130	168	119	61	63
4	118	797	143	e121	191	e84	108	126	512	117	66	53
5	1070	310	144	e115	186	125	110	122	3470	115	72	e41
6	1250	169	140	141	183	181	109	121	3400	108	46	e35
7	336	140	140	153	187	193	145	122	1050	101	e41	e30
8	195	131	137	159	187	176	172	1940	449	93	e37	e26
9	155	122	134	182	190	171	170	2890	304	83	e34	e25
10	145	118	132	183	183	150	159	1790	261	101	e31	e23
11	136	118	133	158	182	151	153	569	229	99	e30	e22
12	123	120	139	152	189	147	683	324	1120	103	e35	21
13	122	123	138	147	174	141	1210	2290	8600	92	221	26
14	116	125	138	145	164	139	386	1590	5290	105	3690	93
15	115	127	138	140	163	130	222	806	1520	95	1660	58
16	113	131	143	140	157	126	176	518	7220	81	485	51
17	109	134	142	136	152	125	158	424	6580	73	257	48
18	111	140	142	132	149	126	147	350	1550	74	181	140
19	109	146	141	132	158	130	144	287	673	70	141	2540
20	110	134	138	135	160	128	132	255	431	63	115	1000
21	112	133	136	141	168	130	143	228	304	53	100	260
22	113	134	141	139	167	122	252	206	248	49	102	124
23	111	136	138	145	161	124	240	199	215	318	84	87
24	107	142	130	141	155	128	184	388	179	1090	81	66
25	102	136	e110	136	146	124	162	1260	170	449	153	56
26	102	143	e99	134	e130	121	150	1110	158	164	197	51
27	102	135	e105	135	e106	122	160	405	150	102	181	47
28	102	126	130	139	108	128	167	278	148	74	161	43
29	100	121	145	137	---	127	225	243	277	117	140	42
30	109	120	e107	e149	---	122	184	433	166	117	120	39
31	109	---	e82	e166	---	121	---	426	---	144	102	---
TOTAL	5979	5265	4096	4360	4543	4163	6594	20127	45289	4627	8811	5266
MEAN	192.9	175.5	132.1	140.6	162.2	134.3	219.8	649.3	1510	149.3	284.2	175.5
MAX	1250	797	145	183	191	193	1210	2890	8600	1090	3690	2540
MIN	100	113	82	89	106	84	108	121	148	49	30	21
AC-FT	11860	10440	8120	8650	9010	8260	13080	39920	89830	9180	17480	10450

MEAN	539.9	523.3	280.5	251.9	395.7	723.0	794.2	1057	1083	541.6	338.4	470.1
MAX	5244	5880	1649	1659	3732	5342	4748	8589	5093	5129	2467	3395
(WY)	1960	1999	1945	1949	1949	2000	1944	1993	1951	1951	1995	1973
MIN	0.90	1.08	1.34	4.35	10.3	30.7	29.4	27.1	26.1	6.17	0.55	0.64
(WY)	1957	1955	1955	1957	1957	1957	1955	1956	1972	1954	1936	1956

e Estimated

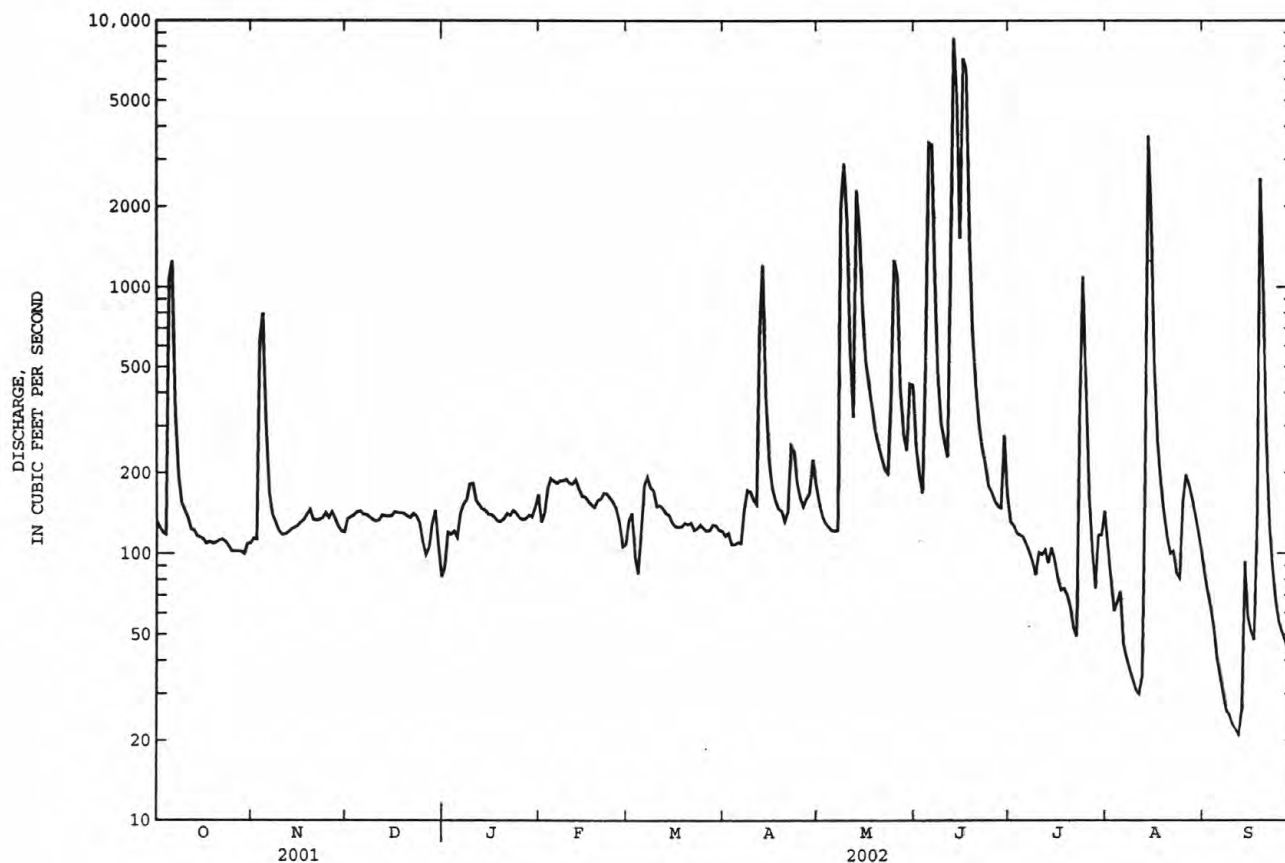
ARKANSAS RIVER BASIN

29

07152000 CHIKASKIA RIVER NEAR BLACKWELL, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1936 - 2002	
ANNUAL TOTAL	232646		119120		587.4	
ANNUAL MEAN	637.4		326.4		1993	
HIGHEST ANNUAL MEAN					71.0	
LOWEST ANNUAL MEAN					1954	
HIGHEST DAILY MEAN	23100	Feb 25	8600	Jun 13	69500	Jun 22 1942
LOWEST DAILY MEAN	27	Aug 23,24	21	Sep 12	^a 0.00	at times
ANNUAL SEVEN-DAY MINIMUM	34	Aug 19	25	Sep 7	0.00	Aug 12 1954
MAXIMUM PEAK FLOW			10200	Jun 16	85000	Jun 22 1942
MAXIMUM PEAK STAGE			22.98	Jun 16	34.40	Nov 1 1998
ANNUAL RUNOFF (AC-FT)	461500		236300		425500	
10 PERCENT EXCEEDS	1160		439		900	
50 PERCENT EXCEEDS	243		138		145	
90 PERCENT EXCEEDS	47		73		24	

^aNo flow at times in 1954 and 1956.



ARKANSAS RIVER BASIN

07152500 ARKANSAS RIVER AT RALSTON, OK

LOCATION.--Lat 36°30'15", long 96°43'41", in NE 1/4 NE 1/4 sec.2, T.23 N., R.5 E., Pawnee County, Hydrologic Unit 11060006, on right upstream abutment of bridge on State Highway 18 at Ralston, 2 mi downstream from Salt Creek, 2 mi upstream from Grayhorse Creek, and at mile 594.0. Prior to Feb. 10, 1988, gage was near left bank on downstream side of pier of bridge.

DRAINAGE AREA.--54,465 mi², of which 7,615 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1925 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage-height records collected in this vicinity since 1922 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 776.70 ft above sea level. Oct. 1, 1925 to Nov. 13, 1935, nonrecording gage at site of former highway bridge 1,200 ft downstream at same datum. Nov. 14, 1935 to Feb. 23, 1939, nonrecording gage near left bank on downstream side of bridge at same datum. Feb. 24, 1939 to Feb. 10, 1988, gage was near left bank on downstream side of pier of bridge at same datum.

REMARKS.--Records fair. Flow regulated since April 1976 by Kaw Lake (station 07148130) 59.7 mi upstream; some regulation by Great Salt Plains Lake (station 07150000) since 1941. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 11, 1923, reached a stage of 23.8 ft, referred to outside gage on basis of stages observed in 1923 and 1944 at site 1,200 ft downstream.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1910	548	1180	972	3830	618	498	1980	3620	7640	4920	1550
2	1850	517	1530	1260	3040	842	462	3550	3260	7300	3330	981
3	1200	649	950	1430	1780	e930	475	3750	2890	6880	2730	769
4	882	1290	786	1240	1240	875	430	3910	2720	5950	3290	829
5	603	3540	753	935	1150	743	423	3470	4150	4440	4170	760
6	538	2750	739	682	1120	587	452	1600	4780	4310	4180	988
7	980	1660	746	666	1440	524	666	1400	8430	4090	4190	1670
8	2020	2030	730	622	1490	584	792	1470	6950	3960	3920	1640
9	1310	1510	739	667	967	616	719	2840	5360	3990	2910	878
10	960	1360	689	1670	884	602	728	6070	4330	4090	1640	814
11	743	1230	611	1690	907	536	710	9320	4090	4170	1270	726
12	657	940	689	1750	891	530	706	7210	4960	4200	951	546
13	729	859	873	1730	927	596	755	6000	11200	4310	1070	492
14	737	797	936	1680	968	530	882	5640	19900	4370	2520	838
15	569	751	877	1640	880	428	2310	7500	19600	4470	5660	1980
16	539	382	735	1640	842	425	2110	7130	15500	4510	9420	2610
17	536	e460	676	1070	801	416	1400	6960	21900	3800	8000	1350
18	519	e344	648	917	815	441	1090	6660	21500	3240	6240	775
19	502	e404	622	890	863	561	936	5140	23300	2890	5540	3610
20	508	e449	622	844	827	547	1170	4380	26200	2170	4640	14300
21	607	e455	619	792	785	440	1230	4280	25200	2050	3540	13700
22	546	520	613	881	768	1660	1230	4120	23300	2020	2990	7210
23	536	607	609	3020	779	1220	1790	3990	12500	2070	3060	4010
24	520	472	584	3680	791	953	2140	3590	7230	2440	3180	2800
25	945	e489	581	3820	839	748	1940	5220	7320	2920	3900	2220
26	1060	498	588	3800	835	650	1840	7840	7180	3090	3360	1900
27	779	458	617	3700	787	623	3340	11500	7180	2890	2760	1670
28	683	470	627	3630	647	525	3610	13400	7200	2500	2630	1520
29	595	510	589	3570	---	466	3100	11500	7510	2730	2360	1440
30	573	721	565	4090	---	437	2870	6360	7510	2710	1770	924
31	609	---	1180	4310	---	413	---	4500	---	3660	1650	---
TOTAL	25745	27670	23303	59288	31893	20066	40804	172280	326770	119860	111791	75500
MEAN	830.5	922.3	751.7	1913	1139	647.3	1360	5557	10890	3866	3606	2517
MAX	2020	3540	1530	4310	3830	1660	3610	13400	26200	7640	9420	14300
MIN	502	344	565	622	647	413	423	1400	2720	2020	951	492
AC-FT	51070	54880	46220	117600	63260	39800	80930	341700	648100	237700	221700	149800

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2002, BY WATER YEAR (WY)

MEAN	4717	5546	3636	3708	4653	8532	8931	9729	11210	7444	4542	3638
MAX	41580	41300	10120	12450	17510	27120	25300	52840	41910	25780	21280	17660
(WY)	1987	1999	2000	1993	1993	1987	1984	1993	1995	1999	1995	1989
MIN	161	251	453	500	487	402	305	2001	2139	908	390	205
(WY)	1992	1981	1983	1977	1981	1981	1981	1996	1988	1991	1978	1984

e Estimated

ARKANSAS RIVER BASIN

31

07152500 ARKANSAS RIVER AT RALSTON, OK--Continued

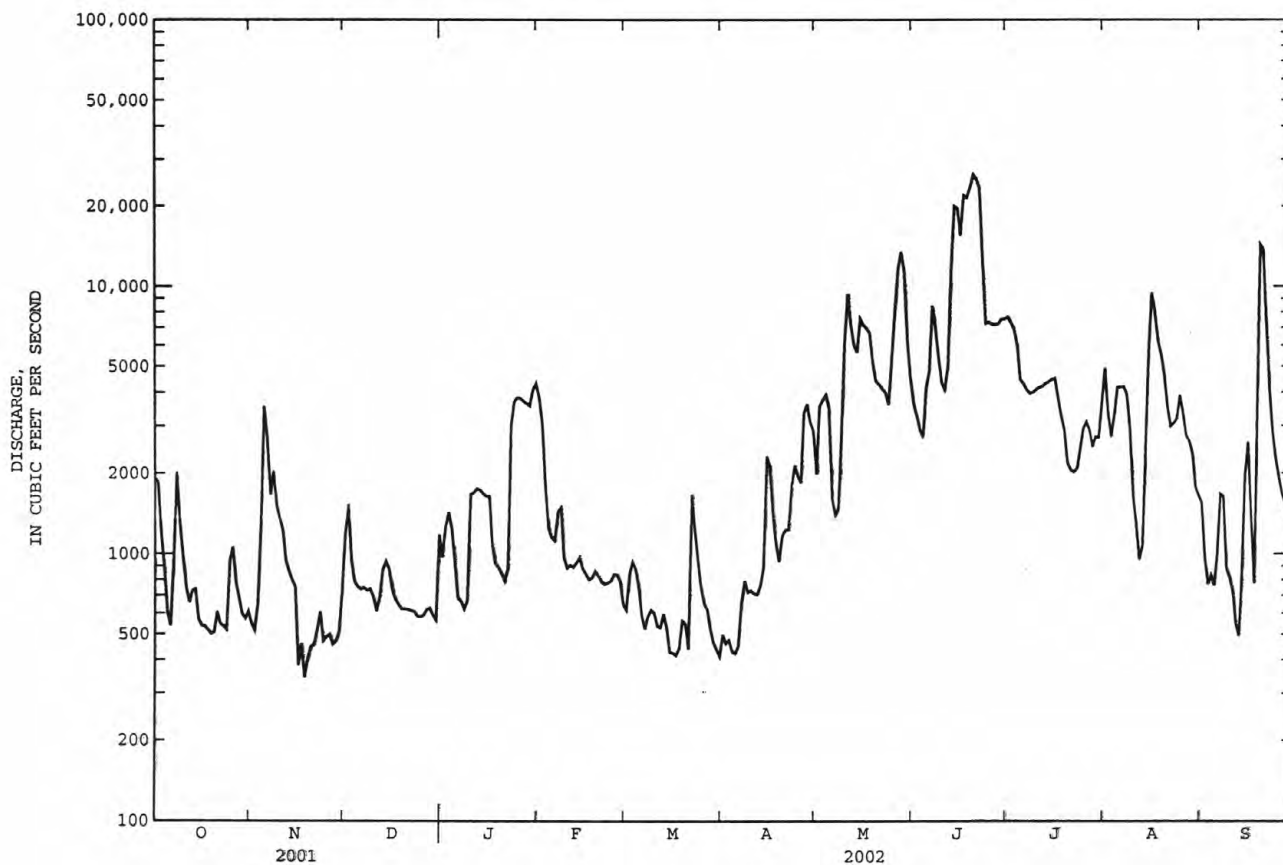
SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1977 - 2002	
ANNUAL TOTAL	1834329		1034970		^a 6359	
ANNUAL MEAN	5026		2836		16810	1999
HIGHEST ANNUAL MEAN					1292	1981
LOWEST ANNUAL MEAN					170000	Oct 4 1986
HIGHEST DAILY MEAN	36300	Feb 26	26200	Jun 20	^b 52	Sep 18 1978
LOWEST DAILY MEAN	330	Aug 29	344	Nov 18	103	Oct 19 1991
ANNUAL SEVEN-DAY MINIMUM	357	Aug 23	431	Nov 16	^c 174000	Oct 4 1986
MAXIMUM PEAK FLOW			28000	Jun 19	^d 22.20	Oct 4 1986
MAXIMUM PEAK STAGE			10.41	Jun 19		
ANNUAL RUNOFF (AC-FT)	3638000		2053000		4607000	
10 PERCENT EXCEEDS	12800		6910		15900	
50 PERCENT EXCEEDS	2620		1290		3000	
90 PERCENT EXCEEDS	510		530		500	

^aPrior to regulation by Kaw Lake, water years 1926-75, 4,826 ft³/s.

^bMinimum daily discharge for period of record, 14 ft³/s, Oct. 12, 1956.

^cMaximum for period of record, 211,000 ft³/s, Oct. 13, 1973.

^dMaximum for period of record, 22.98 ft, Oct. 13, 1973.



ARKANSAS RIVER BASIN

07153000 BLACK BEAR CREEK AT PAWNEE, OK

LOCATION.--Lat 36°20'37", long 96°47'57", on east line of SE 1/4 NE 1/4 sec.31, T.22 N., R.5 E., Pawnee County, Hydrologic Unit 11060006, on downstream side of left pier of bridge on State Highway 18 in north Pawnee, 300 ft downstream from Skedee Creek, and at mile 23.4.

DRAINAGE AREA.--576 mi².

PERIOD OF RECORD.--July 1944 to current year.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 802.73 ft, sea level (levels by U.S. Army Corps of Engineers). Prior to Sept. 21, 1944, nonrecording gage at present site and datum; also Aug. 27, 1953 to Apr. 29, 1954, temporary nonrecording gage at site 500 ft downstream at same datum.

REMARKS.--Records good. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 19, 1943, reached a stage of 28.19 ft, from floodmark, discharge 17,800 ft³/s.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	2.8	5.3	e5.5	331	e6.5	15	60	37	14	17	15
2	3.0	3.1	5.1	e5.5	95	e6.6	16	43	24	14	11	14
3	3.1	77	5.4	e5.4	52	e6.7	16	32	17	87	9.9	9.7
4	3.1	483	6.4	e5.7	40	7.0	16	23	16	64	9.3	7.6
5	3.5	141	6.9	e8.9	33	7.4	16	18	36	35	8.5	6.5
6	2.7	54	7.0	e12	27	7.5	16	46	142	25	7.5	5.4
7	2.4	33	6.6	14	24	7.5	30	30	94	19	6.9	4.7
8	2.1	20	6.1	12	22	7.9	78	17	46	17	6.1	3.7
9	2.1	16	6.3	11	21	8.0	80	23	33	16	5.0	3.1
10	2.2	14	6.6	6.5	18	8.3	43	21	25	15	4.1	2.5
11	1.6	12	6.2	7.3	17	8.5	24	40	19	13	3.3	2.2
12	1.6	18	7.8	7.6	17	7.9	17	27	16	9.5	3.4	1.9
13	1.6	9.5	8.5	8.9	16	7.6	19	22	404	36	124	1.8
14	1.3	7.5	8.5	9.3	15	7.4	74	17	1360	32	594	685
15	1.3	6.4	9.8	8.8	14	6.9	136	16	436	17	337	2600
16	1.6	5.6	12	8.2	12	6.4	66	16	1240	13	124	792
17	1.9	5.2	11	7.5	10	6.2	46	443	1240	13	59	390
18	2.0	5.1	9.4	8.9	9.2	7.1	30	325	431	12	55	220
19	2.0	3.8	8.1	9.2	8.7	8.6	48	131	237	10	50	1010
20	1.9	3.8	7.4	7.9	8.4	11	46	75	151	9.4	26	1590
21	2.0	4.5	7.1	5.7	8.6	20	20	45	104	8.5	19	703
22	2.3	5.2	7.5	5.6	9.1	17	16	30	75	7.7	17	392
23	2.4	5.5	6.6	4.3	8.8	16	15	22	55	8.0	16	236
24	2.4	5.1	e6.1	3.0	7.3	16	14	27	44	8.1	14	158
25	2.4	5.5	e6.0	2.3	e6.8	16	14	61	33	7.4	192	114
26	2.0	5.2	e5.8	9.6	e6.4	15	13	91	25	6.9	100	85
27	1.8	4.3	e6.0	14	e6.4	15	65	179	21	6.2	48	63
28	2.1	4.3	e6.0	8.9	e6.4	14	371	243	17	5.5	31	47
29	2.5	4.7	e5.6	8.7	---	12	214	131	15	69	21	36
30	2.4	5.7	e5.5	30	---	11	98	89	14	36	17	27
31	2.4	---	e5.4	629	---	12	---	53	---	37	16	---
TOTAL	68.7	970.8	218.0	891.2	850.1	315.0	1672	2396	6407	671.2	1952.0	9226.1
MEAN	2.216	32.36	7.032	28.75	30.36	10.16	55.73	77.29	213.6	21.65	62.97	307.5
MAX	3.5	483	12	629	331	20	371	443	1360	87	594	2600
MIN	1.3	2.8	5.1	2.3	6.4	6.2	13	16	14	5.5	3.3	1.8
AC-FT	136	1930	432	1770	1690	625	3320	4750	12710	1330	3870	18300

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 2002, BY WATER YEAR (WY)

	MEAN	219.9	158.1	98.64	75.52	132.8	282.7	306.9	496.9	344.1	174.0	106.4	176.8
MAX	4025	2359	720	595	1013	1607	1583	2933	2181	950	1592	1354	
(WY)	1987	1975	2000	1993	1987	1990	1999	1993	1957	1997	1992	1945	
MIN	0.000	0.000	0.023	0.37	0.73	0.90	1.14	2.28	4.68	0.30	0.000	0.000	
(WY)	1955	1955	1967	1957	1968	1954	1955	1956	1966	1954	1954	1954	

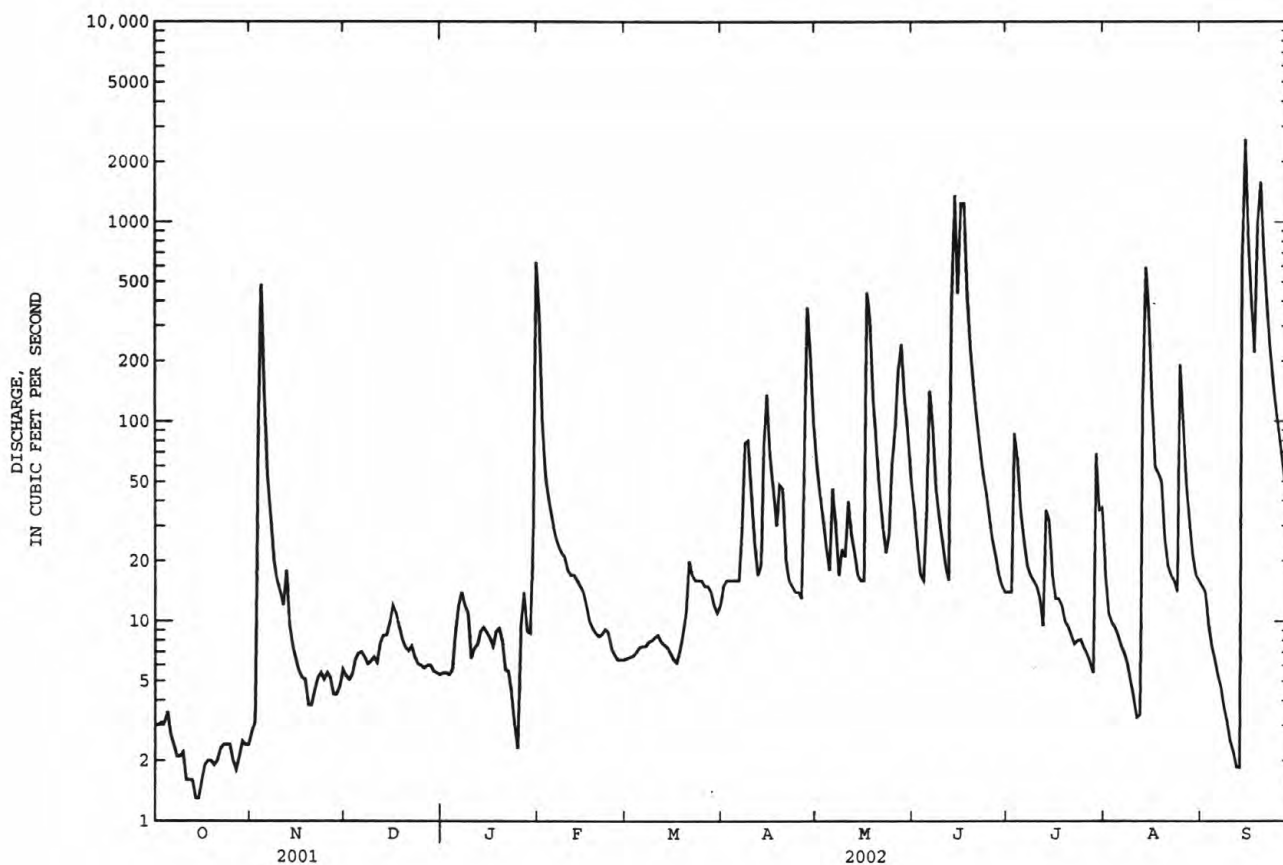
e Estimated

ARKANSAS RIVER BASIN

33

07153000 BLACK BEAR CREEK AT PAWNEE, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1945 - 2002
ANNUAL TOTAL	70520.8	25638.1	
ANNUAL MEAN	193.2	70.24	214.7
HIGHEST ANNUAL MEAN			835 1987
LOWEST ANNUAL MEAN			23.1 1954
HIGHEST DAILY MEAN	5760 May 30	2600 Sep 15	25400 Oct 3 1959
LOWEST DAILY MEAN	1.3 Oct 14,15	1.3 Oct 14,15	0.00 at times
ANNUAL SEVEN-DAY MINIMUM	1.6 Oct 11	1.6 Oct 11	0.00 Jul 17 1954
MAXIMUM PEAK FLOW		3300 Sep 15	30200 Oct 3 1959
MAXIMUM PEAK STAGE		8.55 Sep 15	31.43 Oct 3 1959
ANNUAL RUNOFF (AC-FT)	139900	50850	155500
10 PERCENT EXCEEDS	287	127	410
50 PERCENT EXCEEDS	23	13	16
90 PERCENT EXCEEDS	3.1	3.1	1.1



ARKANSAS RIVER BASIN

07154500 CIMARRON RIVER NEAR KENTON, OK

LOCATION.--Lat 36°55'36", long 102°57'31", in SW $\frac{1}{4}$ sec.4, T.5 N., R.1 E., Cimarron County, Hydrologic Unit 11040001, near right bank on downstream side of pier of county road bridge, 1.5 mi upstream from North Carrizo Creek, 1.7 mi northeast of Kenton, 2.2 mi downstream from Carrizozo Creek, and at mile 594.0.

DRAINAGE AREA.--1,106 mi², of which 68 mi² is probably noncontributing.

PERIOD OF RECORD.--April 1904 to July 1905 (gage heights only), October 1950 to current year.

REVISED RECORDS.--WSP 1711: 1956 (M).

GAGE.--Water-stage recorder. Datum of gage is 4,262.08 ft above sea level. April 1904 to July 1905 nonrecording gage at site 0.9 mi upstream at different datum. Oct. 1, 1950 to Sept. 19, 1967, water-stage recorder at same site and at datum 5.00 ft higher.

REMARKS.--Records fair, except for estimated winter periods, which are poor. Extensive diversions for irrigation upstream from station. Satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	e0.00	e0.00	0.01	0.0	0.0	0.0	0.0	1.4
2	0.0	0.0	0.0	0.0	e0.00	e0.00	0.01	0.0	0.0	0.0	0.0	0.09
3	0.0	0.0	0.0	0.0	0.02	e0.00	0.01	0.0	0.0	0.0	0.0	0.02
4	0.0	0.0	0.0	0.0	0.02	e0.01	0.01	0.0	0.0	0.0	0.0	0.00
5	0.0	0.0	0.0	0.0	0.02	0.02	0.01	0.0	0.0	15	0.0	0.00
6	0.0	0.0	0.0	0.0	0.02	0.01	0.01	0.0	0.0	350	0.0	0.00
7	0.0	0.0	0.0	0.0	0.02	0.02	0.01	0.0	0.0	15	0.0	0.00
8	0.0	0.0	0.0	0.0	0.02	0.02	0.02	0.0	0.0	2.1	0.0	0.00
9	0.0	0.0	0.0	0.0	0.01	0.01	0.02	0.0	0.0	0.26	0.0	0.00
10	0.0	0.0	0.0	0.01	0.01	0.01	0.02	0.0	0.0	0.06	0.0	477
11	0.0	0.0	0.0	0.01	0.01	0.0	0.02	0.0	0.0	0.02	0.0	80
12	0.0	0.0	0.0	0.01	0.01	0.0	0.01	0.0	0.0	0.0	0.00	20
13	0.0	0.0	0.0	0.01	0.02	0.01	0.02	0.0	0.04	0.0	0.00	4.5
14	0.0	0.0	0.0	0.01	0.02	0.01	0.02	0.0	0.0	0.0	0.00	48
15	0.0	0.0	0.0	0.01	0.02	0.0	0.01	0.0	0.0	0.0	0.00	35
16	0.0	0.0	0.0	0.01	0.02	0.01	0.01	0.0	0.0	0.0	0.00	6.7
17	0.0	0.0	0.0	0.01	0.02	0.01	0.01	0.0	0.0	0.0	0.00	2.2
18	0.0	0.0	0.0	0.02	0.02	0.01	0.0	0.0	0.0	0.0	0.00	0.93
19	0.0	0.0	0.0	0.02	0.02	0.01	0.0	0.0	0.0	0.0	0.00	0.63
20	0.0	0.0	0.0	0.02	0.02	0.01	0.0	0.0	0.0	0.0	0.09	27
21	0.0	0.0	0.0	0.02	0.02	0.01	0.0	0.0	115	0.0	3.8	13
22	0.0	0.0	0.0	0.02	0.01	0.01	0.0	0.0	3.0	0.0	0.02	4.2
23	0.0	0.0	0.0	0.02	0.02	0.01	0.0	0.0	0.13	15	0.00	0.83
24	0.0	0.0	0.0	0.01	0.01	0.01	0.0	0.0	0.03	1.0	0.00	0.49
25	0.0	0.0	0.0	0.01	e0.00	0.01	0.0	0.0	0.0	0.06	0.00	0.16
26	0.0	0.0	0.0	0.02	e0.00	0.02	0.0	0.0	0.0	0.0	0.00	0.05
27	0.0	0.0	0.0	0.01	e0.00	0.01	0.0	0.0	0.0	0.0	0.00	0.02
28	0.0	0.0	0.0	0.01	e0.00	0.01	0.0	0.0	0.0	0.0	1.9	0.00
29	0.0	0.0	0.0	0.01	---	0.01	0.0	0.0	0.0	0.0	3.9	0.00
30	0.0	0.0	0.0	e0.00	---	0.01	0.0	0.0	0.0	0.0	7.0	0.00
31	0.0	---	0.0	e0.00	---	0.01	---	0.0	---	0.0	4.3	---
TOTAL	0.0	0.0	0.0	0.27	0.38	0.29	0.23	0.0	118.20	398.50	21.01	722.22
MEAN	0.000	0.000	0.000	0.009	0.014	0.009	0.008	0.000	3.940	12.85	0.678	24.07
MAX	0.00	0.00	0.00	0.02	0.02	0.02	0.02	0.00	115	350	7.0	477
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	0.5	0.8	0.6	0.5	0.00	234	790	42	1430

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2002, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1951	9.768	334	1966	0.000	1965
1952	1.898	12.1	1966	0.000	1965
1953	2.046	9.59	1966	0.000	1965
1954	1.952	8.07	1988	0.000	1965
1955	1.718	6.76	1966	0.000	1994
1956	1.451	4.42	1958	0.002	1994
1957	5.378	116	1977	0.000	1965
1958	34.47	525	1955	0.000	2002
1959	30.95	514	1965	0.000	1954
1960	32.53	204	1958	0.000	1993
1961	50.53	406	1965	0.000	1972
1962	25.38	235	1963	0.000	1956

e Estimated

ARKANSAS RIVER BASIN

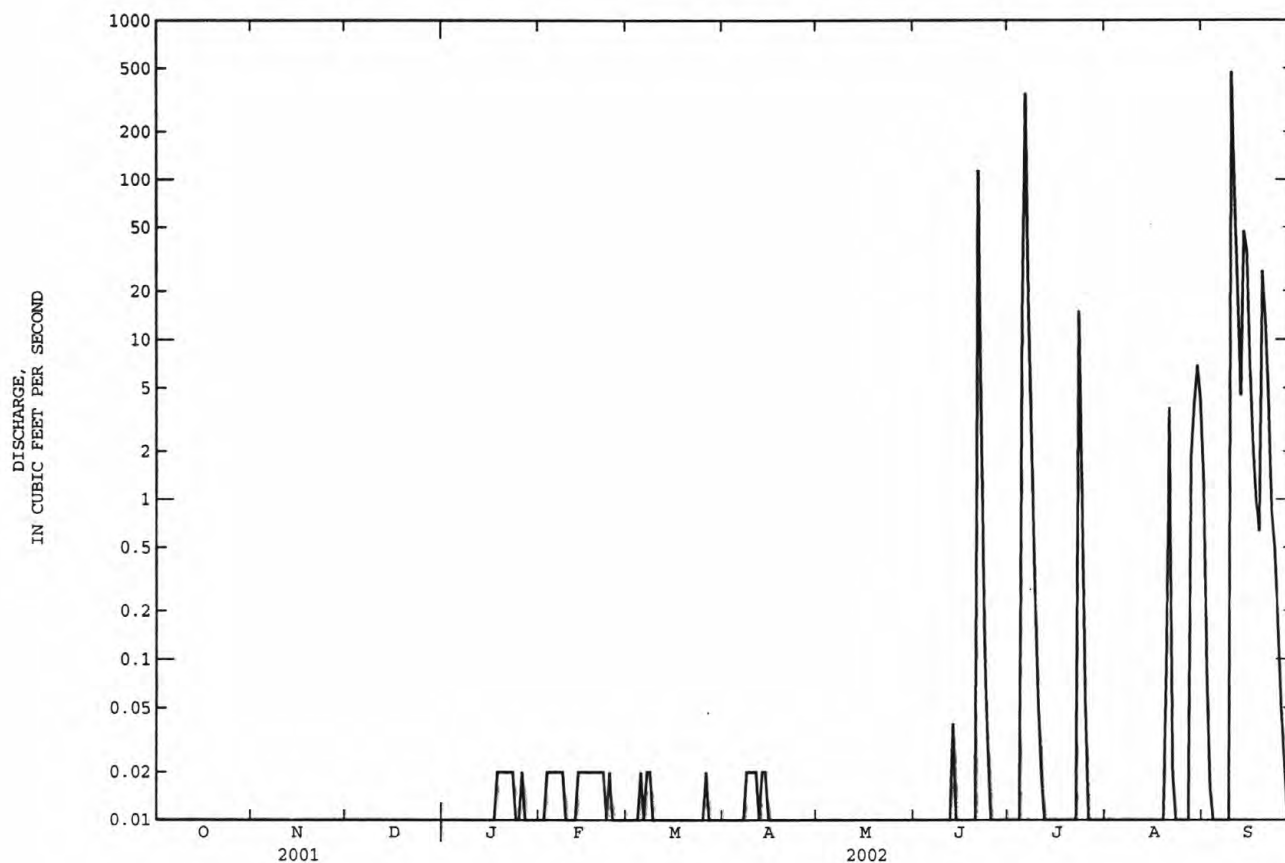
35

07154500 CIMARRON RIVER NEAR KENTON, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1951 - 2002
ANNUAL TOTAL	1109.71	1261.10	
ANNUAL MEAN	3.040	3.455	16.62
HIGHEST ANNUAL MEAN			95.2 1965
LOWEST ANNUAL MEAN			0.65 1993
HIGHEST DAILY MEAN	334 May 31	477 Sep 10	11000 Jun 17 1965
LOWEST DAILY MEAN	0.00 at times	0.00 at times	0.00 most years
ANNUAL SEVEN-DAY MINIMUM	0.00 Jun 26	0.00 Oct 1	0.00 Jun 14 1952
MAXIMUM PEAK FLOW		1710 Jul 6	^a 43400 Oct 17 1965
MAXIMUM PEAK STAGE		12.21 Jul 6	^b 22.32 Oct 17 1965
ANNUAL RUNOFF (AC-FT)	2200	2500	12040
10 PERCENT EXCEEDS	2.0	0.05	7.2
50 PERCENT EXCEEDS	0.20	0.00	0.90
90 PERCENT EXCEEDS	0.00	0.00	0.00

^aFrom rating curve extended above 7,000 ft³/s, on basis on contracted-opening measurement of peak flow.

^bPresent datum.



ARKANSAS RIVER BASIN

07156900 CIMARRON RIVER NEAR FORGAN, OK

LOCATION.--Lat 37°00'40", long 100°29'29", in SE 1/4 SE 1/4 sec.8, T.35 S., R.29 W., Meade County, KS, Hydrologic Unit 11040006, on downstream side of bridge on Kansas State Highway 23, 0.8 mi north of Oklahoma-Kansas State Line, 7.8 mi north of Forgan, and at mile 375.7.

DRAINAGE AREA.--8,536 mi², of which 4,316 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1965 to September 1986, October 1987 to current year.

REVISED RECORDS.--WDR OK-91-1 gage datum.

GAGE.--Water-stage recorder. Datum of gage is 2,320.05 ft above sea level.

REMARKS.--Records good except for estimated periods, which are poor. Natural flow affected by irrigational development. Satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	33	35	e33	e33	e28	35	32	20	14	18	36
2	25	32	35	e29	e37	e26	34	30	18	14	17	34
3	25	35	37	e30	44	e24	32	29	16	15	17	36
4	26	34	37	e33	44	e30	32	30	25	15	15	37
5	25	34	37	37	46	34	33	28	29	20	14	34
6	25	36	35	37	46	35	33	28	24	21	14	33
7	26	34	35	38	43	36	33	28	23	19	15	32
8	26	34	35	38	42	35	35	25	24	18	15	31
9	27	35	35	39	42	33	35	24	19	17	25	33
10	26	35	36	38	38	32	34	24	18	16	270	35
11	28	35	37	37	36	33	34	28	17	17	73	37
12	29	35	38	36	35	32	34	31	17	22	69	36
13	29	36	38	36	34	32	39	29	24	18	137	34
14	28	37	37	35	34	33	37	27	21	17	58	36
15	29	37	38	35	33	32	35	24	28	17	31	35
16	29	39	37	35	33	31	33	24	38	16	51	33
17	28	40	35	36	33	32	32	31	26	15	34	31
18	30	39	36	34	33	33	32	27	23	14	31	31
19	31	37	35	36	34	34	31	25	21	14	29	35
20	31	36	36	36	33	33	35	24	20	13	30	32
21	32	35	36	35	33	30	37	23	18	12	32	31
22	33	35	35	36	32	30	35	21	17	12	30	30
23	31	36	34	36	33	32	35	22	15	16	31	30
24	31	35	34	36	33	32	34	24	15	16	31	29
25	30	35	34	35	32	31	31	24	16	15	30	27
26	30	34	35	36	e29	32	31	26	17	13	33	28
27	31	e31	35	36	e28	33	32	32	16	14	67	28
28	32	e29	37	37	e29	33	31	29	15	20	42	28
29	32	e31	36	37	---	33	32	27	14	31	37	26
30	32	e34	e35	e36	---	33	32	26	13	22	43	26
31	32	---	e34	e35	---	34	---	24	---	19	41	---
TOTAL	896	1048	1109	1103	1002	991	1008	826	607	522	1380	964
MEAN	28.90	34.93	35.77	35.58	35.79	31.97	33.60	26.65	20.23	16.84	44.52	32.13
MAX	33	40	38	39	46	36	39	32	38	31	270	37
MIN	25	29	34	29	28	24	31	21	13	12	14	26
AC-FT	1780	2080	2200	2190	1990	1970	2000	1640	1200	1040	2740	1910

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2002, BY WATER YEAR (WY)

	65.26	52.99	54.85	54.62	58.41	58.06	67.85	71.84	59.59	45.84	48.92	45.84
MEAN	65.26	52.99	54.85	54.62	58.41	58.06	67.85	71.84	59.59	45.84	48.92	45.84
MAX	751	114	102	110	167	111	376	476	364	211	208	210
(WY)	1966	1972	1973	1967	1978	1973	1976	1977	1978	1967	1972	1966
MIN	26.1	32.1	30.7	35.6	35.8	32.0	32.1	23.8	20.2	16.8	19.1	20.8
(WY)	1992	1998	1990	2002	2002	2002	1996	1986	2002	2002	1983	1995

e Estimated

ARKANSAS RIVER BASIN

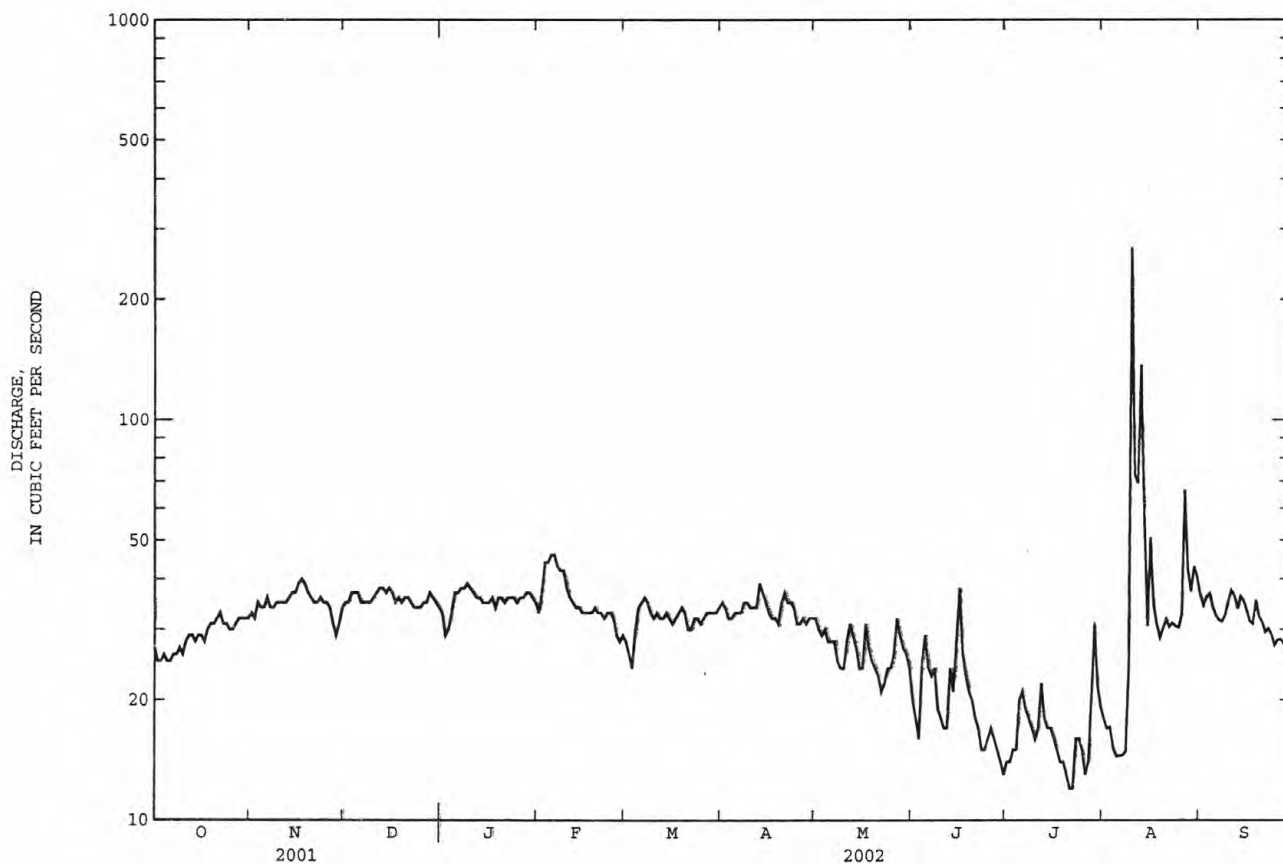
37

07156900 CIMARRON RIVER NEAR FORGAN, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1966 - 2002	
ANNUAL TOTAL	13234		11456		57.00	
ANNUAL MEAN	36.26		31.39		145	
HIGHEST ANNUAL MEAN					31.4	
LOWEST ANNUAL MEAN					7490	
HIGHEST DAILY MEAN	95	Aug 11	270	Aug 10	12	Oct 20 1965
LOWEST DAILY MEAN	16	Jul 23	12	Jul 21	14	^a Jul 21 2002
ANNUAL SEVEN-DAY MINIMUM	18	Jul 6	14	Jul 16	14	Jul 16 2002
MAXIMUM PEAK FLOW			1690	Aug 10	21200	Oct 20 1965
MAXIMUM PEAK STAGE			5.09	Aug 10	8.10	Oct 20 1965
ANNUAL RUNOFF (AC-FT)	26250		22720		41290	
10 PERCENT EXCEEDS	50		37		81	
50 PERCENT EXCEEDS	35		32		44	
90 PERCENT EXCEEDS	24		17		26	

^aAlso occurred July 22, 2002.

^bFrom high-water mark.



ARKANSAS RIVER BASIN

07157950 CIMARRON RIVER NEAR BUFFALO, OK

LOCATION.--Lat 36°51'07", long 99°18'54", in SE 1/4 NE 1/4 sec.2, T.27 N., R.20 W., Harper County, Hydrologic Unit 11050001, near left bank on downstream side of pier of U.S. Highway 64, 0.5 mi downstream from Keno Creek, 17.0 mi northeast of Buffalo, and at mile 289.1.

DRAINAGE AREA.--12,004 mi², of which 4,813 mi² is probably noncontributing.

PERIOD OF RECORD.--May 1960 to September 1994, October 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,599.67 ft above sea level. Prior to Oct. 1, 1979, at site 6.9 mi upstream at elevation 1,1650 ft.

REMARKS.--Records good except for estimated ice periods which are poor. U.S. Geological Survey satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.49	2.2	13	e19	e21	49	23	21	3.3	0.21	10	0.87
2	0.43	2.7	11	e18	e24	e49	23	19	2.1	0.18	3.8	0.48
3	0.40	3.0	12	e15	43	e49	22	19	1.1	0.18	1.6	0.33
4	0.39	2.9	13	e18	51	e54	25	17	24	0.15	0.51	0.20
5	6.7	2.8	13	27	125	64	22	16	26	5.2	0.14	0.16
6	1.4	2.8	12	27	118	88	22	16	13	1.9	0.04	0.13
7	0.81	2.8	12	23	103	79	31	14	10	0.27	0.02	0.10
8	0.64	2.8	12	43	92	63	29	12	4.9	0.19	0.02	0.10
9	0.59	3.0	12	55	85	58	26	9.4	2.9	0.15	1.0	0.12
10	0.65	3.3	12	47	72	52	23	10	1.9	0.12	42	0.12
11	0.67	4.0	12	39	65	52	23	13	1.2	0.18	15	0.10
12	0.70	4.4	15	38	63	50	21	10	0.66	6.0	3.1	0.11
13	0.67	4.8	18	38	56	50	22	87	32	2.8	2.1	0.13
14	0.65	5.5	16	36	54	49	23	49	17	0.26	1.4	0.13
15	0.64	6.0	16	34	55	49	20	31	7.4	0.13	0.45	0.10
16	0.62	6.4	18	35	53	48	20	23	39	0.11	1.5	0.07
17	0.67	8.1	18	35	50	43	18	26	13	0.10	1.6	0.06
18	0.72	9.6	19	e31	51	38	18	20	6.4	0.07	0.41	0.04
19	0.73	7.9	19	e33	60	41	18	17	3.6	0.06	0.05	0.14
20	0.77	7.5	19	33	54	35	33	15	2.5	0.05	0.03	0.08
21	0.77	8.2	19	32	53	32	39	13	1.9	0.03	0.02	0.05
22	1.3	8.7	20	45	50	31	33	9.8	0.95	0.04	0.00	0.02
23	1.9	9.2	20	44	51	32	31	9.5	0.38	0.11	0.14	0.03
24	1.7	9.8	e15	41	51	33	27	9.9	0.29	0.06	3.8	0.03
25	1.3	7.7	e13	e35	49	31	24	11	0.27	0.04	2.1	0.02
26	1.6	8.5	e16	38	e23	31	26	9.4	0.61	0.02	1.4	0.03
27	1.8	6.7	19	39	e40	29	29	15	4.2	0.0	29	0.03
28	1.8	e6.5	19	39	e43	28	24	17	0.68	0.05	6.6	0.02
29	2.0	e6.3	e17	39	---	26	22	12	0.25	249	5.9	0.01
30	2.4	9.8	e17	e34	---	25	21	7.2	0.19	113	3.1	0.01
31	2.1	---	e19	e20	---	25	---	5.2	---	21	1.6	---
TOTAL	38.01	173.9	486	1050	1655	1383	738	563.4	221.68	401.66	138.43	3.82
MEAN	1.226	5.797	15.68	33.87	59.11	44.61	24.60	18.17	7.389	12.96	4.465	0.127
MAX	6.7	9.8	20	55	125	88	39	87	39	249	42	0.87
MIN	0.39	2.2	11	15	21	25	18	5.2	0.19	0.00	0.00	0.01
AC-FT	75	345	964	2080	3280	2740	1460	1120	440	797	275	7.6

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 2002, BY WATER YEAR (WY)

	MEAN	78.17	81.93	90.60	117.9	179.0	144.7	201.3	224.9	88.15	81.09	122.9
MAX	788	482	270	155	225	1848	1304	851	1227	461	476	1100
(WY)	1966	1972	1974	1964	1993	1973	1973	1987	1965	1962	1968	1973
MIN	0.000	0.47	8.61	31.2	40.2	26.1	8.69	4.45	6.70	0.21	0.000	0.000
(WY)	1981	1981	1981	1981	1981	1992	1981	1992	1966	1991	1976	1980

e Estimated

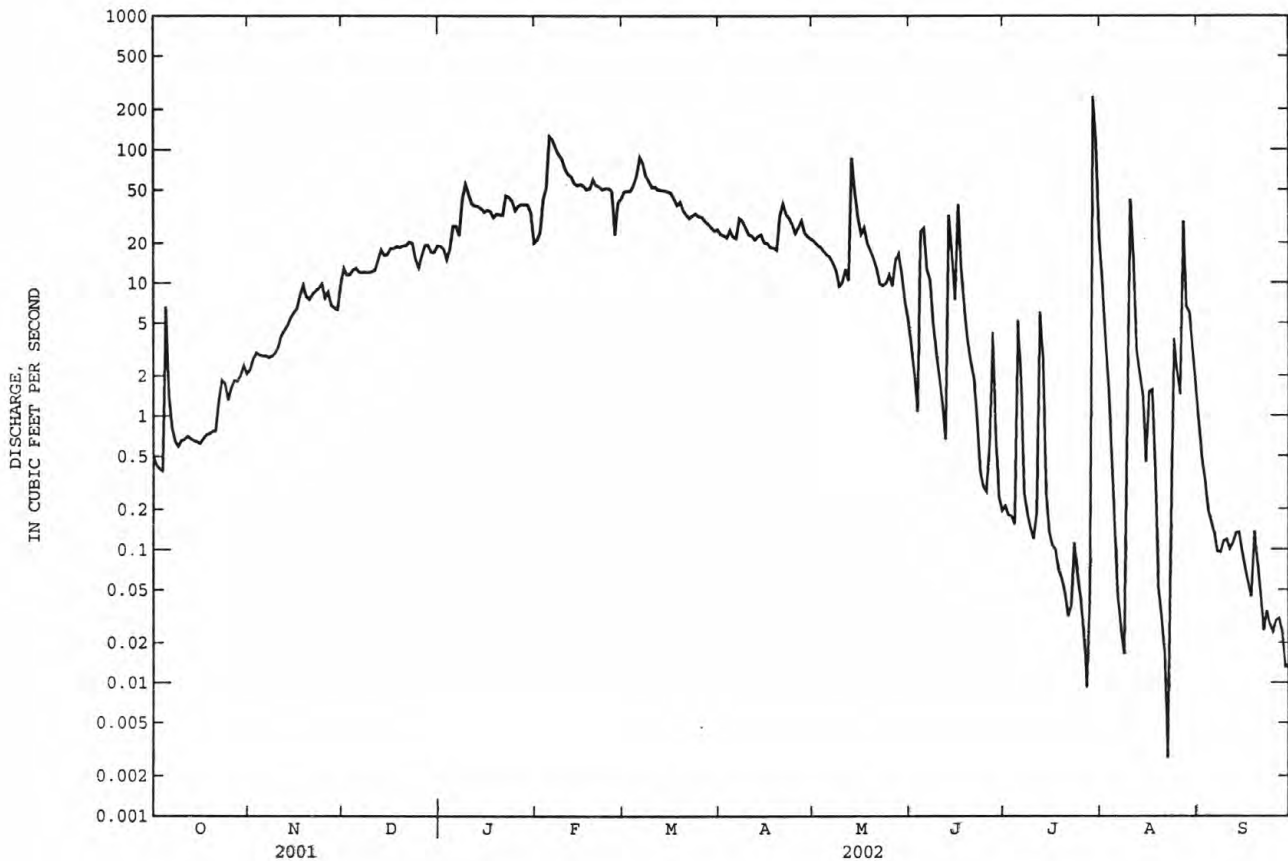
ARKANSAS RIVER BASIN

39

07157950 CIMARRON RIVER NEAR BUFFALO, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1960 - 2002
ANNUAL TOTAL		6852.90	
ANNUAL MEAN		18.78	125.2
HIGHEST ANNUAL MEAN			430 1973
LOWEST ANNUAL MEAN			18.8 2002
HIGHEST DAILY MEAN	20 Dec 22	249 Jul 29	12500 Sep 26 1973
LOWEST DAILY MEAN	0.00 Sep 29	0.00 at times	0.00 at times
ANNUAL SEVEN-DAY MINIMUM	0.65 Oct 8	0.02 Sep 24	0.00 Jul 19 1960
MAXIMUM PEAK FLOW		698 Jul 29	26400 Sep 26 1973
MAXIMUM PEAK STAGE		6.04 Jul 29	^a 5.57 Sep 26 1973
ANNUAL RUNOFF (AC-FT)		13590	90680
10 PERCENT EXCEEDS		49	229
50 PERCENT EXCEEDS		12	54
90 PERCENT EXCEEDS		0.11	0.04

^aSite and datum then in use.



07158000 CIMARRON RIVER NEAR WAYNOKA, OK

LOCATION.--Lat 36°31'02", long 98°52'45", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.35, T.24 N., R.16 W., Woods County, Hydrologic Unit 11050001, near left bank on downstream side of bridge on U.S. Highway 281, 4.0 mi south of Waynoka, and at mile 247.0.

DRAINAGE AREA.--13,334 mi², of which 4,830 mi² is probably noncontributing.

PERIOD OF RECORD.--September 1903 to December 1905 (gage heights and discharge measurements only), October 1937 to current year.
Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 1,367.35 ft above sea level. September 1903 to December 1905, nonrecording gage at the Atchison, Topeka and Santa Fe Railway Co. bridge 5 mi upstream at different datum. Feb. 4 to Mar. 3, 1938, nonrecording gage and Mar. 4, 1938, to Oct. 24, 1956, water-stage recorder, on former highway bridge 50 ft downstream at present datum.

REMARKS.--Records fair. Diversions for irrigation above station. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of about 14 ft occurred probably in 1914.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	4.4	20	e45	e126	136	54	50	20	11	91	22
2	4.3	5.9	23	e43	136	e90	51	46	13	11	52	16
3	3.5	8.1	26	e40	145	e80	48	43	6.0	10	33	13
4	3.5	11	27	e47	155	e78	48	38	8.9	8.3	22	7.5
5	3.1	13	30	65	171	80	49	33	22	9.3	13	4.9
6	3.0	13	28	69	202	77	52	34	44	7.6	6.7	3.5
7	3.0	12	28	75	210	78	59	35	30	11	4.3	2.1
8	2.7	11	27	75	195	91	69	33	15	10	2.5	0.57
9	3.3	13	28	79	185	80	74	24	7.3	3.3	1.1	1.6
10	3.1	13	28	91	175	72	66	22	5.0	2.2	0.68	2.2
11	3.4	15	30	96	161	74	59	23	3.3	7.6	78	1.6
12	3.5	16	33	94	156	71	63	20	7.0	14	59	0.38
13	3.3	18	37	93	152	73	62	21	125	34	62	2.2
14	3.5	21	47	92	147	71	66	16	110	29	40	3.0
15	3.3	22	46	92	142	68	58	44	67	15	36	2.0
16	3.4	23	46	93	139	66	52	46	102	11	19	0.46
17	3.5	27	45	96	138	67	50	67	92	3.4	11	0.00
18	3.0	31	46	95	137	69	56	48	61	0.69	4.7	0.00
19	3.0	25	45	97	158	77	50	34	45	0.02	1.8	0.57
20	3.5	21	47	97	179	84	58	24	33	0.0	0.24	1.7
21	4.4	21	48	103	154	72	87	19	26	0.0	0.17	0.45
22	5.1	22	51	101	146	64	83	16	21	1.7	0.0	0.00
23	5.8	25	50	106	142	62	69	15	17	39	0.0	0.00
24	4.6	24	51	112	141	62	63	20	14	16	25	0.00
25	3.5	21	e46	114	140	61	57	20	13	14	38	0.00
26	3.5	19	e40	112	e101	60	54	18	12	5.2	32	0.00
27	3.7	18	e43	116	e97	61	61	23	14	0.63	50	0.00
28	4.2	17	e47	118	e110	60	60	52	28	12	107	0.00
29	4.4	19	e53	121	---	58	54	64	17	116	67	0.00
30	4.8	18	e48	e121	---	55	51	45	13	223	46	0.00
31	4.5	---	e43	e125	---	54	---	31	---	186	30	---
TOTAL	117.0	527.4	1207	2823	4240	2251	1783	1024	991.5	811.94	933.19	85.73
MEAN	3.774	17.58	38.94	91.06	151.4	72.61	59.43	33.03	33.05	26.19	30.10	2.858
MAX	5.8	31	53	125	210	136	87	67	125	223	107	22
MIN	2.7	4.4	20	40	97	54	48	15	3.3	0.00	0.00	0.00
AC-FT	232	1050	2390	5600	8410	4460	3540	2030	1970	1610	1850	170

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2002, BY WATER YEAR (WY)

MEAN	210.7	130.1	118.8	134.8	187.2	256.6	366.8	769.6	590.1	328.7	219.7	252.1
MAX	2644	651	493	465	1011	2196	2944	5673	3674	3826	2507	1475
(WY)	1942	1999	1974	1998	1949	1973	1942	1957	1957	1950	1950	1973
MIN	0.000	0.000	1.98	2.65	30.1	12.6	6.00	10.6	0.60	0.008	0.000	0.000
(WY)	1940	1981	1955	1940	1957	1955	1956	1967	1966	1974	1970	1956

e Estimated

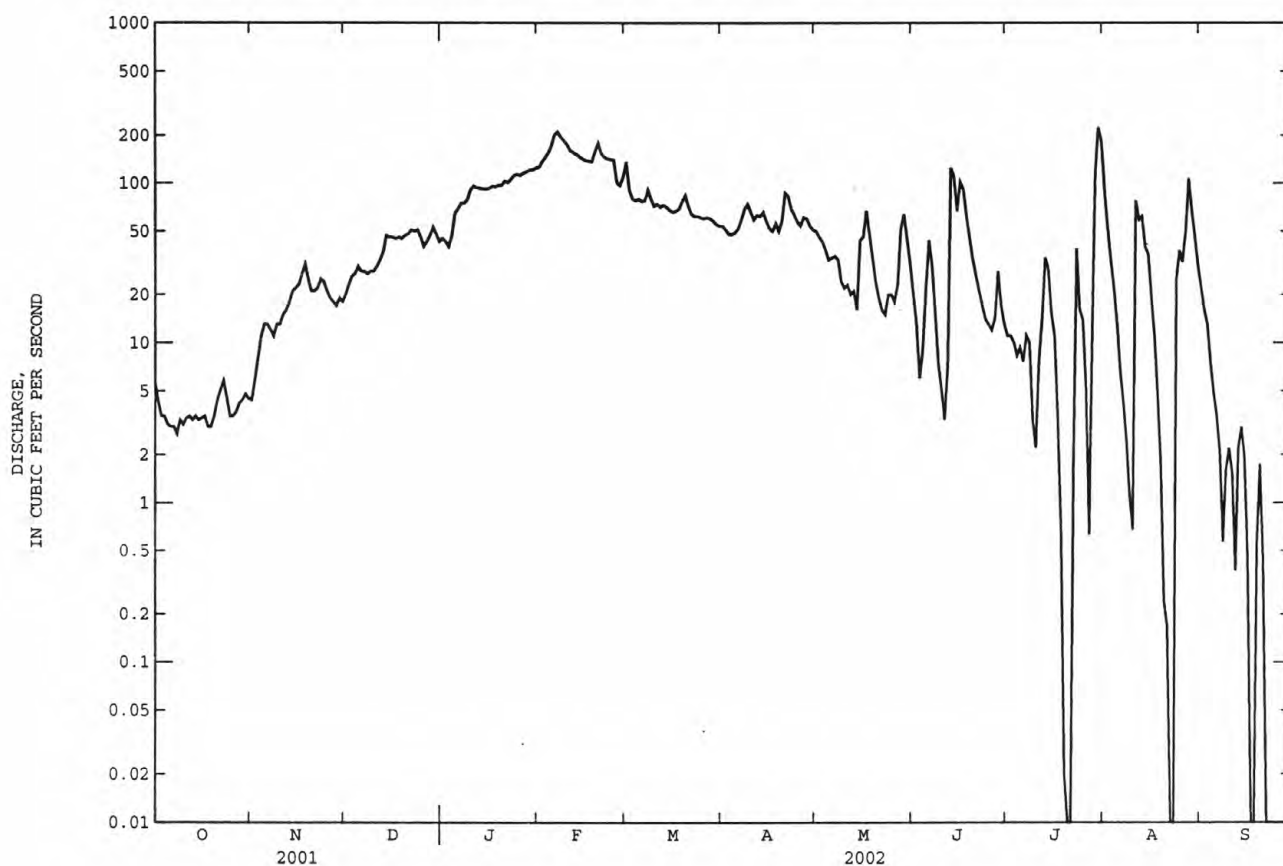
ARKANSAS RIVER BASIN

41

07158000 CIMARRON RIVER NEAR WAYNOKA, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1938 - 2002
ANNUAL TOTAL	82900.25	16794.76	297.5
ANNUAL MEAN	227.1	46.01	1081
HIGHEST ANNUAL MEAN			43.2
LOWEST ANNUAL MEAN			1991
HIGHEST DAILY MEAN	3810 May 5	223 Jul 30	51600 May 16 1957
LOWEST DAILY MEAN	0.00 at times	0.00 at times	0.00 at times
ANNUAL SEVEN-DAY MINIMUM	0.00 Aug 1	0.00 Sep 22	0.00 Sep 3 1939
MAXIMUM PEAK FLOW		383 Jul 30	^a 94500 May 16 1957
MAXIMUM PEAK STAGE		6.58 Jul 30	15.10 May 16 1957
ANNUAL RUNOFF (AC-FT)	164400	33310	215500
10 PERCENT EXCEEDS	498	113	488
50 PERCENT EXCEEDS	90	33	88
90 PERCENT EXCEEDS	0.83	2.2	0.60

^aFrom rating curve extended above 45,000 ft³/s on basis of contracted-opening measurement of peak flow.



ARKANSAS RIVER BASIN

07159100 CIMARRON RIVER NEAR DOVER, OK

LOCATION.--Lat 35°57'06", long 97°54'51", in SW 1/4 NE 1/4 sec.14, T.17 N., R.7 W., Kingfisher County, Hydrologic Unit 11050002, near right bank on downstream bridge on U.S. Highway 81, 1.0 mi downstream from Turkey Creek, 2.0 mi south of Dover, 2.5 mi upstream from Kingfisher Creek, and at mile 160.6.

DRAINAGE AREA.--15,713 mi², of which 4,926 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1973 to current year.

REVISED RECORDS.--OK-95-1: 1994

GAGE.--Water-stage recorder. Datum of gage is 999.19 ft above sea level.

REMARKS.--Records good. U.S. Army Corps of Engineers' telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 12,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	82	46	84	e93	277	172	123	144	238	121	839	165
2	76	47	85	e89	246	e158	114	129	175	135	471	136
3	71	50	89	e87	243	e145	110	120	128	126	349	116
4	65	54	90	97	234	e162	106	113	109	122	224	104
5	60	58	91	106	220	170	102	102	134	110	163	95
6	59	53	86	117	244	202	107	101	485	100	121	87
7	62	53	86	116	268	198	135	103	470	93	96	81
8	57	50	84	114	272	207	162	105	247	94	81	77
9	59	49	84	119	279	189	180	110	173	108	71	77
10	59	52	85	120	284	193	170	112	138	94	62	73
11	56	58	88	119	263	188	160	90	104	87	58	70
12	58	63	92	115	244	189	184	83	90	97	69	69
13	54	66	95	121	234	178	260	79	597	105	423	73
14	53	66	98	123	222	158	619	73	5300	227	4340	1570
15	50	67	99	129	206	150	312	64	6020	166	6040	1210
16	47	71	100	120	199	149	211	57	2110	111	1490	339
17	46	81	101	119	192	151	173	535	1400	93	575	190
18	46	99	102	118	188	166	155	1250	1260	84	363	163
19	44	99	100	120	191	190	141	986	743	72	267	827
20	47	91	99	126	186	185	141	468	488	63	216	725
21	48	84	101	120	175	172	185	272	360	54	186	334
22	47	82	98	122	177	167	176	200	285	54	184	174
23	47	86	96	119	226	181	142	163	239	50	157	119
24	44	84	93	117	202	173	146	207	207	50	148	99
25	42	80	91	117	178	153	177	406	182	398	156	88
26	41	72	93	115	158	147	181	858	165	360	288	82
27	43	71	99	118	150	144	232	763	151	161	324	79
28	46	73	104	121	166	136	424	455	140	100	265	76
29	45	77	101	122	---	136	251	284	129	103	217	73
30	44	79	100	216	---	132	168	230	120	874	182	70
31	46	---	97	290	---	126	---	211	---	2020	207	---
TOTAL	1644	2061	2911	3845	6124	5167	5747	8873	22387	6432	18632	7441
MEAN	53.03	68.70	93.90	124.0	218.7	166.7	191.6	286.2	746.2	207.5	601.0	248.0
MAX	82	99	104	290	284	207	619	1250	6020	2020	6040	1570
MIN	41	46	84	87	150	126	102	57	90	50	58	69
AC-FT	3260	4090	5770	7630	12150	10250	11400	17600	44400	12760	36960	14760

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2002, BY WATER YEAR (WY)

	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
MEAN	795.7	882.3	488.5	407.3	605.7	1259	1145	2170	1541	571.6	528.0	596.2																	
MAX	9071	5171	1864	1549	2410	4840	6442	11750	6969	2131	2622	2311																	
(WY)	1987	1999	1998	1998	1987	1998	1999	1993	1995	1999	1995	1996																	
MIN	40.2	45.1	70.2	61.8	75.6	77.4	60.7	146	207	45.3	29.5	13.8																	
(WY)	1985	1985	1977	1977	1981	1977	1981	1996	1984	1974	1984	1984																	

e Estimated

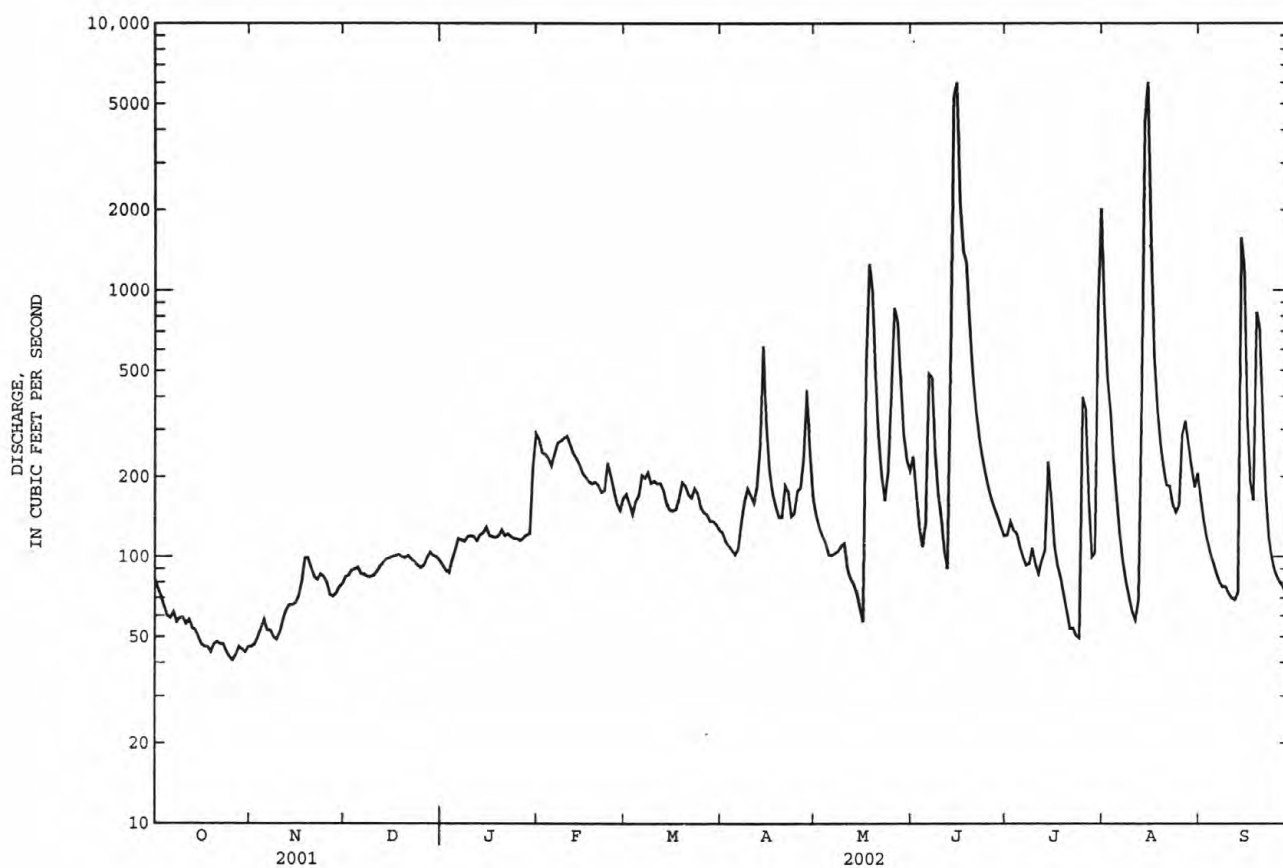
ARKANSAS RIVER BASIN

43

07159100 CIMARRON RIVER NEAR DOVER, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1974 - 2002	
ANNUAL TOTAL	256983		91264		916.9	
ANNUAL MEAN	704.1		250.0		2804	
HIGHEST ANNUAL MEAN					250	
LOWEST ANNUAL MEAN					80200	
HIGHEST DAILY MEAN	9140	Feb 25	6040	Aug 15	4.3	Oct 3 1986
LOWEST DAILY MEAN	29	Sep 14	41	Oct 26	7.5	Sep 23 1980
ANNUAL SEVEN-DAY MINIMUM	33	Aug 5	44	Oct 24	123000	Sep 19 1980
MAXIMUM PEAK FLOW			8060	Aug 15	^a 26.10	Oct 3 1986
MAXIMUM PEAK STAGE			15.67	Aug 15	664200	
ANNUAL RUNOFF (AC-FT)	509700		181000		1870	
10 PERCENT EXCEEDS	1630		360		287	
50 PERCENT EXCEEDS	359		121		61	
90 PERCENT EXCEEDS	47		58			

^aFrom high-water mark.



ARKANSAS RIVER BASIN

07159550 LAKE HEFNER AT OKLAHOMA CITY, OK

LOCATION.--Lat 35°34'58", long 97°35'43", in NW 1/4 SE 1/4 sec.23, T.13 N., R.4 W., Oklahoma County, Hydrologic Unit 11050002, on south side of dam on Bluff Creek, 50 ft north of intake structure, 3.0 mi northeast of Hefner Canal at Oklahoma City (07240000) and 6.0 mi northeast of Bethany.

DRAINAGE AREA.--9.69 mi². The source of water for Lake Hefner is mainly diversion of water from the North Canadian River at Lake Overholser through Bluff Creek Canal and runoff in the drainage basin.

PERIOD OF RECORD.--November 17, 1999 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level.

REMARKS.--Reservoir is formed by an earthen dam which is more than 3 mi long and has a maximum height of 112 ft. The reservoir was constructed in 1947 by the City of Oklahoma City as a public water supply primary use structure. Capacity, 107,000 acre-ft, elevation, 1209.0 ft, top of stone wall; normal pool, 75,355 acre-ft, elevation, 1199.0 ft. Figures given herein represent total contents. Capacity table supplied by City of Oklahoma City.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 77,200 acre-ft, July 3, 2000, elevation 1,199.69 ft; minimum, 55,000 acre-ft, at times in WY 2000, elevation, 1,190.36 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 75,100 acre-ft, Oct. 17, elevation 1,198.90 ft; minimum, 60,250 acre-ft, Apr. 1, elevation, 1,192.75 ft.

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

1186.0	44,834	1199.0	75,355
1190.0	54,250	1202.0	99,000
1195.0	65,441	1209.0	107,000

RESERVOIR STORAGE VIA SATELLITE, in (ACRE-FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY OBSERVATION AT 0800 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e74600	72800	69920	67620	65820	63350	61490	63050	64130	72390	69040	65210
2	e74400	72870	69800	67530	65750	63730	61520	63100	64030	72690	68820	64970
3	e74200	72800	69780	67410	65660	63640	61400	62960	64010	72670	68670	64830
4	74100	72740	69780	67240	65630	63430	61200	62850	65040	72720	68530	64710
5	73950	72670	69530	67290	65560	63280	61150	62680	66300	72640	68330	64550
6	73770	72590	69630	67190	65590	63070	60940	62360	67550	72540	68110	64390
7	73610	72490	69530	67120	65540	63260	60690	62230	68820	72470	67940	64220
8	73440	72370	69480	67050	65500	63200	61490	62090	69970	72390	67770	64010
9	73310	72270	69380	66980	65420	63190	61420	62180	71470	72270	67580	63920
10	73500	72140	69240	66900	65320	63030	61290	62160	72820	72120	67360	63820
11	e73900	72040	69160	66810	65230	63030	61240	62250	73130	71970	67220	63680
12	e74200	71940	69140	66740	65160	62890	61240	62130	72970	71820	67070	63540
13	e74400	71700	69090	66690	65070	62600	61170	62090	73050	71770	67170	63350
14	e74700	71490	69020	66590	65000	62410	62110	62070	73510	71640	67240	63380
15	e74800	71420	68920	66480	64930	62640	63540	61860	73920	71490	67140	63330
16	e74900	71340	68940	66420	64830	62520	63540	61810	74050	71370	67140	63210
17	75000	71240	68920	66280	64780	62460	63940	62040	74130	71190	66950	63250
18	74920	71140	68790	66260	64740	62340	63660	62020	74150	71040	66900	63330
19	74740	71240	68720	66160	64710	62590	64060	62000	74230	70870	66830	63780
20	74640	71090	68570	66020	64640	62590	63960	62750	74310	70720	66640	65320
21	74540	70940	68500	66020	64550	62500	63890	62780	74200	70490	66380	66980
22	74360	70770	68530	65870	64480	62390	63780	62660	74050	70290	66260	68110
23	74310	70640	68380	65850	64250	62160	63610	62660	73900	70090	66140	68600
24	74100	70640	68300	65800	64180	62040	63450	62910	73720	69900	65970	68840
25	74020	70540	68210	65730	64180	62130	63470	62980	73540	69920	65800	68840
26	73870	70440	68110	65590	64060	62040	63500	62960	73360	69780	65780	68820
27	73770	70270	68010	65590	63940	62000	63540	63050	73180	69550	65780	68790
28	73720	70170	67940	65300	63640	61860	63400	63570	72970	69410	65700	68720
29	73310	70090	67840	65390	---	61840	63330	63850	72820	69330	65610	68790
30	73310	69970	67740	65440	---	61750	63260	64200	72620	69240	65470	68750
31	73280	---	67690	65940	---	61680	---	64150	---	69160	65300	---
MAX	75000	72870	69920	67620	65820	63730	64060	64200	74310	72720	69040	68840
MIN	73280	69970	67690	65300	63640	61680	60690	61810	64010	69160	65300	63210
(+)	1198.19	1196.87	1195.94	1195.21	1194.23	1193.38	1194.07	1194.45	1197.93	1196.54	1194.94	1196.37
(++)	-1420	-3310	-2280	-1750	-2300	-1960	+1580	+890	+8470	-3460	-3860	+3450
CAL YR 2001	MAX 76440	MIN 58000	(++)	+1550								
WTR YR 2002	MAX 75000	MIN 60690	(++)	-5950								

e Estimated

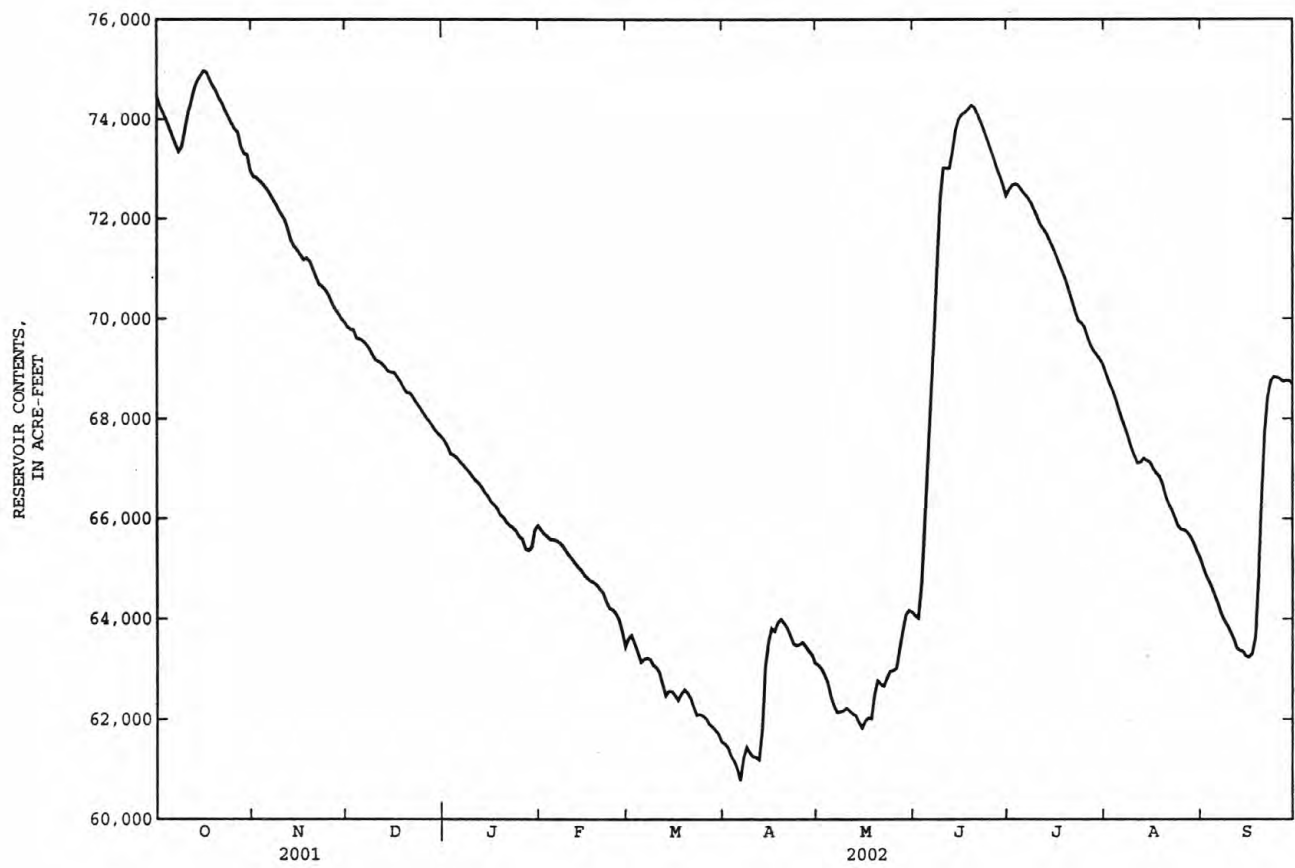
(+) ELEVATION, IN FEET, AT END OF MONTH

(++) CHANGE IN CONTENTS, IN ACRE-FEET

ARKANSAS RIVER BASIN

45

07159550 LAKE HEFNER AT OKLAHOMA CITY, OK--Continued



ARKANSAS RIVER BASIN

07159639 BLUFF CREEK ABOVE BETHANY AND WARR ACRES SEWAGE TREATMENT PLANT NEAR EDMOND, OK

LOCATION.--Lat 35°40'02", long 97°35'45", in NE 1/4, NW 1/4, sec 26, T.14 N., R.4 W., Oklahoma County, Hydrologic Unit 11050002, at county road bridge 0.4 mi upstream of Deer Creek and 0.6 mi west of State Highway 74.

PERIOD OF RECORD.--November 1983 to September 1984; August 1993 to current year.

REMARKS.--Samples were collected monthly from May through September and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, (PER- CENT SATUR- ATION) (00301)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR- BONATE DIS IT FIELD MG/L AS HCO3 (00453)
MAY													
14...	1415	80020	1028	4.3	740	8.4	91	7.9	1160	22.0	17.5	273	333
JUN													
19...	1330	80020	1028	7.8	740	9.5	118	8.2	794	30.5	24.7	155	188
JUL													
16...	1300	80020	1028	4.2	740	12.8	164	8.0	881	28.0	26.2	177	217
AUG													
27...	1000	80020	1028	--	740	3.7	45	7.7	393	19.0	24.1	172	210
SEP													
11...	1200	80020	1028	4.4	740	17.0	207	8.1	742	28.5	23.5	156	190

Date	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CARBO- PHENO- THION WATER UNFLTRD (UG/L) (39786)	CHLOR- PYRIFOS TOTAL RECOVER (UG/L) (38932)	DEF TOTAL (UG/L) (39040)	DI- AZINON, TOTAL (UG/L) (39570)	DISUL- FOTON UNFILT RECOVER (UG/L) (39011)	ETHION, TOTAL (UG/L) (39398)	FONOFOS (DY- FONATE) WATER WHOLE TOT.REC (UG/L) (82614)	ISO- FENFOS, SUR SCD 1319 WTR, UNFLTRD PERCENT (90712)	MALA- THION, TOTAL (UG/L) (39530)	METHYL PARA- THION, TOTAL (UG/L) (39600)	PARA- THION, TOTAL (UG/L) (39540)	PHORATE TOTAL (UG/L) (39023)
MAY													
14...	0	<.02	<.01	<.02	.06	<.10	<.01	<.01	78.3	<.10	<.02	<.01	<.02
JUN													
19...	0	<.02	<.01	<.02	.06	<.10	<.01	<.01	82.6	<.10	<.02	<.01	<.02
JUL													
16...	0	<.02	<.01	<.02	.05	<.10	<.01	<.01	68.2	<.10	<.01	<.01	<.02
AUG													
27...	0	<.02	<.01	<.02	.08	<.10	<.01	<.01	55.8	E.01	<.02	<.01	<.02
SEP													
11...	0	<.02	<.01	<.02	.03	<.10	<.01	<.01	74.0	<.10	<.01	<.01	<.02

ARKANSAS RIVER BASIN

47

07159643 DEER CREEK BELOW BLUFF CREEK AT OKLAHOMA CITY, OK

LOCATION.--Lat 35°40'56", long 97°35'26", in NE 1/4, NW 1/4, sec 23, T.14 N., R.4 W., Oklahoma County, Hydrologic Unit 11050002, 0.3 mi upstream of County Road and 0.5 mi downstream of confluence of Bluff Creek.

PERIOD OF RECORD.--August 1993 to current year.

REMARKS.--Samples were collected monthly from May to September and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER)	AGENCY COL- LECTING SAMPLE (CODE NUMBER)	DIS- CHARGE, INST. CUBIC FEET PER SECOND	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, (PER- CENT SATUR- ATION)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3
MAY 15...	1100	80020	1028	13	742	8.7	96	7.9	1320	19.0	18.6	250	305
JUN 20...	0900	80020	1028	16	745	7.2	89	7.9	975	26.0	24.2	184	225
JUL 16...	1430	80020	1028	9.3	740	16.3	215	8.1	1090	28.5	27.9	177	217
AUG 27...	1100	80020	1028	--	740	4.0	50	7.8	524	21.0	24.2	171	209
SEP 11...	1300	80020	1028	7.3	740	21.9	281	8.2	929	30.0	26.3	141	172

Date	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CARBO- PHENO- THION WATER UNFLTRD (UG/L)	CHLOR- PYRIFOS TOTAL RECOVER (UG/L)	DEF TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)	DISUL- FOTON UNFILT RECOVER (UG/L)	ETHION, TOTAL (UG/L)	FONOFOS (DY- FONATE) WATER WHOLE TOT.REC (UG/L)	ISO- FENFOS, SUR SCD 1319 WTR, UNFLTRD PERCENT (90712)	MALA- THION, TOTAL (UG/L)	METHYL PARA- THION, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	PHORATE TOTAL (UG/L)
MAY 15...	0	<.02	<.01	<.02	.03	<.10	<.01	<.01	78.4	<.10	<.02	<.01	<.02
JUN 20...	0	<.02	<.01	<.02	.03	<.10	<.01	<.01	75.6	<.10	<.02	<.01	<.02
JUL 16...	0	<.02	<.01	<.02	.03	<.10	<.01	<.01	50.5	<.10	<.01	<.01	<.02
AUG 27...	0	<.02	<.01	<.02	.10	<.10	<.01	<.01	75.2	E.02	<.02	<.01	<.02
SEP 11...	0	<.02	<.01	<.02	.03	<.10	<.01	<.01	92.9	<.10	<.01	<.01	<.02

ARKANSAS RIVER BASIN

07159650 DEER CREEK AT OKLAHOMA CITY, OK

LOCATION.--Lat 35°41'24", long 97°35'06", in SW 1/4, NW 1/4, sec 13, T.14 N., R.4 W., Oklahoma County, Hydrologic Unit 11050002, at bridge on 220th St., 0.4 mi east of State Highway 74.

PERIOD OF RECORD.--August 1993 to current year.

REMARKS.--Samples were collected monthly from May to September and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER)	AGENCY COL- LECTING SAMPLE (CODE NUMBER)	DIS- CHARGE, INST. CUBIC FEET PER SECOND	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, (PER- CENT SATUR- ATION)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3	BICAR- BONATE DIS IT FIELD MG/L AS HCO3
MAY	14...	80020	1028	33	740	8.2	90	7.8	1320	21.5	18.3	198	242
JUN	19...	80020	1028	26	740	7.8	95	7.9	1040	30.0	23.4	172	211
JUL	16...	80020	1028	29	740	12.9	162	7.7	1180	27.5	25.0	139	169
AUG	27...	80020	1028	--	740	3.9	48	7.9	559	22.0	24.1	134	163
SEP	11...	80020	1028	26	740	12.2	151	7.7	1100	25.5	24.4	111	136

Date	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CARBO- PHENO- THION WATER UNFLTRD (UG/L)	CHLOR- PYRIFOS TOTAL RECOVER (UG/L)	DEF TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)	DISUL- FOTON UNFILT RECOVER (UG/L)	ETHION, TOTAL (UG/L)	FCNOFOS (DY- FCNATE) WATER WHOLE TOT.REC (UG/L)	ISO- FENFOS, SUR SCD 1319 WTR, UNFLTRD PERCENT (90712)	MALA- THION, TOTAL (UG/L)	METHYL PARA- THION, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	PHORATE TOTAL (UG/L)
MAY	0	<.02	<.01	<.02	.02	<.10	<.01	<.01	71.3	<.10	<.02	<.01	<.02
JUN	0	<.02	<.01	<.02	.04	<.10	<.01	<.01	78.7	<.10	<.02	<.01	<.02
JUL	0	<.02	<.01	<.02	.06	<.10	<.01	<.01	74.1	<.10	<.01	<.01	<.02
AUG	0	<.02	<.01	<.02	.04	<.10	<.01	<.01	65.2	E.03	<.02	<.01	<.02
SEP	0	<.02	<.01	<.02	.03	<.10	<.01	<.01	76.4	<.10	<.01	<.01	<.02

ARKANSAS RIVER BASIN

49

07159730 CHISHOLM CREEK AT EDMOND, OK

LOCATION.--Lat 35°40'55", long 97°32'06", in SE 1/4, SE 1/4, sec 17, T.14 N., R.3 W., Oklahoma County, Hydrologic Unit 11050002, at bridge on 206th St., 0.2 mi west of Western Ave., 1.8 mi south of Logan County line.

PERIOD OF RECORD.--August 1993 to current year, previously published as 07159690.

REMARKS.--Samples were collected monthly from May to September and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER)	AGENCY COL- LECTING SAMPLE (CODE NUMBER)	DIS- CHARGE, INST. CUBIC FEET PER SECOND	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, (PER- CENT SATUR- ATION)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3
MAY 14...	1130	80020	1028	1.3	740	7.3	79	7.8	880	19.0	17.1	226	275
JUN 19...	1015	80020	1028	2.2	740	7.0	85	7.6	379	27.5	23.6	124	151
JUL 16...	1100	80020	1028	1.9	740	11.3	143	7.8	387	27.5	25.6	114	140
AUG 27...	1230	80020	1028	--	740	3.5	43	7.8	256	24.0	24.2	103	126
SEP 11...	1000	80020	1028	2.7	740	10.9	132	7.9	437	25.0	23.2	84	102

Date	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CARBO- PHENO- THION WATER UNFLTRD (UG/L)	CHLOR- PYRIFOS TOTAL RECOVER (UG/L)	DEF TOTAL (UG/L)	DI- AZINON, TOTAL (UG/L)	DISUL- FOTON UNFLTR RECOVER (UG/L)	ETHION, TOTAL (UG/L)	FONOFOS (DY- FONATE) WATER WHOLE TOT.REC (UG/L)	ISO- FENFOS, SUR SCD 1319 WTR, UNFLTRD PERCENT (90712)	MALA- THION, TOTAL (UG/L)	METHYL PARA- THION, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	PHORATE TOTAL (UG/L)
MAY 14...	0	<.02	<.01	<.02	.12	<.10	<.01	<.01	79.6	<.10	<.02	<.01	<.02
JUN 19...	0	<.02	<.01	<.02	.13	<.10	<.01	<.01	72.9	<.10	<.02	<.01	<.02
JUL 16...	0	<.02	<.01	<.02	.17	<.10	<.01	<.01	77.0	E.01	<.01	<.01	<.02
AUG 27...	0	<.02	E.01	<.02	.11	<.10	<.01	<.01	86.3	E.01	<.02	<.01	<.02
SEP 11...	0	<.02	<.01	<.02	.09	<.10	<.01	<.01	97.8	E.01	<.01	<.01	<.02

ARKANSAS RIVER BASIN

07159735 CHISHOLM CREEK NEAR EDMOND, OK

LOCATION.--Lat 35°43'32", long 97°31'37", in NW 1/4, NW 1/4, sec 4, T.14 N., R.3 W., Oklahoma County, Hydrologic Unit 11050002, at county road bridge 0.2 mi east of Western Avenue on the Logan County line.

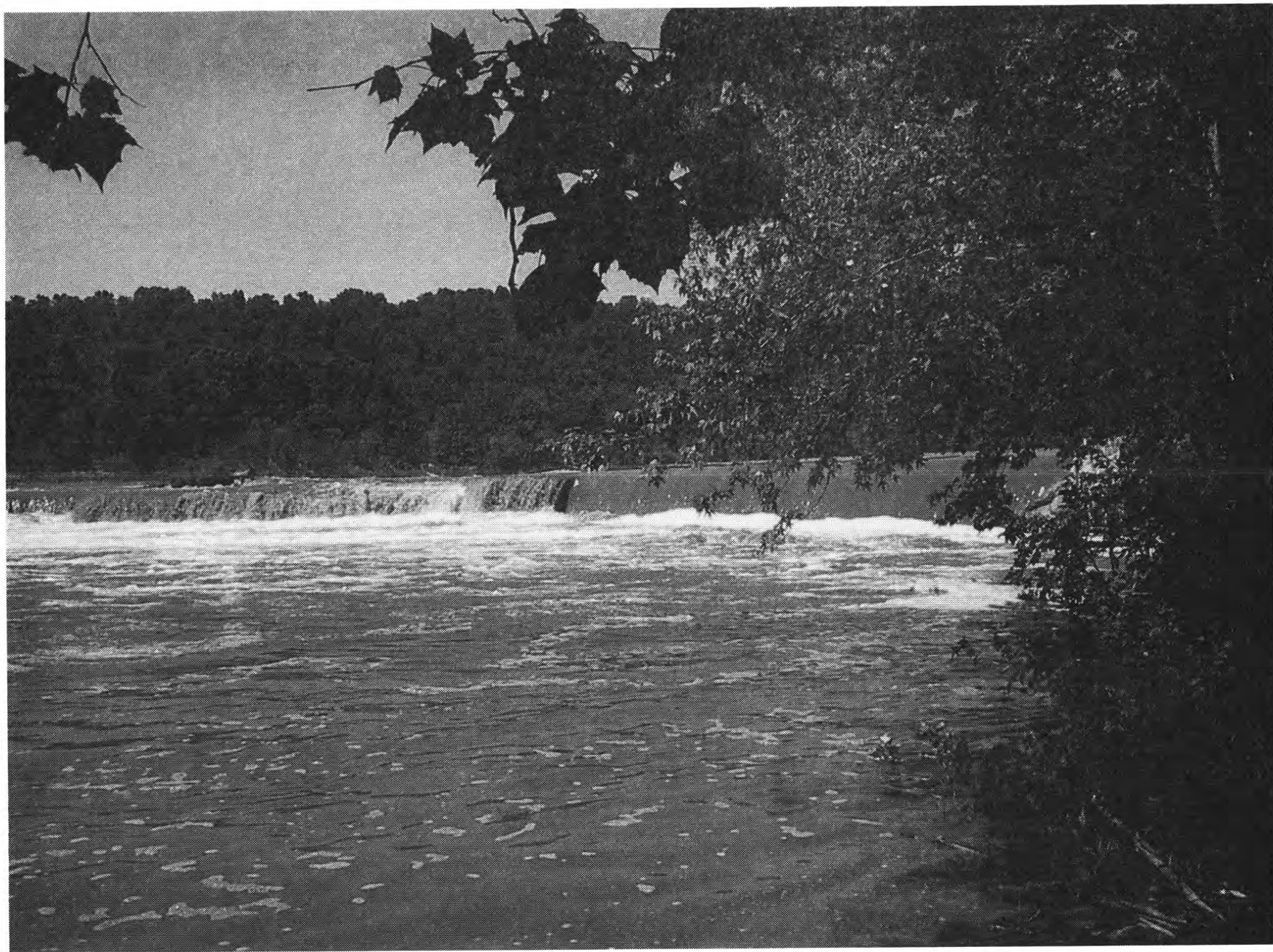
PERIOD OF RECORD.--August 1993 to current year, previously published as 07159695.

REMARKS.--Samples were collected monthly from May through September and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA-LYZING SAMPLE (CODE NUMBER)	AGENCY COL-LECTING SAMPLE (CODE NUMBER)	DIS-CHARGE, INST. CUBIC FEET PER SECOND	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, (PER-CENT SATUR-ATION)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3
		(00028)	(00027)	(00061)	(00025)	(00300)	(00301)	(00400)	(00095)	(00020)	(00010)	(39086)	(00453)
MAY 14...	1050	80020	1028	8.2	740	8.0	89	7.7	1090	17.0	18.9	175	214
JUN 19...	0845	80020	1028	9.1	740	7.1	88	7.3	711	26.0	24.4	137	166
JUL 16...	0930	80020	1028	7.2	740	12.0	156	8.5	847	25.5	27.2	129	157
AUG 27...	1330	80020	1028	--	740	3.6	46	7.8	669	26.0	26.3	104	128
SEP 11...	0900	80020	1028	8.3	740	10.9	135	7.8	484	20.0	24.6	96	117

Date	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3	CARBO-PHENO-THION WATER UNFLTRD (UG/L)	CHLOR-PYRIFOS TOTAL RECOVER (UG/L)	DEF TOTAL (UG/L)	DI-AZINON, TOTAL (UG/L)	DISUL-FOTON UNFILT RECOVER (UG/L)	ETHION, TOTAL (UG/L)	FONOFOS (DY-FONATE) WATER WHOLE TOT.REC (UG/L)	ISO-FENFOS, SUR SCD 1319 WTR, UNFLTRD PERCENT	MALA-THION, TOTAL (UG/L)	METHYL PARA-THION, TOTAL (UG/L)	PARA-THION, TOTAL (UG/L)	PHORATE TOTAL (UG/L)
	(00452)	(39786)	(38932)	(39040)	(39570)	(39011)	(39398)	(82614)	(90712)	(39530)	(39600)	(39540)	(39023)
MAY 14...	0	<.02	<.01	<.02	.08	<.10	<.01	<.01	78.5	<.10	<.02	<.01	<.02
JUN 19...	0	<.02	<.01	<.02	.16	<.10	<.01	<.01	81.4	<.10	<.02	<.01	<.02
JUL 16...	0	<.02	<.01	<.02	.15	<.10	<.01	<.01	74.5	E.01	<.01	<.01	<.02
AUG 27...	0	<.02	<.01	<.02	.08	<.10	<.01	<.01	87.5	<.10	<.02	<.01	<.02
SEP 11...	0	<.02	<.01	<.02	.26	<.10	<.01	<.01	101	<.10	<.01	<.01	<.02



Lake Frances Dam near Watts

ARKANSAS RIVER BASIN

07159750 COTTONWOOD CREEK NEAR SEWARD, OK

LOCATION.--Lat 35°48'49", long 97°28'40", in SW 1/4 sec.36, T.16 N., R.3 W., Logan County, Hydrologic Unit 11050002, on downstream left bank, 1.2 mi north of Seward on Broadway Road, 6.5 mi southwest of Guthrie, and at mile 16.2.

DRAINAGE AREA.--320 mi².

PERIOD OF RECORD.--March 1973 to September, 1982, November 1989 to June 2002 (discontinued).

REVISED RECORDS.--OK-95-1: 1993(M)

GAGE.--Water-stage recorder. Datum of gage is 936.49 ft sea level. March 1973 to September 1982 gage at site 0.9 mi upstream at datum 10 ft higher.

REMARKS.--Records poor. Low flow sustained by part of sewage effluent from Oklahoma City. U.S. Army Corps of Engineers' satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 17	1730	3,460	16.69	No other peak greater than base discharge.			

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	e51	e52	e49	e86	e59	e58	81	55	---	---	---
2	60	e51	e52	e49	e80	e59	e58	78	53	---	---	---
3	55	e50	e51	e50	e74	e58	e57	75	51	---	---	---
4	e52	73	e51	e49	e72	68	e57	74	50	---	---	---
5	e51	68	50	e48	e69	71	e56	e73	72	---	---	---
6	e50	e58	e50	e47	e68	e59	e56	72	118	---	---	---
7	e49	e57	e50	e46	e66	e57	87	79	70	---	---	---
8	e49	e56	e51	e47	e66	e54	836	73	55	---	---	---
9	e48	e55	e51	e43	e64	e52	232	70	52	---	---	---
10	251	e55	e50	48	e62	69	121	70	52	---	---	---
11	416	e54	e50	e47	e62	68	98	66	50	---	---	---
12	105	e54	e50	e42	e61	e57	89	67	48	---	---	---
13	109	e53	e49	e46	e60	54	225	65	149	---	---	---
14	127	e53	e49	e47	60	56	1090	62	193	---	---	---
15	85	e51	e50	e47	e60	57	293	e57	78	---	---	---
16	74	e51	e50	e47	e59	55	185	52	200	---	---	---
17	69	e52	93	e47	e59	54	144	1830	134	---	---	---
18	62	e51	79	e46	e59	56	123	1060	e70	---	---	---
19	e61	68	67	e45	e60	263	110	200	e60	---	---	---
20	e59	92	e58	e45	e85	323	107	125	e51	---	---	---
21	e57	69	e55	e46	74	129	105	97	e46	---	---	---
22	e56	e62	e53	e47	67	96	100	79	e43	---	---	---
23	e55	e59	e52	e47	66	81	94	e77	e42	---	---	---
24	e54	e56	e51	e47	65	80	88	e78	e40	---	---	---
25	e54	e55	e50	e46	64	e68	85	100	e40	---	---	---
26	e53	e54	e50	e46	66	e65	104	95	e39	---	---	---
27	e53	e54	e50	e46	e62	e62	149	78	e38	---	---	---
28	e52	e52	e51	e45	e60	61	115	76	e38	---	---	---
29	e52	e52	e51	e46	---	e59	93	72	e37	---	---	---
30	e52	e53	e50	68	---	e59	84	72	e36	---	---	---
31	e51	---	e49	700	---	e58	---	67	---	---	---	---
TOTAL	2484	1719	1665	2119	1856	2467	5099	5220	2060	---	---	---
MEAN	80.13	57.30	53.71	68.35	66.29	79.58	170.0	168.4	68.67	---	---	---
MAX	416	92	93	700	86	323	1090	1830	200	---	---	---
MIN	48	50	49	42	59	52	56	52	36	---	---	---
AC-FT	4930	3410	3300	4200	3680	4890	10110	10350	4090	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2002, BY WATER YEAR (WY)

	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
MEAN	92.42	183.5	115.6	96.39	121.5	231.6	211.7	445.8	378.4	97.97	70.53	118.9																		
MAX	267	1218	570	265	336	1591	803	2267	2909	467	246	546																		
(WY)	1975	1975	1992	1975	1975	1990	1990	1993	1995	1975	1996	1973																		
MIN	12.0	15.2	17.6	17.6	22.8	19.8	22.1	42.5	24.9	18.2	8.58	17.4																		
(WY)	1977	1977	1977	1978	1977	1977	1978	1981	1976	1976	1976	1980																		

e Estimated

ARKANSAS RIVER BASIN

53

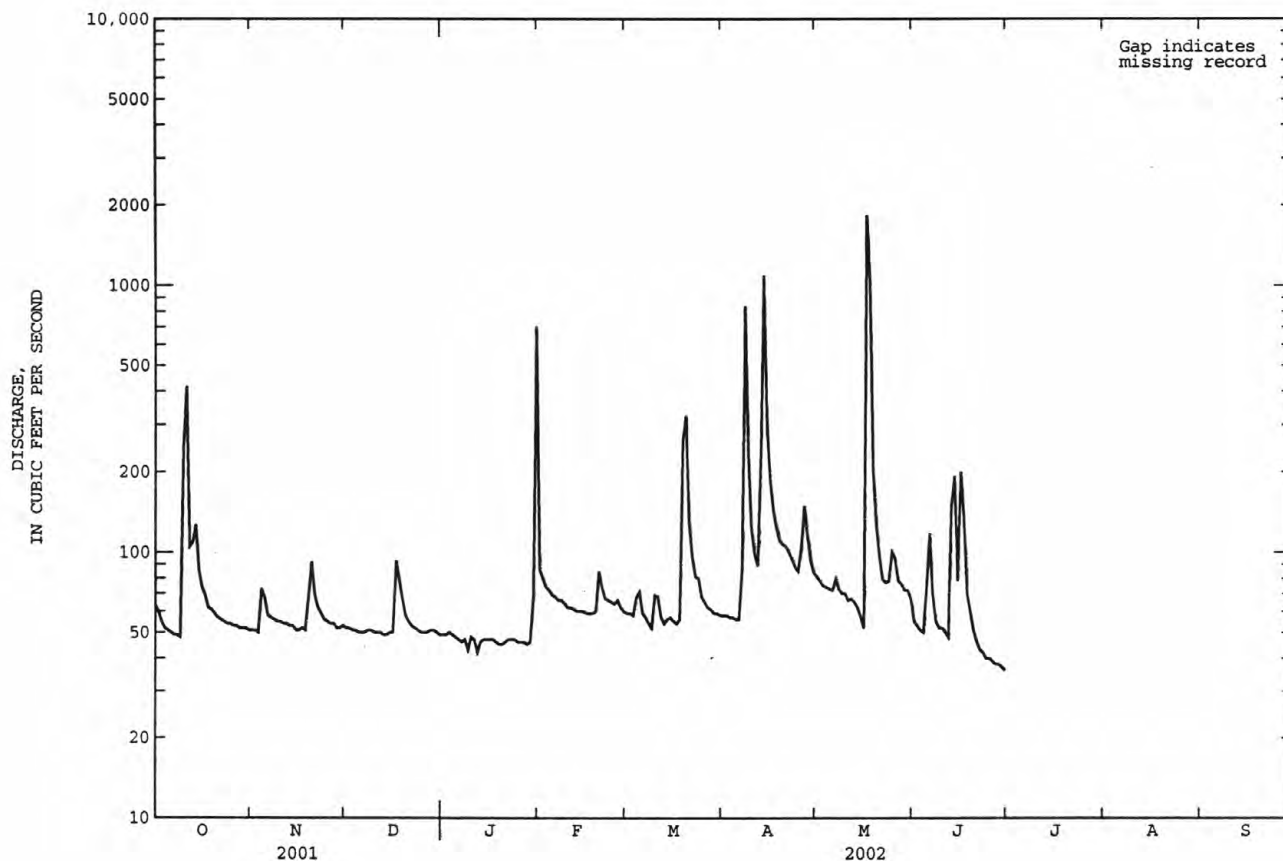
07159750 COTTONWOOD CREEK NEAR SEWARD, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR PERIOD OCT 2001-JUN 2002	WATER YEARS 1973 - 2002
ANNUAL TOTAL	51622		
ANNUAL MEAN	141.4		174.0
HIGHEST ANNUAL MEAN			438 1993
LOWEST ANNUAL MEAN			42.9 1981
HIGHEST DAILY MEAN	5420 Sep 19	1830 May 17	29300 May 9 1993
LOWEST DAILY MEAN	17 Aug 22	36 Jun 30	^a 6.1 Aug 15 1976
ANNUAL SEVEN-DAY MINIMUM	19 Aug 12	38 Jun 24	6.7 Aug 11 1976
MAXIMUM PEAK FLOW		3460 May 17	^b 43500 Jun 9 1995
MAXIMUM PEAK STAGE		16.69 May 17	^c 34.47 Jun 9 1995
ANNUAL RUNOFF (AC-FT)	102400		126100
10 PERCENT EXCEEDS	198		290
50 PERCENT EXCEEDS	67		55
90 PERCENT EXCEEDS	27		19

^aAlso occurred on Aug. 22, 23, 1976.

^bFrom indirect measurement.

^cFrom high-water mark.



ARKANSAS RIVER BASIN

07160000 CIMARRON RIVER NEAR GUTHRIE, OK

LOCATION.--Lat 35°55'14", long 97°25'32", near center of east line of sec.29, T.17 N., R.2 W, Logan County, Hydrologic Unit 11050002, on downstream side left bank of State Highway 77 bridge, 1.6 mi downstream from Cottonwood Creek, 2.5 mi north of Guthrie, 6.1 mi upstream from Skeleton Creek, and at mile 121.4.

DRAINAGE AREA.--16,892 mi², of which 4,926 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1937 to September 1976, October 1983 to current year. Monthly discharge only for some periods, published in WSP's 1311 and 1731.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 896.50 ft above sea level (U.S. Army Corps of Engineers' bench mark). Prior to Mar. 19, 1939, nonrecording gage at railway bridge 1,200 ft upstream at datum 4.00 ft higher. From Mar. 19, 1939, to Sept. 21, 1967, the datum was 4.00 ft higher, from Sept. 21, 1967, to Sept. 30, 1976, the datum was 2.00 ft higher at recording gage 125 ft upstream from railway bridge. From Sept. 14, 1967, to Sept. 30, 1976, supplementary water-stage recorder at present site and datum.

REMARKS.--Records poor. U.S. Army Corps of Engineers' satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 16,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sep 20	0200	16,600	9.35	No other peak greater than base discharge.			

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	279	e140	194	e209	1090	e265	210	354	e400	661	2050	e305
2	262	e202	195	e198	677	e245	206	309	e365	1150	1100	e287
3	240	e202	196	e194	537	e250	202	279	e335	705	678	e233
4	230	e198	191	234	482	e255	197	276	305	e466	625	e225
5	219	e194	192	264	463	e260	192	258	e350	e330	510	195
6	206	e192	195	244	453	295	191	255	426	e285	405	e180
7	204	e190	196	252	504	312	245	243	485	e245	345	e170
8	199	e182	195	254	507	298	948	239	679	e225	260	e160
9	196	e171	193	250	465	311	730	244	490	e205	237	e172
10	195	e165	192	249	454	303	458	237	405	e198	222	e150
11	689	e165	193	247	445	303	388	242	352	e192	208	e145
12	296	e168	197	249	414	301	365	235	348	e202	355	e140
13	277	e175	199	245	386	297	664	221	605	e190	1060	e138
14	278	e179	202	244	368	282	2150	206	1240	e255	1700	703
15	221	e183	205	245	356	282	1580	193	6310	e235	5570	6780
16	194	e187	213	244	345	275	866	185	6260	e270	5150	3730
17	186	188	218	246	343	274	585	1610	2860	230	1790	1080
18	e194	187	250	249	331	300	460	5200	2040	e190	947	668
19	e187	195	230	252	339	390	399	3390	1730	e155	671	6460
20	e179	216	222	248	346	642	374	1560	1190	e164	515	12700
21	e175	219	222	251	353	395	354	915	e785	e128	e421	3500
22	e166	201	218	245	326	303	342	e510	e585	e135	e365	1700
23	e157	193	220	253	316	276	345	e450	e490	e166	e333	1070
24	e150	195	219	249	318	255	323	e485	e410	e125	e327	766
25	e145	191	220	247	327	258	305	e525	e380	e150	411	554
26	e140	190	219	247	312	248	327	e700	e315	e180	461	459
27	e135	192	220	239	e275	240	404	e1000	e295	e200	446	398
28	e130	192	221	242	e278	231	436	e900	e275	e185	578	362
29	e126	192	225	248	---	230	600	e670	e255	e135	494	332
30	e128	193	225	354	---	230	473	e550	e235	e185	411	307
31	e132	---	228	1470	---	222	---	e425	---	e330	343	---
TOTAL	6515	5637	6505	8862	11810	9028	15319	22866	31200	8472	28988	44069
MEAN	210.2	187.9	209.8	285.9	421.8	291.2	510.6	737.6	1040	273.3	935.1	1469
MAX	689	219	250	1470	1090	642	2150	5200	6310	1150	5570	12700
MIN	126	140	191	194	275	222	191	185	235	125	208	138
AC-FT	12920	11180	12900	17580	23430	17910	30390	45350	61890	16800	57500	87410

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2002, BY WATER YEAR (WY)

	MEAN	1073	875.8	560.6	494.5	708.1	1249	1584	2551	2235	892.2	654.4	904.2
MAX	13800	8748	2874	2266	4063	6603	9372	20630	14860	4220	4182	3988	
(WY)	1987	1999	1993	1993	1987	1998	1999	1993	1995	1950	1995	1989	
MIN	0.79	0.70	1.39	6.38	21.7	24.7	66.5	63.0	58.6	9.58	26.1	8.03	
(WY)	1953	1955	1955	1940	1957	1955	1956	1971	1953	1954	1943	1954	

e Estimated

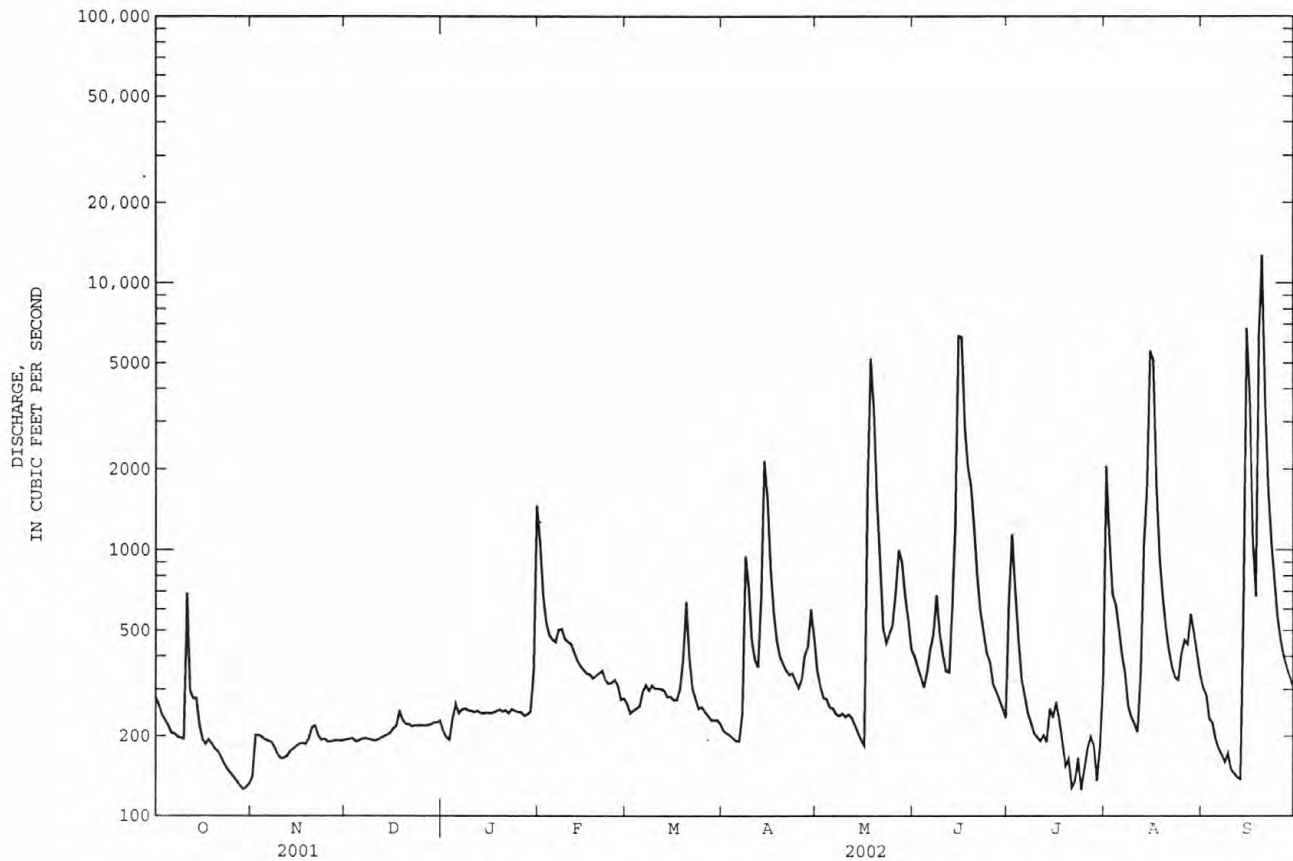
ARKANSAS RIVER BASIN

55

07160000 CIMARRON RIVER NEAR GUTHRIE, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1938 - 2002	
ANNUAL TOTAL	404777		199271		1145	
ANNUAL MEAN	1109		545.9		3901	
HIGHEST ANNUAL MEAN					192	
LOWEST ANNUAL MEAN					1987	
HIGHEST DAILY MEAN	15200	May 31	12700	Sep 20	112000	May 17 1957
LOWEST DAILY MEAN	49	Aug 13	125	Jul 24	^a 0.30	Oct 20 1939
ANNUAL SEVEN-DAY MINIMUM	56	Aug 7	133	Oct 26	0.39	Oct 19 1939
MAXIMUM PEAK FLOW			16600	Sep 20	158000	May 17 1957
MAXIMUM PEAK STAGE			9.35	Sep 20	18.58	May 17 1957
ANNUAL RUNOFF (AC-FT)	802900		395300		829300	
10 PERCENT EXCEEDS	2290		880		2220	
50 PERCENT EXCEEDS	595		258		348	
90 PERCENT EXCEEDS	127		181		59	

^aAlso occurred Oct. 21-22, Nov. 2, 1939.



LOCATION.--Lat 36°22'34", long 97°48'00", in NW 1/4 NW 1/4 sec.24, T.22 N., R.6 W., Garfield County, Hydrologic Unit 11050002, on left bank, 600 ft below confluence of Boggy Creek, at mile 47.5.

PERIOD OF RECORD.--February 1996 to current year.

REMARKS.--No estimated daily discharge. Records good. Low flows regulated by releases of effluent from the City of Enid water treatment plant, 1 mile upstream. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of October 10, 1973, stage unknown, discharge 81,000 ft³/s, from slope-area measurement of peak flow at Southgate Road, one mile below gage.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	5.4	8.8	6.4	9.2	7.9	7.7	8.7	16	11	4.8	5.0
2	4.5	4.7	6.1	5.3	12	9.8	7.4	9.4	15	71	8.8	3.7
3	4.2	16	6.9	5.5	11	8.9	8.8	10	15	52	9.9	4.8
4	4.4	6.6	6.5	6.6	10	7.6	8.4	11	256	9.4	5.9	3.4
5	4.4	5.9	7.1	5.9	13	8.4	5.0	11	112	8.3	4.4	4.2
6	4.3	5.4	5.7	4.3	25	7.0	6.8	17	28	8.6	4.0	3.8
7	4.1	6.1	5.5	5.4	13	6.3	24	11	16	6.1	3.8	4.7
8	4.3	4.2	5.6	4.8	12	7.0	22	10	14	10	3.7	2.7
9	4.4	6.1	5.1	5.0	12	8.8	9.4	13	16	6.2	4.7	3.2
10	6.1	6.0	5.9	4.1	9.9	6.3	7.3	9.2	12	8.8	4.4	4.8
11	5.0	5.3	6.7	3.8	8.0	6.6	5.4	9.0	12	8.3	4.3	4.0
12	4.4	5.8	5.7	3.7	10	5.2	58	6.9	12	24	129	4.1
13	5.9	6.7	4.7	3.7	11	7.1	42	8.5	263	16	143	73
14	4.2	6.8	6.6	5.0	10	5.8	18	7.2	71	5.9	111	122
15	4.1	5.7	6.7	4.9	10	6.7	6.7	6.3	60	7.3	22	32
16	6.0	8.2	5.2	4.6	6.9	6.0	6.9	6.5	189	6.4	10	11
17	4.6	13	6.8	5.0	5.4	6.0	7.6	932	35	6.6	8.7	8.7
18	4.1	26	4.7	4.7	5.8	6.2	7.3	56	17	18	7.7	18
19	4.2	8.8	6.9	5.3	13	11	7.9	27	9.9	8.7	8.5	267
20	4.3	7.6	6.3	5.5	8.5	10	9.2	25	12	6.8	5.5	38
21	4.1	6.3	6.0	4.0	7.1	7.1	8.6	23	13	8.2	25	13
22	4.3	5.4	7.8	4.6	6.7	8.2	8.5	22	13	6.1	16	9.3
23	4.2	6.4	5.3	5.0	7.1	7.8	7.2	22	10	7.3	6.2	7.7
24	4.4	6.3	6.4	4.2	7.7	5.2	9.3	108	10	5.6	7.1	5.6
25	4.3	5.0	5.6	4.9	9.5	8.0	8.9	76	10	6.8	6.7	5.0
26	5.6	6.6	6.5	4.5	10	6.3	13	24	10	4.8	5.7	8.3
27	4.4	8.6	6.0	3.8	8.7	8.9	98	14	9.8	5.7	20	8.5
28	5.8	7.7	6.6	5.2	8.3	5.5	18	16	9.6	7.4	9.3	8.2
29	4.8	9.2	5.0	3.8	---	7.9	9.0	17	8.9	71	5.2	6.0
30	4.8	5.9	6.5	68	---	6.0	8.0	15	8.3	15	6.6	5.4
31	5.1	---	5.6	59	---	6.3	---	18	---	4.9	6.1	---
TOTAL	143.7	227.7	190.8	266.5	280.8	225.8	464.3	1549.7	1283.5	442.2	618.0	695.1
MEAN	4.635	7.590	6.155	8.597	10.03	7.284	15.48	49.99	42.78	14.26	19.94	23.17
MAX	6.1	26	8.8	68	25	11	98	932	263	71	143	267
MIN	4.1	4.2	4.7	3.7	5.4	5.2	5.0	6.3	8.3	4.8	3.7	2.7
AC-FT	285	452	378	529	557	448	921	3070	2550	877	1230	1380

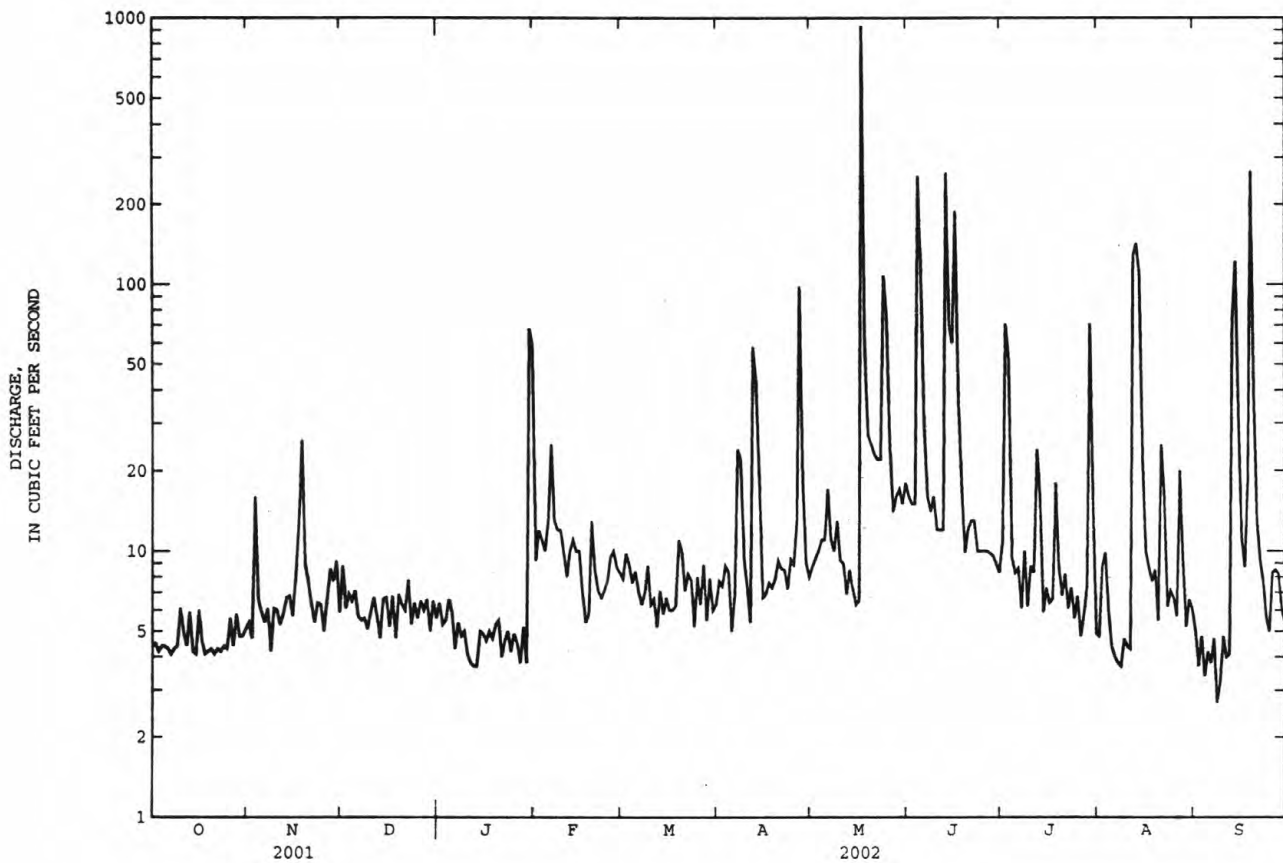
MEAN	49.39	42.74	36.52	28.67	45.08	61.42	67.31	49.58	55.46	41.42	18.94	34.27
MAX	145	147	66.2	60.2	101	200	205	71.3	224	120	45.0	71.4
(WY)	1999	1999	1998	1999	1997	1998	1999	1999	1999	1997	1997	1997
MIN	4.64	7.59	6.15	8.60	10.0	7.28	8.27	9.25	17.5	10.1	5.34	6.66
(WY)	2002	2002	2002	2002	2002	2002	1996	1996	2001	2001	2001	2000

ARKANSAS RIVER BASIN

57

07160350 SKELETON CREEK AT ENID, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1996 - 2002
ANNUAL TOTAL	7983.7	6388.1	
ANNUAL MEAN	21.87	17.50	46.43
HIGHEST ANNUAL MEAN			98.4 1999
LOWEST ANNUAL MEAN			17.5 2002
HIGHEST DAILY MEAN	543 Feb 24	932 May 17	3350 Nov 1 1998
LOWEST DAILY MEAN	4.0 Aug 21	2.7 Sep 8	2.7 Sep 8 2002
ANNUAL SEVEN-DAY MINIMUM	4.2 Oct 18	3.8 Sep 3	3.8 Sep 3 2002
MAXIMUM PEAK FLOW		2480 May 17	8180 Nov 1 1998
MAXIMUM PEAK STAGE		8.60 May 17	14.70 Nov 1 1998
ANNUAL RUNOFF (AC-FT)	15840	12670	33640
10 PERCENT EXCEEDS	31	23	59
50 PERCENT EXCEEDS	12	7.1	14
90 PERCENT EXCEEDS	4.6	4.4	6.1



LOCATION.--Lat 36°03'36", long 97°35'05", in NW 1/4 SW 1/4 sec.1, T.18 N., R.4 W., Logan County, Hydrologic Unit 11050002, on right bank downstream bridge abutment on State Highway 74, 2 mi upstream from Otter Creek, 2.8 mi east of Lovell, and at mile 14.6.

PERIOD OF RECORD.--October 1949 to September 1993, October 2001 to September 2002.

GAGE.--Water-stage recorder. Datum of gage is 899.76 ft above sea level (Oklahoma State Highway Department datum). Prior to Dec. 5, 1949, nonrecording gage at site 60 ft downstream at datum 14.70 ft higher. Prior to Oct. 1, 1979, gage at present site and datum 15.00 ft higher, prior to Oct. 1, 2001, 10 ft higher.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,300 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 17	0730	4,170	23.94	Jun 14	0900	2,440	19.42

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	12	12	e15	189	e15	13	31	23	19	18	10
2	7.7	12	13	e16	58	e18	12	25	23	20	11	9.4
3	7.9	16	12	e15	57	e17	12	20	19	30	15	9.3
4	8.3	14	12	e15	41	e24	11	19	18	84	15	e9.2
5	8.7	18	12	14	31	27	13	18	259	42	15	e9.0
6	8.3	20	12	17	28	29	12	19	162	23	11	e9.1
7	8.4	16	12	e22	37	27	14	18	62	16	11	e9.1
8	8.8	14	11	e18	36	26	15	21	35	16	e9.1	e9.0
9	8.6	14	8.9	e17	27	24	42	20	26	12	e9.0	e9.0
10	8.3	14	8.4	15	22	21	24	60	24	13	e8.8	e9.1
11	9.2	12	8.1	14	21	22	18	35	21	15	e8.7	e9.1
12	9.5	12	7.5	12	18	21	16	22	19	12	10	e9.1
13	12	13	7.9	11	15	18	94	18	643	15	160	9.1
14	10	13	9.2	11	16	18	200	16	1960	25	957	693
15	8.9	13	6.9	10	17	17	93	13	319	24	393	1040
16	8.9	14	7.2	10	15	17	38	13	661	18	79	307
17	8.6	13	7.4	11	15	16	24	1990	584	13	34	81
18	8.6	15	7.1	12	12	19	19	1140	132	13	24	42
19	11	31	6.0	12	11	24	17	185	103	11	17	715
20	10	29	6.1	12	11	25	15	84	59	13	15	1340
21	9.1	17	5.7	13	15	27	15	56	39	14	30	177
22	9.7	14	5.9	12	12	23	15	42	35	12	18	72
23	10	13	5.3	12	10	18	15	38	30	14	25	42
24	9.8	12	e5.5	11	9.6	22	28	55	27	12	34	28
25	9.3	10	e6.0	11	e7.0	23	14	113	23	15	13	21
26	8.9	11	e7.0	11	e8.0	17	15	98	22	12	12	20
27	8.6	9.8	e9.0	11	e9.0	18	104	70	21	9.9	15	15
28	9.5	9.5	e12	11	e10	18	326	53	21	9.2	14	16
29	11	11	e15	11	---	15	129	40	18	11	20	16
30	10	12	e14	45	---	14	55	34	17	45	15	13
31	12	---	e15	211	---	13	---	29	---	42	12	---
TOTAL	289.6	434.3	287.1	638	757.6	633	1418	4395	5405	630.1	2028.6	4757.5
MEAN	9.342	14.48	9.261	20.58	27.06	20.42	47.27	141.8	180.2	20.33	65.44	158.6
MAX	12	31	15	211	189	29	326	1990	1960	84	957	1340
MIN	7.7	9.5	5.3	10	7.0	13	11	13	17	9.2	8.7	9.0
AC-FT	574	861	569	1270	1500	1260	2810	8720	10720	1250	4020	9440

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 2002, BY WATER YEAR (WY)

MEAN	169.9	102.3	50.95	49.35	71.39	127.4	129.8	390.3	224.3	102.4	73.92	137.7
MAX	2450	1285	369	357	667	811	847	2850	1390	739	966	1046
(WY)	1987	1975	1993	1993	1975	1974	1988	1957	1957	1950	1992	1961
MIN	0.40	1.34	2.13	3.23	3.81	2.55	2.80	4.72	8.41	0.34	3.45	0.40
(WY)	1953	1955	1955	1953	1953	1955	1955	1971	1959	1954	1971	1956

e Estimated

ARKANSAS RIVER BASIN

59

07160500 SKELETON CREEK NEAR LOVELL, OK--Continued

SUMMARY STATISTICS

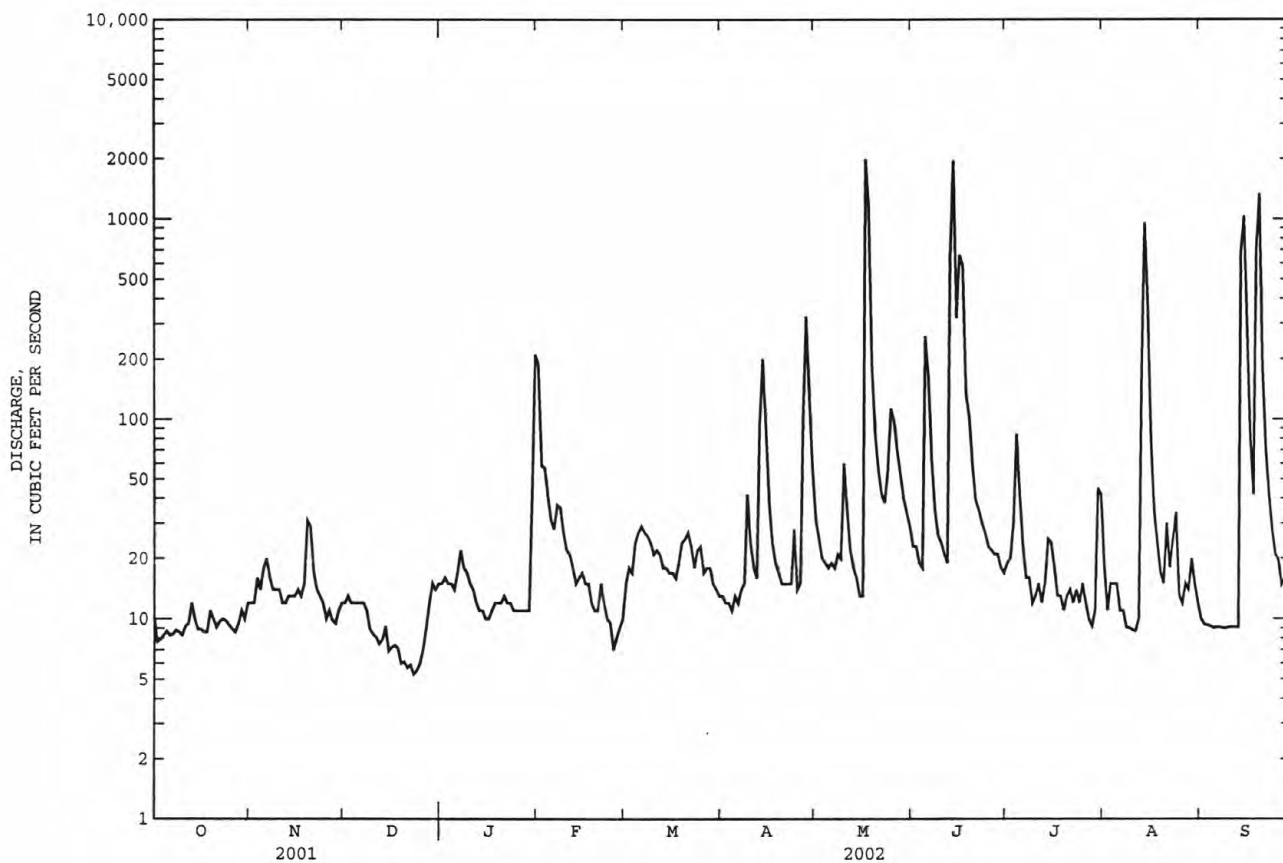
FOR 2002 WATER YEAR

WATER YEARS 1950 - 2002

ANNUAL TOTAL	21673.8		
ANNUAL MEAN	59.38		136.2
HIGHEST ANNUAL MEAN			501 1987
LOWEST ANNUAL MEAN			16.9 1953
HIGHEST DAILY MEAN	1990	May 17	39200 May 16 1957
LOWEST DAILY MEAN	5.3	Dec 23	^a 0.00 Sep 23 1953
ANNUAL SEVEN-DAY MINIMUM	5.8	Dec 19	0.00 Sep 23 1953
MAXIMUM PEAK FLOW	4170	May 17	^b 75200 May 16 1957
MAXIMUM PEAK STAGE	23.94	May 17	45.47 May 9 1993
ANNUAL RUNOFF (AC-FT)	42990		98640
10 PERCENT EXCEEDS	71		180
50 PERCENT EXCEEDS	15		15
90 PERCENT EXCEEDS	9.0		3.8

^aNo flow at times in 1953, 1954, 1956.

^bGage height 44.58 ft current datum.



ARKANSAS RIVER BASIN

07161450 CIMARRON RIVER NEAR RIPLEY, OK

LOCATION.--Lat 35°59'09", long 96°54'43", in SE 1/4 SE 1/4 sec.31, T.18 N., R.4 E., Payne County, Hydrologic Unit 11050003, on right bank at downstream side of bridge on State Highway 33, 2.2 mi upstream from Stillwater Creek, 2.5 mi south of Ripley, 2.8 mi downstream from Sand Creek, 7.0 mi east of Perkins, and at mile 79.2.

DRAINAGE AREA.--17,979 mi² of which 4,926 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1987 to current year.

GAGE.--Water-stage recorder. Datum of gage is 795.86 ft above sea level.

REMARKS.--Records good. U.S. Army Corps of Engineers' satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 16,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Sep 20	2300	20,200	16.09	No other peak greater than base discharge.			

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	393	133	204	e220	2240	288	253	806	771	388	449	510
2	356	139	210	e216	1760	298	266	563	667	1390	2170	437
3	320	221	221	e212	1090	259	235	424	598	1770	1500	421
4	292	306	231	e208	805	e265	232	372	587	1110	987	386
5	283	266	237	302	725	271	220	332	815	728	784	352
6	250	222	232	303	700	292	212	322	803	668	616	326
7	236	210	229	296	646	300	290	296	1070	556	498	300
8	213	203	225	289	632	314	622	278	765	457	417	279
9	218	174	212	299	680	360	893	308	930	403	360	306
10	269	163	208	301	643	313	1030	276	735	376	314	286
11	247	163	201	284	578	317	614	282	588	349	276	285
12	530	164	225	286	582	320	499	341	510	422	263	301
13	599	173	238	275	536	302	818	296	1340	409	315	281
14	406	178	247	277	482	304	1770	253	2220	348	1400	535
15	345	180	242	254	475	297	2620	222	4580	365	3230	3520
16	310	185	294	261	438	258	2080	208	10500	375	7340	9360
17	252	190	305	263	415	260	1310	5150	8980	443	6040	4520
18	213	202	270	265	393	300	875	8890	4600	442	2540	1540
19	201	243	291	275	414	461	695	8110	2930	365	1430	1330
20	189	228	292	267	398	542	613	4430	2430	314	968	12800
21	186	264	264	271	393	773	538	2470	1710	283	717	13600
22	181	307	253	258	403	695	468	1610	1260	258	576	4420
23	178	270	242	284	382	480	441	1170	999	246	530	2300
24	171	258	228	282	343	416	463	1040	827	270	688	1490
25	155	228	225	269	311	389	404	1090	705	275	490	1060
26	150	219	227	256	314	372	407	1030	622	252	492	780
27	143	209	229	252	318	350	406	1190	556	238	657	616
28	131	205	228	256	306	314	570	1770	489	472	598	513
29	131	203	231	247	---	304	1090	1870	429	583	678	447
30	131	203	230	586	---	277	979	1290	394	441	715	396
31	125	---	223	1830	---	277	---	943	---	378	624	---
TOTAL	7804	6309	7394	10144	17402	10968	21913	47632	54410	15374	38662	63697
MEAN	251.7	210.3	238.5	327.2	621.5	353.8	730.4	1537	1814	495.9	1247	2123
MAX	599	307	305	1830	2240	773	2620	8890	10500	1770	7340	13600
MIN	125	133	201	208	306	258	212	208	394	238	263	279
AC-FT	15480	12510	14670	20120	34520	21760	43460	94480	107900	30490	76690	126300

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2002, BY WATER YEAR (WY)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	943.5	1982	1745	1365	1659	3406	3748	4417	4162	1435	1434	1516			
MAX	3156	11490	4585	3541	4723	9824	12610	26790	18300	4301	5520	4554			
(WY)	1999	1999	1999	1993	1999	1990	1999	1993	1995	1999	1995	1989			
MIN	193	210	233	287	244	234	402	317	593	251	206	119			
(WY)	1991	2002	1991	1991	1991	1991	1991	1996	1996	1990	2001	2000			

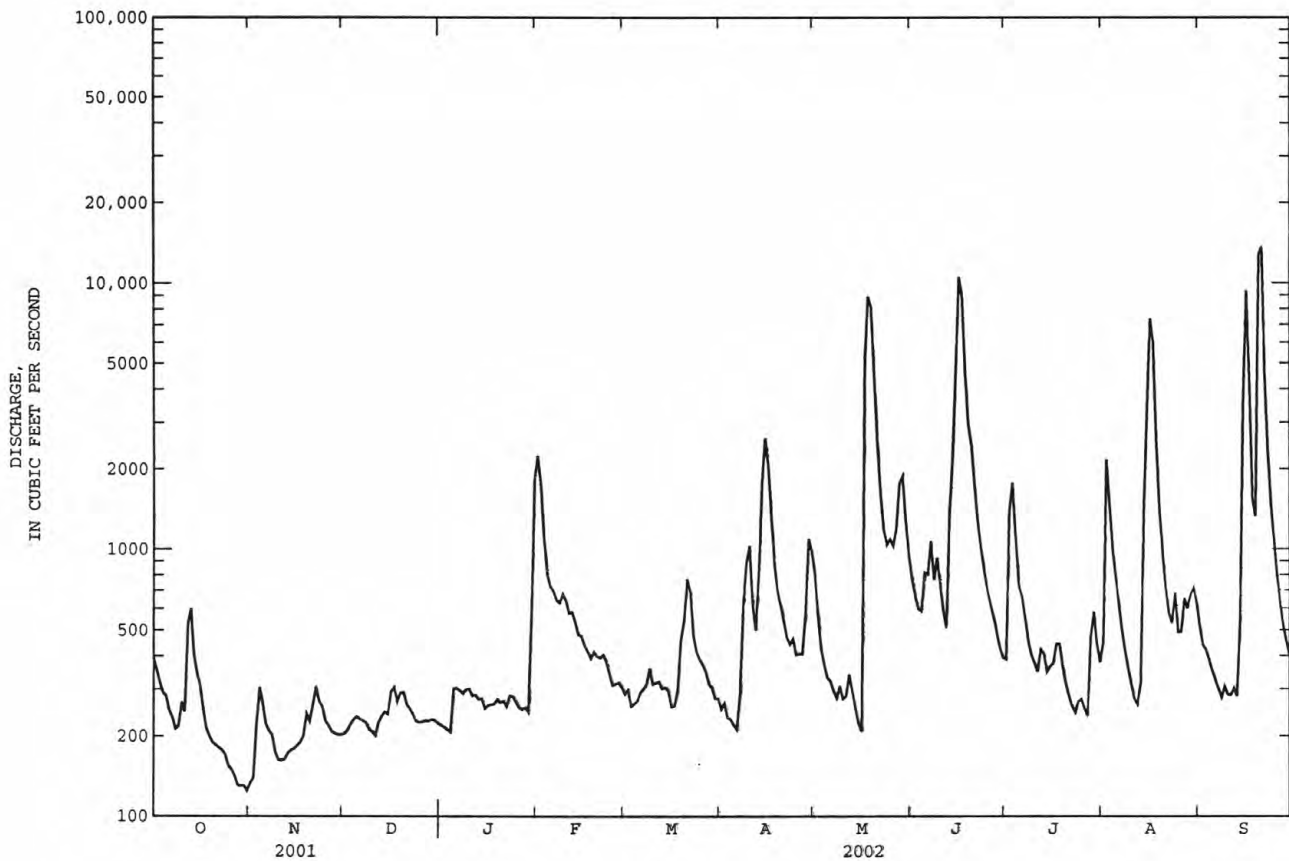
e Estimated

ARKANSAS RIVER BASIN

61

07161450 CIMARRON RIVER NEAR RIPLEY, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1988 - 2002	
ANNUAL TOTAL	562628		301709		2317	
ANNUAL MEAN	1541		826.6		5533	1999
HIGHEST ANNUAL MEAN					437	1991
LOWEST ANNUAL MEAN					137000	May 10 1993
HIGHEST DAILY MEAN	24800	Feb 25	13600	Sep 21	77	Aug 25 2001
LOWEST DAILY MEAN	77	Aug 25	125	Oct 31	87	Oct 19 1991
ANNUAL SEVEN-DAY MINIMUM	108	Aug 20	133	Oct 27	141000	May 10 1993
MAXIMUM PEAK FLOW			20200	Sep 20	28.36	May 10 1993
MAXIMUM PEAK STAGE			16.09	Sep 20	1678000	
ANNUAL RUNOFF (AC-FT)	1116000		598400		4870	
10 PERCENT EXCEEDS	3140		1520		857	
50 PERCENT EXCEEDS	900		349		250	
90 PERCENT EXCEEDS	166		210			



ARKANSAS RIVER BASIN

07164500 ARKANSAS RIVER AT TULSA, OK

LOCATION.--Lat 36°08'26", long 96°00'22", in NE 1/4 SW 1/4 sec.11, T.19 N., R.12 E., Tulsa County, Hydrologic Unit 11110101, at right abutment on downstream side of 11th Street bridge in Tulsa, 10.1 mi upstream from Polecat Creek, 15.1 mi downstream from Keystone Dam, and at mile 523.7.

DRAINAGE AREA.--74,615 mi², of which 12,541 mi² is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1925 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage- height records collected in this vicinity since 1904 are published in reports of the National Weather Service.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 615.23 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to Feb. 2, 1939, nonrecording gage and Feb. 2, 1939 to Sept. 30, 1952, water-stage recorder at datum 3.00 ft higher.

REMARKS.--Records poor. Except for 109 mi² intervening area, flow completely regulated by Keystone Lake (station 07164200) since September 1964. Prior to September 1964, minor regulation by John Martin Lake in Colorado and by Great Salt Plains Lake (station 07150000). U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1904, 22.8 ft, June 13, 1923, present datum, from reports of National Weather Service.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2200	876	518	863	4370	2090	1800	4560	2870	12100	6300	384
2	2510	1370	213	213	9710	2310	1300	6930	3660	12700	6290	472
3	4090	2140	213	982	14500	5450	1460	1220	3210	12900	7080	3210
4	5810	143	1580	837	5900	8460	1300	1250	4780	e12500	6400	3160
5	3230	474	213	333	3010	5350	1490	113	5350	e12400	6810	4090
6	895	835	685	213	2700	1800	1190	2370	4480	e12300	5450	3670
7	199	1370	213	860	6060	849	517	4570	3270	12200	5030	924
8	244	2540	672	1170	4260	1380	726	3620	5640	12100	4500	216
9	1890	3270	213	1070	924	425	2000	4900	2180	11500	4630	1640
10	2950	1990	213	321	240	341	712	3760	6400	10800	4060	2710
11	1920	92	711	898	1670	1050	1210	5270	4550	6090	4300	1260
12	494	751	213	366	4510	521	780	2190	6880	6370	3760	937
13	1290	3530	742	228	3180	959	774	1420	7490	6900	3530	1130
14	213	1430	213	920	2780	389	382	4420	e13000	7020	3010	586
15	293	2250	829	495	3220	686	653	3690	e12500	10500	3090	213
16	3010	1840	218	266	1370	452	1120	4150	e12400	7590	5070	336
17	4720	995	213	2120	1640	549	2650	3860	e12600	6210	13800	798
18	4160	99	1030	311	1510	878	4730	12100	e12000	4830	10500	944
19	1200	481	2370	1160	925	504	5170	12500	e21500	6150	7230	6330
20	602	1920	283	341	1700	316	4690	9840	e45000	6690	5100	13000
21	213	838	827	172	2880	1230	3820	3360	e37500	6490	7600	16500
22	213	1210	316	1760	3440	814	3760	5620	e38000	6780	5270	19800
23	1430	213	213	303	864	408	4060	7740	e28000	5600	4550	10200
24	4160	680	213	1670	605	215	3130	6580	11400	6010	1640	4230
25	3860	213	808	1110	1080	405	2980	6820	e12000	5860	1540	6830
26	1250	249	805	623	1470	927	3820	3800	e11000	7010	5800	4960
27	300	863	301	316	4530	675	5050	430	e11800	4310	4940	3570
28	213	2170	213	214	2870	673	2270	1900	e12000	5030	4380	4100
29	264	2810	1220	1600	---	806	835	909	12000	6410	4920	1450
30	698	2570	213	2690	---	975	6570	639	12100	5310	2430	3120
31	204	---	213	2530	---	1150	---	1920	---	5810	1130	---
TOTAL	54725	40212	16897	26955	91918	43037	70949	132451	375560	254470	160140	120770
MEAN	1765	1340	545.1	869.5	3283	1388	2365	4273	12520	8209	5166	4026
MAX	5810	3530	2370	2690	14500	8460	6570	12500	45000	12900	13800	19800
MIN	199	92	213	172	240	215	382	113	2180	4310	1130	213
AC-FT	108500	79760	33520	53470	182300	85360	140700	262700	744900	504700	317600	239500

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2002, BY WATER YEAR (WY)

	MEAN	7317	7682	5084	5186	5801	11320	12350	14050	15030	9653	5724	5388
MAX	72720	54540	16830	19850	22500	42890	44460	81400	69820	37630	32970	23280	
(WY)	1987	1999	1993	1998	1993	1987	1973	1993	1995	1999	1995	1989	
MIN	491	457	545	483	494	490	557	881	2595	1314	783	893	
(WY)	1965	1983	2002	1967	1967	1977	1981	1967	1966	1991	2001	1998	

e Estimated

ARKANSAS RIVER BASIN

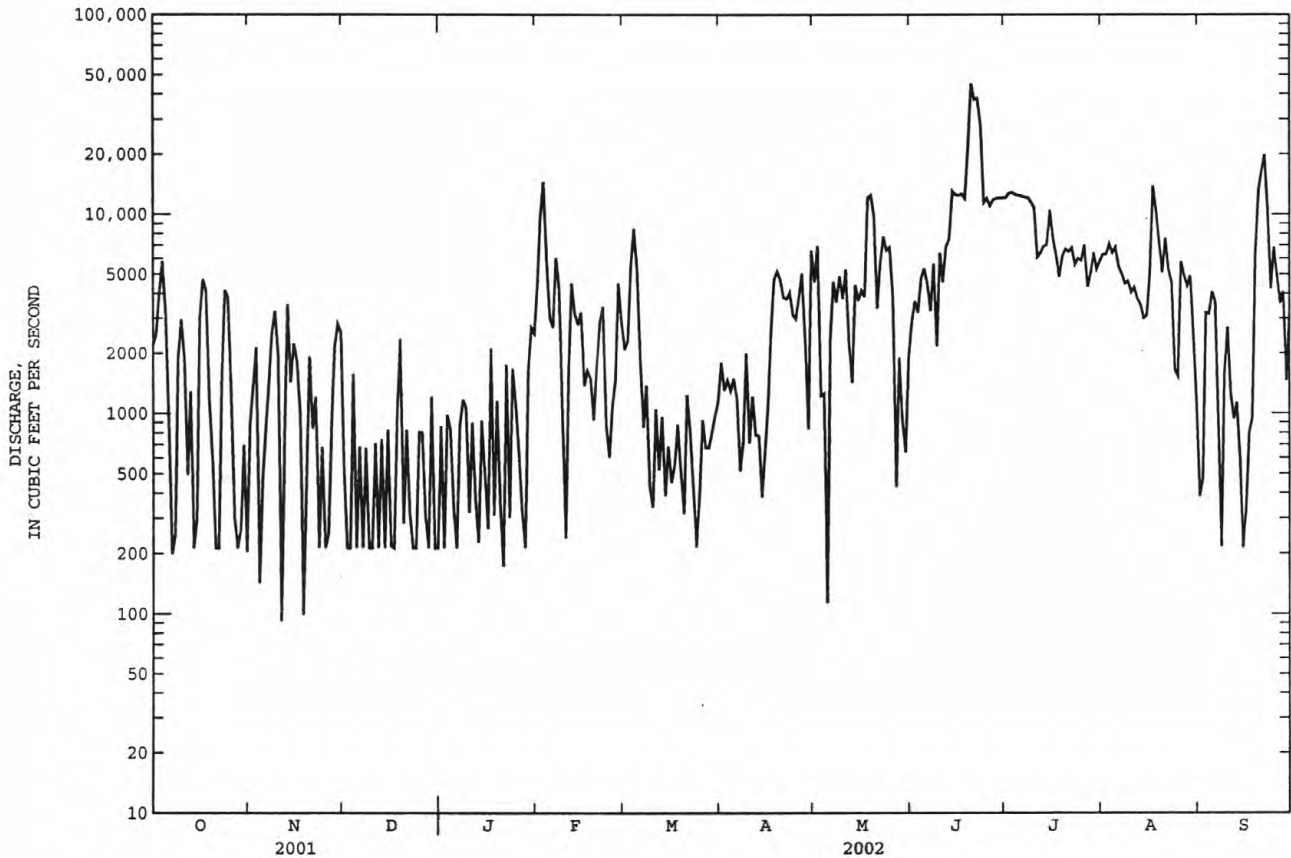
63

07164500 ARKANSAS RIVER AT TULSA, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1965 - 2002	
ANNUAL TOTAL	2572695		1388084		^a 8723	
ANNUAL MEAN	7048		3803		22930	
HIGHEST ANNUAL MEAN					1813	
LOWEST ANNUAL MEAN					261000	
HIGHEST DAILY MEAN	36800	Feb 28	45000	Jun 20	277	Oct 5 1986
LOWEST DAILY MEAN	68	Sep 9	92	Nov 11	277	Oct 20 1982
ANNUAL SEVEN-DAY MINIMUM	367	Sep 9	410	Dec 22	307000	Oct 5 1986
MAXIMUM PEAK FLOW			57900	Jun 20	25.21	Oct 5 1986
MAXIMUM PEAK STAGE			10.41	Jun 20		
ANNUAL RUNOFF (AC-FT)	5103000		2753000		6319000	
10 PERCENT EXCEEDS	21600		10300		22400	
50 PERCENT EXCEEDS	4090		2120		4260	
90 PERCENT EXCEEDS	213		242		685	

^aPrior to regulation 1926-64, 6,554 ft³/s.

^bMinimum daily for period of record, 27 ft³/s, Oct. 12, 13, 1956.



ARKANSAS RIVER BASIN

07164500 ARKANSAS RIVER AT TULSA, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, March 1977 to current year.

CHEMICAL QUALITY DATA.--Water years 1960-61, March 1977 to September 1995.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1977 to July 1985, October 1987 to May 1998.

WATER TEMPERATURE: March 1977 to July 1985, October 1987 to current year.

INSTRUMENTATION.--Water temperature monitor provides continuous readings.

REMARKS.--Prior to September 1985, once-daily observer's readings were published. Water-quality monitor records for these periods are available upon request at the District office.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 7,820 microsiemens, Feb. 16, 1978; minimum, 299 microsiemens, Nov. 5, 1994.

WATER TEMPERATURE: Maximum, 34.2 C, Aug. 4, 2001; minimum, -0.2 C, Dec. 25, 2000, Jan. 2, 2001.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 32.1°C, Aug. 1, 3, 23; minimum, 0.5°C, Jan. 3.

WATER TEMPERATURE VIA SATELLITE, in (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	24.3	20.6	22.4	18.5	15.9	17.2	11.1	9.5	10.3	4.2	1.9	3.5
2	23.4	20.8	22.1	18.1	16.8	17.5	12.5	9.7	11.1	3.3	1.0	1.8
3	22.8	21.0	21.8	17.7	16.7	17.2	13.5	11.5	12.5	3.5	0.5	2.2
4	25.0	21.2	22.8	19.7	17.6	18.3	15.7	12.2	13.9	4.5	1.8	2.9
5	23.2	17.6	20.1	19.8	17.0	18.2	16.9	15.1	16.0	5.5	4.2	4.9
6	19.5	17.3	18.5	18.3	16.3	17.4	15.3	11.8	12.9	5.7	4.2	4.8
7	19.7	17.3	18.4	18.2	16.3	17.2	13.3	11.1	12.2	4.9	2.6	3.8
8	19.9	17.9	19.0	17.3	14.7	16.2	11.7	9.1	10.0	6.7	4.0	5.3
9	20.2	18.9	19.5	16.4	14.1	15.2	9.7	8.1	9.0	8.1	6.2	7.1
10	---	---	---	16.6	14.6	15.7	9.0	7.3	8.2	8.4	7.4	7.8
11	---	---	---	17.4	14.9	16.1	8.8	7.4	8.3	7.9	6.1	7.0
12	---	---	---	17.0	15.2	15.9	9.9	8.5	9.2	8.0	6.2	7.0
13	---	---	---	17.3	15.1	16.2	10.2	9.7	9.9	8.5	6.1	7.3
14	---	---	---	17.5	15.7	16.6	10.1	8.9	9.5	8.1	6.5	7.2
15	---	---	---	17.2	15.1	16.4	8.9	8.2	8.5	7.1	5.1	6.3
16	---	---	---	16.5	15.0	15.9	10.1	8.6	9.4	7.2	6.2	6.7
17	19.3	16.5	17.9	16.8	15.5	16.2	11.0	9.4	10.2	6.3	4.4	4.9
18	---	---	---	18.0	15.7	16.8	10.2	8.5	9.4	4.5	3.4	3.9
19	---	---	---	17.9	12.8	14.8	9.2	7.8	8.5	5.6	3.1	4.5
20	20.1	17.4	18.8	14.3	12.2	13.2	8.9	7.3	8.1	6.4	4.2	5.2
21	21.8	18.7	20.1	13.5	11.7	12.6	9.8	7.5	8.7	7.2	4.5	5.8
22	21.8	19.1	20.5	14.3	12.6	13.4	10.5	8.8	9.8	8.5	4.8	6.4
23	22.2	19.2	20.7	15.8	13.5	14.8	8.9	5.7	7.4	10.3	8.3	9.3
24	20.6	17.4	18.2	15.4	11.6	13.1	6.1	4.6	5.3	8.6	5.0	6.2
25	17.6	15.3	16.7	12.8	10.5	11.7	6.0	3.4	5.2	7.4	5.3	6.2
26	17.6	14.0	15.8	12.5	9.5	11.8	5.6	2.8	4.3	8.1	5.4	6.7
27	16.7	14.3	15.3	9.9	6.5	8.5	6.5	4.6	5.4	9.7	6.4	8.0
28	15.8	13.2	14.4	9.5	6.3	8.3	7.0	4.4	5.6	10.9	8.4	9.6
29	16.3	12.8	14.5	10.2	7.8	9.3	6.3	4.2	5.2	10.8	6.5	7.9
30	16.9	14.9	15.8	11.3	9.3	10.2	4.4	2.5	3.3	6.6	4.4	5.3
31	16.9	14.6	15.7	---	---	---	3.6	1.8	2.6	4.6	3.5	4.2
MONTH	25.0	12.8	18.6	19.8	6.3	14.7	16.9	1.8	8.7	10.9	0.5	5.8

WATER TEMPERATURE VIA SATELLITE, in (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	5.9	2.5	4.1	7.2	6.1	6.5	16.4	10.7	13.2	21.3	16.8	18.9
2	6.2	4.4	5.3	6.8	1.7	3.2	14.6	10.4	12.5	18.8	15.7	17.1
3	6.8	5.1	5.9	5.4	2.0	3.5	12.5	7.9	10.2	16.7	15.3	16.0
4	6.1	4.6	5.4	7.1	2.8	4.9	12.8	8.8	10.9	20.1	15.9	17.8
5	5.8	4.9	5.2	8.4	4.7	6.6	15.0	10.0	12.5	24.0	18.8	21.1
6	5.1	4.2	4.7	9.5	7.1	8.3	13.9	11.4	12.3	25.1	19.5	22.5
7	6.5	4.4	5.4	13.3	9.1	11.0	12.0	11.5	11.7	21.4	18.7	20.0
8	7.1	4.3	5.7	14.2	11.9	13.0	13.8	11.4	12.4	22.9	19.2	20.6
9	9.0	6.2	7.3	12.6	7.8	9.3	15.5	11.2	13.4	21.1	16.9	18.8
10	6.9	4.9	5.6	10.7	6.8	8.7	19.3	14.9	16.6	18.6	16.3	17.3
11	6.6	3.7	5.2	9.2	8.0	8.6	18.1	14.7	16.5	22.1	17.5	19.3
12	7.3	4.4	5.9	12.0	7.8	9.5	21.0	16.8	18.1	20.7	17.9	19.7
13	7.3	4.9	6.1	14.1	9.6	11.4	18.2	15.8	16.8	21.2	15.8	18.2
14	7.1	5.2	6.3	16.4	11.5	13.8	20.8	15.9	17.9	23.1	17.5	20.1
15	7.6	5.3	6.5	14.6	9.4	11.8	23.5	19.3	21.0	20.4	17.7	18.9
16	8.4	5.4	6.9	9.4	7.5	8.1	22.2	19.2	20.2	21.3	18.0	19.3
17	8.5	5.8	7.5	9.4	7.9	8.6	23.3	16.5	19.2	20.5	17.6	18.7
18	10.3	8.0	8.8	10.6	9.2	9.7	18.9	15.8	17.3	21.5	17.6	19.3
19	12.6	8.9	11.0	10.9	9.5	10.3	18.5	15.3	16.6	21.7	17.8	19.7
20	11.8	8.1	10.2	13.4	9.9	11.5	16.7	14.7	15.7	20.7	18.2	19.4
21	11.3	6.9	8.7	12.8	7.4	9.7	19.4	15.4	17.0	23.6	18.9	20.7
22	9.9	6.2	8.4	9.6	5.1	7.4	19.0	14.6	16.8	22.2	18.3	20.1
23	11.3	8.4	9.9	11.8	7.4	9.6	17.9	15.1	16.6	20.5	18.9	19.8
24	12.6	9.6	10.9	14.7	10.4	12.4	21.1	14.9	17.2	21.3	19.3	20.1
25	11.1	5.0	8.1	14.3	8.1	10.9	17.8	14.1	15.8	20.5	18.1	19.5
26	5.1	1.7	3.1	9.6	6.4	7.9	16.1	13.5	14.2	25.3	18.4	21.3
27	7.2	2.2	4.8	13.3	8.2	10.6	18.9	13.3	15.6	23.9	21.4	22.9
28	8.1	4.5	6.4	15.1	10.8	13.1	19.8	15.2	17.4	22.5	18.9	20.6
29	---	---	---	18.9	14.3	15.8	19.7	16.2	18.3	24.0	18.8	21.0
30	---	---	---	14.8	12.3	13.1	19.7	16.1	17.7	27.8	22.9	25.0
31	---	---	---	16.5	11.8	13.6	---	---	---	27.6	20.9	23.8
MONTH	12.6	1.7	6.8	18.9	1.7	9.8	23.5	7.9	15.7	27.8	15.3	19.9
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	28.5	21.4	24.1	26.5	24.7	25.2	32.1	27.2	29.5	29.9	26.8	28.3
2	27.8	21.1	23.6	26.5	24.5	25.4	31.5	27.7	29.5	30.6	27.6	29.1
3	27.3	21.2	23.7	27.7	24.8	26.1	32.1	27.7	29.5	31.3	27.2	29.2
4	26.2	21.2	23.4	28.9	25.0	26.7	31.6	27.8	29.5	31.2	27.3	28.9
5	23.2	20.8	21.6	29.0	25.5	27.1	31.7	27.9	29.6	31.6	27.1	28.8
6	26.7	20.3	22.4	29.3	25.5	27.3	31.1	27.4	29.3	31.2	27.3	28.7
7	27.1	20.9	23.3	29.5	25.7	27.5	31.4	27.8	29.4	29.6	27.2	28.3
8	24.0	21.4	22.8	29.5	25.7	27.6	31.0	27.3	29.1	28.5	26.6	27.4
9	27.1	22.6	24.3	---	---	---	31.2	26.8	29.0	29.2	25.7	27.0
10	27.9	21.8	23.8	---	---	---	30.2	27.2	28.8	30.1	26.1	27.7
11	28.6	22.7	24.5	---	---	---	30.7	27.2	28.8	28.7	26.0	27.5
12	25.7	21.8	23.5	28.6	26.2	27.6	29.0	26.5	27.6	28.7	26.2	27.4
13	23.6	22.1	22.6	28.9	25.8	27.3	28.6	23.6	26.0	27.8	26.0	27.1
14	25.2	21.2	23.0	29.4	25.6	27.6	28.2	24.9	26.1	27.5	25.1	25.9
15	25.2	21.3	23.2	29.9	25.9	27.8	29.2	26.0	27.3	25.7	24.5	25.1
16	25.5	21.6	23.3	30.0	26.2	27.9	29.5	26.1	27.5	25.6	23.5	24.5
17	26.1	21.8	23.9	28.0	25.9	26.9	29.1	26.7	27.9	27.4	25.1	26.3
18	24.5	22.0	23.2	30.7	26.2	28.3	30.1	26.6	28.2	28.0	25.5	26.7
19	24.9	22.0	23.5	31.4	26.5	28.8	30.4	27.2	28.7	27.7	25.0	25.7
20	26.1	24.0	24.9	31.0	26.6	28.7	30.9	26.9	28.6	28.0	24.6	26.1
21	26.7	24.4	25.4	31.0	26.3	28.5	30.3	26.6	28.3	27.7	24.6	26.0
22	26.7	24.5	25.5	31.5	26.5	28.8	31.4	26.6	28.4	26.0	24.2	25.1
23	27.8	24.6	25.9	31.1	26.2	28.6	32.1	26.7	28.7	26.5	23.5	24.8
24	27.8	24.0	25.9	31.8	26.8	29.0	28.9	26.4	27.1	25.9	22.5	23.9
25	28.2	24.5	26.1	31.9	26.6	29.0	---	---	---	26.6	22.6	24.2
26	28.4	24.3	26.3	31.8	27.2	29.1	---	---	---	25.5	22.9	24.1
27	28.5	24.9	26.7	31.4	26.5	28.8	30.1	26.8	28.2	25.8	22.1	23.7
28	29.0	25.0	26.9	29.5	26.8	28.1	30.5	26.6	28.5	25.6	22.4	23.8
29	28.6	25.0	26.8	28.8	25.5	27.1	30.2	26.7	28.4	26.3	22.6	24.1
30	27.7	24.5	26.2	31.5	26.4	28.8	29.4	26.4	27.8	26.0	22.7	24.1
31	---	---	---	31.5	27.3	29.3	28.8	26.5	27.7	---	---	---
MONTH	29.0	20.3	24.3	31.9	24.5	27.8	32.1	23.6	28.4	31.6	22.1	26.3
YEAR	32.1	0.5	17.1									

ARKANSAS RIVER BASIN

07164600 JOE CREEK AT 61ST STREET AT TULSA, OK

LOCATION.--Lat 36°04'32", long 95°57'37", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.31, T.19 N., R.13 E., Tulsa County, Hydrologic Unit 11110101, at right upstream abutment of 61st Street bridge, .2 mi west of Lewis Avenue, 4 mi north of Jenks and at mile 2.1.

DRAINAGE AREA.--12.2 mi².

PERIOD OF RECORD.--March 1988 to current year.

GAGE.--Water-stage recorder. Datum of gage is 620.96 ft above sea level.

REMARKS.--Records fair except for estimated periods, which are poor. U.S. Geological Survey satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--23,000 ft³/s, May 26, 1984, slope-area measurement at 71st Street, gage height undetermined at 61st Street.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.73	1.4	4.4	e3.9	7.3	4.0	3.5	3.0	3.4	54	1.0	0.45
2	0.76	1.2	3.7	e3.7	4.9	50	3.0	2.4	2.8	15	0.98	0.50
3	0.72	199	3.8	e3.6	3.9	24	2.1	2.4	2.6	13	0.92	0.64
4	0.81	10	3.9	e3.5	3.2	26	2.4	2.7	53	10	0.87	0.48
5	1.1	3.9	3.9	6.0	17	21	3.0	3.6	52	4.7	0.90	0.41
6	1.3	3.0	3.5	2.5	11	7.2	3.3	17	7.6	5.3	14	0.42
7	1.0	2.9	3.4	3.4	4.8	5.3	292	5.3	2.4	5.3	2.6	0.36
8	1.1	3.2	3.4	3.4	4.0	4.8	66	5.8	2.3	6.8	1.0	0.37
9	82	3.4	3.2	2.5	3.9	15	7.4	176	11	5.8	1.1	0.39
10	183	3.5	4.2	3.6	2.6	3.0	4.8	2.9	2.5	74	11	0.39
11	4.1	3.8	14	7.2	3.4	3.2	3.6	3.3	2.4	6.3	2.2	0.39
12	34	3.5	26	6.4	2.3	2.8	2.7	90	276	17	1.7	0.39
13	36	3.9	11	2.6	2.3	3.1	12	9.7	107	1.3	257	0.52
14	1.0	3.6	10	2.5	2.6	3.1	3.2	3.8	6.1	0.82	103	22
15	1.2	3.4	4.4	2.5	2.4	2.0	2.8	11	48	0.90	2.3	0.56
16	0.99	3.8	226	3.9	2.1	1.5	3.9	4.1	27	0.89	1.6	0.47
17	0.85	3.4	49	2.2	2.2	1.6	3.2	422	4.0	0.93	1.3	0.47
18	0.94	3.8	6.7	4.3	2.7	96	2.6	8.3	3.7	1.4	1.1	0.55
19	0.83	65	5.0	3.7	84	105	68	4.4	3.7	1.0	1.2	74
20	0.94	3.0	4.7	2.8	3.8	8.0	3.3	6.5	3.5	0.97	1.6	0.59
21	0.97	2.9	5.7	3.0	3.4	3.8	3.7	3.9	3.2	0.87	1.1	0.43
22	0.99	2.9	5.9	3.0	3.3	5.8	2.5	3.7	3.1	1.0	0.98	0.29
23	2.4	49	3.7	38	3.7	3.5	102	9.2	2.9	1.7	0.98	0.40
24	0.86	7.6	3.7	3.2	4.3	66	4.1	122	2.8	1.1	1.7	0.30
25	0.84	3.3	e3.6	2.5	3.7	15	3.7	4.6	2.7	0.89	51	0.30
26	0.84	3.2	e3.5	2.3	e3.4	3.5	35	4.6	2.7	1.1	0.90	0.29
27	0.89	2.7	e3.5	2.3	e3.1	3.5	8.5	54	2.7	1.2	0.67	0.31
28	0.90	9.5	3.4	2.3	2.9	3.5	2.4	656	2.8	5.0	0.63	0.31
29	1.1	8.9	e3.3	68	---	3.6	2.3	25	2.9	102	0.58	0.30
30	1.00	8.7	e4.2	306	---	3.0	2.6	8.0	4.2	1.4	0.52	0.34
31	1.2	---	e4.0	65	---	2.9	---	4.8	---	1.1	0.45	---
TOTAL	365.36	427.4	438.7	569.8	198.2	500.7	659.6	1680.0	651.0	342.77	466.88	107.62
MEAN	11.79	14.25	14.15	18.38	7.079	16.15	21.99	54.19	21.70	11.06	15.06	3.587
MAX	183	199	226	306	84	105	292	656	276	102	257	74
MIN	0.72	1.2	3.2	2.2	2.1	1.5	2.1	2.4	2.3	0.82	0.45	0.29
AC-FT	725	848	870	1130	393	993	1310	3330	1290	680	926	213

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2002, BY WATER YEAR (WY)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	16.92	20.21	17.56	12.92	15.31	22.98	30.51	43.93	30.05	15.48	12.01	19.05			
MAX	53.4	54.1	45.3	28.1	37.2	65.6	71.3	107	86.9	44.6	35.2	43.5			
(WY)	1999	1997	1993	2001	1997	1998	1999	1995	1995	1994	1997	1999			
MIN	3.29	2.02	2.36	2.47	2.02	5.42	2.85	12.2	1.87	2.39	1.19	3.59			
(WY)	1998	1990	1990	1997	1998	1996	1989	1997	1988	2001	2000	2002			

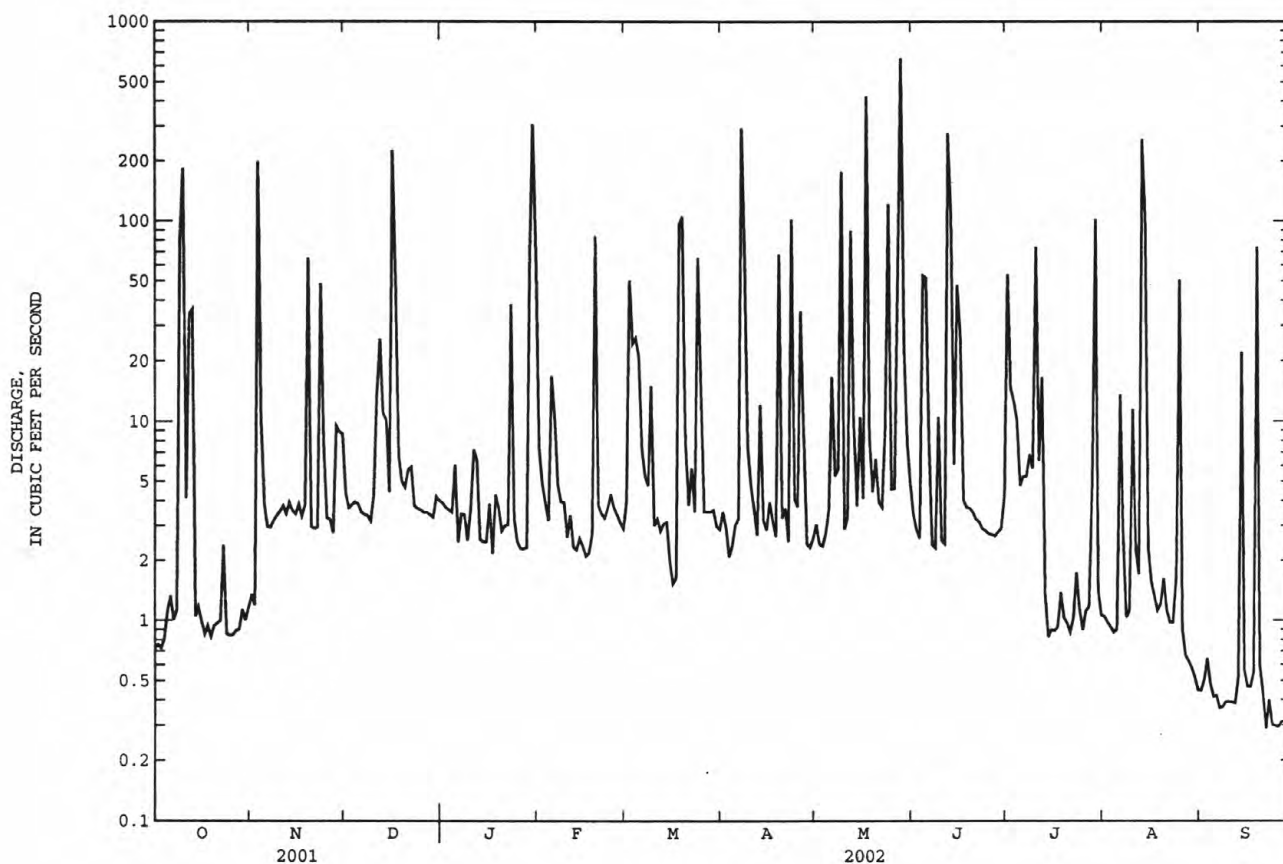
e Estimated

ARKANSAS RIVER BASIN

67

07164600 JOE CREEK AT 61ST STREET AT TULSA, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1988 - 2002
ANNUAL TOTAL	5270.14	6408.03	
ANNUAL MEAN	14.44	17.56	21.88
HIGHEST ANNUAL MEAN			35.2 1995
LOWEST ANNUAL MEAN			9.49 1996
HIGHEST DAILY MEAN	429 May 30	656 May 28	1470 May 6 2000
LOWEST DAILY MEAN	0.57 Sep 28	0.29 Sep 22	0.28 Jul 4 1996
ANNUAL SEVEN-DAY MINIMUM	0.72 Sep 23	0.31 Sep 24	0.31 Sep 24 2002
MAXIMUM PEAK FLOW		7180 May 28	11600 May 6 2000
MAXIMUM PEAK STAGE		7.27 May 28	10.00 May 6 2000
ANNUAL RUNOFF (AC-FT)	10450	12710	15850
10 PERCENT EXCEEDS	24	48	40
50 PERCENT EXCEEDS	2.6	3.4	3.0
90 PERCENT EXCEEDS	0.98	0.79	1.1



ARKANSAS RIVER BASIN

07165562 HAIKEY CREEK AT 101ST STREET SOUTH AT TULSA, OK

LOCATION.--Lat 36°01'01", long 95°50'55", in NW 1/4 NW 1/4 sec.29, T.18 N., R.14 E., Tulsa County, Hydrologic Unit 11110101, near right downstream abutment of 101st Street South bridge, 1.0 mi downstream from unnamed tributary, 2.0 mi upstream from Little Haikey Creek, and at mile 6.4.

DRAINAGE AREA.--17.8 mi².

PERIOD OF RECORD.--January 1988 to current year.

GAGE.--Water-stage recorder. Datum of gage is 617.82 ft above sea level.

REMARKS.--Records poor. U.S. Geological Survey satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.00	0.00	3.5	0.73	8.8	e1.1	1.5	1.9	2.4	44	0.81	0.23
2	0.00	0.00	2.3	0.70	3.6	e8.4	1.3	2.1	1.7	12	0.24	2.9
3	0.00	213	1.4	0.56	2.4	e7.2	1.1	1.7	1.7	4.2	0.07	0.37
4	0.00	13	1.1	0.57	1.7	e9.1	0.88	1.7	3.7	2.4	0.04	0.07
5	0.00	3.2	0.95	1.6	2.5	e20	0.70	1.2	43	1.7	0.01	0.02
6	0.00	2.2	0.84	2.4	12	e11	0.71	2.4	11	1.1	0.0	0.00
7	0.00	2.0	0.76	1.6	6.0	e4.3	152	2.0	3.0	0.83	0.0	0.00
8	0.00	1.6	0.92	1.6	2.8	e2.9	264	1.4	2.1	1.1	0.11	0.00
9	2.6	1.2	0.97	0.87	2.4	e4.9	23	60	15	0.51	0.0	0.01
10	122	0.88	0.85	0.66	2.0	e2.2	13	4.2	2.4	9.5	7.8	0.04
11	27	0.54	0.78	0.68	1.6	e1.8	9.8	2.8	1.3	64	5.6	0.00
12	4.2	0.45	19	0.43	1.3	e1.6	6.8	82	14	4.5	0.63	0.00
13	29	0.37	8.6	0.36	1.3	e1.3	6.1	69	326	2.7	212	15
14	2.3	0.25	15	0.39	1.2	e0.78	7.4	5.8	28	1.3	362	21
15	0.61	0.16	2.9	0.31	1.2	e0.72	4.2	7.8	11	0.79	20	2.8
16	0.71	0.21	151	0.42	e0.95	e0.62	3.3	4.2	60	0.52	6.3	0.83
17	0.76	0.35	62	0.41	e0.72	e0.55	3.6	321	11	0.61	3.1	0.43
18	0.25	1.8	3.0	0.40	e0.50	e15	3.2	23	7.2	0.81	2.1	0.28
19	0.03	54	2.3	0.97	e57	e115	9.8	9.0	6.0	1.0	1.3	51
20	0.00	4.1	2.0	0.97	e9.3	e16	9.0	7.1	5.0	0.72	1.5	4.1
21	0.00	2.6	1.5	0.52	e2.2	e7.0	3.7	5.8	4.4	0.71	1.0	1.4
22	0.00	1.7	1.4	0.37	e1.7	e2.0	2.4	3.4	4.2	0.63	1.1	0.26
23	0.00	1.2	1.3	12	e1.3	e1.5	62	2.8	3.8	0.48	1.2	e0.10
24	0.00	e5.0	1.1	e5.5	e1.3	e11	8.5	16	3.4	0.44	0.73	e0.06
25	0.00	e1.5	1.1	e1.9	e1.0	e56	3.5	4.3	2.6	0.32	32	e0.03
26	0.00	1.2	1.0	e1.2	e0.91	6.7	24	2.7	2.4	0.21	3.3	e0.02
27	0.00	1.9	1.00	e0.76	e0.91	3.4	7.5	6.9	2.8	0.15	1.4	e0.02
28	0.00	2.3	1.2	e0.42	e0.91	2.6	4.2	97	2.1	0.06	0.50	e0.01
29	0.00	4.7	1.0	7.4	---	2.4	2.5	19	1.5	95	0.40	e0.0
30	0.00	4.6	0.88	121	---	1.9	2.0	4.7	0.57	4.6	0.23	e0.0
31	0.00	---	0.75	89	---	1.7	---	3.1	---	5.1	0.12	---
TOTAL	189.46	326.01	292.40	256.70	129.50	320.67	641.69	776.0	583.27	261.99	665.59	100.98
MEAN	6.112	10.87	9.432	8.281	4.625	10.34	21.39	25.03	19.44	8.451	21.47	3.366
MAX	122	213	151	121	57	115	264	321	326	95	362	51
MIN	0.00	0.00	0.75	0.31	0.50	0.55	0.70	1.2	0.57	0.06	0.00	0.00
AC-FT	376	647	580	509	257	636	1270	1540	1160	520	1320	200

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2002, BY WATER YEAR (WY)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
MEAN	18.44	24.13	20.00	14.26	18.22	30.17	32.83	40.55	34.34	17.65	11.11	17.57
MAX	75.9	68.2	62.3	41.9	41.5	120	82.3	125	97.2	72.3	49.6	54.3
(WY)	1999	1995	1993	1998	2001	1990	1990	2000	1995	1994	1989	1993
MIN	0.74	0.39	1.67	1.59	0.65	6.22	5.07	13.5	3.63	0.47	0.36	1.33
(WY)	1989	1996	1990	1997	1996	1991	1989	1996	1990	1990	1991	2000

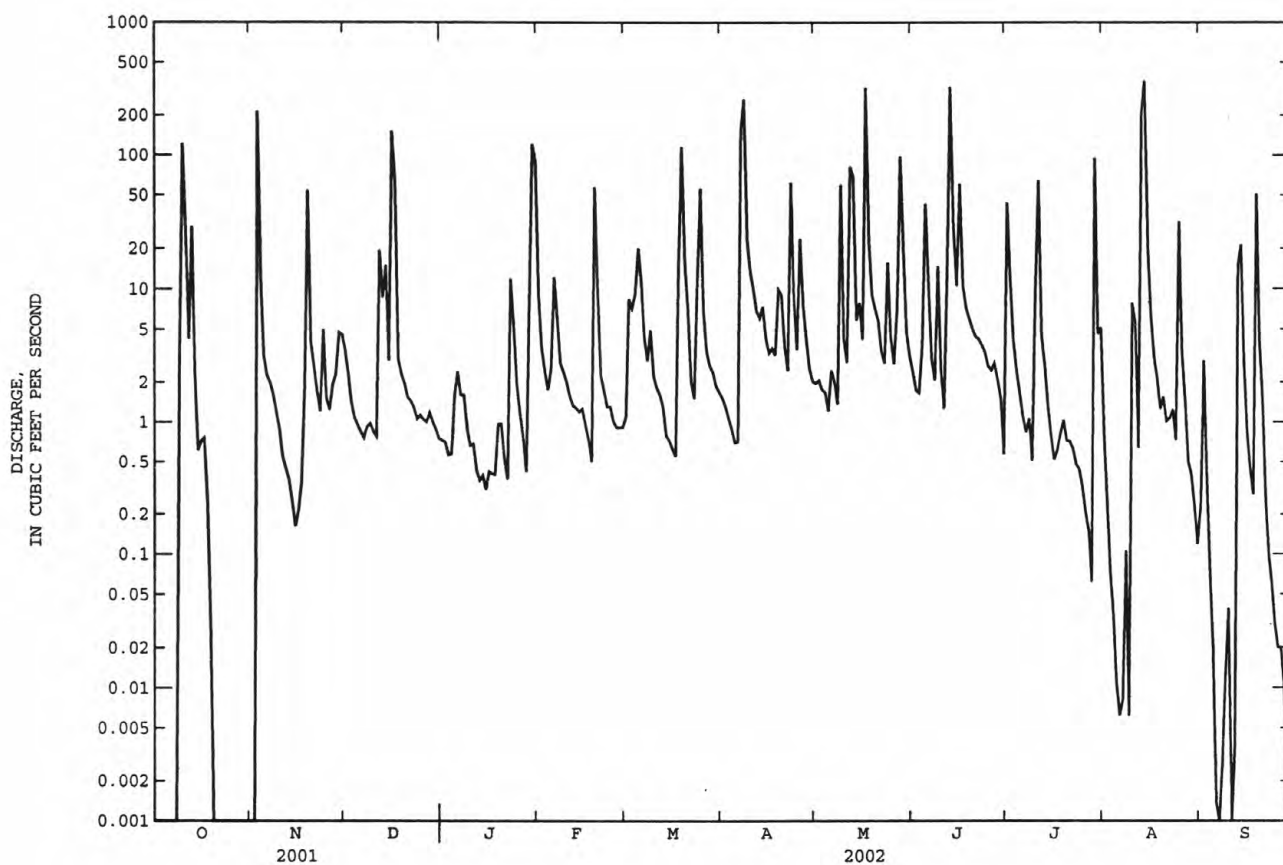
e Estimated

ARKANSAS RIVER BASIN

69

07165562 HAIKEY CREEK AT 101ST STREET SOUTH AT TULSA, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1989 - 2002
ANNUAL TOTAL	5242.95	4544.26	
ANNUAL MEAN	14.36	12.45	23.27
HIGHEST ANNUAL MEAN			33.8 1995
LOWEST ANNUAL MEAN			11.0 1991
HIGHEST DAILY MEAN	535 May 30	362 Aug 14	2150 Oct 5 1998
LOWEST DAILY MEAN	0.00 Jul 29	0.00 at times	0.00 at times
ANNUAL SEVEN-DAY MINIMUM	0.00 Aug 2	0.00 Oct 1	0.00 Oct 12 1988
MAXIMUM PEAK FLOW		903 Jun 13	7100 May 6 2000
MAXIMUM PEAK STAGE		13.51 Jun 13	17.56 May 6 2000
ANNUAL RUNOFF (AC-FT)	10400	9010	16860
10 PERCENT EXCEEDS	25	20	35
50 PERCENT EXCEEDS	1.8	1.7	2.4
90 PERCENT EXCEEDS	0.00	0.02	0.00



ARKANSAS RIVER BASIN

07165565 LITTLE HAIKEY CREEK AT 101ST STREET SOUTH AT TULSA, OK

LOCATION.--Lat 36°01'03", long 95°51'38", in SE 1/4 SW 1/4 sec.19, T.18 N., R.14 E., Tulsa County, Hydrologic Unit 11110101, near right upstream abutment of 101st Street South bridge, and at mile 2.0.

DRAINAGE AREA.--5.45 mi².

PERIOD OF RECORD.--October 1987 to current year.

REVISED RECORDS.--WDR OK-92-1: 1988, 89 (M).

GAGE.--Water-stage recorder. Datum of gage is 626.21 ft above sea level.

REMARKS.--Records poor. U.S. Geological Survey satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.36	0.00	2.0	0.49	7.0	0.61	0.96	0.90	2.0	12	0.48	0.18
2	0.24	0.00	0.67	0.49	2.6	6.6	0.88	1.4	1.4	3.0	0.20	0.18
3	0.15	85	0.49	0.46	1.7	5.6	0.81	0.88	1.0	1.3	0.13	0.12
4	0.04	5.4	0.46	0.46	1.2	9.3	0.71	0.70	10	0.75	0.08	0.09
5	0.02	1.3	0.43	2.4	3.6	14	0.63	0.69	27	0.33	0.04	e0.06
6	0.00	1.4	0.35	0.99	9.3	6.8	0.66	1.9	9.0	0.15	0.18	0.02
7	0.00	1.0	0.32	0.57	5.4	2.8	83	0.83	2.3	0.07	0.90	0.00
8	0.00	0.61	0.38	0.56	1.6	1.8	75	0.59	2.6	0.08	0.35	e0.00
9	8.4	1.6	0.37	0.53	1.4	5.3	8.9	24	8.3	0.06	0.08	0.00
10	54	0.51	0.35	0.45	1.3	1.3	4.1	1.9	1.4	25	15	e0.00
11	9.1	e0.47	0.45	0.39	0.74	0.99	2.5	1.1	0.92	13	4.2	0.00
12	1.9	e0.42	12	e0.36	0.81	0.82	2.2	30	30	3.0	1.1	0.00
13	22	e0.30	3.1	e0.34	1.4	0.75	3.7	11	128	1.7	120	6.5
14	1.4	e0.20	7.6	e0.33	0.70	0.71	2.6	1.8	8.9	0.43	103	9.3
15	e0.50	e0.14	1.2	e0.32	0.63	0.59	1.7	3.5	5.4	0.25	6.3	1.1
16	e0.30	e0.19	62	e0.34	0.71	0.56	1.5	1.3	23	0.19	2.8	0.24
17	e0.15	0.52	26	e0.38	0.68	0.56	1.3	160	4.9	0.19	1.6	0.20
18	e0.10	2.1	4.9	e0.40	0.61	18	1.0	10	2.8	0.24	0.84	0.07
19	e0.05	25	1.7	e0.90	18	52	6.6	3.7	1.8	0.24	0.55	20
20	e0.02	1.4	0.92	0.57	2.4	10	3.0	3.2	0.98	0.19	0.43	e2.0
21	e0.00	0.63	0.76	0.39	1.1	3.1	1.4	2.3	1.0	0.14	0.33	e1.0
22	e0.00	0.49	0.70	0.36	0.89	1.5	1.0	1.8	0.92	0.11	0.25	e0.70
23	e0.00	0.44	0.58	9.9	0.84	1.4	20	1.3	0.63	0.11	0.15	e0.60
24	e0.00	4.0	0.54	4.1	0.72	51	2.9	12	0.55	0.07	0.07	e0.45
25	e0.00	0.49	0.57	0.77	0.85	27	1.2	2.4	0.44	0.08	17	e0.30
26	e0.00	0.31	0.59	0.50	0.62	4.5	12	1.6	0.41	0.06	1.3	e0.25
27	e0.00	0.41	0.58	0.46	0.55	2.4	3.3	9.7	0.32	0.00	0.49	e0.15
28	e0.00	1.8	0.57	0.43	0.56	1.8	1.8	130	0.28	0.00	0.31	e0.10
29	e0.00	3.5	0.56	11	---	1.5	1.3	16	0.22	38	0.29	e0.05
30	e0.00	3.1	0.53	69	---	1.2	1.2	6.1	0.16	7.2	0.30	e0.03
31	e0.00	---	0.48	33	---	1.0	---	3.0	---	4.0	0.19	---
TOTAL	98.73	142.73	132.15	141.64	67.91	235.49	247.85	445.59	276.63	111.94	278.94	43.69
MEAN	3.185	4.758	4.263	4.569	2.425	7.596	8.262	14.37	9.221	3.611	8.998	1.456
MAX	54	85	62	69	18	52	83	160	128	38	120	20
MIN	0.00	0.00	0.32	0.32	0.55	0.56	0.63	0.59	0.16	0.00	0.04	0.00
AC-FT	196	283	262	281	135	467	492	884	549	222	553	87

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2002, BY WATER YEAR (WY)

	MEAN	5.736	8.650	6.738	4.353	5.372	10.32	9.934	15.06	10.27	5.087	3.789	5.730
MAX	24.0	32.9	19.9	13.1	16.0	28.3	23.1	45.2	42.1	17.4	15.4	15.2	
(WY)	1999	1995	1993	1998	2001	1990	1999	1995	1995	1994	1997	1993	
MIN	0.12	0.15	0.40	0.27	0.12	1.61	1.44	3.00	0.15	0.042	0.13	0.78	
(WY)	1989	1996	1990	1997	1996	1991	1989	1988	1988	1990	2000	2000	

e Estimated

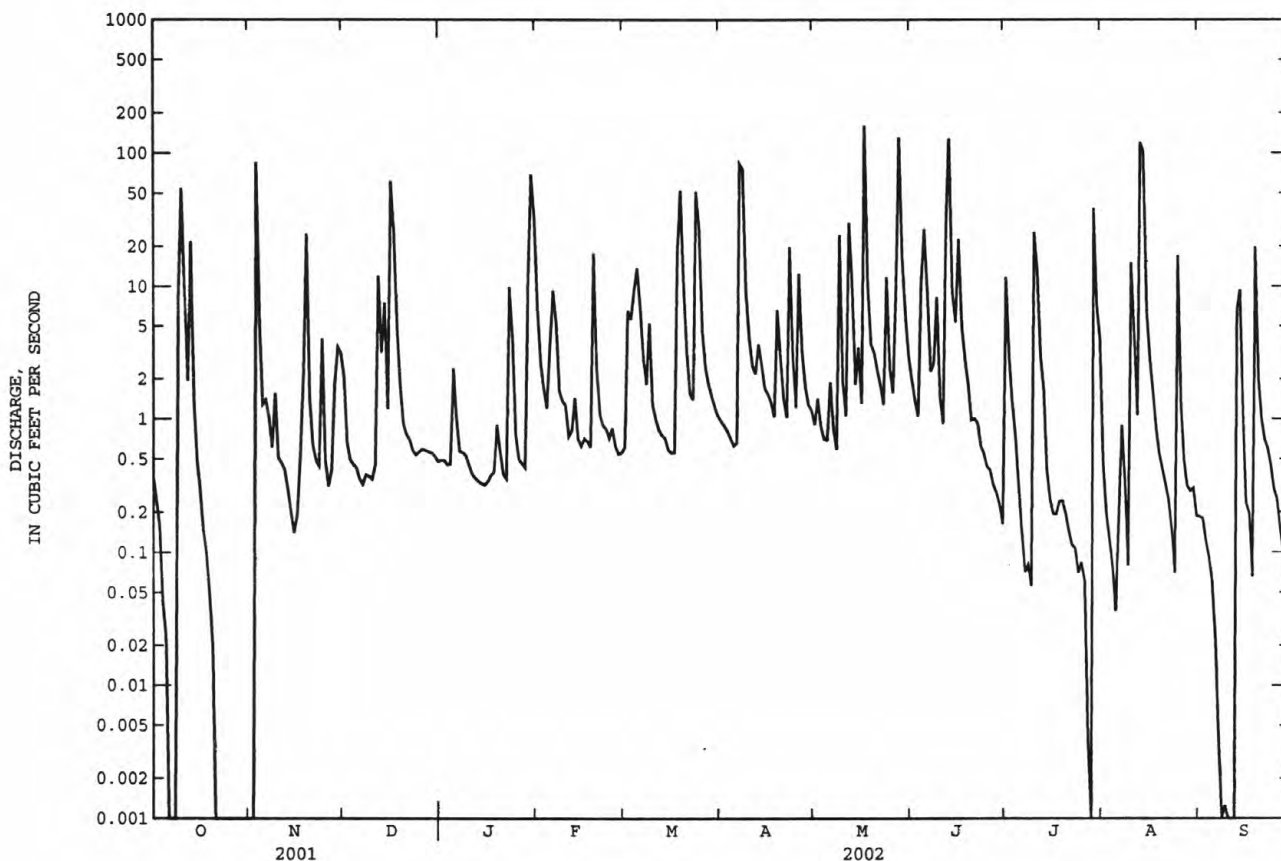
ARKANSAS RIVER BASIN

71

07165565 LITTLE HAIKEY CREEK AT 101ST STREET SOUTH AT TULSA, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1988 - 2002
ANNUAL TOTAL	2400.33	2223.29	
ANNUAL MEAN	6.576	6.091	7.592
HIGHEST ANNUAL MEAN			15.7 1995
LOWEST ANNUAL MEAN			2.73 1991
HIGHEST DAILY MEAN	249 May 30	160 May 17	589 May 6 2000
LOWEST DAILY MEAN	0.00 Jul 14	0.00 at times	0.00 at times
ANNUAL SEVEN-DAY MINIMUM	0.00 Oct 21	0.00 Oct 21	0.00 Sep 5 1988
MAXIMUM PEAK FLOW		978 Jun 13	4300 May 6 2000
MAXIMUM PEAK STAGE		14.71 Jun 13	^a 19.00 May 6 2000
ANNUAL RUNOFF (AC-FT)	4760	4410	5500
10 PERCENT EXCEEDS	11	12	14
50 PERCENT EXCEEDS	1.2	0.82	0.90
90 PERCENT EXCEEDS	0.03	0.07	0.00

^aFrom high-water mark..



ARKANSAS RIVER BASIN

07165570 ARKANSAS RIVER NEAR HASKELL, OK

LOCATION.--Lat 35°49'15", long 95°38'19", in SW 1/4 NW 1/4 sec.32, T.16 N., R.16 E., Wagoner County, Hydrologic Unit 11110101, near left, downstream abutment of old bridge downstream from State Highway 104, 2.0 mi east of Haskell, 23.5 mi upstream from Verdigris River, and at mile 483.7.

DRAINAGE AREA.--75,473 mi², of which 12,541 mi² probably is noncontributing.

PERIOD OF RECORD.--June 1972 to current year.

GAGE.--Water-stage recorder. Datum of gage is 530.00 ft above sea level.

REMARKS.--Records fair. Except for 858 mi² intervening area, flow regulated by Keystone Lake (station 07164200) 55.1 mi upstream. U.S. Army Corps of Engineers' satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	874	707	3200	515	4650	2520	980	8010	2940	15200	6300	2510
2	2520	949	1510	1040	6090	1990	1960	7180	3800	15600	7170	1700
3	3390	2410	736	762	11000	e2300	1760	8230	4170	15300	7990	793
4	4390	4290	519	1210	13300	e4200	1210	2320	3940	15200	7860	3170
5	6360	1280	1840	1010	5380	7920	1870	1710	5110	15100	7430	4080
6	3120	776	756	1150	3410	4730	1340	731	6100	15000	7820	4830
7	1650	1420	1080	647	3040	2090	1730	1880	5050	14700	7540	4630
8	696	1690	648	669	5990	1410	8090	5590	3960	14500	7230	2580
9	639	2910	1060	1450	4400	1070	7990	6620	5510	14500	5950	909
10	2930	3780	679	1490	1800	1160	3900	5760	2970	14400	5650	1370
11	4840	2460	438	1170	1090	637	1680	5800	5470	11200	6180	3440
12	2740	780	1010	851	1410	652	1900	5320	4880	7910	5670	2440
13	1490	1120	800	1100	4070	1030	1140	4610	13300	7940	4830	1670
14	1970	3430	1230	611	3280	781	1330	3630	13100	7500	7860	1690
15	775	2070	782	627	2740	1060	983	4680	15800	7380	4580	1830
16	642	2640	1420	1040	3220	588	867	4070	15700	9920	4010	866
17	3160	2370	3050	580	1830	1070	1300	12900	15200	7360	6760	819
18	5520	1750	2270	1810	1590	775	2460	25400	14700	6200	15300	1670
19	3910	837	2040	862	1310	1570	5110	18900	14200	5310	11100	1900
20	1860	1300	2900	1210	1660	3630	5330	15800	34800	6730	9010	7460
21	1370	2400	1370	754	1870	2270	4420	11200	45300	7500	6930	14600
22	707	1610	1020	538	2700	2050	3440	6250	44500	7330	9090	19200
23	493	1970	1120	1480	3060	1510	3190	8090	44900	6030	7110	18700
24	1540	785	629	956	1260	1220	4500	9350	24500	5310	6060	11300
25	4500	1190	455	1880	697	1840	3660	7780	16200	6330	3490	5630
26	3860	666	990	1130	e800	2490	3000	8440	15700	6200	1860	8040
27	1790	407	952	1230	e1500	2030	3980	4040	15400	6910	7700	5960
28	1110	1170	1130	739	3570	1120	5740	3530	15500	4620	6600	4620
29	536	2650	593	642	---	1260	2980	12200	15300	5970	5240	5290
30	371	3860	1420	1360	---	924	1550	4120	15200	7090	5610	2410
31	1080	---	786	4010	---	1490	---	1990	---	5500	3680	---
TOTAL	70833	55677	38433	34523	96717	59387	89390	226131	443200	295740	209610	146107
MEAN	2285	1856	1240	1114	3454	1916	2980	7295	14770	9540	6762	4870
MAX	6360	4290	3200	4010	13300	7920	8090	25400	45300	15600	15300	19200
MIN	371	407	438	515	697	588	867	731	2940	4620	1860	793
AC-FT	140500	110400	76230	68480	191800	117800	177300	448500	879100	586600	415800	289800

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 2002, BY WATER YEAR (WY)

	MEAN	8988	9245	6339	6530	7714	14970	15230	17650	18370	11280	6703	5641
MAX	75500	58300	19930	23470	25540	50990	46910	85550	78480	44980	32540	23690	
(WY)	1987	1999	1993	1998	1993	1987	1973	1993	1995	1999	1995	1989	
MIN	576	646	802	567	549	722	638	2472	5074	1671	1171	870	
(WY)	1979	1981	1981	1981	1977	1977	1977	1981	1988	1991	1984	1998	

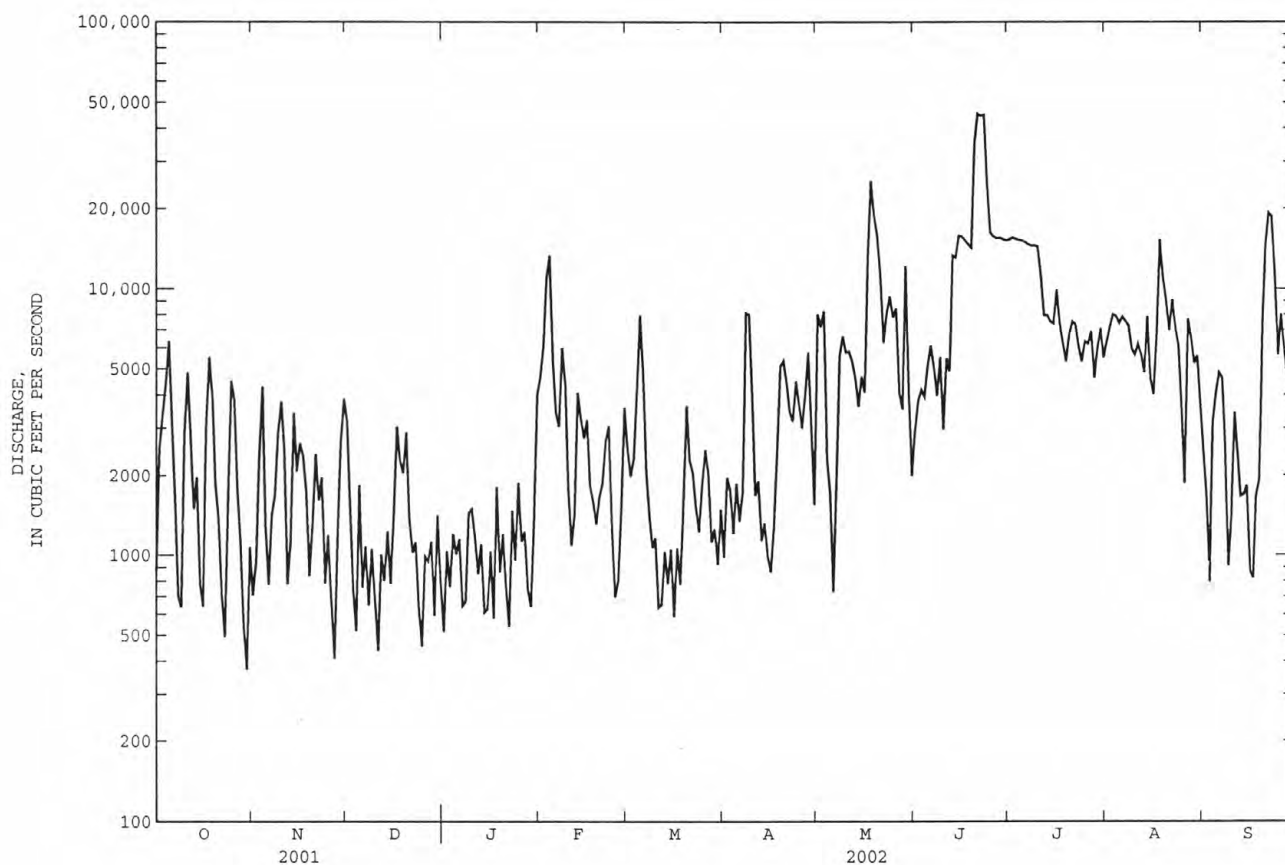
e Estimated

ARKANSAS RIVER BASIN

73

07165570 ARKANSAS RIVER NEAR HASKELL, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1973 - 2002	
ANNUAL TOTAL	3010479		1765748		10730	
ANNUAL MEAN	8248		4838		25680	
HIGHEST ANNUAL MEAN					2097	
LOWEST ANNUAL MEAN					243000	
HIGHEST DAILY MEAN	39600	May 30	45300	Jun 21	243000	Oct 5 1986
LOWEST DAILY MEAN	371	Oct 30	371	Oct 30	87	Sep 13 1988
ANNUAL SEVEN-DAY MINIMUM	738	Aug 16	810	Dec 6	369	Feb 25 1977
MAXIMUM PEAK FLOW			49600	Jun 21	259000	Oct 5 1986
MAXIMUM PEAK STAGE			12.29	Jun 21	22.82	Oct 5 1986
ANNUAL RUNOFF (AC-FT)	5971000		3502000		7773000	
10 PERCENT EXCEEDS	24500		13000		26900	
50 PERCENT EXCEEDS	4400		2910		5800	
90 PERCENT EXCEEDS	742		775		881	



ARKANSAS RIVER BASIN

07171000 VERDIGRIS RIVER NEAR LENAPAH, OK

LOCATION.--Lat 36°51'04", long 95°35'09", NE 1/4, SW 1/4, sec.3, T.27 N., R.16 E., Nowata County, Hydrologic Unit 11070103, on right bank on downstream side of county road bridge, 2.8 mi east of Lenapah, 5.5(revised) mi upstream from Cedar Creek, and at mile 144.6.

DRAINAGE AREA.--3,639 mi².

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 977: 1942 (M). WSP 1117: drainage area.

GAGE.--Water-stage recorder. Datum of gage is 644.90 ft above sea level.

REMARKS.--Records good except for estimated discharges, which are poor. Some regulation since April 1949 by Fall River Reservoir in Kansas. Flow regulated since 1960 by Toronto Lake in Kansas. Flow has been further regulated since 1966 by Elk City Lake in Kansas. U.S. Army Corps of Engineers' satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1620	33	43	18	1170	27	22	1050	7350	2520	115	23
2	1610	34	43	18	570	e30	19	1280	6460	2130	112	20
3	1600	191	42	17	343	e36	20	1280	6230	1150	89	19
4	1600	290	43	16	214	e36	18	1240	6090	628	68	18
5	1790	140	44	16	162	38	17	1200	12000	374	57	16
6	1680	85	44	17	145	38	16	1190	5940	306	47	16
7	919	63	44	17	134	42	18	1240	3220	422	84	15
8	757	53	44	17	124	42	24	20800	2840	461	125	12
9	753	45	44	16	217	41	31	30600	2580	441	101	11
10	798	35	44	17	295	42	46	29800	2460	331	70	9.1
11	751	32	44	18	282	40	58	15300	2870	298	52	8.0
12	543	33	49	18	275	39	63	7620	9100	231	41	7.3
13	443	35	55	17	267	38	60	9180	17400	763	37	6.9
14	368	37	61	15	258	36	53	10400	11800	483	37	9.6
15	238	41	61	16	255	34	46	7690	8490	400	32	83
16	128	44	67	16	246	33	44	7720	6000	574	29	79
17	81	41	73	16	175	32	44	9810	5780	557	29	60
18	59	40	66	16	92	31	44	7280	5200	373	32	55
19	51	41	61	16	63	33	168	5270	5720	198	40	1440
20	45	44	55	16	50	34	551	4600	7330	122	67	896
21	42	44	48	16	42	31	493	4720	8190	87	101	367
22	40	44	41	18	40	30	269	5020	8080	80	72	186
23	41	43	36	18	39	31	181	5660	7920	1010	195	123
24	41	44	31	22	35	30	244	11100	7790	715	820	94
25	38	43	27	22	32	30	288	24800	7230	352	190	74
26	35	41	23	21	31	30	445	24400	5990	210	103	60
27	34	43	21	21	29	28	797	15400	5640	127	64	47
28	31	44	20	20	27	27	3300	8060	4200	86	45	40
29	30	44	18	19	---	28	2170	9030	2910	121	34	37
30	31	44	17	43	---	29	1580	7400	2570	139	29	35
31	32	---	17	741	---	25	---	8270	---	133	26	---
TOTAL	16229	1791	1326	1294	5612	1041	11129	298410	195380	15822	2943	3866.9
MEAN	523.5	59.70	42.77	41.74	200.4	33.58	371.0	9626	6513	510.4	94.94	128.9
MAX	1790	290	73	741	1170	42	3300	30600	17400	2520	820	1440
MIN	30	32	17	15	27	25	16	1050	2460	80	26	6.9
AC-FT	32190	3550	2630	2570	11130	2060	22070	591900	387500	31380	5840	7670

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2002, BY WATER YEAR (WY)

	MEAN	2286	2927	2026	1634	2254	4299	4029	4344	5083	2249	809.4	1013
MAX	27970	15440	11000	7998	8983	17130	16300	12540	19160	13920	5364	5614	
(WY)	1987	1975	1993	1973	1985	1973	1988	1994	1995	1976	1985	1989	
MIN	15.5	20.0	29.2	17.6	20.0	19.7	30.2	366	84.3	17.9	16.1	9.99	
(WY)	1981	1981	1967	1981	1981	1981	1981	1992	1972	1980	1983	1980	

e Estimated

ARKANSAS RIVER BASIN

75

07171000 VERDIGRIS RIVER NEAR LENAPAH, OK--Continued

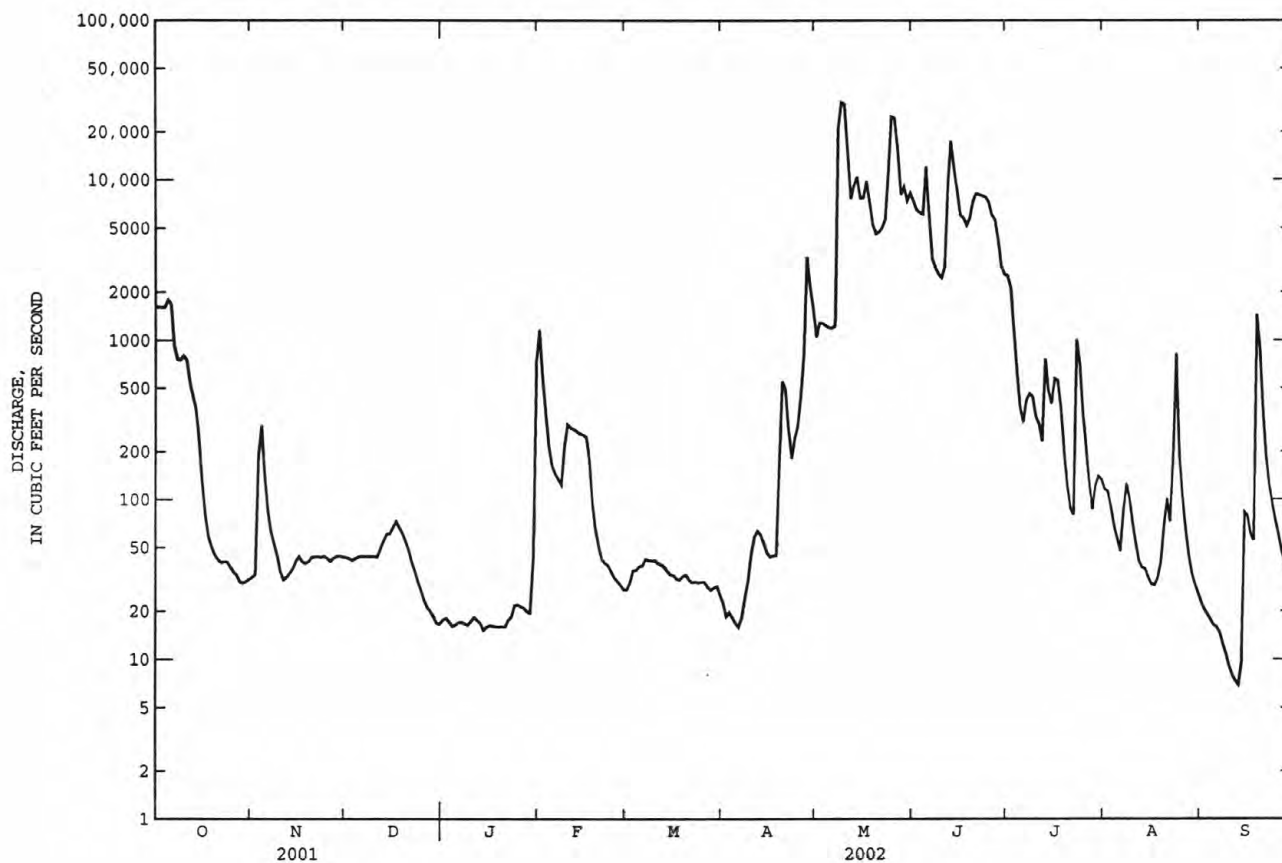
SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1967 - 2002	
ANNUAL TOTAL	635301		554843.9		^a 2744	
ANNUAL MEAN	1741		1520		6227	
HIGHEST ANNUAL MEAN					301	
LOWEST ANNUAL MEAN					76200	
HIGHEST DAILY MEAN	23400	Feb 25	30600	May 9	5.5	Oct 5 1986
LOWEST DAILY MEAN	17	Dec 30	6.9	Sep 13	5.7	Sep 30 1980
ANNUAL SEVEN-DAY MINIMUM	20	Dec 25	9.1	Sep 8	5.7	Sep 26 1980
MAXIMUM PEAK FLOW			31600	May 9	^c 81500	Oct 5 1986
MAXIMUM PEAK STAGE			29.35	May 9	^d 38.60	Jul 4 1976
ANNUAL RUNOFF (AC-FT)	1260000		1101000		1988000	
10 PERCENT EXCEEDS	5540		5960		8660	
50 PERCENT EXCEEDS	499		58		615	
90 PERCENT EXCEEDS	41		18		38	

^aPrior to regulation, water years 1939-59, 2,084 ft³/s.

^bMinimum daily discharge for period of record, no flow at times in 1939, 1940, and 1956.

^cMaximum discharge for period of record, 137,000 ft³/s, May 20, 1943.

^dMaximum gage height for period of record, 40.44 ft, May 20, 1943 (from floodmark).



ARKANSAS RIVER BASIN

07174400 CANEY RIVER ABOVE COON CREEK AT BARTLESVILLE, OK

LOCATION.--Lat 36°45'20", long 95°58'19", in NE 1/4 NE 1/4 sec.12, T.26 N, R.12 E, Washington County, Hydrologic Unit 11070106, at right bank in city of Bartlesville water intake tower, 0.2 mi upstream from State Highway 123 bridge and low-water dam, 0.5 mi downstream from Atchison, Topeka, and Santa Fe railroad bridge, 1.0 mi upstream from confluence with Coon Creek, 2.7 mi downstream from confluence with Butler Creek, 5.0 mi upstream from confluence with Sand Creek, and at mile 68.7.

DRAINAGE AREA.--1,392 mi².

PERIOD OF RECORD.--October 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is 653.33 ft above sea level.

REMARKS.--Records fair except for estimated periods, which are poor. Considerable regulation by Hulah Lake (station 07172500) 27.0 mi upstream, and Copan Lake (station 07174300) 12.0 mi upstream. Diversion at gage for municipal water supply by the city of Bartlesville. U.S. Army Corps of Engineers' satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	32	4.6	0.00	20	0.00	2.3	8.9	58	1170	35	33
2	23	32	4.5	0.00	8.9	3.5	3.2	5.5	44	509	35	31
3	24	36	4.4	0.00	5.8	6.6	0.95	11	39	420	36	29
4	25	39	4.2	0.00	3.6	7.5	0.75	15	56	412	36	e27
5	81	36	4.3	0.00	2.8	7.9	1.2	12	132	408	35	24
6	36	36	3.2	0.00	4.4	8.3	1.8	14	180	409	36	29
7	23	34	2.2	0.00	3.9	8.3	12	11	1580	407	37	29
8	24	32	1.5	0.00	2.4	8.2	8.5	375	2080	392	36	30
9	56	31	1.3	0.00	2.2	9.4	5.6	722	2100	283	36	31
10	53	32	0.86	0.00	1.3	11	4.0	2510	2080	128	37	31
11	34	32	1.2	0.00	e1.0	9.6	4.2	3260	2170	57	38	29
12	32	32	4.9	0.00	1.2	8.5	4.4	3340	3420	55	37	26
13	35	32	7.1	0.14	e1.0	9.8	3.7	3360	3980	55	62	28
14	32	31	8.0	0.96	e1.5	8.4	3.7	3680	3730	56	57	58
15	31	32	5.3	0.02	2.4	5.1	2.8	3190	3700	55	38	36
16	29	30	12	0.00	2.3	3.8	2.5	3070	3740	44	39	32
17	30	23	6.2	0.00	1.8	2.4	3.4	1910	3720	47	36	44
18	32	24	3.2	0.00	2.0	3.3	2.9	1510	3670	48	36	39
19	34	23	2.2	0.33	4.6	6.4	3.7	2110	3620	44	35	366
20	33	15	1.1	2.3	2.8	5.3	4.3	2130	3600	36	35	98
21	33	14	0.85	5.1	1.3	3.5	3.5	2150	3580	32	35	61
22	31	8.7	0.96	3.6	e1.0	1.5	2.8	2410	3550	35	34	96
23	33	5.9	0.72	3.3	e0.90	1.5	11	2290	3520	72	38	95
24	30	6.7	0.25	3.2	e0.80	2.0	5.9	1980	3350	69	83	96
25	30	4.3	0.12	2.0	0.44	2.0	4.2	2060	1550	34	54	96
26	32	3.9	0.09	1.8	0.0	1.2	12	2960	1250	30	44	97
27	32	3.5	0.13	1.4	0.00	1.4	51	3210	1250	24	32	98
28	30	3.9	0.14	1.4	0.00	2.4	137	3480	1240	27	33	97
29	32	4.3	0.09	1.4	---	3.1	28	3410	1240	66	33	97
30	32	4.5	0.00	45	---	2.2	14	590	1230	43	33	90
31	32	---	0.00	57	---	2.7	---	76	---	38	33	---
TOTAL	1038	673.7	85.61	128.95	80.34	156.80	345.30	55860.4	65459	5505	1224	1973
MEAN	33.48	22.46	2.762	4.160	2.869	5.058	11.51	1802	2182	177.6	39.48	65.77
MAX	81	39	12	57	20	11	137	3680	3980	1170	83	366
MIN	23	3.5	0.00	0.00	0.00	0.00	0.75	5.5	39	24	32	24
AC-FT	2060	1340	170	256	159	311	685	110800	129800	10920	2430	3910

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2002, BY WATER YEAR (WY)												
MEAN	1371	996.5	873.8	789.5	792.8	1902	1636	1910	2190	1260	189.3	301.9
MAX	14800	3512	2663	4075	2721	4606	5185	5054	5315	6486	1448	2635
(WY)	1987	1999	1987	1993	1987	1990	1988	1993	1999	1995	1995	1989
MIN	13.2	22.5	2.76	4.16	2.87	5.06	11.5	31.1	46.5	29.4	22.5	12.8
(WY)	1988	2002	2002	2002	2002	2002	2002	1996	1996	1988	1988	1987

e Estimated

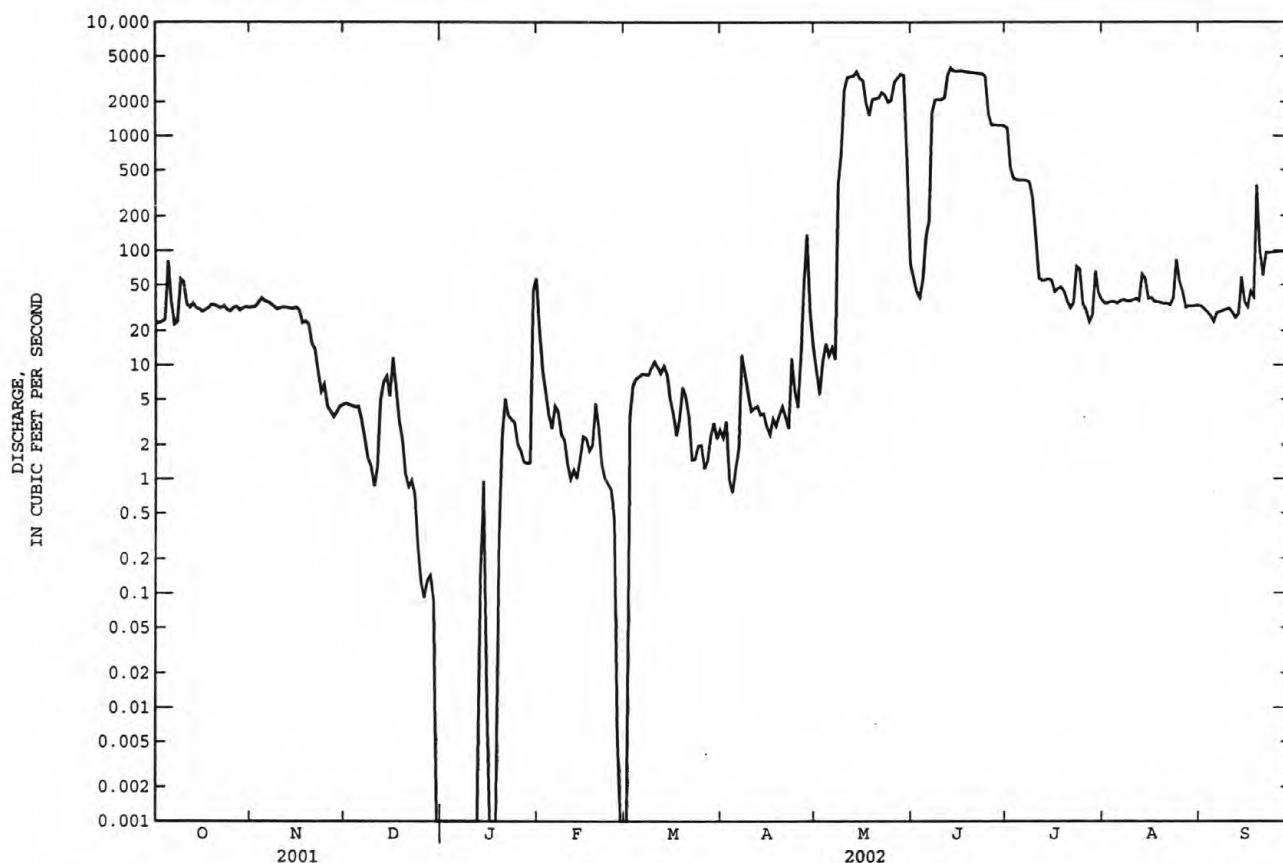
ARKANSAS RIVER BASIN

77

07174400 CANEY RIVER ABOVE COON CREEK AT BARTLESVILLE, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1986 - 2002
ANNUAL TOTAL	175299.91	132530.10	
ANNUAL MEAN	480.3	363.1	1186
HIGHEST ANNUAL MEAN			2888
LOWEST ANNUAL MEAN			43.7
HIGHEST DAILY MEAN	4860 Mar 12	3980 Jun 13	64900 Oct 5 1986
LOWEST DAILY MEAN	0.00 Dec 30	0.00 at times	0.00 at times
ANNUAL SEVEN-DAY MINIMUM	0.08 Dec 25	0.00 Dec 30	0.00 Dec 30 2001
MAXIMUM PEAK FLOW		4260 Jun 12	94500 Oct 4 1986
MAXIMUM PEAK STAGE		^a 7.19 Jun 12	27.70 Oct 4 1986
ANNUAL RUNOFF (AC-FT)	347700	262900	859400
10 PERCENT EXCEEDS	1370	1710	4190
50 PERCENT EXCEEDS	45	29	121
90 PERCENT EXCEEDS	6.9	0.88	24

^aBackwater from debris on control.



ARKANSAS RIVER BASIN

07175500 CANEY RIVER NEAR RAMONA, OK

LOCATION.--Lat 36°30'32", long 95°50'30", in NE 1/4 NW 1/4 sec.5, T.23 N., R.14 E., Washington County, Hydrologic Unit 11070106, on left bank near downstream abutment of county road bridge, 1 mi upstream from Buck Creek, 2.2 mi downstream from Double Creek, 4.5 mi southeast of Ramona, and at mile 32.0.

DRAINAGE AREA.--1,955 mi².

PERIOD OF RECORD.--September 1945 to current year. Monthly discharge only for some periods, published in WSP 1311. Previous reports have included Caney River near Collinsville from Oct. 1935 to Feb. 1939; this record has been separated from Ramona.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1241: 1939.

GAGE.--Water-stage recorder. Datum of gage is 586.43 ft above sea level. Sept. 1, 1945, to Feb. 15, 1946, nonrecording gage at present site and datum.

REMARKS.--Records good except for estimated periods, which are poor. Flow regulated since February 1950 by Hulah Lake (station 07172500), and since April 1983 by Copan Lake (station 07174300). U.S. Army Corps of Engineers' satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	43	11	10	987	38	35	229	342	e1200	131	54
2	35	42	11	10	423	46	35	179	267	855	116	52
3	35	146	12	9.8	260	43	31	144	223	472	101	52
4	34	167	12	9.8	180	46	32	124	205	447	90	51
5	50	117	13	11	133	57	35	112	648	442	84	50
6	150	94	13	11	118	63	37	2370	682	440	78	48
7	77	69	12	11	125	64	49	621	756	435	75	48
8	58	58	12	11	129	65	104	342	2040	432	72	50
9	55	52	12	11	120	65	217	2720	2240	417	68	50
10	251	48	11	12	105	61	240	2660	2190	361	66	50
11	166	46	10	11	92	60	154	3380	2160	258	64	50
12	84	46	12	11	82	59	108	3630	3080	173	64	50
13	69	46	13	10	73	57	83	3550	7630	149	68	48
14	74	46	19	10	67	52	69	3840	5730	141	141	60
15	57	45	26	9.6	61	49	58	3910	4290	139	138	123
16	51	44	33	10	56	45	53	3270	4210	136	90	79
17	46	44	35	11	53	42	53	6130	4230	124	71	60
18	45	42	62	11	52	39	50	5590	4030	116	66	58
19	45	37	40	11	60	41	59	3040	3880	119	63	183
20	45	30	27	11	59	46	297	2770	3800	117	61	640
21	45	27	22	10	60	56	227	2530	3740	103	58	274
22	44	23	19	9.6	54	49	123	2580	3700	98	55	205
23	44	22	16	17	48	43	2160	2670	3650	260	55	193
24	44	21	14	23	43	39	2090	2520	3610	346	57	190
25	43	16	13	22	42	40	742	2480	2720	233	186	193
26	41	16	13	23	38	37	378	2800	e1370	147	112	176
27	39	15	13	17	36	41	400	3560	e1320	127	83	169
28	41	13	12	15	34	39	2540	4260	e1300	109	66	164
29	e41	12	12	13	---	36	841	6020	e1290	120	58	158
30	e42	11	12	63	---	34	333	3440	e1270	201	55	156
31	e43	---	12	2110	---	36	---	637	---	156	53	---
TOTAL	1929	1438	554	2534.8	3590	1488	11633	82108	76603	8873	2545	3734
MEAN	62.23	47.93	17.87	81.77	128.2	48.00	387.8	2649	2553	286.2	82.10	124.5
MAX	251	167	62	2110	987	65	2540	6130	7630	1200	186	640
MIN	34	11	10	9.6	34	34	31	112	205	98	53	48
AC-FT	3830	2850	1100	5030	7120	2950	23070	162900	151900	17600	5050	7410

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2002, BY WATER YEAR (WY)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	1686	1381	1246	1053	1267	2923	2712	2798	2917	1451	273.8	502.4							
MAX	19540	4390	3596	5204	4208	7228	6989	8547	9766	8233	2021	3178							
(WY)	1987	1987	1993	1993	1987	1990	1988	1993	1995	1995	1995	1989							
MIN	35.4	47.9	17.9	48.2	43.9	41.4	114	62.7	70.1	30.2	34.9	32.7							
(WY)	1993	2002	2002	1996	1996	1996	1996	1996	1988	1984	1984	2000							

e Estimated

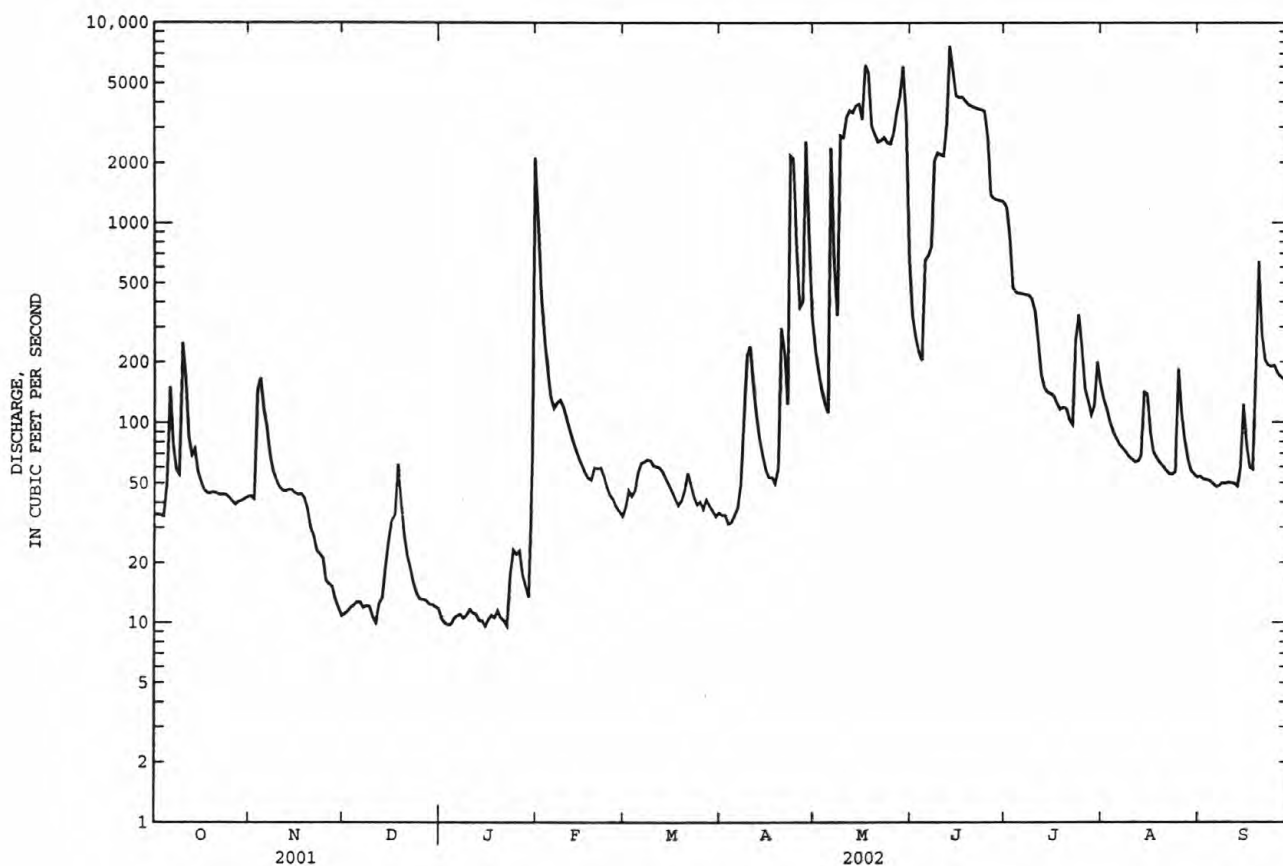
ARKANSAS RIVER BASIN

79

07175500 CANEY RIVER NEAR RAMONA, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1984 - 2002	
ANNUAL TOTAL	270079		197029.8		^a 1685	
ANNUAL MEAN	739.9		539.8		3887	
HIGHEST ANNUAL MEAN					107	
LOWEST ANNUAL MEAN					71700	
HIGHEST DAILY MEAN	11000	Feb 25	7630	Jun 13	^b 9.6	Oct 5 1986
LOWEST DAILY MEAN	10	Dec 11	9.6	Jan 15,22	10	Jan 1 2002
ANNUAL SEVEN-DAY MINIMUM	12	Nov 28	10	Jan 1	85600	Oct 5 1986
MAXIMUM PEAK FLOW			8430	Jun 13	31.16	Oct 5 1986
MAXIMUM PEAK STAGE			19.67	Jun 13		
ANNUAL RUNOFF (AC-FT)	535700		390800		1221000	
10 PERCENT EXCEEDS	2550		2500		5350	
50 PERCENT EXCEEDS	81		61		295	
90 PERCENT EXCEEDS	27		12		42	

^aAverage discharge since regulation by Hulah Lake and before regulation by Copan Lake, 32 years (water years 1951-82), 925 ft³/s.
^bNo flow Sept. 11-Nov. 3, 1956.



LOCATION.--Lat 36°18'26", long 95°41'52", NE 1/4 NW 1/4 sec.15, T.21 N., R.15 E., Rogers County, Hydrologic Unit 11070105, on left bank on downstream side of bridge on State Highway 20, 2.3 mi downstream from Caney River, 4.5 mi west of Claremore, 12.4 mi upstream from Bird Creek, and at mile 76.0.

REVISED RECORDS.--WSP 1117: Drainage area.

REMARKS.--Records good. Some regulation since 1949 by dams in Kansas, and since February 1950 by Hulah Lake (station 07172500). Flow regulated since May 1963 by Oologah Lake (station 07171300), 14.3 mi upstream from station, and since April 1983 by Copan Lake (station 07174300). U.S. Army Corps of Engineers' satellite telemeter at station.

MEAN	3244	4407	3713	3270	3402	6848	7594	7265	7928	4549	1184	1244
MAX	47570	23150	16250	15850	11470	23920	25200	23480	25370	22340	7284	7538
(WY)	1987	1975	1993	1993	1975	1985	1988	1973	1995	1995	1995	1989
MIN	24.1	18.0	47.4	37.9	31.3	23.2	107	87.2	84.0	42.5	52.7	53.3
(WY)	1967	1967	1979	1981	1967	1967	1971	1971	1972	1966	1965	2000

ARKANSAS RIVER BASIN

81

07176000 VERDIGRIS RIVER NEAR CLAREMORE, OK--Continued

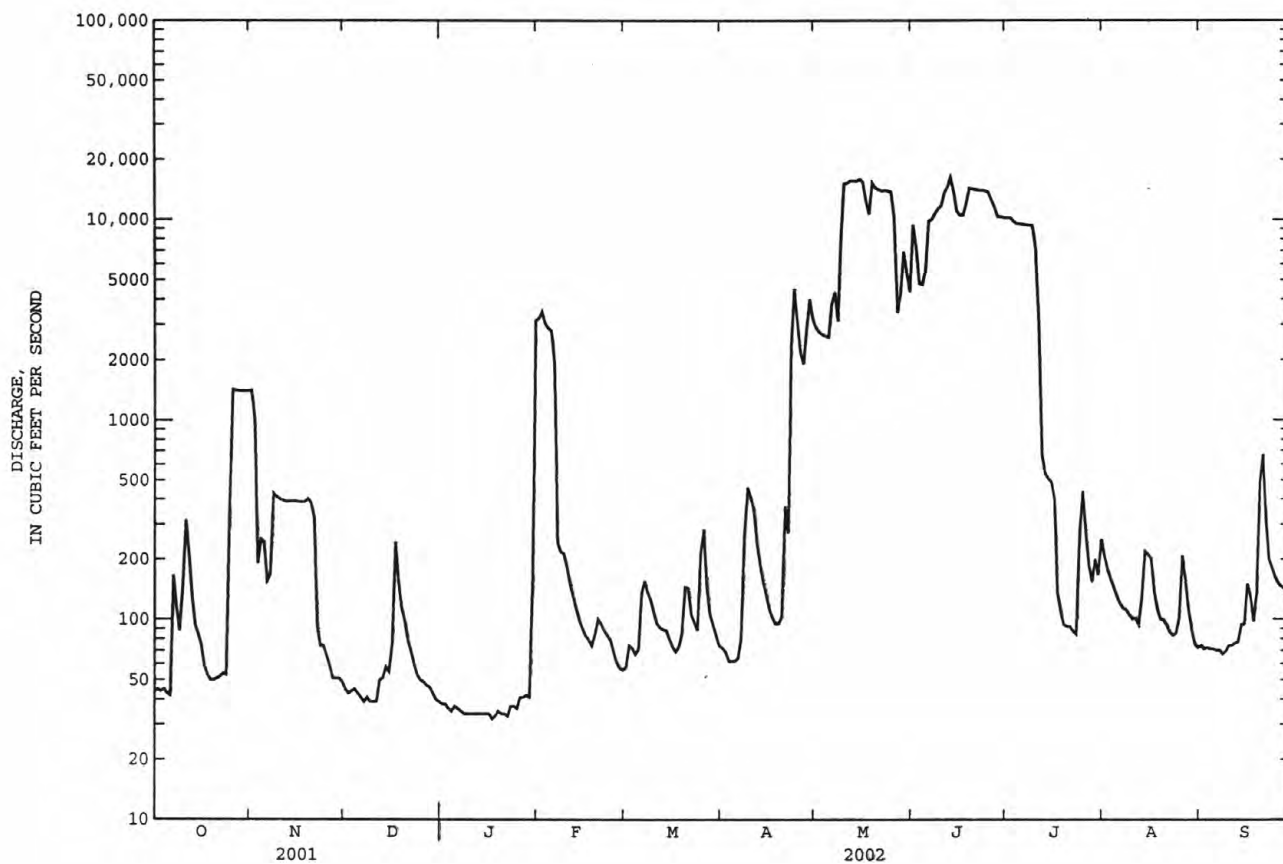
SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1965 - 2002	
ANNUAL TOTAL	1047425		826046		^a 4555	
ANNUAL MEAN	2870		2263		10940	
HIGHEST ANNUAL MEAN					234	
LOWEST ANNUAL MEAN					77700	
HIGHEST DAILY MEAN	22400	Mar 17	16200	Jun 13	3.4	Oct 13 1986
LOWEST DAILY MEAN	39	Dec 7	32	Jan 17	8.6	Aug 9 1997
ANNUAL SEVEN-DAY MINIMUM	40	Dec 5	34	Jan 12	78400	Jul 12 1966
MAXIMUM PEAK FLOW			18500	Jun 13	^c 44.99	Oct 12 1986
MAXIMUM PEAK STAGE			16.87	Jun 13		
ANNUAL RUNOFF (AC-FT)	2078000		1638000		3300000	
10 PERCENT EXCEEDS	9680		10400		14100	
50 PERCENT EXCEEDS	402		131		1020	
90 PERCENT EXCEEDS	51		42		62	

^aPrior to regulation by Oologah Lake, water years 1936-62, 3,723 ft³/s.

^bNo flow at times in 1936, 1939, 1940, 1956.

^cMaximum discharge for period of record, 182,000 ft³/s, May 21, 1943.

^dMaximum gage height for period of record, 55.05 ft, May 21, 1943.



LOCATION.--Lat 36°29'12", long 96°03'50", in SW 1/4 NW 1/4 sec.7, T.23 N., R.12 E., Osage County, Hydrologic Unit 11070107, 150 ft upstream from county road bridge at Avant, 2.4 mi upstream from Candy Creek, and at mile 54.2.

DRAINAGE AREA.--364 mi².

PERIOD OF RECORD.--August 1945 to current year, published as Bird Creek near Avant Oct. 1, 1973, to Sept. 30, 1993.

GAGE.--Water-stage recorder. Datum of gage is 651.28 ft above sea level.

REMARKS.--No estimated daily discharge. Records fair. Flow slightly regulated since 1958 by Bluestem Lake (capacity 17,000 acre-ft). Flow regulated since March 1977 by Birch Lake (capacity 19,200 acre-ft), located on Birch Creek, 12.1 mi upstream. Small diversions upstream for municipal water supply for the cities of Pawhuska and Barnsdall. U.S. Army Corps of Engineers satellite telemeter at station.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	24	15	14	272	16	18	310	124	33	35	20
2	20	23	14	13	96	19	17	242	108	30	28	20
3	20	506	14	13	51	20	18	198	99	27	24	20
4	20	294	14	13	36	19	17	173	60	26	23	19
5	20	89	14	14	30	19	16	163	247	26	21	19
6	20	45	16	14	31	19	16	1380	308	24	20	18
7	21	32	18	14	42	20	29	232	157	24	20	17
8	22	26	15	14	42	20	373	177	104	22	20	17
9	25	23	13	14	36	20	258	1780	80	22	18	17
10	39	21	12	15	29	20	121	649	64	22	17	17
11	26	20	12	16	25	18	73	336	57	26	17	17
12	22	20	14	16	23	18	52	286	493	25	17	16
13	24	20	14	15	21	18	42	243	4210	24	21	16
14	21	20	15	15	20	18	37	241	844	24	24	24
15	20	20	16	14	19	18	34	136	453	23	22	22
16	20	20	18	13	19	18	31	110	928	23	26	27
17	20	20	21	13	17	18	29	1940	661	23	25	27
18	21	20	19	12	17	19	27	811	389	22	23	23
19	21	24	18	12	18	23	194	438	220	22	22	85
20	22	21	17	12	19	34	235	313	177	21	21	423
21	22	19	16	13	18	38	86	255	150	20	20	123
22	22	17	16	13	19	31	49	225	76	20	19	58
23	23	17	15	15	18	25	4600	215	55	41	17	36
24	23	18	15	16	18	24	1040	289	47	37	46	28
25	23	17	15	16	18	25	260	262	44	24	265	24
26	22	16	16	15	18	23	159	261	41	24	137	22
27	22	16	16	14	17	21	2020	276	40	22	62	21
28	23	16	15	14	16	20	1760	1750	38	20	37	20
29	24	16	15	14	---	20	539	697	34	31	29	20
30	25	15	14	519	---	19	321	221	32	82	24	20
31	24	---	14	1370	---	18	---	151	---	65	21	---
TOTAL	698	1455	476	2295	1005	658	12471	14760	10340	875	1121	1236
MEAN	22.52	48.50	15.35	74.03	35.89	21.23	415.7	476.1	344.7	28.23	36.16	41.20
MAX	39	506	21	1370	272	38	4600	1940	4210	82	265	423
MIN	20	15	12	12	16	16	16	110	32	20	17	16
AC-FT	1380	2890	944	4550	1990	1310	24740	29280	20510	1740	2220	2450

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 2002, BY WATER YEAR (WY)

MEAN	169.5	256.2	199.5	159.3	324.9	549.6	535.6	671.8	587.8	169.8	66.41	150.5
MAX	1940	1319	753	749	1376	2264	1214	2177	2642	1174	400	1059
(WY)	1987	1986	1993	1993	1985	1990	1988	1993	1995	1995	1989	1986
MIN	3.94	4.19	5.63	3.61	4.87	12.5	6.95	12.4	22.0	10.3	6.07	5.20
(WY)	1980	1981	1979	1981	1981	1996	1981	1996	1988	1984	1985	1982

ARKANSAS RIVER BASIN

83

07176500 BIRD CREEK AT AVANT, OK--Continued

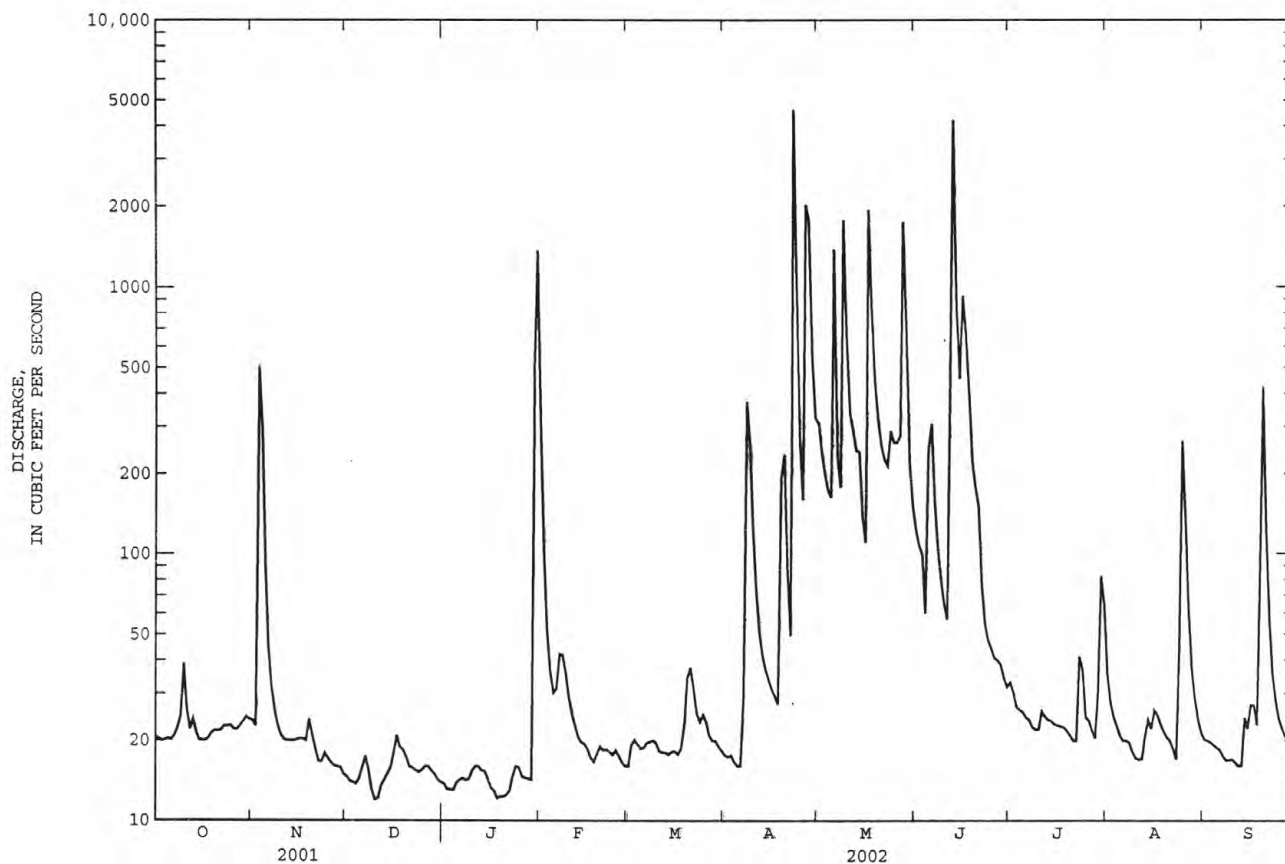
SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1978 - 2002	
ANNUAL TOTAL	65888.5		47390		^a 319.3	
ANNUAL MEAN	180.5		129.8		673	
HIGHEST ANNUAL MEAN					43.9	
LOWEST ANNUAL MEAN					25900	
HIGHEST DAILY MEAN	7240	Feb 24	4600	Apr 23	^b 0.05	May 9 1993
LOWEST DAILY MEAN	6.3	Jan 27	12	at times	^c 27900	Aug 8 1984
ANNUAL SEVEN-DAY MINIMUM	7.2	Jan 21	13	Jan 16	0.29	Aug 3 1984
MAXIMUM PEAK FLOW			10000	Apr 23	^d 30.70	Jun 10 1985
MAXIMUM PEAK STAGE			9.68	Apr 23	231400	
ANNUAL RUNOFF (AC-FT)	130700		94000		724	
10 PERCENT EXCEEDS	508		263		45	
50 PERCENT EXCEEDS	23		22		7.5	
90 PERCENT EXCEEDS	16		15			

^aPrior to regulation, water years 1946-76, 200 ft³/s.

^bNo flow at times most years 1946-76.

^cMaximum discharge for period of record, 32,400 ft³/s, gage height 31.40 ft, Oct. 2, 1959.

^dMaximum gage height for period of record, 32.03 ft, Mar. 11, 1974.



ARKANSAS RIVER BASIN

07177500 BIRD CREEK NEAR SPERRY, OK

LOCATION.--Lat 36°16'42", long 95°57'14", in NW 1/4 NW 1/4 sec.29, T.21 N., R.13 E., Tulsa County, Hydrologic Unit 11070107, near downstream side of right abutment of county road bridge, 1.5 mi upstream from Delaware Creek, 2.4 mi downstream from Hominy Creek, 2.5 mi southeast of Sperry, and at mile 25.0.

DRAINAGE AREA.--905 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1921: 1943.

GAGE.--Water-stage recorder. Datum of gage is 579.43 ft above sea level.

REMARKS.--Records good. Flow slightly regulated since 1958 by Bluestem Lake (capacity 17,000 acre-ft) and Birch Lake (capacity 19,200 acre-ft). Flow regulated since August 20, 1989 by Skiatook Lake (capacity 322,300 acre-ft) when conservation pool was first reached. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1915 reached a stage similar to flood of Oct. 31, 1941, 30.14 ft, from information provided by local residents.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	183	94	86	65	788	63	142	331	180	180	222	177
2	184	95	88	65	316	69	167	287	147	183	194	175
3	185	384	89	64	177	65	162	236	180	179	185	174
4	185	696	87	66	117	66	156	202	238	172	180	174
5	183	290	85	67	88	68	132	182	219	170	182	182
6	184	121	85	67	82	70	132	1320	471	167	192	180
7	187	65	87	67	91	69	148	486	366	166	190	179
8	187	94	88	67	117	68	521	244	279	170	186	177
9	195	96	88	67	103	67	565	1560	241	186	185	177
10	218	90	87	66	81	65	308	1000	220	184	184	177
11	218	88	87	65	64	66	175	451	205	184	185	176
12	208	85	91	64	54	64	119	326	222	191	181	176
13	208	84	87	64	45	61	164	281	4740	192	198	175
14	199	83	88	63	71	62	160	259	1670	188	244	184
15	193	81	86	62	75	e58	147	209	717	186	200	188
16	180	81	103	62	72	55	133	143	744	185	191	188
17	96	82	111	59	70	56	124	2860	947	183	192	189
18	94	82	77	59	69	61	115	1990	583	183	199	194
19	94	84	72	60	75	86	133	584	327	183	196	226
20	95	87	68	60	75	123	542	395	228	182	192	357
21	94	88	66	60	72	76	331	310	257	181	190	430
22	92	85	65	60	70	66	210	264	269	180	188	280
23	68	84	63	61	68	55	2720	235	205	182	186	227
24	65	84	62	62	67	46	3850	319	185	203	189	183
25	90	84	61	62	65	76	573	315	195	215	272	169
26	91	84	61	62	63	76	308	294	195	195	367	185
27	91	83	66	62	62	53	483	271	192	190	162	185
28	91	85	67	61	62	71	2620	681	188	186	223	183
29	92	86	67	60	---	79	763	2070	185	203	200	182
30	93	86	67	301	---	76	407	462	179	171	187	180
31	94	---	65	3410	---	74	---	250	---	240	181	---
TOTAL	4437	3711	2450	5540	3159	2110	16510	18817	14974	5760	6223	6029
MEAN	143.1	123.7	79.03	178.7	112.8	68.06	550.3	607.0	499.1	185.8	200.7	201.0
MAX	218	696	111	3410	788	123	3850	2860	4740	240	367	430
MIN	65	65	61	59	45	46	115	143	147	166	162	169
AC-FT	8800	7360	4860	10990	6270	4190	32750	37320	29700	11420	12340	11960

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2002, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	269.3	446.0	415.3	473.0	585.8	1235	1304	1787	1440	702.2	288.4	259.2	
MAX	1504	1649	1168	2208	1500	4949	2891	4824	4890	3421	1148	689	
(WY)	1999	1995	1993	1998	1999	1990	1994	1995	1995	1995	1997	1996	
MIN	112	47.4	61.9	65.2	66.8	58.1	183	151	175	117	124	144	
(WY)	1993	1996	1990	1994	1996	2002	2001	1996	1998	2001	2001	2000	

e Estimated

ARKANSAS RIVER BASIN

85

07177500 BIRD CREEK NEAR SPERRY, OK--Continued

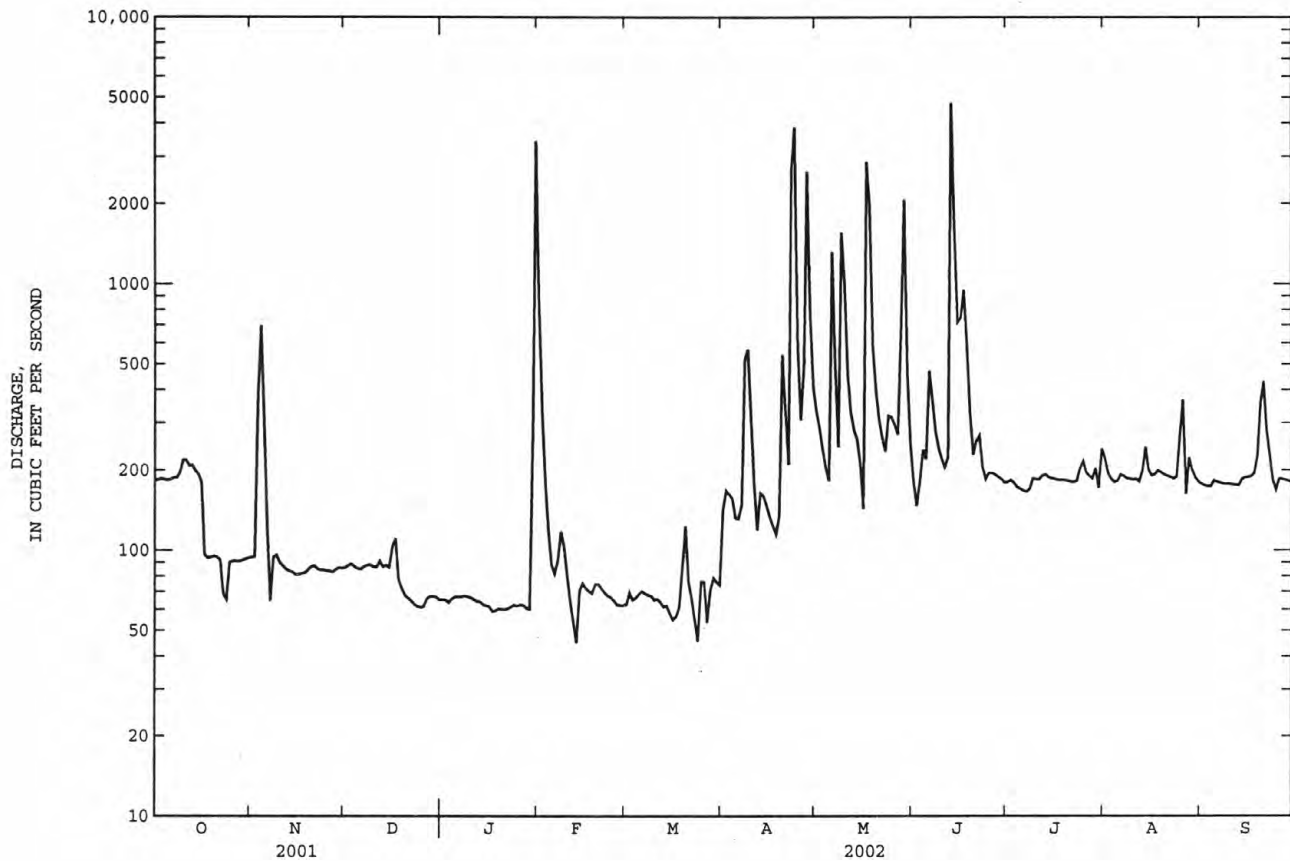
SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1990 - 2002	
ANNUAL TOTAL	138435		89720		^a 767.4	
ANNUAL MEAN	379.3		245.8		1669	
HIGHEST ANNUAL MEAN					168	
LOWEST ANNUAL MEAN					27500	
HIGHEST DAILY MEAN	7280	Feb 24	4740	Jun 13	^b 23	May 10 1993
LOWEST DAILY MEAN	52	Jan 22	45	Feb 13	34	Jul 22 1996
ANNUAL SEVEN-DAY MINIMUM	63	Dec 21	60	Mar 12	^c 30600	Oct 19 1995
MAXIMUM PEAK FLOW			7500	Apr 24	^d 29.88	May 10 1993
MAXIMUM PEAK STAGE			16.86	Apr 24		
ANNUAL RUNOFF (AC-FT)	274600		178000		556000	
10 PERCENT EXCEEDS	829		361		2320	
50 PERCENT EXCEEDS	138		172		169	
90 PERCENT EXCEEDS	84		64		67	

^aPrior to regulation, water years 1939-84, 484 ft³/s.

^bNo flow at times in 1939, 1954-57, 1964-66, 1970.

^cMaximum discharge for period of record, 90,000 ft³/s, Oct. 3, 1959, from rating curve extended.

^dMaximum gage height for period of record, 32.60 ft, Oct. 3, 1959.



ARKANSAS RIVER BASIN

07177500 BIRD CREEK NEAR SPERRY, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1987 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: April 1987 to current year.

pH: April 1987 to current year.

WATER TEMPERATURE: April 1987 to current year.

DISSOLVED OXYGEN: April 1987 to current year.

INSTRUMENTATION.--Water-quality monitor since April 1987.

REMARKS.--Interruptions in record were due to malfunction of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, greater than 2,000 microsiemens, Nov. 1, 1992 and Mar. 31, 1996; minimum, 80 microsiemens, Aug. 20, 1989.

pH: Maximum, 8.8 units, Mar. 13, 2002; minimum, 5.7 units Sept. 2, 1987.

WATER TEMPERATURE: Maximum, 35.5°C, July 14-16, 1988; minimum, 0.0°C, several days in winter months.

DISSOLVED OXYGEN: Maximum (observed), 17.2 mg/L, Dec. 29, 1993; minimum, 1.4 mg/L, Sept. 26, 1996.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 517 microsiemens, Apr. 13; minimum, 112 microsiemens, May 9.

pH: Maximum, 8.8 units, Mar. 13; minimum, 7.0 units, June 13, 14.

WATER TEMPERATURE: Maximum, 32.1°C, Aug. 1, 2; minimum 0.7°C, Jan. 4.

DISSOLVED OXYGEN: Maximum, 15.2 mg/L, Jan. 20, 21; minimum, 4.7 mg/L, June 13.

SPECIFIC CONDUCTANCE VIA SATELLITE, in US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	265	265	265	287	284	286	295	293	294	322	319	321
2	266	264	265	287	285	286	295	293	294	323	321	322
3	266	265	265	323	246	280	297	294	295	324	321	323
4	266	265	266	265	188	225	298	296	297	327	317	322
5	266	265	266	275	263	269	298	297	298	320	317	319
6	265	263	264	263	246	255	298	296	297	325	320	322
7	264	263	263	246	241	243	297	296	296	326	323	324
8	264	263	263	395	238	278	299	296	297	326	323	324
9	264	259	263	391	274	300	300	298	299	326	323	325
10	272	252	264	274	270	271	300	299	300	328	325	326
11	283	271	274	276	273	274	299	297	298	329	326	328
12	271	260	268	278	276	277	301	296	297	327	323	325
13	278	258	267	281	278	279	301	299	300	326	324	325
14	270	264	266	283	280	281	303	299	300	327	325	326
15	264	263	264	284	282	283	303	300	301	327	324	325
16	263	262	263	285	283	284	301	291	296	325	321	323
17	281	263	270	286	284	285	390	292	349	324	322	323
18	289	281	285	289	285	287	341	318	324	323	320	321
19	288	283	285	292	288	289	355	333	349	323	320	321
20	284	282	283	293	287	290	352	337	342	326	323	325
21	286	283	284	292	288	290	338	333	336	326	323	324
22	287	284	285	294	292	293	333	326	328	326	323	324
23	293	286	289	296	293	295	330	327	328	326	323	325
24	308	293	301	297	295	296	328	325	326	332	325	327
25	308	296	305	297	294	295	342	326	334	335	330	332
26	296	285	289	300	294	298	328	322	324	334	330	331
27	285	283	284	299	296	297	324	322	323	334	332	333
28	286	284	285	296	293	294	323	319	321	340	332	335
29	286	284	285	295	293	293	323	319	320	343	340	341
30	285	284	285	296	295	295	324	319	322	419	298	348
31	286	284	285	---	---	---	366	321	336	298	155	196
MONTH	308	252	276	395	188	282	390	291	314	419	155	322

ARKANSAS RIVER BASIN

87

07177500 BIRD CREEK NEAR SPERRY, OK--Continued

SPECIFIC CONDUCTANCE VIA SATELLITE, in US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	193	170	177	322	318	320	354	296	333	238	223	230
2	232	193	214	323	316	319	296	286	288	256	238	247
3	241	232	238	324	319	321	286	282	283	260	256	258
4	246	237	241	326	321	324	283	282	282	266	257	262
5	262	246	254	338	321	326	291	282	288	271	266	268
6	284	262	273	345	334	339	293	291	292	273	148	193
7	311	284	297	345	336	340	316	288	291	183	151	163
8	328	311	319	347	342	345	422	316	368	241	183	209
9	318	311	315	348	345	346	417	389	405	305	112	204
10	320	318	319	348	339	342	407	373	382	217	163	189
11	324	320	322	340	336	337	457	407	438	239	213	227
12	329	321	324	337	332	334	504	457	476	274	239	262
13	342	329	336	339	334	336	517	424	465	285	274	281
14	440	342	361	---	---	---	437	395	403	305	282	289
15	485	365	417	---	---	---	396	385	391	316	305	312
16	374	313	344	---	---	---	385	374	380	326	316	321
17	313	311	312	343	340	341	374	362	368	362	138	230
18	315	312	313	342	337	339	362	351	357	210	156	186
19	315	312	314	387	335	349	351	329	337	225	163	178
20	319	313	316	464	387	426	477	325	398	256	225	249
21	319	316	317	402	379	392	341	321	335	260	246	253
22	328	319	324	422	397	412	321	298	306	262	258	260
23	327	324	324	409	378	392	316	161	238	258	252	256
24	326	323	325	431	409	419	244	167	219	263	233	244
25	325	322	323	457	431	437	235	225	232	263	232	251
26	323	319	320	487	437	465	262	235	247	235	229	231
27	321	317	318	488	463	477	288	225	272	235	231	233
28	322	318	320	474	439	455	261	208	235	252	188	232
29	---	---	---	491	441	475	241	213	225	188	147	164
30	---	---	---	441	356	407	223	213	217	186	150	171
31	---	---	---	356	352	353	---	---	---	207	186	197
MONTH	485	170	306	491	316	374	517	161	325	362	112	234

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	218	207	213	265	262	264	285	280	282	295	293	294
2	225	218	222	265	263	264	280	279	280	295	292	293
3	305	225	256	268	265	267	279	278	279	293	291	292
4	282	251	257	269	268	268	280	278	279	291	290	291
5	255	251	253	269	268	269	283	280	281	290	288	289
6	254	226	236	268	267	268	283	281	282	288	287	288
7	254	227	235	268	267	267	283	282	283	290	288	289
8	274	254	263	269	267	268	282	280	282	291	289	290
9	279	270	275	267	264	265	284	280	281	290	289	289
10	---	---	---	267	265	266	281	279	280	290	287	289
11	---	---	---	266	262	265	281	274	278	288	287	287
12	291	254	283	267	262	264	281	280	280	288	287	288
13	274	125	166	267	260	265	280	252	272	289	288	289
14	261	150	208	269	261	266	326	259	298	292	284	288
15	266	214	242	268	267	267	292	286	288	300	288	295
16	223	191	211	269	267	268	288	284	286	299	292	296
17	211	190	201	268	267	267	285	278	280	296	291	293
18	227	210	219	272	267	269	286	279	283	297	292	296
19	223	221	222	276	272	274	289	286	287	307	272	290
20	224	221	223	275	271	273	289	288	289	298	258	286
21	306	223	255	273	271	272	290	286	288	282	246	258
22	249	241	246	274	272	273	290	285	288	309	281	291
23	256	249	253	274	272	273	298	285	288	317	309	314
24	261	256	258	287	272	278	291	285	287	317	312	315
25	263	260	262	287	282	285	307	286	294	312	304	307
26	265	262	263	282	280	281	299	260	270	304	294	298
27	266	263	264	281	279	280	279	260	268	294	292	293
28	266	263	265	281	275	279	304	279	287	292	290	291
29	268	265	267	317	272	285	296	287	292	291	289	290
30	266	264	265	296	282	291	298	295	296	290	288	289
31	---	---	---	294	285	290	296	294	295	---	---	---
MONTH	306	125	242	317	260	272	326	252	284	317	246	292

ARKANSAS RIVER BASIN

07177500 BIRD CREEK NEAR SPERRY, OK--Continued

PH, WH, FIELD VIA SATELLITE, in (STANDARD UNITS), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	7.9	7.8	7.9	7.9	7.7	7.8	7.8	7.7	7.8	7.9	7.7	7.8
2	7.9	7.8	7.8	7.8	7.6	7.7	7.7	7.6	7.7	7.9	7.6	7.8
3	7.9	7.8	7.8	7.7	7.3	7.6	7.7	7.6	7.7	7.8	7.6	7.7
4	7.9	7.8	7.9	7.6	7.2	7.5	7.6	7.6	7.6	8.1	7.6	7.8
5	7.9	7.7	7.8	7.6	7.6	7.6	7.6	7.5	7.6	8.2	7.9	8.0
6	7.9	7.7	7.8	7.6	7.5	7.5	7.6	7.5	7.6	8.2	7.9	8.0
7	7.9	7.8	7.8	7.5	7.4	7.4	7.6	7.6	7.6	8.3	7.9	8.1
8	7.9	7.8	7.8	7.4	7.4	7.4	7.7	7.6	7.7	8.3	7.9	8.1
9	7.9	7.7	7.8	7.6	7.4	7.5	7.7	7.7	7.7	8.4	7.9	8.1
10	7.7	7.6	7.7	7.6	7.6	7.6	7.8	7.7	7.7	8.4	7.9	8.1
11	7.8	7.7	7.7	7.6	7.5	7.6	7.8	7.7	7.7	8.3	7.9	8.0
12	7.8	7.7	7.7	7.6	7.5	7.6	7.8	7.6	7.7	8.3	7.9	8.1
13	7.8	7.7	7.7	7.6	7.5	7.6	7.6	7.6	7.6	8.3	7.9	8.1
14	7.8	7.7	7.7	7.6	7.5	7.6	7.7	7.6	7.6	8.4	7.9	8.1
15	7.8	7.7	7.8	7.6	7.5	7.6	7.7	7.6	7.7	8.3	8.0	8.1
16	7.8	7.7	7.7	7.6	7.5	7.6	7.7	7.5	7.6	8.4	8.0	8.1
17	7.8	7.7	7.7	7.6	7.6	7.6	7.6	7.5	7.5	8.3	8.0	8.1
18	7.8	7.7	7.7	7.7	7.6	7.6	7.6	7.5	7.6	8.4	8.0	8.1
19	7.8	7.7	7.7	7.7	7.6	7.6	7.6	7.5	7.6	8.2	8.0	8.1
20	7.7	7.6	7.7	7.8	7.6	7.7	7.6	7.5	7.6	8.4	8.0	8.1
21	7.7	7.6	7.7	7.9	7.7	7.8	7.7	7.5	7.6	8.4	8.0	8.2
22	7.7	7.6	7.6	7.9	7.8	7.8	7.7	7.5	7.6	8.4	8.0	8.2
23	7.6	7.5	7.6	7.8	7.7	7.8	7.8	7.6	7.6	8.4	7.9	8.1
24	7.6	7.5	7.5	7.8	7.7	7.7	7.8	7.6	7.7	8.1	7.9	8.0
25	7.6	7.5	7.6	7.8	7.7	7.7	7.8	7.6	7.7	8.2	7.9	8.1
26	7.7	7.6	7.6	7.8	7.7	7.8	7.9	7.6	7.7	8.3	8.0	8.1
27	7.7	7.7	7.7	7.8	7.8	7.8	7.9	7.7	7.7	8.3	8.0	8.2
28	7.7	7.7	7.7	7.9	7.8	7.8	7.8	7.7	7.7	8.3	8.0	8.2
29	7.8	7.7	7.7	7.8	7.7	7.8	7.9	7.7	7.8	8.3	8.0	8.1
30	7.8	7.7	7.8	7.8	7.7	7.8	7.9	7.7	7.8	8.1	7.8	8.0
31	7.9	7.8	7.8	---	---	---	7.9	7.7	7.8	7.8	7.7	7.7
MAX	7.9	7.8	7.9	7.9	7.8	7.8	7.9	7.7	7.8	8.4	8.0	8.2
MIN	7.6	7.5	7.5	7.4	7.2	7.4	7.6	7.5	7.5	7.8	7.6	7.7

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
FEBRUARY			MARCH			APRIL			MAY			
1	7.8	7.7	7.7	8.4	8.1	8.2	8.1	7.9	8.1	7.7	7.7	7.7
2	7.8	7.8	7.8	8.4	8.1	8.4	8.1	7.9	8.0	8.0	7.7	7.8
3	7.8	7.8	7.8	8.5	8.3	8.4	8.3	8.0	8.1	7.9	7.8	7.8
4	7.8	7.8	7.8	8.5	8.3	8.4	8.2	8.0	8.2	7.9	7.8	7.9
5	7.8	7.8	7.8	8.6	8.3	8.5	8.2	8.1	8.1	8.0	7.9	7.9
6	7.8	7.8	7.8	8.6	8.5	8.6	8.2	8.0	8.1	7.9	7.4	7.5
7	7.8	7.8	7.8	8.6	8.4	8.6	8.1	7.9	8.0	7.4	7.4	7.4
8	7.9	7.8	7.8	8.5	8.3	8.4	8.0	7.8	7.9	7.6	7.4	7.5
9	7.9	7.9	7.9	8.6	8.3	8.4	8.0	7.9	8.0	7.7	7.4	7.5
10	8.0	7.9	8.0	8.6	8.4	8.5	8.0	7.9	7.9	7.7	7.4	7.6
11	8.0	7.9	8.0	8.7	8.4	8.5	8.0	7.9	7.9	7.7	7.7	7.7
12	7.9	7.9	7.9	8.7	8.4	8.5	8.0	7.8	7.9	7.8	7.7	7.8
13	7.9	7.9	7.9	8.8	8.3	8.6	8.0	7.7	7.8	7.9	7.8	7.8
14	7.9	7.7	7.9	---	---	---	8.1	7.8	7.9	7.9	7.8	7.8
15	7.9	7.7	7.8	---	---	---	8.1	7.8	7.9	7.9	7.8	7.8
16	7.9	7.9	7.9	---	---	---	8.0	7.8	7.9	7.8	7.8	7.8
17	8.0	7.9	7.9	8.6	8.3	8.3	8.1	7.8	7.9	7.8	7.3	7.5
18	8.0	7.9	8.0	8.6	8.3	8.3	8.0	7.6	7.8	7.6	7.5	7.6
19	8.0	7.9	8.0	8.3	8.3	8.3	7.7	7.5	7.6	7.7	7.5	7.6
20	8.0	7.9	8.0	8.3	8.3	8.3	7.6	7.4	7.5	7.8	7.7	7.8
21	8.1	7.9	8.1	8.4	8.2	8.3	7.7	7.5	7.7	7.9	7.8	7.8
22	8.2	8.0	8.1	8.5	8.1	8.3	7.7	7.6	7.6	7.8	7.7	7.8
23	8.2	8.1	8.2	8.3	8.1	8.2	7.6	7.1	7.2	7.7	7.7	7.7
24	8.4	8.1	8.3	8.6	8.2	8.4	7.5	7.1	7.5	7.7	7.7	7.7
25	8.3	8.1	8.2	8.5	8.3	8.4	7.5	7.5	7.5	7.7	7.6	7.7
26	8.4	8.1	8.3	8.4	8.2	8.3	7.6	7.5	7.5	7.8	7.7	7.7
27	8.4	8.1	8.2	8.3	8.2	8.2	7.8	7.5	7.7	7.8	7.6	7.7
28	8.4	8.2	8.3	8.3	8.0	8.2	7.8	7.5	7.6	7.7	7.3	7.7
29	---	---	---	8.2	7.9	8.0	7.8	7.7	7.7	7.4	7.3	7.4
30	---	---	---	8.1	7.8	8.0	7.7	7.7	7.7	7.5	7.4	7.4
31	---	---	---	8.3	7.8	7.9	---	---	---	7.5	7.5	7.5
MAX	8.4	8.2	8.3	8.8	8.5	8.6	8.3	8.1	8.2	8.0	7.9	7.9
MIN	7.8	7.7	7.7	8.1	7.8	7.9	7.5	7.1	7.2	7.4	7.3	7.4

ARKANSAS RIVER BASIN

89

07177500 BIRD CREEK NEAR SPERRY, OK--Continued

PH, WH, FIELD VIA SATELLITE, in (STANDARD UNITS), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	7.6	7.5	7.5	7.6	7.5	7.5	7.6	7.4	7.4	7.6	7.4	7.5
2	7.6	7.5	7.5	7.6	7.5	7.5	7.6	7.4	7.4	7.6	7.4	7.5
3	7.6	7.4	7.5	7.6	7.4	7.5	7.5	7.3	7.4	7.5	7.4	7.5
4	7.7	7.5	7.6	7.6	7.4	7.5	7.5	7.3	7.4	7.5	7.3	7.4
5	7.6	7.5	7.6	7.6	7.4	7.5	7.6	7.3	7.4	7.5	7.3	7.4
6	7.7	7.6	7.6	7.6	7.4	7.5	7.6	7.4	7.4	7.5	7.3	7.4
7	7.7	7.6	7.7	7.6	7.4	7.5	7.6	7.4	7.5	7.5	7.3	7.4
8	7.8	7.6	7.7	7.6	7.4	7.5	7.6	7.4	7.5	7.5	7.4	7.4
9	7.8	7.7	7.7	7.6	7.4	7.5	7.6	7.4	7.5	7.6	7.4	7.5
10	---	---	---	7.6	7.4	7.5	7.6	7.4	7.5	7.6	7.4	7.5
11	---	---	---	7.6	7.4	7.5	7.5	7.4	7.4	7.6	7.4	7.5
12	---	---	---	7.8	7.4	7.7	7.5	7.4	7.4	7.8	7.4	7.6
13	7.4	7.0	7.0	7.8	7.6	7.7	7.4	7.3	7.4	7.8	7.6	7.7
14	7.4	7.0	7.3	7.9	7.6	7.7	7.5	7.4	7.4	7.6	7.6	7.6
15	7.4	7.4	7.4	7.9	7.6	7.7	7.5	7.4	7.4	7.7	7.6	7.7
16	7.5	7.4	7.4	7.8	7.6	7.7	7.6	7.4	7.4	7.7	7.6	7.7
17	7.5	7.4	7.4	7.7	7.5	7.6	7.5	7.4	7.4	7.7	7.6	7.7
18	7.7	7.4	7.6	7.7	7.5	7.6	7.7	7.4	7.5	7.7	7.6	7.7
19	7.7	7.6	7.6	7.7	7.5	7.6	7.6	7.4	7.5	7.7	7.6	7.6
20	7.6	7.6	7.6	7.7	7.4	7.6	7.6	7.4	7.5	7.7	7.6	7.6
21	7.6	7.5	7.6	7.7	7.5	7.6	7.6	7.4	7.4	7.7	7.5	7.6
22	7.7	7.6	7.6	7.7	7.5	7.6	7.5	7.3	7.5	7.7	7.6	7.7
23	7.6	7.5	7.5	7.6	7.5	7.6	7.5	7.3	7.4	7.8	7.6	7.7
24	7.6	7.4	7.5	7.7	7.4	7.5	7.4	7.3	7.3	7.8	7.7	7.7
25	7.6	7.5	7.5	7.7	7.5	7.5	7.6	7.3	7.4	7.8	7.7	7.7
26	7.6	7.5	7.5	7.6	7.4	7.5	7.6	7.4	7.5	7.7	7.6	7.7
27	7.6	7.5	7.5	7.5	7.4	7.5	7.7	7.4	7.5	7.8	7.6	7.7
28	7.6	7.5	7.5	7.6	7.3	7.5	7.7	7.3	7.4	7.7	7.6	7.7
29	7.6	7.5	7.5	7.5	7.4	7.4	7.7	7.4	7.5	7.7	7.6	7.7
30	7.6	7.5	7.6	7.6	7.3	7.4	7.6	7.4	7.5	7.7	7.6	7.6
31	---	---	---	7.5	7.4	7.5	7.6	7.4	7.5	---	---	---
MAX	7.8	7.7	7.7	7.9	7.6	7.7	7.7	7.4	7.5	7.8	7.7	7.7
MIN	7.4	7.0	7.0	7.5	7.3	7.4	7.4	7.3	7.3	7.5	7.3	7.4

WATER TEMPERATURE VIA SATELLITE, in (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	21.6	19.7	20.7	17.1	15.6	16.3	8.4	7.4	8.0	2.5	1.7	2.0
2	21.8	20.0	20.9	17.5	17.1	17.4	9.6	8.2	9.0	2.2	1.4	1.8
3	22.5	20.7	21.5	17.5	16.7	17.3	11.4	9.6	10.6	1.7	0.9	1.3
4	23.2	21.3	22.2	17.5	16.6	17.0	13.8	11.4	12.7	1.6	0.7	1.1
5	23.0	19.8	21.4	17.6	16.5	17.0	15.0	13.8	14.5	3.0	1.3	2.3
6	19.8	17.8	18.6	17.1	16.1	16.6	14.6	12.8	14.0	4.0	2.9	3.4
7	19.2	17.5	18.4	17.2	16.4	17.0	12.8	11.1	11.9	4.0	3.1	3.4
8	19.9	18.1	18.9	16.6	15.7	16.2	11.1	9.8	10.6	4.2	3.0	3.5
9	20.0	19.3	19.6	15.7	14.4	14.8	9.8	8.1	8.9	5.4	3.6	4.5
10	20.1	19.6	19.9	14.6	13.9	14.3	8.1	7.2	7.6	6.4	4.9	5.7
11	19.6	18.6	19.0	14.4	13.7	14.1	7.7	7.2	7.5	6.8	5.7	6.1
12	19.6	18.4	18.9	14.6	14.1	14.4	9.3	7.7	8.6	6.5	5.5	5.9
13	19.4	18.8	19.1	15.6	14.6	15.2	10.0	9.3	9.8	6.4	5.2	5.7
14	19.0	17.7	18.3	16.4	15.6	16.0	10.1	9.4	9.9	6.4	5.4	5.8
15	18.3	16.8	17.5	16.3	15.6	16.1	9.4	8.7	8.9	6.1	5.1	5.5
16	16.8	15.6	16.2	15.7	15.1	15.4	9.6	8.8	9.1	6.1	5.0	5.5
17	16.5	15.1	15.6	15.7	15.2	15.5	9.8	9.1	9.5	5.8	5.2	5.5
18	16.0	15.0	15.5	16.5	15.7	16.1	9.4	8.4	9.0	5.2	4.0	4.6
19	16.9	15.9	16.3	16.6	14.4	15.9	8.4	7.3	8.1	4.6	3.8	4.1
20	17.5	16.5	17.0	14.4	11.6	12.9	7.3	6.6	7.1	4.5	3.7	4.0
21	18.9	17.5	18.2	11.6	10.8	11.2	7.4	6.6	6.9	5.0	3.5	4.1
22	19.4	18.7	19.0	11.9	10.8	11.3	8.3	6.9	7.8	6.0	3.9	4.9
23	20.7	19.4	20.1	13.9	11.9	13.0	7.8	6.1	7.2	7.7	5.8	6.9
24	20.2	18.8	19.9	14.1	13.1	13.7	6.1	4.5	5.5	7.8	6.6	7.2
25	18.8	16.1	17.4	13.1	12.3	12.6	4.6	3.6	4.2	6.8	5.5	6.2
26	16.1	14.3	15.1	12.5	11.8	12.3	3.6	2.8	3.2	6.6	5.2	5.8
27	14.4	13.5	13.9	11.8	9.7	10.8	3.8	2.6	3.1	7.5	5.6	6.5
28	14.1	13.4	13.8	9.7	7.1	8.4	4.4	3.1	3.7	8.8	6.7	7.7
29	14.7	13.7	14.2	7.1	6.5	6.6	4.6	3.6	4.1	8.5	7.4	8.1
30	15.5	14.7	15.1	7.7	6.5	7.0	3.6	2.5	3.2	7.4	4.1	6.1
31	15.6	15.1	15.4	---	---	---	2.7	1.9	2.3	4.3	3.3	3.7
MONTH	23.2	13.4	18.0	17.6	6.5	14.1	15.0	1.9	8.0	8.8	0.7	4.8

ARKANSAS RIVER BASIN

07177500 BIRD CREEK NEAR SPERRY, OK--Continued

WATER TEMPERATURE VIA SATELLITE, in (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	3.9	3.0	3.4	6.1	4.5	5.4	15.6	14.3	15.1	21.6	18.6	20.2
2	4.3	3.0	3.6	5.5	2.6	4.4	14.7	11.6	13.1	20.9	19.0	20.3
3	5.2	3.7	4.3	3.5	2.1	2.7	11.6	10.3	11.1	19.0	17.7	18.5
4	5.2	4.1	4.6	3.8	2.0	2.8	12.2	9.7	11.1	19.9	17.5	18.5
5	5.2	4.2	4.7	5.6	2.7	4.3	13.0	10.4	11.8	21.9	18.4	20.2
6	4.3	4.0	4.2	7.7	5.0	6.6	12.9	11.7	12.1	21.6	20.8	21.2
7	4.9	4.0	4.4	10.0	7.3	8.8	12.1	10.9	11.3	23.6	21.6	22.6
8	5.8	4.1	4.9	12.2	9.8	11.4	13.0	11.0	12.1	23.9	22.5	23.2
9	6.5	5.2	5.9	12.2	9.9	11.3	15.4	12.9	14.1	22.5	19.6	20.7
10	6.7	5.4	6.1	10.4	8.8	9.7	17.9	14.3	16.1	19.6	19.0	19.2
11	5.9	4.9	5.3	9.6	8.6	9.0	18.5	16.1	17.3	20.9	19.0	19.9
12	6.9	4.9	5.8	10.2	8.4	9.1	19.8	17.6	18.7	21.2	19.6	20.7
13	7.5	5.3	6.2	12.1	9.2	10.6	19.8	17.9	18.5	21.2	18.9	20.0
14	6.8	5.6	6.2	---	---	---	19.1	16.3	17.7	22.7	19.3	20.8
15	7.2	6.0	6.6	---	---	---	21.1	17.8	19.4	21.2	20.4	20.8
16	7.6	6.4	6.8	---	---	---	20.5	19.8	20.0	20.8	19.8	20.3
17	7.9	6.7	7.3	10.3	9.7	9.9	22.3	19.3	20.6	20.7	18.4	19.1
18	8.5	7.3	8.0	10.2	9.6	9.9	21.9	21.2	21.4	19.4	18.2	18.8
19	10.7	8.3	9.7	10.8	9.8	10.4	21.3	20.1	20.7	20.2	18.8	19.4
20	11.5	10.4	10.8	12.4	10.7	11.6	21.9	19.7	20.7	20.5	19.4	19.8
21	11.4	10.2	10.8	12.4	10.0	11.3	20.7	18.9	20.0	21.6	19.1	20.4
22	10.6	9.4	10.1	10.6	8.8	9.9	21.3	18.2	19.7	22.3	20.2	21.1
23	10.4	9.3	9.8	11.7	8.7	10.5	19.7	15.6	17.7	21.5	20.8	21.1
24	11.0	9.6	10.3	13.4	10.2	12.0	18.0	16.2	17.4	21.5	20.8	21.1
25	10.1	8.0	9.6	12.7	9.7	11.5	18.7	17.1	17.8	21.0	20.0	20.6
26	8.0	4.9	6.5	10.5	9.1	9.7	17.4	15.6	16.8	22.9	19.7	21.2
27	5.4	3.9	4.6	12.2	9.3	10.9	17.7	15.3	16.3	23.8	21.9	22.7
28	5.8	3.6	4.6	14.0	11.0	12.7	16.8	15.5	16.2	22.8	20.2	22.1
29	---	---	---	16.0	13.4	15.0	17.9	16.2	17.2	21.8	19.9	20.9
30	---	---	---	15.9	14.4	15.4	19.3	17.9	18.7	24.7	21.8	23.2
31	---	---	---	15.9	14.2	14.9	---	---	---	27.2	23.5	25.1
MONTH	11.5	3.0	6.6	16.0	2.0	9.7	22.3	9.7	16.7	27.2	17.5	20.8
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	28.4	25.0	26.8	28.4	26.4	27.5	32.1	29.4	30.7	28.9	27.0	28.0
2	29.1	26.5	27.8	26.8	26.0	26.4	32.1	29.8	30.9	29.3	27.3	28.3
3	29.5	27.2	28.2	27.2	26.0	26.5	31.4	29.5	30.5	29.5	27.7	28.6
4	28.3	25.4	27.1	28.7	26.0	27.3	31.3	29.4	30.3	29.6	27.6	28.6
5	25.4	23.5	24.9	29.6	26.7	28.2	31.6	29.5	30.5	29.2	27.6	28.4
6	25.5	23.5	24.5	29.9	27.7	28.8	31.1	29.2	30.1	29.1	27.4	28.2
7	26.2	24.0	25.1	30.5	28.4	29.5	30.9	29.2	30.0	28.9	27.1	28.0
8	26.7	24.7	25.6	30.6	28.2	29.4	30.2	28.4	29.3	27.9	26.8	27.5
9	27.3	25.2	26.1	31.2	28.5	29.8	29.8	27.5	28.7	28.0	26.3	27.2
10	---	---	---	31.8	29.4	30.5	29.7	27.8	28.7	28.0	26.4	27.2
11	---	---	---	30.3	28.1	29.6	29.8	28.2	29.0	28.1	26.2	27.2
12	27.7	25.6	26.6	29.1	27.9	28.5	28.6	27.9	28.3	27.4	26.2	26.8
13	26.7	23.2	24.2	28.9	27.5	28.1	27.9	25.0	26.6	27.3	25.8	26.6
14	24.5	23.3	23.9	29.3	27.1	28.2	27.6	25.0	26.2	26.5	25.2	26.0
15	25.3	23.5	24.4	29.6	27.5	28.5	28.2	26.0	27.0	26.0	24.8	25.4
16	25.9	24.1	24.8	29.6	27.7	28.6	28.2	26.9	27.5	25.5	24.6	25.1
17	25.6	23.8	24.8	28.5	27.7	28.1	28.0	26.9	27.4	26.5	24.7	25.6
18	25.5	24.3	25.1	30.3	27.4	28.8	29.1	26.9	28.0	27.4	25.4	26.3
19	26.7	24.0	25.4	30.9	28.6	29.8	30.0	27.5	28.8	26.6	24.2	25.4
20	28.7	25.6	27.1	31.3	29.1	30.2	29.9	28.1	29.0	25.3	23.2	24.1
21	28.6	26.7	27.7	31.3	29.2	30.2	30.1	28.3	29.1	25.0	23.0	23.9
22	29.5	26.5	27.9	31.3	29.2	30.3	30.1	28.0	29.1	24.2	22.5	23.4
23	29.5	26.7	28.0	30.8	28.9	29.9	30.4	28.5	29.4	23.4	21.6	22.5
24	29.2	26.7	27.9	31.1	28.6	29.7	28.7	26.8	27.9	23.2	21.4	22.2
25	29.9	26.9	28.3	30.6	28.2	29.4	29.2	26.3	27.6	23.3	21.4	22.3
26	30.1	27.5	28.7	31.5	28.8	30.1	29.2	26.8	28.1	23.8	21.9	22.8
27	30.5	27.7	29.0	31.4	29.2	30.3	29.7	27.4	28.4	23.6	22.2	22.8
28	30.9	28.2	29.6	29.9	28.3	29.5	29.2	27.1	28.1	24.1	22.0	23.1
29	30.7	28.9	29.7	28.3	27.2	27.7	28.8	27.0	27.8	25.0	23.1	24.0
30	29.4	28.1	28.7	30.1	26.7	28.4	28.4	26.7	27.5	25.2	23.8	24.5
31	---	---	---	31.0	28.3	29.6	28.6	26.6	27.5	---	---	---
MONTH	30.9	23.2	26.7	31.8	26.0	28.9	32.1	25.0	28.6	29.6	21.4	25.7

ARKANSAS RIVER BASIN

91

07177500 BIRD CREEK NEAR SPERRY, OK--Continued

OXYGEN DISSOLVED VIA SATELLITE, in (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	8.6	8.0	8.3	9.4	8.5	8.9	11.3	10.7	11.0	---	---	---
2	8.7	8.0	8.4	8.8	7.8	8.2	11.0	10.3	10.7	---	---	---
3	8.5	7.8	8.2	8.5	6.7	8.1	10.5	9.6	10.2	---	---	---
4	8.3	7.7	8.0	8.3	6.7	7.9	9.7	9.0	9.4	---	---	---
5	8.2	7.5	7.8	8.2	7.9	8.1	9.1	8.4	8.8	15.1	13.7	14.5
6	9.1	8.1	8.6	7.9	7.7	7.9	8.9	8.4	8.6	14.6	13.2	14.0
7	9.0	8.5	8.7	7.7	7.4	7.6	9.6	8.7	9.2	14.6	13.2	13.9
8	8.9	8.3	8.6	8.0	7.4	7.6	10.0	9.4	9.7	14.9	13.3	14.1
9	8.7	8.1	8.3	8.9	8.0	8.4	10.3	9.6	10.0	15.1	13.2	14.2
10	8.1	7.8	7.9	9.1	8.8	9.0	---	---	---	14.5	12.5	13.6
11	8.6	7.9	8.3	9.3	9.1	9.2	---	---	---	14.0	12.4	13.2
12	8.8	8.3	8.6	9.5	9.1	9.3	---	---	---	14.1	12.4	13.4
13	8.6	8.1	8.3	9.5	8.8	9.2	---	---	---	14.3	12.8	13.6
14	9.0	8.1	8.6	9.4	8.6	9.1	---	---	---	14.3	12.8	13.5
15	9.1	8.6	8.8	9.3	8.8	9.0	---	---	---	14.2	12.8	13.5
16	9.5	8.8	9.2	9.5	8.9	9.2	---	---	---	14.4	13.1	13.8
17	9.5	9.0	9.3	9.8	8.9	9.4	---	---	---	14.4	13.0	13.7
18	9.6	9.1	9.4	9.5	8.8	9.2	---	---	---	14.7	13.0	13.8
19	9.4	8.9	9.2	9.4	8.8	9.1	---	---	---	14.6	13.5	14.1
20	9.3	8.8	9.1	10.3	9.1	9.8	---	---	---	15.2	13.8	14.5
21	9.2	8.2	8.7	10.8	10.1	10.5	---	---	---	15.2	13.9	14.6
22	8.7	8.1	8.4	10.8	10.1	10.5	---	---	---	15.1	13.6	14.4
23	8.4	6.9	7.9	10.4	9.2	9.9	---	---	---	14.5	12.5	13.6
24	8.0	6.9	7.5	9.4	8.8	9.1	---	---	---	13.0	12.2	12.7
25	8.5	7.3	7.9	9.6	8.8	9.2	---	---	---	13.8	12.3	13.2
26	9.3	8.4	8.8	10.0	9.4	9.7	---	---	---	14.6	13.2	14.0
27	9.7	9.2	9.5	10.2	9.6	9.9	---	---	---	14.6	13.3	14.0
28	10.0	9.4	9.7	11.0	10.2	10.6	---	---	---	14.1	12.2	13.4
29	9.9	9.3	9.6	11.5	10.9	11.3	---	---	---	13.1	11.7	12.4
30	9.8	9.1	9.4	11.4	11.1	11.3	---	---	---	13.2	11.7	12.3
31	9.6	8.9	9.2	---	---	---	---	---	---	13.8	12.1	13.2
MONTH	10.0	6.9	8.7	11.5	6.7	9.2	11.3	8.4	9.7	15.2	11.7	13.7
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	14.5	13.8	14.2	13.5	12.3	13.1	10.6	9.4	10.2	8.7	8.0	8.4
2	14.4	14.3	14.3	12.8	12.3	12.6	10.5	9.6	10.0	8.4	8.0	8.3
3	14.6	14.4	14.5	13.7	12.8	13.5	12.0	10.5	11.4	8.9	8.4	8.7
4	14.7	14.4	14.6	14.3	13.6	14.1	12.1	11.3	11.8	9.3	8.9	9.1
5	14.6	14.5	14.6	14.3	13.0	13.7	11.9	11.2	11.7	9.5	8.4	9.1
6	14.7	14.6	14.6	13.4	12.2	12.9	11.5	10.7	11.2	8.4	6.1	7.3
7	14.9	14.7	14.9	12.6	11.5	12.2	11.2	10.6	10.9	7.4	7.1	7.3
8	15.1	14.7	14.9	11.5	10.3	11.1	10.6	9.9	10.1	7.5	7.2	7.4
9	14.8	14.3	14.5	11.2	10.3	10.7	10.2	9.8	10.0	8.0	5.9	7.6
10	14.3	14.0	14.1	12.0	10.6	11.5	10.0	9.1	9.7	8.9	8.0	8.6
11	14.3	13.8	14.1	12.5	11.4	12.0	9.6	8.8	9.2	8.9	8.6	8.8
12	13.9	13.2	13.7	12.5	11.4	12.0	9.1	8.1	8.7	8.8	8.6	8.6
13	13.3	12.5	13.1	12.7	10.6	11.9	9.1	7.7	8.3	9.4	8.8	9.1
14	12.5	11.8	12.2	---	---	---	10.2	8.3	9.3	9.2	8.8	9.0
15	11.9	11.6	11.8	---	---	---	9.8	8.3	9.2	9.4	8.8	9.1
16	11.9	11.7	11.8	---	---	---	8.9	7.5	8.3	9.3	8.5	9.1
17	11.9	11.6	11.8	---	---	---	9.5	7.7	8.6	8.6	6.9	7.8
18	11.9	11.3	11.6	---	---	---	8.7	7.5	8.2	9.3	8.4	9.0
19	11.5	10.7	11.1	---	---	---	8.4	7.3	7.9	9.2	8.8	9.0
20	11.0	10.6	10.8	---	---	---	7.9	7.3	7.6	9.0	8.4	8.7
21	11.2	10.7	11.0	---	---	---	8.6	7.9	8.2	9.3	8.4	8.9
22	11.6	10.9	11.2	---	---	---	8.7	8.2	8.4	9.5	8.4	9.0
23	11.9	11.3	11.6	---	---	---	8.2	6.1	7.3	9.6	9.1	9.3
24	11.8	11.1	11.5	---	---	---	8.4	6.4	7.4	---	---	---
25	11.6	11.0	11.3	---	---	---	8.6	8.4	8.5	---	---	---
26	12.4	11.0	11.9	---	---	---	9.0	8.5	8.7	---	---	---
27	13.5	12.0	12.9	---	---	---	9.3	8.3	9.0	---	---	---
28	14.0	12.9	13.5	---	---	---	9.2	8.3	8.8	---	---	---
29	---	---	---	11.3	9.4	10.6	9.3	9.0	9.2	8.1	7.4	7.9
30	---	---	---	9.8	8.8	9.4	9.0	8.6	8.8	7.9	7.3	7.7
31	---	---	---	11.0	8.9	10.0	---	---	---	7.5	7.0	7.3
MONTH	15.1	10.6	12.9	14.3	8.8	12.0	12.1	6.1	9.2	9.6	5.9	8.5

ARKANSAS RIVER BASIN

07177500 BIRD CREEK NEAR SPERRY, OK--Continued

OXYGEN DISSOLVED VIA SATELLITE, in (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	7.4	6.7	7.1	7.0	6.5	6.8	8.1	6.2	7.0	8.1	7.1	7.6
2	7.3	6.4	6.8	7.6	6.9	7.3	7.2	5.9	6.6	7.9	6.7	7.4
3	6.9	5.9	6.5	7.9	7.2	7.5	7.1	6.1	6.6	8.0	6.7	7.4
4	7.1	5.9	6.7	8.1	7.1	7.6	7.2	6.2	6.7	7.8	6.6	7.3
5	7.2	6.7	6.9	7.9	6.9	7.4	7.2	6.3	6.7	8.0	7.0	7.5
6	7.7	7.0	7.4	7.8	6.7	7.2	7.2	6.3	6.7	8.2	7.1	7.6
7	7.8	7.2	7.5	7.7	6.6	7.2	7.1	6.3	6.7	8.1	7.2	7.6
8	7.6	6.8	7.2	7.6	6.6	7.1	7.4	6.4	6.9	8.1	7.2	7.6
9	7.2	6.4	6.8	7.7	6.6	7.1	7.5	6.5	7.0	8.4	7.4	7.8
10	---	---	---	7.5	6.5	6.9	7.4	6.5	6.9	8.3	7.3	7.8
11	---	---	---	7.3	6.5	6.9	7.0	6.4	6.7	8.1	7.3	7.7
12	---	---	---	7.5	6.5	7.0	7.1	6.0	6.7	7.6	6.9	7.3
13	5.8	4.7	5.1	7.9	6.4	7.2	7.5	6.6	7.0	7.4	6.7	7.1
14	6.3	5.4	6.0	7.8	6.3	7.1	7.4	7.0	7.2	7.1	6.8	6.9
15	6.3	6.2	6.3	8.2	6.1	7.2	7.6	6.9	7.2	7.6	6.9	7.2
16	6.2	6.0	6.1	8.1	6.3	7.2	7.7	6.8	7.3	7.8	7.0	7.4
17	6.1	5.7	5.9	7.9	6.4	7.0	7.5	6.9	7.2	7.8	7.2	7.5
18	7.6	5.6	6.9	8.1	6.5	7.3	8.0	6.8	7.4	7.6	7.0	7.3
19	7.6	7.3	7.5	8.1	6.4	7.1	7.7	6.8	7.2	7.3	6.9	7.1
20	7.3	7.1	7.2	8.1	6.2	7.1	7.6	6.6	7.1	7.9	7.2	7.5
21	7.1	6.6	6.9	7.8	6.4	7.0	7.6	6.7	7.1	8.2	7.6	7.8
22	7.4	7.0	7.2	7.8	6.0	7.0	7.7	6.5	7.0	8.5	7.6	8.0
23	7.3	6.9	7.1	8.0	6.0	6.9	7.6	6.6	7.1	8.9	7.0	8.1
24	7.4	6.8	7.1	7.5	6.1	6.9	7.2	6.7	7.0	8.9	7.8	8.3
25	7.3	6.8	7.0	8.1	6.4	7.2	7.9	6.9	7.3	8.8	8.1	8.4
26	7.2	6.6	6.9	7.5	5.9	6.8	7.9	7.1	7.5	8.6	8.0	8.3
27	7.1	6.6	6.8	7.8	5.7	6.7	8.3	6.7	7.6	8.7	7.9	8.3
28	7.1	6.4	6.7	7.5	5.8	6.5	8.3	6.6	7.4	8.6	7.7	8.2
29	7.0	6.4	6.7	7.7	6.3	6.9	8.3	7.0	7.6	8.5	7.8	8.2
30	7.2	6.5	6.9	7.8	6.2	7.1	8.3	7.2	7.7	8.3	7.3	8.0
31	---	---	---	8.0	6.4	7.2	8.2	7.1	7.7	---	---	---
MONTH	7.8	4.7	6.8	8.2	5.7	7.1	8.3	5.9	7.1	8.9	6.6	7.7



07185000 Neosho River near Commerce

ARKANSAS RIVER BASIN

07177650 FLAT ROCK CREEK AT CININNATI AVENUE AT TULSA, OK.

LOCATION.--Lat 36°12'55", long 95°59'42", in SE 1/4 NE 1/4 sec.14, T.20 N., R.12 E., Tulsa County, Hydrologic Unit 11070107, near right upstream abutment of Cincinnati Avenue bridge, 0.5 mi north of Cincinnati Avenue-36th Street North intersection, 2.0 mi south of Turley, and at mile 5.6.

DRAINAGE AREA.--8.2 mi².

PERIOD OF RECORD.--December 1987 to current year.

GAGE.--Water-stage recorder. Datum of gage is 615.56 ft above sea level.

REMARKS.--Records poor. U.S. Geological Survey satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s:

Date	Time	Discharge (ft ³ /s)		Gage height (ft)		Date	Time	Discharge (ft ³ /s)		Gage height (ft)		
No peak greater than base discharge.												
DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.22	e0.65	3.8	e0.63	6.4	0.99	0.34	0.81	e0.50	0.50	0.00	0.46
2	0.21	e0.62	e1.5	e0.60	2.8	1.6	0.37	0.73	e0.40	0.48	0.00	0.47
3	0.20	8.4	e1.2	e0.56	1.8	1.8	0.31	0.70	e0.30	0.33	0.00	0.50
4	e0.18	3.6	e1.1	e0.51	1.1	e2.6	0.32	0.61	e1.5	0.28	0.00	0.51
5	e0.17	1.5	e1.2	e1.3	1.6	2.7	0.33	0.56	5.0	0.26	0.00	0.31
6	e0.15	e1.0	e1.0	e0.62	2.7	3.2	0.32	0.68	4.5	1.0	0.00	0.16
7	e0.13	e0.97	e0.97	e0.60	2.7	2.0	5.7	0.51	2.5	0.89	0.00	0.07
8	e0.12	e0.99	e0.95	e0.59	1.6	1.8	37	0.56	e1.2	0.48	0.00	0.16
9	3.2	e0.96	e0.92	e0.58	1.6	1.7	7.9	5.4	e1.0	0.37	0.00	0.11
10	12	e0.93	e0.88	0.50	1.0	0.99	3.7	1.5	e0.80	0.33	0.00	0.14
11	3.5	e0.90	2.0	0.49	1.2	1.1	2.1	0.82	e0.32	0.29	0.00	0.15
12	1.6	e0.87	9.8	0.52	1.1	0.79	1.7	0.79	e10	0.32	0.00	0.23
13	5.7	e0.85	13	0.60	0.53	0.49	1.6	0.66	73	1.4	e73	0.29
14	e0.99	e0.82	13	0.56	0.47	0.54	1.9	0.50	e6.5	0.39	11	0.60
15	e0.98	e0.79	10	0.61	0.84	0.47	1.7	0.77	e3.1	0.35	0.44	0.29
16	e0.97	e0.75	22	0.63	0.56	0.39	1.8	0.63	e7.1	0.20	0.19	0.27
17	e0.99	e0.96	14	0.59	0.62	0.38	1.7	85	e3.0	0.21	0.08	0.26
18	e1.0	3.2	5.3	0.62	0.62	1.2	1.6	5.8	e2.0	0.34	0.04	0.23
19	e0.95	3.4	e1.7	0.66	1.2	19	1.6	1.8	e1.8	0.21	0.04	1.6
20	e0.93	1.0	e1.2	0.62	0.96	7.9	1.4	e0.40	e1.5	0.19	0.04	0.22
21	e0.90	e0.95	e1.0	0.67	0.76	2.8	1.6	e0.30	e1.4	0.18	0.04	0.21
22	e0.87	e0.91	e0.98	0.70	0.67	1.4	1.4	e0.30	e1.3	0.17	0.12	0.21
23	e0.85	1.4	e0.95	0.92	0.54	1.1	3.3	e0.40	e1.2	0.14	0.28	0.22
24	e0.83	2.5	e0.90	0.76	0.40	1.2	1.7	e0.80	e1.1	0.14	0.59	0.23
25	e0.80	e0.97	e0.88	0.70	0.30	1.6	1.1	e0.50	e1.0	0.14	2.2	0.24
26	e0.78	e0.99	e0.86	0.71	0.39	1.0	1.4	e0.40	e0.90	0.13	0.75	0.25
27	e0.76	e1.0	e0.84	0.73	e0.50	0.79	1.7	e0.40	e0.85	0.16	0.44	0.32
28	e0.74	7.0	e0.80	0.77	0.61	0.60	1.4	e3.0	e0.75	0.17	0.46	0.34
29	e0.72	9.2	e0.75	1.0	---	0.47	1.0	e2.8	0.25	0.50	0.44	0.36
30	e0.70	10	e0.71	108	---	0.38	0.88	e1.5	0.23	0.16	0.42	0.38
31	e0.68	---	e0.67	47	---	0.37	---	e1.0	---	0.06	0.42	---
TOTAL	42.82	68.08	114.86	174.35	35.57	63.35	88.87	120.63	135.00	10.77	90.99	9.79
MEAN	1.381	2.269	3.705	5.624	1.270	2.044	2.962	3.891	4.500	0.347	2.935	0.326
MAX	12	10	22	108	6.4	19	37	85	73	1.4	73	1.6
MIN	0.12	0.62	0.67	0.49	0.30	0.37	0.31	0.30	0.23	0.06	0.00	0.07
AC-FT	85	135	228	346	71	126	176	239	268	21	180	19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2002, BY WATER YEAR (WY)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	2.566	6.516	6.457	5.815	6.187	14.75	12.71	16.71	8.089	1.469	2.462	1.477			
MAX	19.2	31.1	23.0	33.0	16.1	47.8	39.6	59.2	55.7	8.28	17.7	6.54			
(WY)	1999	1997	1988	1998	2001	1988	1999	2000	1995	1994	1997	1993			
MIN	0.12	0.010	0.099	0.14	0.009	0.068	0.16	0.21	0.000	0.044	0.006	0.003			
(WY)	1993	1996	1996	1996	1996	1996	1996	1988	1988	1991	2000	2000			

e Estimated

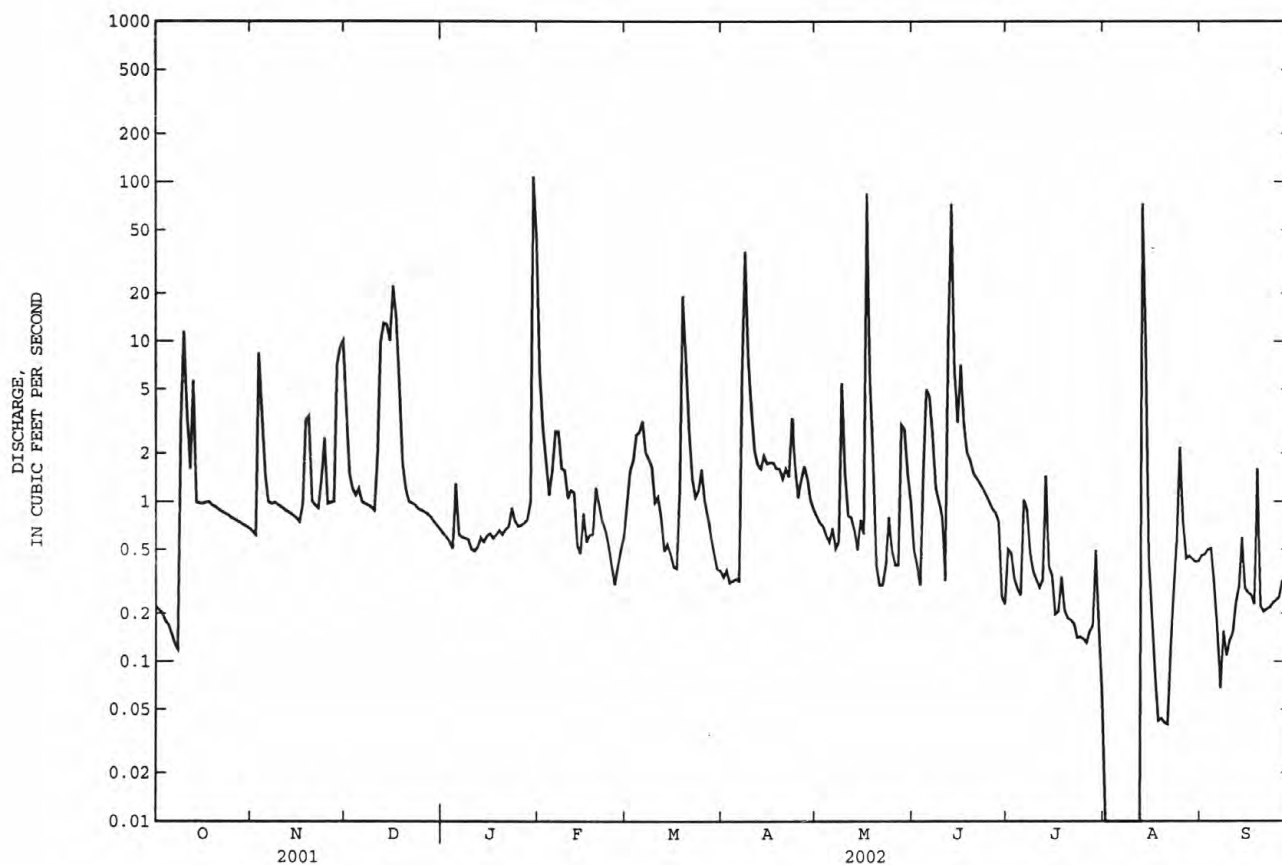
ARKANSAS RIVER BASIN

95

07177650 FLAT ROCK CREEK AT CINCINNATI AVENUE AT TULSA, OK.--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1988 - 2002
ANNUAL TOTAL	1423.61	955.08	
ANNUAL MEAN	3.900	2.617	6.992
HIGHEST ANNUAL MEAN			15.3 1995
LOWEST ANNUAL MEAN			0.56 1996
HIGHEST DAILY MEAN	188 May 30	108 Jan 30	1480 May 6 2000
LOWEST DAILY MEAN	0.00 at times	0.00 Aug 1-12	0.00 at times
ANNUAL SEVEN-DAY MINIMUM	0.03 Apr 27	0.00 Aug 1	0.00 May 13 1988
MAXIMUM PEAK FLOW		469 May 17	8290 May 6 2000
MAXIMUM PEAK STAGE		6.99 May 17	^a 16.50 May 6 2000
ANNUAL RUNOFF (AC-FT)	2820	1890	5070
10 PERCENT EXCEEDS	5.5	3.4	7.9
50 PERCENT EXCEEDS	0.83	0.77	0.70
90 PERCENT EXCEEDS	0.08	0.17	0.00

^aFrom high-water mark.



ARKANSAS RIVER BASIN

07177800 COAL CREEK AT TULSA, OK

LOCATION.--Lat 36°11'40", long 95°54'50", in SE 1/4 SW 1/4 sec.22, T.20 N., R.13 E., Tulsa County, Hydrologic Unit 11070107, near right downstream abutment of bridge on State Highway 11, .2 mile Northwest of intersection of SH 11 and Apache Street in Tulsa, and at mile 4.1.

DRAINAGE AREA.--7.53 mi².

PERIOD OF RECORD.--January 29, 1988 to current year.

GAGE.--Water-stage recorder. Datum of gage is 596.84 ft above sea level.

REMARKS.--Records fair except for estimated periods, which are poor. U.S. Geological Survey satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 17	0650	1,010	9.29	Jun 12	2335	1,740	10.56

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.26	2.0	2.5	e2.4	6.0	2.7	2.1	2.1	3.0	10	0.98	0.60
2	0.19	2.1	3.9	e2.4	4.1	7.1	2.2	1.8	2.5	2.5	0.62	0.58
3	0.12	96	3.2	e2.3	3.4	8.7	1.9	1.9	2.2	2.3	0.68	0.63
4	0.14	3.3	2.8	e2.5	2.9	11	1.8	1.8	7.1	1.2	0.62	0.51
5	0.25	1.9	2.7	e2.3	6.6	7.7	1.8	1.5	21	0.94	0.53	0.60
6	0.37	1.4	e2.5	e2.3	7.1	4.6	1.7	10	4.3	1.0	0.57	0.59
7	0.32	1.3	e2.4	e2.1	4.5	3.5	53	1.7	2.4	1.7	0.93	0.54
8	0.31	1.8	e2.4	2.0	3.2	3.1	25	1.4	2.1	1.2	0.44	0.56
9	44	1.5	e2.4	2.2	2.9	6.4	6.6	50	4.0	0.89	0.42	0.53
10	61	1.2	e2.4	2.1	2.5	2.5	4.0	3.4	1.8	2.5	0.68	0.50
11	4.1	1.3	e2.6	1.8	2.7	2.6	3.5	2.6	1.4	3.7	0.63	0.49
12	3.9	1.6	e2.0	1.9	2.5	2.5	3.0	4.2	77	1.2	4.7	0.51
13	19	1.7	e9.9	2.0	2.4	2.3	5.1	3.7	44	1.7	74	0.56
14	1.5	2.2	e7.5	1.9	2.4	2.3	2.9	1.8	4.9	3.6	42	11
15	1.0	2.3	e4.0	1.8	2.4	2.1	2.5	3.3	9.6	1.5	2.9	1.0
16	1.5	2.7	e120	1.9	2.5	2.0	3.3	2.0	14	0.80	2.0	0.86
17	1.9	2.8	e30	1.8	2.1	2.1	2.5	126	3.2	0.69	1.7	0.76
18	2.1	13	e6.2	2.0	2.0	31	2.1	6.5	2.6	1.1	1.3	0.49
19	2.2	34	e4.0	2.9	25	34	18	4.3	2.2	0.73	1.1	31
20	2.2	2.3	e3.2	2.3	3.3	6.6	4.0	4.4	1.9	0.61	1.1	1.6
21	2.5	1.7	e2.5	2.0	2.6	4.2	2.4	3.2	1.6	0.44	0.88	1.3
22	2.5	1.6	e2.4	2.3	2.3	3.5	2.0	3.4	1.5	0.40	0.82	0.79
23	2.6	7.4	e2.3	6.7	2.1	3.2	48	5.0	1.3	0.37	0.86	0.69
24	2.5	4.1	e2.2	3.4	2.1	7.1	4.1	11	1.2	0.36	2.6	0.71
25	2.3	1.7	e2.3	3.0	2.3	6.3	3.0	2.8	1.3	0.42	18	0.73
26	2.2	1.8	e2.2	2.8	2.3	2.7	10	2.5	1.2	0.38	1.1	0.65
27	1.8	2.1	e2.1	2.0	2.4	2.6	5.4	23	1.3	0.32	0.82	0.49
28	1.6	3.4	e2.1	1.7	2.4	2.5	2.9	48	1.4	0.31	0.68	0.54
29	1.8	4.7	e2.1	12	---	2.5	2.4	7.6	1.2	35	0.65	0.54
30	2.3	3.9	e2.3	128	---	2.2	2.3	4.6	1.4	1.6	0.61	0.49
31	2.1	---	e2.2	23	---	2.2	---	3.6	---	0.95	0.61	---
TOTAL	170.56	208.8	259.3	229.8	109.0	183.8	229.5	349.1	224.6	80.41	165.53	60.84
MEAN	5.502	6.960	8.365	7.413	3.893	5.929	7.650	11.26	7.487	2.594	5.340	2.028
MAX	61	96	120	128	25	34	53	126	77	35	74	31
MIN	0.12	1.2	2.1	1.7	2.0	2.0	1.7	1.4	1.2	0.31	0.42	0.49
AC-FT	338	414	514	456	216	365	455	692	445	159	328	121

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2002, BY WATER YEAR (WY)

	MEAN	MAX	MIN	WY
1988	7.449	33.6	1.11	1993
1989	8.634	24.9	0.55	1996
1990	7.570	20.3	0.37	1997
1991	6.189	13.3	0.32	1997
1992	6.279	15.2	0.96	1996
1993	11.68	33.2	1.71	1992
1994	11.72	34.9	1.62	1989
1995	15.34	46.3	2.86	1988
1996	10.64	42.1	1.79	1988
1997	7.038	24.8	0.29	1991
1998	4.885	18.7	0.75	1991
1999	6.213	18.0	1.81	2000

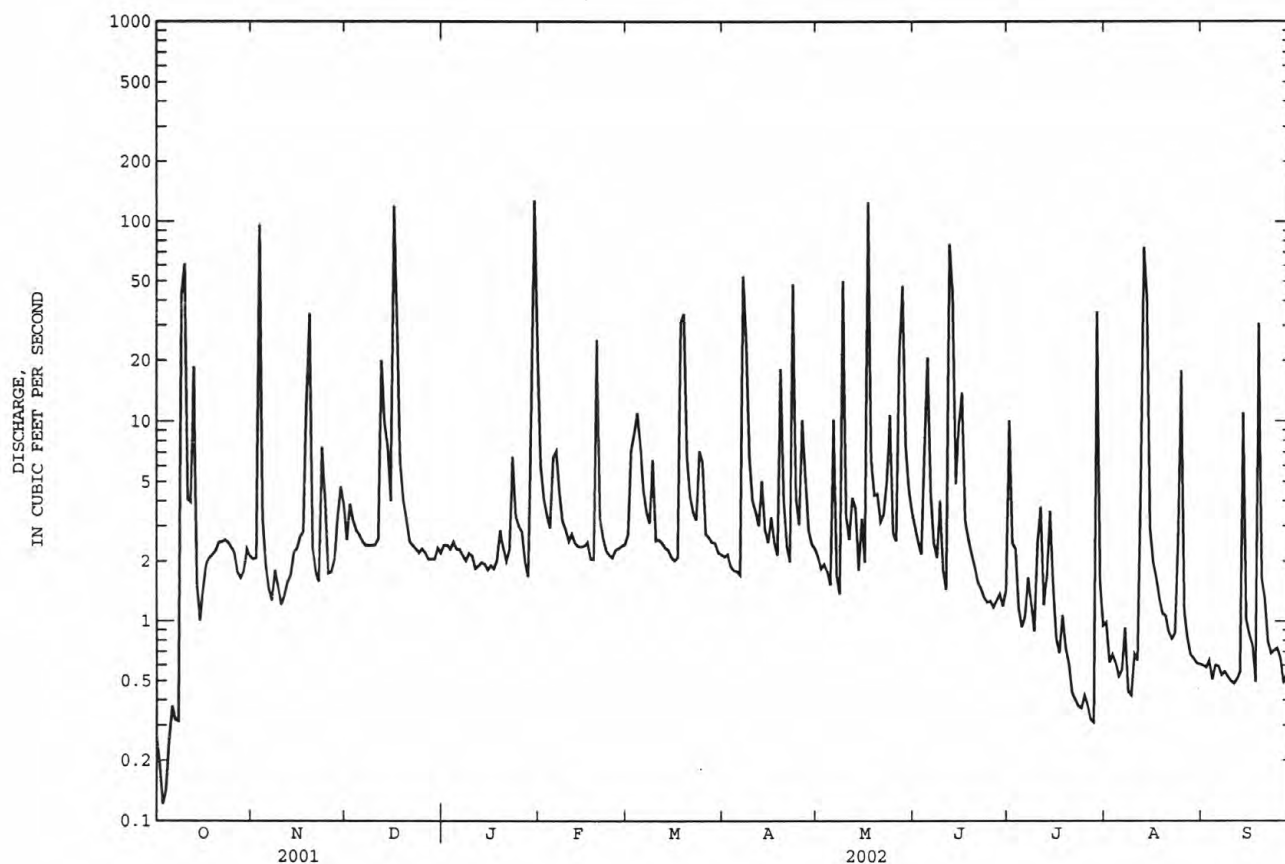
e Estimated

ARKANSAS RIVER BASIN

97

07177800 COAL CREEK AT TULSA, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1988 - 2002
ANNUAL TOTAL	2569.10	2271.24	
ANNUAL MEAN	7.039	6.223	8.681
HIGHEST ANNUAL MEAN			15.8 1999
LOWEST ANNUAL MEAN			3.60 1996
HIGHEST DAILY MEAN	189 May 30	128 Jan 30	782 Oct 5 1998
LOWEST DAILY MEAN	0.10 Sep 4	0.12 Oct 3	0.00 Jul 30 1991
ANNUAL SEVEN-DAY MINIMUM	0.15 Aug 30	0.24 Oct 1	0.00 Jul 30 1991
MAXIMUM PEAK FLOW		1740 Jun 12	5190 Jun 23 1995
MAXIMUM PEAK STAGE		10.56 Jun 12	14.18 Jun 23 1995
ANNUAL RUNOFF (AC-FT)	5100	4510	6290
10 PERCENT EXCEEDS	11	10	16
50 PERCENT EXCEEDS	2.3	2.3	2.2
90 PERCENT EXCEEDS	0.31	0.60	0.30



ARKANSAS RIVER BASIN

07178000 BIRD CREEK NEAR OWASSO, OK

LOCATION.--Lat 36°14'54", long 95°52'01", in NW 1/4 NW 1/4 sec.6, T.20 N., R.14 E., Tulsa County, Hydrologic Unit 11070107, at bridge on Mingo Road 1.4 mi upstream from Mingo Creek, 1.5 mi downstream from Coal Creek, 2 mi southwest of Owasso, and at mile 14.1.

DRAINAGE AREA.--1,022 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1935 to March 1939, April 1987 to current year.

REVISED RECORDS.--WSP 1311: Drainage area. WRD OK-94-1; 1993 (M).

GAGE.--Water-stage recorder. Datum of gage is 560.17 ft above sea level. Prior to Oct. 1, 1939, gage at same site and datum 1.14 ft lower.

REMARKS.--No estimated daily discharge. Records good. Flow slightly regulated since 1958 by Bluestem Lake (capacity 17,000 acre-ft) and since March 1977 by Birch Lake (capacity 19,200 acre-ft). Flow regulated since August 20, 1989 by Skiatook Lake (capacity 322,300 acre-ft) when conservation pool was first reached. U.S. Geological Survey satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Peak stages, 34.0 ft, Oct. 25, 1908; 28.5 ft, Apr. 15, 1927; 26.3 ft, Apr. 15, 1929; 26.2 ft, June 1935, from information provided by U.S. Army Corps of Engineers.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	221	114	113	86	1450	96	144	425	274	206	267	195
2	221	117	116	86	483	114	198	390	218	213	228	192
3	220	565	115	85	261	113	195	322	216	204	211	189
4	220	1080	117	86	176	119	193	281	308	192	203	187
5	219	417	118	90	142	137	174	251	387	187	200	196
6	226	189	118	89	145	137	169	1340	530	185	208	194
7	220	105	118	88	148	129	233	851	490	183	208	193
8	216	100	116	87	164	125	866	346	368	183	205	192
9	283	122	115	89	159	126	917	1620	315	204	203	191
10	512	113	112	91	134	114	495	1610	284	207	201	189
11	327	107	110	90	111	111	286	644	261	206	204	188
12	268	103	128	87	98	108	202	442	265	210	199	189
13	323	102	127	85	88	105	206	381	5140	218	254	188
14	244	101	131	85	95	106	223	334	2740	269	711	223
15	227	101	123	76	112	102	204	309	951	220	272	206
16	219	100	254	74	108	99	190	215	834	210	229	206
17	146	100	303	71	106	98	183	3660	1260	208	218	204
18	119	104	153	72	106	133	175	3160	744	206	218	210
19	119	164	118	74	146	282	189	870	429	205	212	317
20	118	121	108	73	131	374	537	552	272	204	207	312
21	118	112	101	72	117	221	466	428	274	202	203	526
22	116	108	98	73	111	154	299	362	317	202	202	335
23	101	104	91	75	107	122	2010	316	245	203	199	262
24	87	112	87	82	104	109	5190	369	208	212	202	208
25	100	105	86	77	100	148	892	421	210	246	271	187
26	113	102	85	77	96	143	466	378	215	219	440	193
27	112	97	86	77	94	117	422	408	210	211	223	199
28	110	102	89	77	95	113	2880	593	206	207	223	196
29	110	109	88	76	---	127	1120	2630	203	280	224	196
30	110	112	86	801	---	121	565	739	198	203	207	194
31	112	---	86	4420	---	117	---	384	---	252	199	---
TOTAL	5857	5088	3696	7571	5187	4220	20289	25031	18572	6557	7451	6657
MEAN	188.9	169.6	119.2	244.2	185.2	136.1	676.3	807.5	619.1	211.5	240.4	221.9
MAX	512	1080	303	4420	1450	374	5190	3660	5140	280	711	526
MIN	87	97	85	71	88	96	144	215	198	183	199	187
AC-FT	11620	10090	7330	15020	10290	8370	40240	49650	36840	13010	14780	13200

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2002, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	344.5	573.2	540.1	553.3	681.0	1459	1566	2107	1638	774.6	319.0	307.4	
MAX	1873	2362	1561	2464	1618	5861	3589	5565	5579	3195	1255	747	
(WY)	1999	1995	1993	1998	1999	1990	1994	1995	1995	1995	1997	1996	
MIN	131	74.0	85.7	79.5	83.9	91.9	222	160	223	181	173	160	
(WY)	1993	1996	1990	2000	1996	1991	2001	1996	1998	1991	1999	2000	

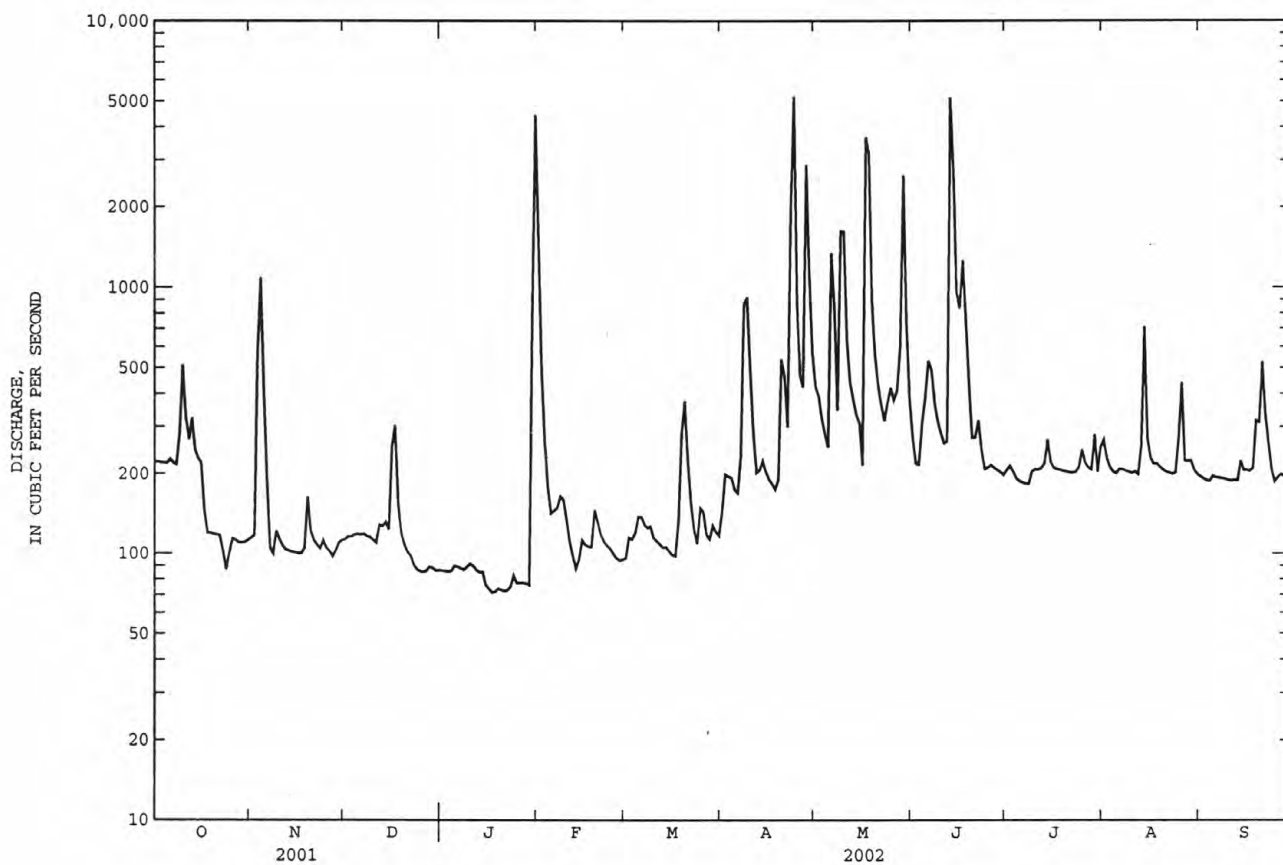
ARKANSAS RIVER BASIN

99

07178000 BIRD CREEK NEAR OWASSO, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1990 - 2002	
ANNUAL TOTAL	186067		116176		905.7	
ANNUAL MEAN	509.8		318.3		1906	
HIGHEST ANNUAL MEAN					202	
LOWEST ANNUAL MEAN					27700	
HIGHEST DAILY MEAN	9740	Feb 24	5190	Apr 24	^a 45	May 11 1993
LOWEST DAILY MEAN	74	Jan 23	71	Jan 17	58	Nov 6 1993
ANNUAL SEVEN-DAY MINIMUM	87	Jan 20	73	Jan 16	29200	May 11 1993
MAXIMUM PEAK FLOW			7880	Apr 24	26.94	May 11 1993
MAXIMUM PEAK STAGE			11.30	Apr 24	656200	
ANNUAL RUNOFF (AC-FT)	369100		230400		2680	
10 PERCENT EXCEEDS	1090		502		200	
50 PERCENT EXCEEDS	193		196		88	
90 PERCENT EXCEEDS	103		90			

^aMinimum daily discharge for period of record, 2.0 ft³/s, July 31, Aug. 1, 13-16, 1936, and July 5, 1937.



ARKANSAS RIVER BASIN

07178000 BIRD CREEK NEAR OWASSO, OK--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--May 1987 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1987 to current year.

pH: May 1987 to current year.

WATER TEMPERATURE: May 1987 to current year.

DISSOLVED OXYGEN: May 1987 to current year.

INSTRUMENTATION.--Water-quality monitor since May 1987.

REMARKS.--Interruptions in record were due to malfunction of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,950 microsiemens, Apr. 1, 1996; minimum, 48 microsiemens, July 18, 1989.

pH: Maximum, 8.9 units, May 17, 1988; minimum, 5.5 units June 14, 15, 1987.

WATER TEMPERATURE: Maximum, 35.0°C, Aug. 2, 3, 1987; minimum, 0.0°C, several days during winter periods.

DISSOLVED OXYGEN: Maximum, 16.3 mg/L, Jan. 17, 1988; minimum, 1.2 mg/L, Sept. 8, 1995.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 739 microsiemens, Mar. 21; minimum, 121 microsiemens, May 29.

pH: Maximum, 8.6 units, several days; minimum, 7.0 units, Apr. 23, 24.

WATER TEMPERATURE: Maximum, 32.9°C, Aug. 3; minimum, 1.0°C, Jan. 3.

DISSOLVED OXYGEN: Maximum, 15.5 mg/L, several days; minimum, 4.7 mg/L, June 5.

SPECIFIC CONDUCTANCE VIA SATELLITE, in US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	275	274	275	317	316	316	339	333	336	343	339	341
2	275	274	275	319	317	318	355	334	341	341	338	339
3	276	275	275	319	184	283	385	355	375	349	340	342
4	277	275	276	322	200	270	372	345	355	354	343	348
5	278	276	277	282	252	261	345	331	337	343	336	338
6	280	277	277	301	282	297	331	326	328	342	339	340
7	289	277	281	302	295	296	327	324	325	351	339	342
8	277	275	276	302	297	300	325	323	324	354	346	351
9	276	269	274	302	300	301	329	324	327	346	340	342
10	270	195	246	300	288	296	330	327	329	348	337	342
11	268	194	239	339	281	293	330	325	328	349	340	344
12	291	260	283	376	326	352	326	324	325	351	349	350
13	304	276	283	326	310	316	329	325	326	354	351	352
14	299	271	282	312	310	311	364	329	354	354	349	351
15	296	283	288	315	312	314	364	338	344	368	354	360
16	283	276	278	320	314	317	348	293	333	375	368	372
17	277	276	276	320	316	319	376	284	321	390	375	383
18	278	276	277	322	320	321	407	313	371	386	369	373
19	288	278	283	323	314	318	408	374	388	373	369	370
20	301	288	293	385	321	344	395	389	391	375	373	375
21	314	301	309	387	310	339	391	361	372	376	372	374
22	315	312	313	321	315	319	396	363	381	376	373	374
23	313	312	313	322	320	321	396	381	392	376	371	374
24	314	312	313	324	321	322	381	369	375	376	373	374
25	315	312	313	329	323	327	369	362	367	382	376	380
26	322	315	318	340	329	334	362	351	356	395	380	384
27	329	322	325	340	334	338	352	349	351	406	390	399
28	335	329	333	335	332	334	349	344	346	390	377	384
29	332	316	323	335	332	333	351	347	349	380	374	379
30	316	313	314	338	335	336	347	344	346	374	253	337
31	317	312	314	---	---	---	345	342	343	538	167	246
MONTH	335	194	290	387	184	315	408	284	350	538	167	357

ARKANSAS RIVER BASIN

101

07178000 BIRD CREEK NEAR OWASSO, OK--Continued

SPECIFIC CONDUCTANCE VIA SATELLITE, in US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	192	169	187	346	340	344	444	431	439	247	237	242
2	222	192	206	340	334	338	433	370	394	251	244	248
3	251	222	238	346	340	344	370	315	343	272	251	260
4	271	248	260	374	345	364	315	305	308	283	272	278
5	277	271	275	423	373	388	307	303	305	285	279	281
6	287	277	282	641	380	475	307	303	305	289	152	248
7	342	287	320	633	488	529	326	304	308	182	153	171
8	343	322	331	499	466	472	600	302	389	197	178	185
9	350	343	347	471	429	447	600	360	395	310	151	220
10	355	348	353	454	431	441	405	394	400	227	151	202
11	367	353	358	485	443	465	394	381	386	258	215	246
12	370	367	369	443	410	423	420	381	397	283	253	270
13	369	362	366	411	401	406	441	420	432	291	276	285
14	363	353	357	403	398	401	493	441	466	297	291	295
15	353	342	347	412	402	408	491	418	446	310	294	298
16	351	342	347	423	406	416	418	410	414	326	310	322
17	381	347	354	406	395	403	412	401	405	354	157	266
18	419	373	400	395	381	390	407	400	403	219	101	191
19	373	316	349	482	370	407	403	380	389	201	179	191
20	373	318	335	503	414	471	466	340	386	245	188	203
21	412	341	373	739	461	572	462	339	406	269	245	264
22	341	331	335	461	414	436	351	343	349	276	262	268
23	338	333	335	414	387	400	403	159	296	280	276	278
24	335	330	332	387	375	381	259	170	215	343	280	292
25	336	331	333	386	378	384	256	242	247	337	257	277
26	344	336	339	445	381	401	289	248	260	281	263	275
27	340	336	338	430	385	407	295	285	288	315	254	265
28	347	338	343	436	429	433	300	206	242	309	256	275
29	---	---	---	434	427	429	270	247	260	308	121	191
30	---	---	---	460	434	449	247	236	239	293	190	222
31	---	---	---	458	426	439	---	---	---	220	193	208
MONTH	419	169	325	739	334	421	600	159	350	354	101	249

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	240	220	229	284	282	283	295	285	290	304	303	303
2	252	240	248	345	282	296	287	282	283	304	301	303
3	262	252	258	331	283	289	283	282	282	303	297	299
4	313	259	270	288	283	285	286	283	284	299	296	297
5	357	254	288	291	288	290	287	277	280	300	297	298
6	349	278	306	292	291	292	280	276	278	300	297	297
7	278	264	267	293	291	292	280	279	280	298	295	296
8	278	265	270	293	289	291	280	278	279	300	298	299
9	300	278	293	293	290	291	280	279	279	301	295	298
10	312	300	309	294	291	292	283	280	281	299	295	297
11	319	311	315	294	288	291	286	282	284	297	294	295
12	328	316	323	293	290	291	288	281	283	302	295	298
13	317	133	214	293	288	291	282	255	277	304	302	303
14	213	148	183	317	289	298	267	160	216	304	298	302
15	245	213	237	304	270	289	363	263	321	355	302	318
16	325	238	254	304	293	298	343	283	309	305	300	303
17	238	212	220	296	294	295	305	292	297	310	304	309
18	236	223	228	296	293	294	292	283	289	309	304	306
19	237	225	232	294	291	293	285	281	283	309	275	302
20	239	236	238	300	292	295	292	285	290	311	259	285
21	243	239	240	302	300	301	295	292	294	308	264	288
22	---	---	---	302	288	294	297	294	295	275	253	260
23	---	---	---	288	286	287	297	295	296	300	275	289
24	---	---	---	289	286	287	297	294	295	321	300	313
25	---	---	---	289	282	285	317	291	294	324	321	322
26	278	275	277	294	283	291	352	291	305	324	316	320
27	279	277	278	293	289	291	304	270	281	316	305	310
28	280	279	280	292	290	291	272	267	269	305	297	300
29	282	280	281	291	275	281	306	270	284	298	296	297
30	283	281	283	318	278	289	297	284	289	297	294	295
31	---	---	---	306	279	292	303	297	300	---	---	---
MONTH	357	133	262	345	270	291	363	160	286	355	253	300

ARKANSAS RIVER BASIN

07178000 BIRD CREEK NEAR OWASSO, OK--Continued

PH, WH, FIELD VIA SATELLITE, in (STANDARD UNITS), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	8.0	7.7	7.8	8.0	7.7	7.8	7.9	7.7	7.8	8.2	8.0	8.0
2	8.0	7.7	7.8	7.8	7.7	7.7	8.0	7.7	7.8	8.2	8.0	8.0
3	8.0	7.7	7.8	7.8	7.6	7.7	7.8	7.7	7.8	8.1	7.9	8.0
4	8.0	7.8	7.8	7.6	7.2	7.4	7.9	7.7	7.7	8.1	7.9	8.0
5	7.9	7.7	7.8	7.5	7.4	7.4	7.7	7.6	7.7	8.1	7.9	8.0
6	7.9	7.8	7.8	7.5	7.5	7.5	7.8	7.6	7.7	8.1	7.9	8.0
7	8.0	7.8	7.8	7.5	7.4	7.5	7.8	7.6	7.7	8.1	7.9	8.0
8	8.0	7.8	7.8	7.5	7.4	7.5	7.9	7.6	7.8	8.0	7.9	8.0
9	7.9	7.8	7.8	7.5	7.4	7.4	8.0	7.7	7.8	8.1	7.9	8.0
10	7.9	7.7	7.8	7.5	7.4	7.4	8.0	7.7	7.8	8.1	7.9	8.0
11	7.8	7.6	7.7	7.5	7.4	7.4	8.0	7.7	7.8	8.2	7.9	8.0
12	7.7	7.6	7.7	7.6	7.5	7.5	7.9	7.8	7.8	8.2	7.9	8.0
13	7.8	7.7	7.7	7.6	7.5	7.5	7.9	7.8	7.8	8.2	7.9	8.0
14	7.7	7.7	7.7	7.7	7.5	7.6	7.8	7.7	7.8	8.2	7.9	8.0
15	7.8	7.7	7.8	7.7	7.5	7.6	7.8	7.7	7.7	8.2	7.9	8.0
16	7.9	7.8	7.8	7.7	7.5	7.6	7.7	7.7	7.7	8.1	7.9	7.9
17	7.9	7.8	7.8	7.6	7.5	7.6	7.8	7.7	7.8	8.1	7.9	7.9
18	8.0	7.8	7.8	7.7	7.5	7.6	7.8	7.7	7.7	8.0	7.9	7.9
19	7.9	7.7	7.8	7.7	7.5	7.6	7.8	7.7	7.7	8.0	7.8	7.9
20	7.9	7.7	7.7	7.7	7.6	7.6	7.9	7.7	7.8	8.0	7.8	7.9
21	7.9	7.7	7.7	7.6	7.5	7.6	8.0	7.7	7.8	8.1	7.9	7.9
22	8.0	7.7	7.7	7.8	7.5	7.6	8.0	7.7	7.8	8.0	7.8	7.9
23	8.0	7.7	7.7	7.8	7.6	7.6	8.0	7.8	7.8	8.0	7.8	7.9
24	8.0	7.7	7.8	7.7	7.6	7.7	8.0	7.8	7.9	8.0	7.8	7.9
25	7.9	7.7	7.8	7.8	7.6	7.6	8.1	7.8	7.9	8.1	7.8	7.9
26	7.9	7.7	7.7	7.7	7.6	7.6	8.1	7.8	7.9	8.0	7.8	7.9
27	7.9	7.7	7.8	7.8	7.6	7.7	8.2	7.9	8.0	8.0	7.8	7.9
28	8.0	7.7	7.8	7.7	7.6	7.7	8.2	7.9	8.0	8.1	7.8	7.9
29	8.0	7.7	7.8	7.8	7.7	7.7	8.2	7.9	8.0	7.9	7.8	7.9
30	8.0	7.7	7.8	7.9	7.7	7.8	8.2	7.9	8.0	8.0	7.8	7.8
31	8.0	7.7	7.8	---	---	---	8.2	8.0	8.1	7.9	7.4	7.5
MAX	8.0	7.8	7.8	8.0	7.7	7.8	8.2	8.0	8.1	8.2	8.0	8.0
MIN	7.7	7.6	7.7	7.5	7.2	7.4	7.7	7.6	7.7	7.9	7.4	7.5
DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
FEBRUARY			MARCH			APRIL			MAY			
1	7.6	7.6	7.6	8.5	8.3	8.4	8.6	7.9	8.1	7.4	7.3	7.4
2	7.6	7.6	7.6	8.4	8.2	8.3	8.1	7.7	7.9	7.5	7.4	7.4
3	7.7	7.6	7.7	8.4	8.2	8.3	8.1	7.7	7.7	7.6	7.5	7.6
4	7.7	7.6	7.7	8.4	8.2	8.3	8.5	7.6	8.1	7.6	7.6	7.6
5	7.6	7.6	7.6	8.3	8.1	8.2	8.6	7.9	8.2	7.6	7.6	7.6
6	7.7	7.6	7.7	8.2	8.0	8.1	8.4	7.9	8.1	7.6	7.2	7.6
7	7.8	7.7	7.7	8.1	8.0	8.0	8.0	7.8	7.9	7.2	7.1	7.2
8	7.8	7.7	7.7	8.1	7.8	8.0	7.9	7.7	7.8	7.3	7.2	7.2
9	7.8	7.7	7.8	8.1	7.8	7.9	7.8	7.7	7.7	7.6	7.3	7.3
10	7.8	7.8	7.8	8.1	7.8	7.9	7.8	7.7	7.7	7.4	7.3	7.3
11	7.9	7.8	7.8	8.1	7.9	7.9	7.8	7.7	7.7	7.5	7.4	7.4
12	7.9	7.8	7.8	8.2	7.8	7.9	7.9	7.6	7.7	7.5	7.5	7.5
13	8.0	7.8	7.8	8.2	7.8	8.0	7.8	7.6	7.7	7.7	7.5	7.6
14	8.0	7.8	7.9	8.6	7.8	8.2	7.9	7.6	7.7	7.7	7.6	7.7
15	8.1	7.8	7.9	8.4	8.1	8.2	8.0	7.6	7.7	7.7	7.6	7.7
16	8.1	7.8	7.9	8.4	8.1	8.3	7.9	7.6	7.7	7.7	7.6	7.7
17	8.2	7.8	7.9	8.3	8.0	8.2	8.0	7.6	7.7	7.7	7.2	7.6
18	8.2	7.8	7.9	8.1	8.0	8.1	7.9	7.6	7.7	7.4	7.2	7.3
19	8.1	7.8	7.9	8.0	7.8	8.0	7.8	7.6	7.7	7.4	7.3	7.3
20	8.3	7.9	8.0	7.9	7.8	7.9	7.7	7.6	7.7	7.5	7.4	7.4
21	8.1	7.8	7.9	7.9	7.8	7.8	7.7	7.4	7.5	7.6	7.5	7.6
22	8.4	7.8	8.0	8.0	7.8	7.9	7.6	7.5	7.5	7.7	7.6	7.6
23	8.5	7.8	8.0	8.1	7.8	7.9	7.5	7.0	7.5	7.7	7.6	7.7
24	8.6	7.9	8.1	8.1	7.8	7.9	7.3	7.0	7.2	7.7	7.6	7.7
25	8.4	7.9	8.1	8.0	7.8	7.9	7.3	7.3	7.3	7.7	7.6	7.7
26	8.4	7.9	8.2	8.0	7.8	7.8	7.4	7.3	7.3	7.8	7.7	7.7
27	8.4	8.0	8.2	8.1	7.8	7.9	7.4	7.4	7.4	7.7	7.7	7.7
28	8.6	8.0	8.3	8.3	7.8	7.9	7.5	7.3	7.3	7.7	7.7	7.7
29	---	---	---	8.3	7.8	7.9	7.4	7.4	7.4	7.7	7.3	7.4
30	---	---	---	8.2	7.7	7.9	7.4	7.4	7.4	7.4	7.4	7.4
31	---	---	---	8.5	7.8	8.1	---	---	---	7.5	7.4	7.4
MAX	8.6	8.0	8.3	8.6	8.3	8.4	8.6	7.9	8.2	7.8	7.7	7.7
MIN	7.6	7.6	7.6	7.9	7.7	7.8	7.3	7.0	7.2	7.2	7.1	7.2

ARKANSAS RIVER BASIN

103

07178000 BIRD CREEK NEAR OWASSO, OK--Continued

PH, WH, FIELD VIA SATELLITE, in (STANDARD UNITS), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	7.5	7.4	7.5	7.6	7.6	7.6	7.6	7.4	7.5	7.9	7.6	7.8
2	7.6	7.5	7.5	7.7	7.6	7.6	7.8	7.3	7.6	8.0	7.6	7.7
3	7.6	7.5	7.5	7.7	7.5	7.6	7.8	7.5	7.6	8.0	7.6	7.7
4	7.6	7.5	7.6	7.8	7.5	7.6	7.8	7.5	7.6	7.9	7.6	7.7
5	7.6	7.4	7.5	8.0	7.6	7.6	7.9	7.6	7.7	7.9	7.6	7.7
6	7.7	7.5	7.6	8.1	7.6	7.8	7.9	7.6	7.7	7.9	7.6	7.7
7	7.7	7.7	7.7	8.0	7.6	7.7	7.9	7.6	7.7	7.9	7.6	7.7
8	7.8	7.6	7.7	8.0	7.6	7.7	7.9	7.6	7.7	7.8	7.6	7.7
9	7.8	7.7	7.7	8.0	7.6	7.7	8.1	7.7	7.8	7.8	7.5	7.7
10	7.8	7.7	7.7	7.9	7.6	7.7	8.0	7.8	7.8	7.9	7.5	7.6
11	7.8	7.7	7.7	7.9	7.6	7.7	8.0	7.7	7.8	7.9	7.6	7.6
12	7.8	7.7	7.7	7.8	7.5	7.6	8.0	7.8	7.8	8.0	7.5	7.6
13	8.0	7.2	7.4	7.8	7.6	7.7	7.9	7.7	7.8	7.9	7.6	7.7
14	7.4	7.2	7.3	7.8	7.5	7.6	8.0	7.8	7.8	7.8	7.6	7.6
15	7.5	7.4	7.5	7.8	7.5	7.6	7.8	7.7	7.7	7.6	7.5	7.6
16	7.6	7.5	7.5	7.8	7.6	7.6	7.8	7.8	7.8	7.7	7.5	7.6
17	7.6	7.5	7.5	7.7	7.5	7.5	8.0	7.8	7.9	7.8	7.6	7.6
18	7.6	7.5	7.6	7.7	7.4	7.5	8.2	7.9	8.0	7.8	7.6	7.7
19	7.6	7.6	7.6	7.7	7.4	7.6	8.2	8.0	8.0	7.8	7.6	7.7
20	7.6	7.5	7.6	7.8	7.5	7.6	8.2	7.9	8.0	7.7	7.6	7.6
21	7.5	7.5	7.5	7.8	7.5	7.6	8.2	7.8	8.0	7.8	7.7	7.7
22	---	---	---	7.9	7.5	7.6	8.2	7.8	7.9	7.8	7.6	7.7
23	---	---	---	7.8	7.5	7.6	8.2	7.8	7.9	7.8	7.7	7.7
24	---	---	---	7.7	7.4	7.5	7.9	7.7	7.8	7.9	7.7	7.8
25	---	---	---	7.7	7.4	7.5	7.9	7.7	7.8	8.0	7.8	7.8
26	7.7	7.5	7.6	7.7	7.4	7.5	7.9	7.6	7.8	8.0	7.8	7.8
27	7.7	7.5	7.6	7.8	7.4	7.5	7.8	7.7	7.8	8.0	7.8	7.8
28	7.7	7.5	7.6	7.7	7.4	7.5	8.0	7.7	7.8	7.9	7.8	7.8
29	7.7	7.5	7.6	7.6	7.4	7.5	8.0	7.7	7.8	7.9	7.7	7.8
30	7.7	7.6	7.6	7.5	7.2	7.4	8.1	7.7	7.8	7.9	7.7	7.8
31	---	---	---	7.6	7.3	7.4	8.0	7.7	7.8	---	---	---
MAX	8.0	7.7	7.7	8.1	7.6	7.8	8.2	8.0	8.0	8.0	7.8	7.8
MIN	7.4	7.2	7.3	7.5	7.2	7.4	7.6	7.3	7.5	7.6	7.5	7.6

WATER TEMPERATURE VIA SATELLITE, in (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	21.0	20.7	0.0	16.5	14.5	15.4	7.2	6.1	6.6	3.0	1.9	2.3
2	21.7	19.9	20.7	16.6	15.6	16.0	8.2	6.4	7.2	2.6	1.5	1.9
3	21.9	19.9	20.8	17.2	16.2	16.7	9.1	7.6	8.3	2.3	1.0	1.5
4	22.6	20.5	21.5	17.5	16.8	17.2	11.6	9.1	10.3	2.1	1.1	1.5
5	22.0	20.3	21.2	17.7	16.8	17.1	13.1	11.2	12.1	2.2	1.5	1.7
6	20.7	19.1	19.8	17.6	16.5	17.0	13.1	12.1	12.5	2.4	1.3	1.8
7	19.3	17.7	18.4	18.0	16.5	17.0	13.2	11.8	12.4	2.9	1.4	2.0
8	19.0	17.0	17.9	17.1	16.1	16.5	12.4	10.7	11.7	3.3	1.8	2.4
9	19.0	17.9	18.4	16.3	15.2	15.7	11.1	9.6	10.3	4.3	2.5	3.3
10	19.6	19.0	19.5	16.3	14.7	15.3	9.8	8.5	9.1	4.8	3.7	4.2
11	19.6	18.7	19.1	15.7	14.1	14.8	8.5	7.7	8.1	5.6	4.0	4.7
12	19.5	18.5	18.9	15.3	14.1	14.6	8.4	7.9	8.1	6.2	4.4	5.1
13	19.3	18.4	18.8	15.6	14.1	14.6	8.5	8.0	8.3	6.6	4.8	5.4
14	19.0	17.8	18.3	15.8	14.4	15.0	8.7	8.2	8.4	6.7	5.1	5.7
15	18.1	16.6	17.6	16.2	14.4	15.1	8.6	8.1	8.4	6.5	4.6	5.4
16	17.2	15.7	16.3	15.8	14.6	15.1	9.3	8.6	8.9	6.3	5.4	5.8
17	16.8	14.8	15.7	15.9	15.2	15.6	10.1	9.1	9.5	5.7	4.9	5.2
18	16.8	14.9	15.7	16.8	15.5	16.0	9.8	8.7	9.2	4.9	4.0	4.4
19	17.3	15.1	15.9	16.2	14.1	15.3	8.9	7.7	8.5	5.6	4.1	4.6
20	18.1	15.5	16.5	14.2	13.0	13.6	8.6	7.3	7.8	5.2	3.9	4.4
21	19.0	16.6	17.5	13.4	12.3	12.8	8.5	7.2	7.7	5.7	3.6	4.5
22	19.3	17.4	18.2	13.1	11.7	12.2	8.7	7.6	8.0	6.2	4.2	5.0
23	21.1	18.5	19.5	13.2	12.0	12.5	7.6	6.4	7.0	6.9	5.6	6.2
24	20.1	18.5	19.4	12.6	11.5	12.0	6.8	5.7	6.1	6.7	5.3	5.8
25	18.7	17.2	17.9	12.7	10.9	11.7	6.0	4.9	5.3	6.7	4.5	5.5
26	18.0	16.2	17.0	12.5	11.5	12.0	5.1	4.0	4.5	7.4	5.0	6.0
27	16.8	15.3	16.0	11.5	9.9	10.6	5.0	3.6	4.2	8.0	5.8	6.7
28	16.0	14.5	15.1	9.9	8.0	8.9	4.9	3.5	4.1	9.0	6.5	7.5
29	15.4	13.8	14.5	8.0	7.2	7.6	4.2	3.1	3.6	7.8	7.0	7.5
30	15.5	13.5	14.3	7.8	6.5	7.0	3.2	2.4	2.8	7.0	4.4	6.0
31	15.1	13.7	14.3	---	---	---	3.4	2.0	2.5	4.4	3.6	4.0
MONTH	22.6	13.5	17.2	18.0	6.5	14.0	13.2	2.0	7.8	9.0	1.0	4.5

ARKANSAS RIVER BASIN

07178000 BIRD CREEK NEAR OWASSO, OK--Continued

WATER TEMPERATURE VIA SATELLITE, in (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	3.8	3.3	3.5	6.2	5.8	6.0	17.3	14.1	15.5	21.1	18.8	20.0
2	3.9	3.4	3.6	6.0	3.5	4.6	15.9	14.5	15.5	20.7	19.7	20.4
3	5.0	3.7	4.3	4.7	2.6	3.6	14.5	13.2	13.9	19.7	19.0	19.4
4	5.2	4.3	4.7	4.8	2.2	3.4	14.0	11.9	12.9	19.7	18.4	19.0
5	4.8	4.5	4.7	5.9	3.3	4.4	14.0	11.5	12.8	21.0	18.6	19.8
6	4.7	4.4	4.5	6.8	4.9	5.8	13.2	12.3	12.8	22.0	20.5	21.1
7	5.6	4.3	4.7	9.0	6.0	7.5	13.0	12.3	12.6	22.8	21.3	22.0
8	5.8	4.3	5.0	10.6	8.4	9.7	12.5	11.8	12.1	23.6	22.7	23.1
9	6.7	5.1	5.8	11.2	9.3	10.1	14.4	12.5	13.4	23.1	19.8	21.8
10	6.2	5.4	5.9	11.4	9.0	10	16.5	14.4	15.3	19.8	19.1	19.5
11	6.7	4.9	5.7	10.2	9.5	9.8	17.7	15.9	16.8	20.3	18.9	19.5
12	6.9	5.2	5.9	11.5	8.9	10	19.3	17.3	18.1	21.1	20.3	20.7
13	7.5	5.4	6.2	12.3	9.4	10.6	19.0	17.8	18.3	21.3	19.6	20.4
14	7.1	5.3	6.2	14.4	10.8	12.2	20.1	17.7	18.8	21.9	20.0	20.8
15	7.7	6.2	6.7	12.6	11.5	12.0	21.7	19.0	20.2	21.3	20.5	20.9
16	8.3	5.9	7.0	11.5	10.5	11.0	20.8	19.8	20.3	21.1	20.3	20.7
17	8.5	6.5	7.4	11.4	10.8	11.1	22.6	19.8	21.0	20.7	18.5	19.6
18	8.8	7.1	7.9	11.0	10.6	10.8	22.6	21.3	21.9	19.2	18.2	18.7
19	10.1	8.3	9.1	11.1	10.7	10.8	22.6	21.8	22.2	20.0	18.6	19.3
20	11.1	9.5	10.2	12.1	10.7	11.3	22.2	20.2	21.3	20.1	19.6	19.8
21	12.1	10.5	11.0	12.0	10.4	11.1	21.7	20.4	21.1	21.1	19.5	20.3
22	11.8	9.6	10.5	11.3	9.3	10.3	21.3	19.7	20.4	21.8	20.3	21.0
23	11.8	9.8	10.6	11.4	9.2	10.2	20.4	16.0	19.0	21.7	20.9	21.3
24	12.1	9.9	10.9	12.3	10.2	11.2	18.1	16.4	17.4	21.6	21.0	21.3
25	10.7	8.8	9.9	11.4	9.8	10.9	18.4	17.3	17.9	21.3	20.6	21.0
26	8.8	6.6	7.5	11.5	9.7	10.3	18.0	16.5	17.5	22.2	20.1	21.1
27	7.6	5.5	6.4	12.3	9.5	10.7	17.5	15.9	16.6	23.1	21.6	22.3
28	7.7	5.3	6.3	14.1	10.5	12.0	17.2	16.1	16.6	22.8	21.5	22.2
29	---	---	---	15.0	12.3	13.5	17.8	16.3	17.0	22.0	20.3	21.0
30	---	---	---	15.0	13.6	14.2	18.8	17.8	18.3	23.5	21.4	22.4
31	---	---	---	16.6	13.7	15.0	---	---	---	26.0	23.5	24.6
MONTH	12.1	3.3	6.9	16.6	2.2	9.8	22.6	11.5	17.2	26.0	18.2	20.8
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	27.4	25.0	26.1	29.2	27.7	28.4	31.2	29.6	30.3	29.1	27.0	28.0
2	28.6	26.5	27.4	27.7	26.8	27.3	32.5	30.3	31.3	29.8	27.6	28.6
3	29.4	26.8	28.0	27.4	26.4	26.9	32.9	30.8	31.7	30.2	27.9	28.9
4	29.5	27.6	28.4	28.4	26.4	27.4	32.5	30.8	31.6	30.5	28.2	29.2
5	28.1	25.5	26.5	29.7	27.1	28.3	32.4	30.3	31.3	30.5	28.3	29.2
6	25.5	24.2	24.9	30.6	28.1	29.2	32.2	30.1	31.1	30.4	28.3	29.2
7	25.9	24.7	25.2	31.2	28.9	30.0	32.2	30.2	31.0	29.8	28.0	28.8
8	26.8	25.1	25.9	31.8	29.3	30.4	31.7	29.7	30.6	28.7	27.8	28.2
9	27.3	25.6	26.4	32.0	29.7	30.7	31.1	29.0	30.0	28.7	27.0	27.7
10	27.3	26.3	26.8	32.2	29.9	30.9	30.1	28.6	29.3	28.7	26.7	27.6
11	28.0	26.6	27.2	31.3	29.6	30.4	30.1	28.4	29.2	28.7	26.7	27.6
12	28.2	26.7	27.4	30.8	29.4	30.0	29.6	28.5	28.9	28.1	26.5	27.2
13	27.4	23.5	24.9	29.5	28.3	28.9	28.7	26.0	27.6	27.8	26.2	26.9
14	24.5	23.0	23.8	28.9	27.1	28.1	26.0	22.9	24.2	26.6	25.7	26.1
15	25.1	23.7	24.4	29.5	27.1	28.3	26.8	24.4	25.6	25.7	24.9	25.2
16	25.4	24.3	24.8	29.8	28.2	29.0	27.6	26.4	26.9	25.3	24.4	24.8
17	25.8	24.5	25.2	29.2	28.4	28.7	28.3	27.1	27.6	26.0	24.4	25.1
18	25.4	24.9	25.1	29.9	27.9	28.8	29.3	27.5	28.3	26.9	24.9	25.8
19	26.3	24.8	25.5	30.5	28.4	29.4	30.2	28.0	29.0	26.2	24.6	25.7
20	27.7	25.4	26.5	31.9	29.4	30.5	30.9	28.8	29.7	25.4	24.2	24.6
21	28.1	26.7	27.5	32.3	29.9	31.0	31.0	29.1	29.9	24.4	23.5	23.9
22	---	---	---	32.5	30.0	31.1	31.1	29.0	30.0	24.2	22.8	23.5
23	---	---	---	32.1	29.8	30.9	31.5	29.4	30.3	23.4	22.3	22.8
24	---	---	---	32.0	30.0	30.9	30.1	28.9	29.5	23.2	21.7	22.3
25	---	---	---	31.4	29.7	30.6	29.1	27.9	28.5	23.3	21.2	22.1
26	30.3	28.0	29.1	31.7	29.8	30.6	29.3	27.2	28.1	23.5	21.4	22.4
27	30.7	28.4	29.5	31.7	29.5	30.5	29.2	27.4	28.2	23.6	21.8	22.6
28	30.9	28.9	29.8	30.6	29.7	30.2	29.6	27.7	28.6	24.0	22.1	22.9
29	31.2	29.2	30.1	29.9	28.3	28.9	29.5	28.1	28.7	24.5	22.6	23.5
30	30.1	29.0	29.5	29.6	26.7	28.2	29.0	27.6	28.2	25.2	23.2	24.1
31	---	---	---	30.5	28.1	29.2	28.7	27.0	27.9	---	---	---
MONTH	31.2	23.0	26.8	32.5	26.4	29.5	32.9	22.9	29.1	30.5	21.2	25.8

ARKANSAS RIVER BASIN

105

07178000 BIRD CREEK NEAR OWASSO, OK--Continued

OXYGEN DISSOLVED VIA SATELLITE, in (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

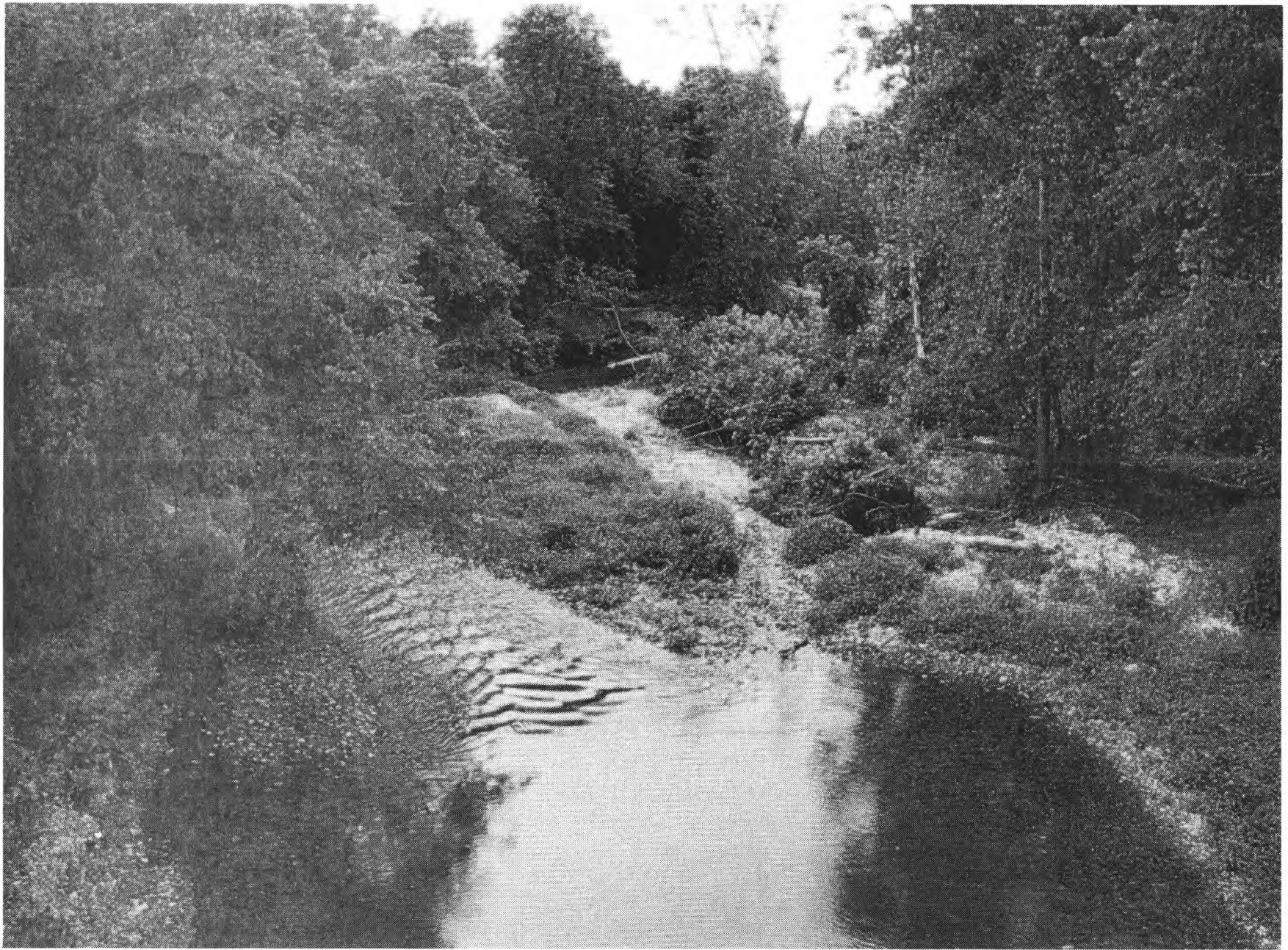
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	9.3	8.2	8.6	---	---	---	13.0	10.4	11.6	15.2	14.1	14.6
2	9.4	8.3	8.7	9.4	8.5	8.8	13.5	11.0	12.2	15.3	14.4	14.8
3	9.4	8.3	8.7	8.8	6.6	8.1	12.7	9.6	11.7	15.5	14.6	15.0
4	9.2	8.2	8.6	8.0	6.6	7.3	12.6	10.3	11.6	15.5	14.8	15.1
5	8.9	8.0	8.3	8.0	7.7	8.0	11.0	9.0	10.3	15.4	14.6	15.0
6	9.2	8.2	8.6	7.7	7.4	7.6	10.3	9.3	9.9	15.5	14.6	15.1
7	9.6	8.4	8.9	7.8	7.2	7.4	10.1	9.0	9.4	15.5	14.6	15.1
8	9.9	9.0	9.3	7.6	6.9	7.2	10.7	9.0	9.7	15.4	14.6	14.9
9	9.4	8.7	9.1	7.5	7.0	7.2	11.3	9.7	10.3	15.4	14.3	14.8
10	---	---	---	7.4	7.0	7.2	11.7	10.1	10.8	14.9	13.8	14.3
11	---	---	---	8.0	7.2	7.6	12.1	10.7	11.3	14.8	13.6	14.2
12	---	---	---	9.2	7.8	8.5	11.7	11.0	11.2	14.5	13.4	13.9
13	---	---	---	9.4	8.1	8.6	11.7	10.9	11.2	14.3	13.2	13.7
14	---	---	---	9.4	8.4	8.8	11.1	10.3	10.8	14.3	13.0	13.5
15	---	---	---	9.5	8.3	8.7	10.8	10.1	10.4	14.2	13.0	13.4
16	---	---	---	9.3	8.2	8.7	10.5	10.2	10.3	13.8	12.7	13.2
17	---	---	---	8.9	8.0	8.4	10.6	10.1	10.3	13.9	12.7	13.2
18	---	---	---	9.3	7.9	8.5	10.6	10.1	10.3	13.8	12.8	13.3
19	---	---	---	9.2	8.2	8.7	11.1	10.1	10.6	14.0	12.8	13.4
20	---	---	---	9.6	8.3	9.0	11.6	10.7	11.1	14.2	12.9	13.5
21	---	---	---	8.3	7.0	7.6	12.6	10.9	11.6	14.4	13.2	13.7
22	---	---	---	10.1	8.2	9.0	12.6	11.3	11.9	14.4	13.2	13.7
23	---	---	---	10.3	8.5	9.4	13.1	11.4	12.1	13.9	12.9	13.3
24	---	---	---	10.0	9.2	9.6	13.2	11.8	12.4	14.1	12.8	13.3
25	---	---	---	10.8	9.4	9.8	13.5	12.1	12.7	14.2	12.9	13.5
26	---	---	---	10.2	8.9	9.5	13.9	12.4	13.1	13.8	12.6	13.1
27	---	---	---	10.4	9.0	9.7	14.2	12.8	13.5	13.4	12.1	12.7
28	---	---	---	10.7	9.2	10.2	14.5	13.1	13.8	13.0	11.7	12.4
29	---	---	---	11.5	9.9	10.7	14.9	13.5	14.1	12.0	11.2	11.5
30	---	---	---	12.2	10.4	11.4	15.0	13.8	14.4	12.2	11.5	11.7
31	---	---	---	---	---	---	15.1	14.0	14.5	12.6	11.2	11.9
MONTH	9.9	8.0	8.8	12.2	6.6	8.7	15.1	9.0	11.6	15.5	11.2	13.7
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	12.9	12.5	12.7	13.1	12.2	12.7	14.4	10.7	12.3	9.2	8.7	8.9
2	13.1	12.9	13.0	13.6	12.3	12.9	11.7	10.1	10.8	---	---	---
3	13.1	12.6	12.9	14.1	13.0	13.5	11.8	9.8	10.8	---	---	---
4	12.8	12.6	12.7	14.2	13.3	13.7	12.8	10.3	11.4	---	---	---
5	12.6	12.4	12.5	14.2	13.3	13.8	13.4	10.9	12.0	---	---	---
6	12.6	12.3	12.4	13.6	12.8	13.3	12.7	11.0	11.7	---	---	---
7	12.7	12.4	12.6	13.0	12.0	12.7	11.3	10.5	10.9	---	---	---
8	12.9	12.4	12.6	12.0	11.0	11.6	10.6	10.0	10.3	6.5	6.3	6.4
9	12.9	12.4	12.6	12.0	11.0	11.4	10.3	10.1	10.2	7.6	5.8	6.9
10	12.8	12.3	12.5	12.2	10.9	11.4	10.3	9.8	10.1	7.9	7.3	7.6
11	13.0	12.3	12.6	11.8	10.4	11.0	10.0	9.1	9.7	8.3	7.9	8.2
12	13.0	12.2	12.6	13.2	10.6	11.9	10.4	8.7	9.4	8.2	7.9	8.1
13	13.4	12.4	12.9	13.4	11.2	12.2	9.6	8.4	8.9	8.6	8.0	8.3
14	13.7	12.4	13.1	13.0	11.2	12.1	9.9	8.3	9.0	8.9	8.5	8.6
15	13.7	12.6	13.1	12.3	10.8	11.5	10.5	8.5	9.3	8.7	8.3	8.6
16	14.0	12.7	13.2	12.0	10.7	11.4	9.6	8.4	8.9	8.7	8.3	8.5
17	14.2	12.7	13.3	12.0	10.5	11.3	9.6	7.8	8.4	8.4	6.4	7.8
18	14.3	12.6	13.2	11.6	10.7	11.2	9.2	7.7	8.3	8.5	7.8	8.3
19	13.1	11.9	12.4	10.9	9.2	10.5	8.5	7.3	7.8	8.6	8.5	8.6
20	13.1	11.3	12.1	10.4	9.3	10.1	8.0	7.0	7.4	8.8	8.5	8.6
21	12.1	9.8	10.9	10.8	10.0	10.4	7.4	7.0	7.2	8.9	8.7	8.8
22	13.4	10.9	12.0	11.6	10.4	10.9	8.0	7.2	7.6	8.8	8.3	8.6
23	13.8	11.3	12.4	12.2	10.6	11.3	7.8	5.6	7.3	8.6	8.1	8.4
24	14.1	11.6	12.6	12.2	10.9	11.4	8.3	6.1	7.9	8.4	8.0	8.2
25	13.5	11.6	12.4	11.2	10.5	10.9	9.4	8.3	9.1	8.5	8.1	8.3
26	14.1	11.8	12.9	10.8	9.6	10.4	9.6	9.3	9.4	8.8	8.1	8.4
27	14.2	12.5	13.3	12.6	9.8	11.1	9.9	9.6	9.7	8.5	7.1	8.2
28	13.8	12.7	13.2	13.4	10.7	11.8	10.2	9.4	9.7	7.9	7.1	7.6
29	---	---	---	13.1	10.6	11.7	9.8	9.6	9.8	8.2	7.5	7.6
30	---	---	---	12.6	10.3	11.2	9.7	9.2	9.5	7.5	7.2	7.4
31	---	---	---	14.4	10.4	12.1	---	---	---	7.2	6.7	7.1
MONTH	14.3	9.8	12.7	14.4	9.2	11.7	14.4	5.6	9.5	9.2	5.8	8.1

ARKANSAS RIVER BASIN

07178000 BIRD CREEK NEAR OWASSO, OK--Continued

OXYGEN DISSOLVED VIA SATELLITE, in (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	6.9	6.4	6.7	6.7	6.0	6.4	---	---	---	8.5	6.9	7.6
2	7.0	6.1	6.6	7.1	6.2	6.6	---	---	---	8.6	6.9	7.5
3	7.1	6.1	6.5	7.5	6.0	6.7	7.2	5.6	6.3	8.5	6.9	7.5
4	7.2	6.2	6.7	8.1	6.6	7.2	7.0	5.4	6.2	8.3	6.7	7.3
5	6.8	4.7	6.0	9.1	6.9	7.8	7.2	5.7	6.3	8.4	6.8	7.4
6	7.9	6.0	7.1	9.3	7.0	8.0	7.1	5.7	6.3	8.4	6.8	7.4
7	7.9	7.6	7.7	9.0	6.8	7.8	7.1	5.6	6.3	8.6	6.8	7.5
8	8.0	7.4	7.7	8.8	6.6	7.5	7.5	5.8	6.4	8.6	7.1	7.6
9	7.9	7.2	7.6	8.7	6.4	7.4	7.4	5.8	6.5	8.9	7.2	7.9
10	7.7	6.3	7.3	8.6	6.4	7.4	7.3	6.0	6.6	9.2	7.4	8.1
11	7.6	6.9	7.2	8.3	6.3	7.1	7.2	6.0	6.6	9.3	7.4	8.2
12	7.6	6.8	7.1	7.4	6.1	6.8	7.3	5.9	6.5	8.6	7.3	7.9
13	7.2	5.0	6.4	7.6	6.3	6.9	6.9	5.7	6.0	8.2	6.8	7.4
14	7.0	6.0	6.4	7.7	5.1	6.8	6.9	5.8	6.3	7.9	6.9	7.3
15	7.5	7.0	7.3	7.6	5.1	6.4	6.4	5.5	5.9	7.1	5.9	6.6
16	7.5	7.1	7.4	8.0	6.3	7.1	6.2	5.4	5.6	7.8	6.6	7.1
17	7.8	7.4	7.6	7.7	6.4	6.9	7.5	5.4	6.2	8.1	6.9	7.4
18	7.7	6.4	7.0	7.8	6.2	6.9	6.7	5.1	6.1	8.2	7.0	7.5
19	6.6	6.3	6.5	7.7	6.3	7.0	---	---	---	7.4	5.4	7.0
20	6.3	5.9	6.2	7.9	6.2	6.9	---	---	---	7.1	5.4	6.4
21	5.9	5.7	5.8	7.9	6.2	6.9	7.6	6.1	6.7	7.7	7.1	7.5
22	---	---	---	7.8	6.2	6.8	7.7	6.3	6.9	7.8	7.3	7.5
23	---	---	---	7.9	6.3	6.9	7.8	6.3	6.9	8.0	7.4	7.6
24	---	---	---	7.8	6.3	6.9	7.3	6.3	6.7	8.3	7.4	7.7
25	---	---	---	7.9	6.4	7.0	7.5	6.3	6.8	8.3	7.4	7.7
26	7.0	6.0	6.4	8.2	6.6	7.3	7.4	6.0	6.9	---	---	---
27	7.0	5.9	6.4	8.5	6.8	7.6	7.4	6.6	6.9	---	---	---
28	7.1	5.9	6.4	7.7	6.6	7.2	8.2	6.5	7.1	---	---	---
29	7.1	5.8	6.4	---	---	---	8.2	6.7	7.3	---	---	---
30	7.1	6.0	6.4	---	---	---	8.5	6.8	7.5	---	---	---
31	---	---	---	---	---	---	8.4	7.0	7.6	---	---	---
MONTH	8.0	4.7	6.8	9.3	5.1	7.1	8.5	5.1	6.6	9.3	5.4	7.5



07195855 Flint Creek near West Siloam Springs

ARKANSAS RIVER BASIN

07178200 BIRD CREEK AT STATE HIGHWAY 266 NEAR CATOOSA, OK

LOCATION.--Lat 36°13'23", long 95°49'09", in SE 1/4 SE 1/4 sec.9, T.20 N., R.14 E., Tulsa County, Hydrologic Unit 11070107, near left downstream abutment of bridge, 2.3 mi downstream from Elm Creek, 5 mi northwest of Catoosa High School, and at mile 9.5.

DRAINAGE AREA.--1,103 mi²

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1988 to current year.

GAGE.--Water-stage recorder. Datum of gage is 545.00 ft above sea level.

REMARKS.--Records good except for estimated periods, which are poor. Flow slightly regulated since 1958 by Bluestem Lake (capacity 17,000 acre-ft) and since March 1977 by Birch Lake (capacity 19,200 acre-ft). Flow regulated since August 20, 1989 by Skiatook Lake (capacity 322,300 acre-ft) when conservation pool was first reached. U.S. Geological Survey satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	257	127	174	134	2210	149	179	539	388	298	303	216
2	261	128	157	133	819	225	263	489	312	e374	251	214
3	259	1640	154	134	472	222	251	402	288	e247	227	217
4	257	1440	155	136	329	288	247	344	378	218	214	203
5	256	576	156	148	270	402	222	309	770	204	211	213
6	264	277	153	157	353	394	213	1530	752	199	218	216
7	257	150	153	142	322	285	615	1220	645	196	253	211
8	253	127	150	138	307	251	2310	442	474	212	221	214
9	392	156	149	139	293	273	1330	2520	477	267	213	215
10	1290	142	150	144	240	210	714	2230	365	230	216	213
11	613	135	148	140	198	194	422	860	328	462	325	218
12	360	130	279	135	175	185	299	579	437	239	217	212
13	655	127	230	131	155	177	279	752	6660	246	576	211
14	336	126	257	131	154	172	326	452	4020	320	2540	331
15	297	125	189	120	180	162	285	416	1230	252	420	260
16	279	124	1030	115	173	153	264	302	1250	222	293	241
17	190	122	1100	111	168	150	253	5210	1530	229	266	236
18	143	126	369	111	167	335	236	4840	932	227	265	243
19	138	461	246	119	464	1130	328	1260	555	224	257	619
20	137	190	198	119	268	838	727	772	345	219	245	360
21	135	155	180	116	211	440	661	601	324	215	234	624
22	137	140	170	114	187	293	434	502	373	215	209	397
23	121	132	151	140	177	220	2670	447	294	215	196	309
24	105	266	143	218	173	191	6870	665	242	221	214	244
25	115	143	135	121	160	466	1320	583	239	271	469	215
26	132	136	138	115	149	270	772	490	247	241	526	224
27	128	131	140	112	147	200	606	718	244	227	299	233
28	126	138	144	112	149	178	3730	1480	241	224	243	228
29	128	172	140	149	---	188	1520	3860	232	746	248	223
30	126	184	135	2150	---	169	740	1090	220	254	232	225
31	125	---	135	6420	---	158	---	553	---	284	219	---
TOTAL	8272	8026	7208	12404	9070	8968	29086	36457	24792	8198	10820	7985
MEAN	266.8	267.5	232.5	400.1	323.9	289.3	969.5	1176	826.4	264.5	349.0	266.2
MAX	1290	1640	1100	6420	2210	1130	6870	5210	6660	746	2540	624
MIN	105	122	135	111	147	149	179	302	220	196	196	203
AC-FT	16410	15920	14300	24600	17990	17790	57690	72310	49170	16260	21460	15840

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 2002, BY WATER YEAR (WY)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	491.4	754.8	698.9	721.4	905.4	1723	1805	2424	1892	913.6	412.3	434.2	
MAX	2329	2603	1854	2881	2213	6393	3646	5724	5658	3195	1596	917	
(WY)	1999	1995	1993	1998	1999	1990	1994	1995	1995	1995	1997	1996	
MIN	168	109	152	143	109	149	288	228	298	212	208	221	
(WY)	1993	1996	1990	1996	1996	1996	1996	1996	1998	2001	1991	1992	

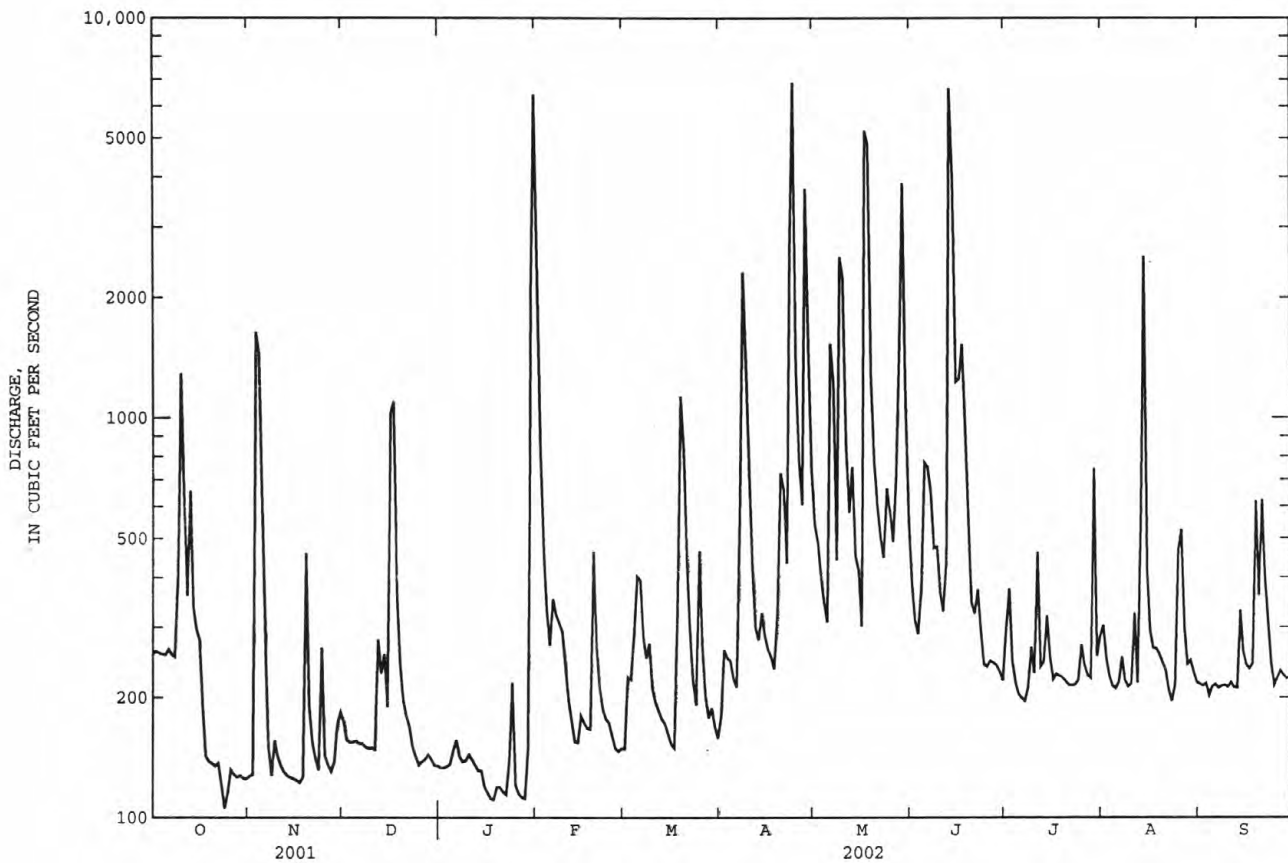
e Estimated

ARKANSAS RIVER BASIN

109

07178200 BIRD CREEK AT STATE HIGHWAY 266 NEAR CATOOSA, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1990 - 2002	
ANNUAL TOTAL	250227		171286		1098	
ANNUAL MEAN	685.6		469.3		2127	
HIGHEST ANNUAL MEAN					278	
LOWEST ANNUAL MEAN					25900	
HIGHEST DAILY MEAN	11500	Feb 24	6870	Apr 24	62	May 11 1993
LOWEST DAILY MEAN	105	Oct 24	105	Oct 24	73	Nov 6 1993
ANNUAL SEVEN-DAY MINIMUM	122	Oct 23	115	Jan 16	27400	Oct 22 1992
MAXIMUM PEAK FLOW			8990	Apr 24	33.22	May 11 1993
MAXIMUM PEAK STAGE			16.61	Apr 24	62	May 11 1993
INSTANTANEOUS LOW FLOW					62	
ANNUAL RUNOFF (AC-FT)	496300		339700		795600	Nov 6 1993
10 PERCENT EXCEEDS	1430		791		3110	
50 PERCENT EXCEEDS	253		236		295	
90 PERCENT EXCEEDS	143		134		145	



ARKANSAS RIVER BASIN

07178200 BIRD CREEK AT STATE HIGHWAY 266 NEAR CATOOSA, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--AUGUST 1988 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: August 1988 to current year.

pH: August 1988 to current year.

WATER TEMPERATURE: August 1988 to current year.

DISSOLVED OXYGEN: August 1988 to current year.

INSTRUMENTATION.--Water-quality monitor since August 1988.

REMARKS.--Interruptions in record were due to malfunction of the recording instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,420 microsiemens, Apr. 2, 1996; minimum, 48 microsiemens, June 1, 1996.

pH: Maximum, 9.4 units, July 17, 1989; minimum, 6.0 units, May 12, 1991.

WATER TEMPERATURE: Maximum, 32.0°C, several days during summer periods; minimum, 1.5°C, Dec. 23, 1989, Jan. 20, 1993, Feb. 4, 1996.

DISSOLVED OXYGEN: Maximum, 15.2 mg/l, Jan. 10, 1999; minimum, 1.9 mg/l, July 24, 1996.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1100 microsiemens, Mar. 5; minimum, 93 microsiemens, Apr. 23.

pH: Maximum, 8.3 units, Apr. 1, 2, 4; minimum, 6.9 units, May 7, Aug. 11.

WATER TEMPERATURE: Maximum, 31.7°C, Aug. 4; minimum, 2.3°C, Jan. 3.

DISSOLVED OXYGEN: Maximum, 13.6 mg/L, Jan. 3; minimum, 3.1 mg/L, July 11.

SPECIFIC CONDUCTANCE VIA SATELLITE, in US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	361	330	350	463	436	451	598	472	535	488	466	479
2	355	333	346	465	435	453	596	520	570	487	465	477
3	358	337	352	451	187	349	526	499	518	492	438	472
4	363	338	356	324	210	277	526	498	516	495	471	486
5	365	341	358	332	291	313	510	481	503	508	483	498
6	366	335	354	401	329	356	497	464	489	527	479	509
7	370	339	357	441	401	428	482	452	474	514	492	504
8	372	336	358	484	431	467	472	444	464	492	480	487
9	386	339	357	482	428	459	474	438	459	498	478	492
10	409	192	262	462	427	451	465	431	451	490	472	484
11	304	235	255	463	424	447	472	428	459	483	464	477
12	359	304	327	449	415	438	659	444	521	490	462	480
13	369	275	323	493	438	472	540	440	484	497	465	484
14	356	329	344	465	442	456	481	442	457	495	463	482
15	380	356	369	462	431	452	484	448	473	484	469	479
16	382	359	373	465	434	455	480	261	412	506	472	490
17	388	378	382	466	438	455	373	264	333	519	489	505
18	450	388	432	467	431	451	455	358	398	534	504	519
19	462	426	446	529	289	376	512	455	493	534	519	527
20	456	428	444	389	356	374	513	500	506	541	503	524
21	457	414	439	442	389	429	536	501	526	532	508	521
22	462	418	446	464	416	446	538	513	531	522	500	512
23	467	437	456	446	409	430	562	512	547	517	496	509
24	499	453	480	472	337	406	558	526	546	644	462	545
25	505	482	496	412	342	396	532	508	523	488	460	479
26	492	460	479	436	394	421	510	490	502	497	470	487
27	481	450	468	450	412	438	501	484	494	504	473	491
28	484	448	469	460	432	451	504	482	496	508	476	495
29	479	447	466	466	436	454	505	481	496	502	474	489
30	471	446	460	480	466	475	505	481	494	490	231	341
31	467	435	452	---	---	---	491	473	483	453	190	247
MONTH	505	192	395	529	187	424	659	261	489	644	190	483

ARKANSAS RIVER BASIN

111

07178200 BIRD CREEK AT STATE HIGHWAY 266 NEAR CATOOSA, OK--Continued

SPECIFIC CONDUCTANCE VIA SATELLITE, in US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	255	194	225	481	456	473	563	529	549	325	298	310
2	310	255	279	488	455	468	543	483	512	330	303	316
3	364	310	328	499	449	485	495	445	465	352	321	334
4	398	362	371	512	450	484	458	402	431	374	340	356
5	426	398	405	1100	512	917	429	402	419	384	353	371
6	500	426	470	828	547	668	435	399	424	393	182	341
7	462	432	446	641	544	601	554	298	419	242	183	208
8	475	439	461	608	574	586	416	203	317	281	237	256
9	470	449	457	622	576	588	537	394	426	344	208	262
10	479	452	468	617	559	582	463	424	446	258	181	222
11	489	458	480	580	560	574	478	457	464	318	258	282
12	502	474	492	597	568	585	501	474	482	346	296	316
13	519	491	513	577	553	571	520	501	511	445	269	327
14	529	494	513	574	545	564	536	516	523	381	340	358
15	504	464	489	564	543	557	552	522	540	381	350	368
16	487	454	477	565	542	557	522	488	508	427	378	402
17	486	454	475	572	542	559	515	496	508	428	184	300
18	479	454	471	655	520	551	515	480	497	256	165	214
19	551	336	452	640	375	420	508	477	494	256	244	247
20	408	356	391	520	394	458	558	380	440	288	248	264
21	444	389	432	684	520	560	489	379	465	355	288	328
22	497	436	472	700	541	599	438	396	409	371	337	352
23	460	439	453	556	537	549	426	93	339	385	354	371
24	477	443	465	555	526	545	286	170	217	514	315	381
25	472	444	460	624	420	489	312	280	293	381	336	354
26	463	443	456	480	449	459	389	310	347	351	337	342
27	471	445	464	524	480	505	376	350	362	394	294	328
28	476	453	469	550	502	535	374	218	270	370	202	310
29	---	---	---	566	535	551	304	265	294	322	216	250
30	---	---	---	547	535	542	305	285	297	335	260	295
31	---	---	---	570	537	560	---	---	---	329	281	301
MONTH	551	194	440	1100	375	553	563	93	422	514	165	312
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	362	329	338	484	363	385	364	344	352	375	350	366
2	400	364	374	---	---	---	365	343	358	379	355	369
3	410	386	403	---	---	---	363	339	354	383	363	376
4	409	347	375	386	363	379	363	334	351	393	361	377
5	478	328	366	393	363	379	356	335	348	380	359	372
6	377	331	347	389	367	382	355	338	350	375	355	369
7	338	310	322	393	365	382	366	349	356	374	350	365
8	353	324	333	389	364	381	366	342	357	377	342	362
9	392	350	369	406	378	392	361	341	354	370	347	361
10	393	362	377	392	368	383	362	335	352	366	352	362
11	404	378	391	400	266	329	382	307	337	373	357	367
12	419	386	401	373	353	365	351	334	344	372	349	363
13	395	150	221	375	347	367	352	194	339	369	351	364
14	237	154	195	372	330	348	---	---	---	437	350	375
15	288	237	266	375	327	356	---	---	---	432	346	377
16	348	273	302	367	350	359	---	---	---	393	339	364
17	288	243	253	377	352	366	405	357	379	372	353	362
18	284	249	268	377	357	370	393	356	377	374	350	365
19	324	284	297	374	355	368	381	352	369	367	261	319
20	356	323	333	376	342	358	382	361	370	334	297	318
21	363	344	354	368	345	358	384	364	377	330	311	320
22	353	319	333	367	344	358	385	342	375	311	280	295
23	400	343	369	359	341	353	347	335	343	334	299	312
24	386	355	373	361	345	356	378	338	348	366	334	342
25	395	371	385	361	333	348	421	315	357	386	342	368
26	398	370	386	362	341	350	363	321	338	396	368	386
27	395	370	385	370	349	362	388	346	372	384	361	373
28	396	376	388	370	345	358	406	344	385	374	343	362
29	402	381	393	403	221	298	358	301	318	367	334	354
30	400	367	386	364	270	323	373	342	359	357	335	350
31	---	---	---	364	337	350	370	349	362	---	---	---
MONTH	478	150	343	484	221	361	421	194	356	437	261	357

ARKANSAS RIVER BASIN

07178200 BIRD CREEK AT STATE HIGHWAY 266 NEAR CATOOSA, OK--Continued

PH, WH, FIELD VIA SATELLITE, in (STANDARD UNITS), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	7.6	7.5	7.6	7.7	7.6	7.7	7.6	7.5	7.5	7.9	7.9	7.9
2	7.6	7.5	7.6	7.6	7.6	7.6	7.5	7.5	7.5	8.0	7.9	7.9
3	7.6	7.6	7.6	8.1	7.6	7.6	7.6	7.5	7.6	8.0	7.9	7.9
4	7.6	7.5	7.6	7.6	7.3	7.5	7.6	7.6	7.6	7.9	7.9	7.9
5	7.6	7.5	7.6	7.6	7.4	7.5	7.7	7.6	7.6	7.9	7.8	7.9
6	7.6	7.5	7.6	7.6	7.5	7.5	7.6	7.4	7.5	7.9	7.9	7.9
7	7.6	7.6	7.6	7.5	7.5	7.5	7.5	7.4	7.4	8.0	7.9	7.9
8	7.6	7.6	7.6	7.6	7.5	7.5	7.5	7.4	7.5	7.9	7.9	7.9
9	7.6	7.6	7.6	7.6	7.5	7.5	7.5	7.5	7.5	7.9	7.8	7.9
10	7.9	7.6	7.7	7.6	7.5	7.5	7.6	7.5	7.5	7.9	7.8	7.9
11	7.8	7.4	7.4	7.5	7.5	7.5	7.6	7.4	7.5	7.9	7.8	7.9
12	7.4	7.4	7.4	7.5	7.5	7.5	7.6	7.4	7.4	7.9	7.8	7.9
13	7.7	7.4	7.5	7.6	7.5	7.6	7.4	7.3	7.3	7.9	7.8	7.9
14	7.5	7.4	7.5	7.6	7.5	7.6	7.4	7.3	7.3	7.9	7.8	7.9
15	7.5	7.4	7.5	7.6	7.5	7.5	7.4	7.3	7.4	8.0	7.8	7.9
16	7.5	7.5	7.5	7.6	7.5	7.5	7.5	7.3	7.4	7.9	7.8	7.8
17	7.6	7.5	7.5	7.5	7.5	7.5	7.5	7.4	7.5	7.9	7.8	7.8
18	7.5	7.4	7.5	7.5	7.5	7.5	7.5	7.4	7.4	7.9	7.8	7.8
19	7.5	7.4	7.4	7.8	7.5	7.6	7.5	7.4	7.4	7.8	7.7	7.8
20	7.5	7.4	7.5	7.6	7.4	7.6	7.4	7.4	7.4	7.9	7.7	7.8
21	7.5	7.5	7.5	7.6	7.5	7.6	7.7	7.4	7.7	7.9	7.8	7.8
22	7.6	7.5	7.5	7.6	7.5	7.5	7.8	7.7	7.8	7.8	7.8	7.8
23	7.5	7.4	7.5	7.7	7.6	7.6	7.8	7.8	7.8	7.8	7.7	7.8
24	7.5	7.4	7.5	7.8	7.6	7.7	7.8	7.8	7.8	7.9	7.7	7.8
25	7.6	7.4	7.6	7.6	7.5	7.6	7.8	7.8	7.8	7.8	7.8	7.8
26	7.7	7.6	7.6	7.7	7.6	7.6	7.9	7.8	7.8	7.8	7.8	7.8
27	7.7	7.6	7.6	7.6	7.4	7.5	7.9	7.8	7.9	7.8	7.8	7.8
28	7.7	7.6	7.6	7.5	7.4	7.4	7.9	7.8	7.9	7.8	7.8	7.8
29	7.7	7.6	7.7	7.5	7.4	7.4	7.9	7.9	7.9	7.8	7.8	7.8
30	7.7	7.6	7.7	7.6	7.5	7.5	7.9	7.9	7.9	8.0	7.8	7.9
31	7.7	7.7	7.7	---	---	---	7.9	7.9	7.9	7.9	7.6	7.6
MAX	7.9	7.7	7.7	8.1	7.6	7.7	7.9	7.9	7.9	8.0	7.9	7.9
MIN	7.4	7.4	7.4	7.5	7.3	7.4	7.4	7.3	7.3	7.8	7.6	7.6
DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
FEBRUARY			MARCH			APRIL			MAY			
1	7.7	7.6	7.7	7.8	7.6	7.7	8.3	8.0	8.1	7.6	7.4	7.5
2	7.8	7.7	7.7	7.8	7.6	7.6	8.3	8.0	8.1	7.5	7.4	7.5
3	7.8	7.8	7.8	7.8	7.7	7.7	8.2	8.0	8.0	7.5	7.4	7.4
4	7.8	7.8	7.8	7.7	7.6	7.6	8.3	7.9	8.0	7.4	7.3	7.4
5	7.8	7.8	7.8	8.0	7.6	7.9	8.1	7.9	7.9	7.4	7.3	7.3
6	8.0	7.8	7.9	7.9	7.9	7.9	8.2	7.9	8.0	7.4	7.0	7.2
7	7.9	7.8	7.8	7.9	7.8	7.8	8.0	7.8	7.9	7.4	6.9	7.0
8	7.8	7.8	7.8	7.9	7.7	7.7	8.0	7.8	7.8	7.3	7.2	7.3
9	7.8	7.8	7.8	7.9	7.7	7.8	7.8	7.7	7.8	7.8	7.2	7.3
10	7.8	7.8	7.8	7.9	7.8	7.8	7.8	7.8	7.8	7.3	7.2	7.2
11	7.8	7.8	7.8	7.9	7.8	7.8	7.8	7.8	7.8	7.4	7.3	7.3
12	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.7	7.8	7.5	7.4	7.4
13	7.8	7.8	7.8	7.9	7.8	7.8	7.9	7.7	7.8	7.6	7.4	7.5
14	7.9	7.8	7.9	8.0	7.9	7.9	7.8	7.7	7.8	7.6	7.5	7.5
15	7.9	7.9	7.9	8.0	7.9	7.9	7.9	7.7	7.8	7.6	7.5	7.5
16	8.0	7.8	7.9	8.0	7.9	7.9	7.9	7.7	7.8	7.5	7.5	7.5
17	7.9	7.8	7.8	7.9	7.9	7.9	7.8	7.7	7.8	7.6	7.1	7.5
18	8.0	7.8	7.9	8.0	7.9	7.9	7.8	7.6	7.7	7.4	7.2	7.3
19	8.0	7.8	7.9	8.0	7.8	7.9	7.8	7.7	7.7	7.4	7.3	7.4
20	8.0	7.8	7.8	7.9	7.8	7.8	7.8	7.6	7.7	7.5	7.4	7.4
21	7.9	7.7	7.8	7.9	7.8	7.8	7.8	7.6	7.7	7.6	7.5	7.5
22	7.8	7.7	7.7	7.9	7.9	7.9	7.8	7.6	7.7	7.9	7.5	7.8
23	7.9	7.7	7.8	8.0	7.9	7.9	7.9	7.2	7.8	7.9	7.8	7.8
24	8.0	7.8	7.9	8.0	7.9	8.0	7.6	7.2	7.3	7.9	7.8	7.8
25	8.0	7.9	7.9	8.1	7.8	7.9	7.7	7.6	7.6	7.9	7.8	7.8
26	8.0	7.8	7.9	7.9	7.8	7.9	7.8	7.7	7.8	7.9	7.8	7.9
27	7.9	7.8	7.8	8.0	7.8	7.9	7.8	7.8	7.8	7.9	7.8	7.8
28	7.8	7.8	7.8	8.0	7.9	8.0	7.8	7.6	7.7	8.0	7.8	7.8
29	---	---	---	8.1	7.9	8.0	7.9	7.7	7.8	7.8	7.5	7.6
30	---	---	---	8.1	7.9	8.0	7.7	7.5	7.6	7.7	7.6	7.6
31	---	---	---	8.1	7.9	8.0	---	---	---	7.7	7.6	7.7
MAX	8.0	7.9	7.9	8.1	7.9	8.0	8.3	8.0	8.1	8.0	7.8	7.9
MIN	7.7	7.6	7.7	7.7	7.6	7.6	7.6	7.2	7.3	7.3	6.9	7.0

07178200 BIRD CREEK AT STATE HIGHWAY 266 NEAR CATOOSA, OK--Continued

PH, WH, FIELD VIA SATELLITE, in (STANDARD UNITS), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	7.7	7.6	7.7	7.6	7.5	7.5	7.5	7.2	7.3	7.6	7.5	7.5
2	7.7	7.7	7.7	---	---	---	7.4	7.2	7.3	7.6	7.5	7.6
3	7.7	7.7	7.7	---	---	---	7.3	7.2	7.3	7.6	7.5	7.5
4	7.7	7.6	7.7	7.6	7.5	7.5	7.3	7.2	7.2	7.6	7.4	7.5
5	7.8	7.6	7.7	7.6	7.5	7.6	7.3	7.2	7.2	7.6	7.4	7.5
6	7.8	7.6	7.7	7.7	7.5	7.6	7.3	7.2	7.2	7.6	7.4	7.5
7	7.9	7.7	7.8	7.6	7.5	7.6	7.2	7.1	7.2	7.5	7.4	7.5
8	7.8	7.8	7.8	7.6	7.5	7.5	7.2	7.0	7.2	7.5	7.4	7.5
9	7.9	7.8	7.8	7.5	7.4	7.5	7.2	7.0	7.1	7.5	7.4	7.5
10	7.9	7.8	7.8	7.5	7.4	7.5	7.2	7.0	7.1	7.5	7.4	7.5
11	7.9	7.8	7.8	7.6	7.4	7.4	7.1	6.9	7.0	7.5	7.4	7.5
12	7.9	7.8	7.8	7.6	7.4	7.5	7.1	7.0	7.1	7.7	7.5	7.6
13	8.1	7.3	7.6	7.6	7.5	7.6	7.1	7.0	7.0	7.7	7.6	7.7
14	7.6	7.3	7.4	7.6	7.5	7.6	---	---	---	7.7	7.5	7.6
15	7.7	7.6	7.7	7.6	7.4	7.5	---	---	---	7.6	7.5	7.6
16	7.8	7.7	7.8	7.5	7.4	7.5	---	---	---	7.6	7.5	7.5
17	7.8	7.7	7.7	7.6	7.4	7.4	7.2	7.1	7.1	7.6	7.5	7.6
18	7.7	7.5	7.7	7.5	7.4	7.5	7.2	7.0	7.1	7.7	7.6	7.6
19	7.5	7.5	7.5	7.5	7.4	7.5	7.1	7.0	7.0	7.7	7.5	7.7
20	7.5	7.5	7.5	7.6	7.5	7.5	7.6	7.0	7.3	7.6	7.5	7.6
21	7.5	7.4	7.5	7.6	7.4	7.5	7.4	7.3	7.4	7.7	7.6	7.7
22	7.5	7.4	7.5	7.5	7.4	7.5	7.5	7.3	7.4	7.7	7.6	7.6
23	7.5	7.5	7.5	7.5	7.4	7.5	7.6	7.4	7.5	7.7	7.6	7.6
24	7.6	7.5	7.5	7.5	7.4	7.5	7.6	7.4	7.5	7.7	7.6	7.6
25	7.6	7.4	7.5	7.5	7.4	7.5	7.5	7.4	7.5	7.7	7.6	7.7
26	7.5	7.4	7.5	7.5	7.3	7.5	7.6	7.4	7.5	7.7	7.6	7.7
27	7.6	7.5	7.5	7.5	7.3	7.4	7.6	7.4	7.4	7.7	7.6	7.7
28	7.6	7.4	7.5	7.5	7.3	7.4	7.4	7.3	7.3	7.7	7.6	7.7
29	7.6	7.5	7.5	7.4	7.2	7.4	7.4	7.3	7.3	7.7	7.6	7.7
30	7.6	7.5	7.6	7.3	7.2	7.2	7.3	7.2	7.2	7.7	7.6	7.6
31	---	---	---	7.4	7.2	7.2	7.5	7.2	7.2	---	---	---
MAX	8.1	7.8	7.8	7.7	7.5	7.6	7.6	7.4	7.5	7.7	7.6	7.7
MIN	7.5	7.3	7.4	7.3	7.2	7.2	7.1	6.9	7.0	7.5	7.4	7.5

WATER TEMPERATURE VIA SATELLITE, in (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	21.6	20.9	21.2	17.3	15.8	16.5	9.4	8.0	8.7	5.6	4.2	5.0
2	21.5	20.9	21.1	18.2	17.0	17.7	10.0	8.1	9.3	5.0	4.1	4.6
3	21.4	21.0	21.2	17.8	16.7	17.4	11.4	9.3	10.7	4.7	2.3	3.7
4	22.2	21.4	21.7	17.8	16.9	17.4	13.1	10.8	12.2	4.9	3.5	4.3
5	22.7	20.0	21.7	18.2	16.9	17.4	14.6	12.8	13.9	5.9	4.2	5.1
6	20.0	19.2	19.5	18.0	17.1	17.4	14.2	13.0	13.8	5.5	4.4	5.1
7	19.9	18.5	19.2	18.1	17.5	17.9	13.6	12.9	13.2	5.4	4.1	4.8
8	19.0	18.4	18.6	18.0	17.2	17.7	13.2	12.0	12.9	6.0	4.1	5.1
9	19.5	18.6	18.9	17.2	15.8	16.6	12.0	10.6	11.5	7.1	5.2	6.2
10	20.0	18.7	19.6	16.5	15.8	16.1	10.8	9.9	10.5	7.9	6.4	7.2
11	19.3	19.0	19.1	16.4	15.5	16.0	10.4	9.6	10.1	7.7	6.7	7.2
12	19.8	18.8	19.2	16.4	15.4	15.9	10.6	8.9	9.8	7.8	6.6	7.3
13	19.9	18.4	19.0	16.6	15.5	16.1	10.3	9.7	10.1	8.3	6.8	7.6
14	19.2	18.0	18.5	17.1	16.0	16.6	10.7	9.7	10.3	8.5	7.2	7.9
15	18.9	17.4	18.1	17.1	16.3	16.7	9.9	9.4	9.7	8.1	7.3	7.7
16	17.4	16.4	16.7	16.8	16.1	16.5	10.6	9.4	10.1	8.3	7.3	7.9
17	16.9	15.9	16.5	17.0	16.2	16.6	10.6	9.9	10.2	8.2	7.6	7.9
18	17.1	15.9	16.5	17.5	16.6	17.0	10.5	9.8	10.1	7.8	6.8	7.1
19	17.9	16.5	17.2	17.4	14.9	16.2	10.5	9.5	10.1	7.2	6.3	6.8
20	18.6	17.1	17.8	14.9	13.2	14.1	9.6	8.7	9.2	7.2	6.3	6.8
21	19.7	17.8	18.8	13.7	12.8	13.3	10.0	8.8	9.5	7.5	6.0	6.8
22	20.1	18.8	19.5	13.8	12.7	13.3	10.6	9.2	10.2	8.5	6.8	7.6
23	21.0	19.5	20.3	14.6	13.2	14.1	9.8	8.4	9.4	9.7	8.4	9.1
24	21.1	20.3	20.6	14.8	12.4	13.4	8.4	7.3	7.9	9.5	7.8	8.6
25	20.3	18.1	19.2	13.1	12.4	12.8	7.6	6.8	7.2	8.2	7.6	7.8
26	18.1	16.8	17.3	13.6	12.5	13.1	7.0	6.3	6.7	8.3	7.1	7.8
27	16.8	16.1	16.4	12.9	11.2	12.3	7.2	5.9	6.6	9.2	7.6	8.4
28	16.5	15.6	16.1	11.2	9.0	10.2	7.6	6.2	6.9	10.2	8.6	9.5
29	16.4	15.3	15.9	9.0	8.1	8.8	7.0	6.0	6.6	10.2	9.5	10.0
30	16.6	15.6	16.1	8.9	8.0	8.5	6.0	5.0	5.5	9.5	4.4	6.3
31	16.5	15.6	16.1	---	---	---	5.4	4.3	4.9	4.4	3.8	4.1
MONTH	22.7	15.3	18.6	18.2	8.0	15.1	14.6	4.3	9.6	10.2	2.3	6.8

ARKANSAS RIVER BASIN

07178200 BIRD CREEK AT STATE HIGHWAY 266 NEAR CATOOSA, OK--Continued

WATER TEMPERATURE VIA SATELLITE, in (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	4.6	3.6	4.0	8.2	7.3	7.9	16.7	15.2	15.9	21.9	18.7	20.0
2	5.2	3.8	4.4	7.6	4.3	6.3	16.7	15.0	15.9	21.6	19.7	20.3
3	6.5	4.9	5.3	5.1	4.2	4.6	15.0	13.6	14.1	20.0	18.8	19.2
4	6.7	5.7	6.0	5.6	3.5	4.2	14.3	13.2	13.8	19.8	18.5	19.0
5	6.8	5.9	6.4	7.7	4.0	5.5	13.9	13.1	13.6	21.3	18.7	19.7
6	6.3	5.6	5.9	9.0	6.5	7.7	14.2	13.3	13.8	22.1	20.8	21.3
7	6.9	6.0	6.2	10.6	8.9	9.3	13.5	11.8	13.0	23.0	21.2	21.9
8	7.0	6.3	6.6	12.2	10.6	11.5	12.9	11.7	12.3	23.3	22.3	22.7
9	7.8	6.9	7.2	12.3	10.7	11.5	15.0	12.8	13.7	23.3	19.3	21.3
10	8.1	6.6	7.5	10.9	10.0	10.5	17.3	14.3	15.5	20.2	19.3	19.5
11	7.3	6.6	6.8	10.8	10.0	10.5	17.9	16.0	16.9	20.6	18.8	19.5
12	8.2	6.7	7.5	11.4	10.1	10.7	19.3	17.4	18.1	20.8	20.2	20.5
13	8.9	7.3	8.1	12.5	10.9	11.7	19.4	17.9	18.5	20.9	17.7	19.4
14	8.7	7.7	8.2	14.3	12.0	13.2	20.3	17.9	18.7	21.8	19.2	20.5
15	8.9	7.9	8.4	14.0	12.3	13.6	21.2	19.4	20.2	21.7	19.9	20.5
16	9.2	8.0	8.5	12.3	11.0	11.6	21.3	20.2	20.7	20.7	20.2	20.4
17	9.7	8.2	8.9	11.6	10.9	11.3	22.1	20.1	20.8	20.7	18.5	19.5
18	10.1	8.6	9.4	12.0	11.5	11.8	22.5	21.8	22.1	19.2	18.0	18.6
19	12.5	9.4	11.0	12.2	11.5	11.9	22.4	21.8	22.1	20.1	18.4	19.1
20	12.2	11.2	11.6	12.8	11.1	11.9	22.4	20.5	21.6	20.3	19.4	19.8
21	12.3	11.1	11.8	12.4	11.0	11.5	21.7	20.4	21.2	21.5	19.0	20.1
22	12.1	11.0	11.6	11.4	9.8	10.4	21.3	19.4	20.4	21.7	19.8	20.7
23	11.9	11.0	11.4	11.1	10.3	10.7	21.3	16.2	19.0	21.6	20.6	21.0
24	12.5	11.1	11.7	12.6	11.1	12.0	18.3	16.5	17.4	21.3	20.7	21.0
25	11.7	9.8	11.3	13.4	11.1	12.5	18.7	17.3	18.0	21.3	20.5	20.9
26	9.8	7.2	8.6	11.1	9.8	10.3	18.1	16.6	17.3	22.6	19.9	21.0
27	7.6	6.6	7.1	11.6	10.6	11.1	18.0	15.8	16.6	22.6	21.3	22.0
28	8.3	6.7	7.4	13.7	11.6	12.8	17.9	16.4	16.8	22.5	20.1	21.5
29	---	---	---	15.4	13.5	14.7	18.1	16.4	17.2	21.6	20.4	21.1
30	---	---	---	15.4	14.6	15.1	19.1	17.7	18.3	23.8	21.2	22.2
31	---	---	---	15.7	14.3	14.9	---	---	---	25.8	22.8	24.0
MONTH	12.5	3.6	8.2	15.7	3.5	10.7	22.5	11.7	17.4	25.8	17.7	20.6
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	26.9	24.2	25.4	28.8	26.7	27.9	31.0	28.8	29.9	28.3	27.5	28.0
2	27.5	25.5	26.6	---	---	---	31.4	29.7	30.6	28.7	27.8	28.3
3	27.8	26.2	27.1	---	---	---	31.5	30.3	31.0	28.9	28.2	28.7
4	28.5	26.8	27.7	27.9	26.4	27.1	31.7	30.6	31.2	29.1	28.6	28.9
5	28.3	24.3	25.8	28.6	27.4	28.0	31.3	30.3	30.9	29.3	28.6	29.0
6	25.7	23.6	24.5	29.3	28.4	28.8	31.0	30.0	30.6	29.4	28.6	29.0
7	26.1	24.1	24.9	29.9	28.8	29.3	30.7	29.8	30.3	29.3	28.4	28.8
8	26.4	24.4	25.3	30.0	29.4	29.7	30.5	29.6	30.1	29.0	27.7	28.2
9	26.8	25.1	26.0	30.7	28.8	29.7	30.1	28.9	29.5	27.8	27.1	27.6
10	26.9	25.8	26.4	30.8	29.8	30.4	29.8	28.8	29.2	28.0	27.2	27.6
11	27.8	26.0	26.8	30.6	27.6	28.7	29.3	27.7	28.6	27.9	27.0	27.4
12	27.8	26.1	27.1	29.5	28.8	29.2	29.3	27.8	28.4	27.6	26.9	27.2
13	27.1	23.6	24.6	29.2	28.2	28.6	28.3	24.0	27.3	27.1	26.4	26.8
14	24.5	23.0	23.7	28.7	27.0	28.0	---	---	---	27.0	25.3	26.2
15	25.3	23.5	24.3	28.7	27.0	27.8	---	---	---	25.3	24.7	25.1
16	25.4	23.5	24.4	29.0	28.0	28.5	---	---	---	25.3	24.4	24.7
17	25.8	24.6	25.2	29.3	27.6	28.3	27.8	26.8	27.2	25.8	24.6	25.1
18	25.5	24.4	24.9	29.1	27.7	28.3	29.0	27.2	28.0	26.5	25.1	25.8
19	26.7	24.5	25.4	29.7	28.5	29.1	29.6	27.9	28.8	26.6	24.4	25.4
20	27.4	25.1	26.1	30.5	29.1	29.8	29.9	28.8	29.4	25.3	23.9	24.6
21	27.8	26.3	27.1	30.8	29.7	30.4	30.1	29.1	29.7	25.2	23.6	24.3
22	28.8	26.7	27.7	31.0	29.9	30.5	30.2	29.1	29.7	24.5	22.7	23.3
23	28.8	27.1	28.0	30.9	29.8	30.4	30.6	30.0	30.3	23.6	22.2	22.8
24	28.8	27.3	28.1	30.8	29.8	30.3	30.7	28.5	29.7	23.3	21.9	22.5
25	29.0	27.6	28.3	30.9	29.3	30.2	28.6	27.1	28.0	23.0	22.0	22.4
26	29.1	27.9	28.6	31.0	29.5	30.4	28.9	26.9	28.0	23.0	22.5	22.8
27	29.6	28.2	28.9	30.9	29.5	30.2	28.7	27.3	28.0	23.2	22.4	22.8
28	29.8	28.6	29.3	30.6	29.3	29.8	28.9	27.6	28.2	23.6	22.6	23.1
29	30.0	28.9	29.4	29.4	25.1	27.3	29.1	28.0	28.6	24.3	23.4	23.8
30	29.7	28.5	29.0	28.6	26.7	27.5	28.9	27.5	28.1	24.5	23.8	24.2
31	---	---	---	30.0	28.2	28.9	28.2	27.3	27.8	---	---	---
MONTH	30.0	23.0	26.6	31.0	25.1	29.1	31.7	24.0	29.2	29.4	21.9	25.8
YEAR	31.7	2.3	18.0									

07178200 BIRD CREEK AT STATE HIGHWAY 266 NEAR CATOOSA, OK--Continued

OXYGEN DISSOLVED VIA SATELLITE, in (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

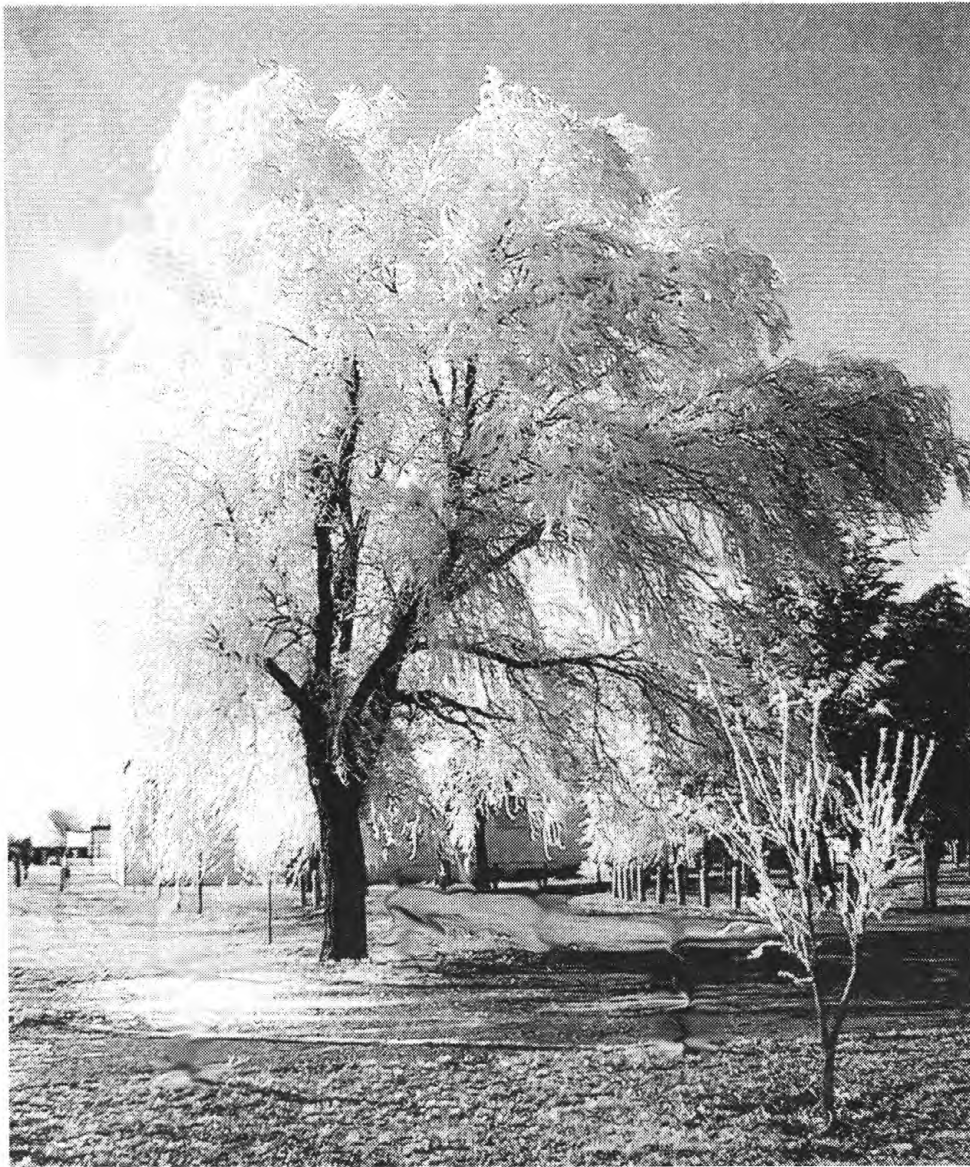
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	8.4	7.8	8.1	8.8	8.1	8.6	10.8	10.6	10.7	13.1	12.6	12.8
2	8.4	7.9	8.1	8.1	7.4	7.9	10.7	10.5	10.6	13.1	12.7	13.0
3	8.4	7.9	8.1	8.2	6.5	7.7	10.8	10.1	10.4	13.6	12.7	13.1
4	8.3	7.8	8.0	7.9	6.8	7.2	10.2	9.6	10.0	13.1	12.6	12.8
5	8.2	7.4	7.8	8.0	7.3	7.9	9.7	9.0	9.4	12.9	12.3	12.6
6	8.3	7.9	8.0	7.9	7.3	7.7	9.2	8.9	9.0	12.7	12.4	12.6
7	8.5	8.1	8.3	7.3	7.0	7.2	9.7	9.1	9.4	13.0	12.5	12.7
8	8.8	8.3	8.6	7.1	6.9	7.0	9.8	9.4	9.6	13.0	12.3	12.7
9	9.0	8.2	8.6	7.5	6.9	7.3	10.4	9.6	10.1	12.7	12.1	12.5
10	8.2	6.8	7.5	7.5	7.1	7.3	10.8	10.2	10.6	12.5	11.8	12.2
11	7.8	7.1	7.4	7.4	7.0	7.2	11.0	10.6	10.8	12.4	11.8	12.1
12	7.9	7.2	7.4	7.5	7.1	7.3	10.9	10.4	10.8	12.6	11.9	12.3
13	8.1	7.6	7.9	8.0	7.2	7.6	10.4	9.8	10.0	12.3	11.7	12.1
14	8.2	7.6	7.9	7.7	6.9	7.4	10.3	9.5	9.9	12.2	11.5	11.9
15	8.5	8.0	8.1	7.8	7.0	7.4	10.3	9.9	10.1	12.4	11.5	11.9
16	9.0	8.5	8.7	7.7	7.1	7.3	10.9	10.0	10.4	12.1	11.4	11.8
17	9.1	7.9	8.7	7.6	6.9	7.3	10.8	10.6	10.8	11.9	11.3	11.5
18	8.7	8.4	8.6	7.3	6.9	7.0	10.8	10.5	10.6	12.3	11.4	11.8
19	8.6	8.2	8.4	7.6	6.9	7.3	10.9	10.5	10.7	12.3	11.4	11.8
20	8.7	8.2	8.4	7.9	7.5	7.7	11.2	10.9	11.0	12.6	11.7	12.2
21	8.7	8.0	8.3	8.4	7.8	8.1	---	---	---	12.7	11.8	12.2
22	8.4	7.9	8.2	8.0	7.6	7.7	---	---	---	12.8	11.5	12.0
23	8.1	7.5	7.9	8.2	7.8	8.1	---	---	---	11.9	10.9	11.5
24	7.7	7.3	7.5	8.4	7.7	8.0	---	---	---	11.4	10.1	10.7
25	7.6	7.1	7.4	8.2	7.7	8.0	---	---	---	11.1	10.5	10.9
26	8.4	7.5	8.0	8.6	8.2	8.4	---	---	---	11.4	10.9	11.1
27	8.6	8.0	8.3	8.6	8.2	8.4	---	---	---	11.4	10.9	11.2
28	8.8	8.1	8.5	9.4	8.6	9.1	---	---	---	11.1	10.5	10.9
29	9.0	8.4	8.7	10.2	9.4	9.8	12.0	11.7	11.9	10.6	10.2	10.5
30	9.1	8.5	8.8	10.8	10.2	10.4	12.6	12.0	12.4	12.4	10.1	11.5
31	9.1	8.6	8.8	---	---	---	13.0	12.4	12.8	12.5	11.1	11.9
MONTH	9.1	6.8	8.2	10.8	6.5	7.8	13.0	8.9	10.5	13.6	10.1	12.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	12.9	12.3	12.5	12.4	11.3	12.0	11.5	10.5	11.0	---	---	---
2	13.0	12.8	12.9	13.1	11.4	11.9	11.2	9.4	10.2	---	---	---
3	12.8	12.4	12.6	13.4	12.8	13.0	11.3	9.7	10.4	---	---	---
4	12.4	12.2	12.3	13.5	12.8	13.1	11.5	10.2	10.8	---	---	---
5	12.3	12.0	12.1	13.2	12.0	12.4	11.7	10.6	11.0	---	---	---
6	12.3	12.2	12.2	12.4	11.0	11.4	11.8	10.4	11.0	---	---	---
7	12.3	12.0	12.2	11.5	10.7	11.0	11.1	9.4	10.4	---	---	---
8	12.3	11.9	12.1	11.1	10.0	10.3	10.1	9.5	10.0	6.7	6.4	6.6
9	12.3	12.0	12.1	11.2	9.8	10.4	10.1	9.8	9.9	7.2	5.6	6.9
10	12.1	11.6	11.9	11.5	10.9	11.2	9.9	9.6	9.7	7.5	6.9	7.3
11	12.3	12.1	12.2	11.7	10.9	11.2	9.7	9.0	9.2	7.9	7.5	7.8
12	12.3	11.9	12.1	11.5	10.9	11.2	9.5	8.5	8.9	7.9	7.6	7.7
13	12.2	12.0	12.1	11.8	11.4	11.6	9.5	8.3	8.8	8.2	6.9	7.9
14	12.2	12.0	12.1	11.8	11.2	11.5	9.3	8.3	8.7	8.3	7.9	8.1
15	12.1	12.0	12.1	11.3	10.6	11.0	9.4	8.1	8.8	8.2	7.8	8.0
16	12.3	12.0	12.1	11.6	10.7	11.2	9.4	7.8	8.4	8.0	7.5	7.7
17	12.3	11.9	12.1	11.6	11.1	11.3	8.7	7.9	8.2	8.2	6.3	7.5
18	12.2	11.6	11.9	11.3	10.6	11.1	8.8	7.5	8.1	8.3	7.0	7.9
19	12.5	9.4	10.8	10.6	9.7	10.0	8.4	7.7	8.0	8.5	8.3	8.4
20	10.3	9.6	9.9	10.6	9.9	10.2	8.4	5.4	7.0	8.5	8.3	8.4
21	10.4	9.8	10.1	11.2	10.3	10.6	8.4	7.8	8.0	8.7	8.4	8.6
22	10.5	10.0	10.2	11.6	10.9	11.2	8.8	8.0	8.4	8.9	7.9	8.2
23	11.2	10.5	10.9	11.7	11.3	11.5	---	---	---	8.3	7.7	8.0
24	11.3	10.7	11.0	11.6	10.7	11.2	---	---	---	8.3	7.1	7.9
25	11.1	10.8	10.9	10.9	9.0	9.8	---	---	---	8.7	7.9	8.2
26	12.3	10.8	11.7	11.2	10.0	10.5	---	---	---	8.8	8.1	8.4
27	12.9	12.0	12.5	11.4	10.4	10.8	---	---	---	8.7	7.5	8.1
28	12.7	12.2	12.5	11.3	10.8	11.1	---	---	---	8.2	7.2	7.8
29	---	---	---	11.2	10.4	10.9	---	---	---	8.1	7.4	7.7
30	---	---	---	10.9	9.9	10.5	---	---	---	7.8	7.6	7.7
31	---	---	---	10.8	10.0	10.5	---	---	---	7.6	7.4	7.5
MONTH	13.0	9.4	11.8	13.5	9.0	11.1	11.8	5.4	9.3	8.9	5.6	7.8

ARKANSAS RIVER BASIN

07178200 BIRD CREEK AT STATE HIGHWAY 266 NEAR CATOOSA, OK--Continued

OXYGEN DISSOLVED VIA SATELLITE, in (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	7.5	7.0	7.2	8.2	7.3	7.9	7.7	6.4	7.0	7.8	6.6	7.2
2	7.4	6.9	7.1	---	---	---	7.6	6.3	6.9	7.9	6.7	7.4
3	7.3	6.8	7.0	---	---	---	7.4	6.3	6.9	7.9	6.7	7.3
4	7.4	6.6	7.0	8.4	7.4	7.9	7.4	6.3	6.9	7.7	6.5	7.1
5	7.3	6.2	6.8	8.8	7.4	8.2	7.4	6.4	6.9	7.8	6.9	7.3
6	8.1	6.2	7.3	9.2	8.0	8.5	7.5	6.5	7.0	7.9	7.0	7.4
7	8.5	7.9	8.2	8.9	7.3	8.2	7.4	6.4	6.9	7.9	6.6	7.4
8	8.5	7.8	8.2	8.6	7.4	7.9	7.5	6.3	7.0	7.9	6.7	7.3
9	8.5	7.5	8.0	8.3	5.9	7.2	7.6	6.6	7.1	8.0	7.1	7.4
10	8.2	7.4	7.8	7.9	6.5	7.1	7.6	6.6	7.1	8.2	7.2	7.7
11	8.2	7.4	7.8	7.7	3.1	4.9	7.4	4.6	6.0	8.2	7.3	7.8
12	8.3	6.9	7.7	6.5	4.6	5.7	7.4	6.3	6.9	9.7	7.4	8.7
13	7.8	5.6	6.4	6.2	5.3	5.7	7.4	6.3	6.8	9.7	7.9	8.7
14	7.5	6.0	6.8	6.7	5.8	6.2	9.5	6.6	8.0	8.2	7.0	7.5
15	8.2	7.5	7.9	6.7	5.0	5.8	---	---	---	7.7	6.7	7.1
16	8.3	7.8	8.2	6.8	5.8	6.2	---	---	---	7.7	6.0	6.9
17	8.4	8.2	8.3	7.0	5.2	6.0	---	---	---	6.7	6.1	6.4
18	8.4	7.9	8.2	6.9	6.2	6.5	---	---	---	6.8	6.0	6.4
19	8.2	7.6	8.0	7.1	6.1	6.6	---	---	---	6.7	5.3	5.9
20	8.0	7.5	7.8	7.2	6.3	6.8	---	---	---	6.3	5.3	5.8
21	8.0	7.2	7.6	7.3	6.2	6.8	5.9	4.8	5.4	6.7	6.2	6.4
22	7.9	7.2	7.6	7.2	6.2	6.8	6.2	5.1	5.6	7.0	6.4	6.6
23	8.0	7.1	7.6	7.3	6.2	6.8	6.4	5.6	6.1	8.4	6.7	7.8
24	8.1	7.4	7.6	7.3	6.3	6.8	6.4	5.4	6.0	8.4	7.8	8.0
25	8.0	7.0	7.4	7.4	6.2	6.9	6.3	5.6	6.0	8.2	7.6	7.9
26	7.8	6.8	7.3	7.4	6.2	6.8	6.9	5.8	6.3	8.1	7.4	7.7
27	7.9	6.8	7.4	7.5	6.4	7.0	6.5	4.8	5.5	8.0	7.3	7.6
28	8.1	7.0	7.5	7.5	6.4	6.9	5.1	3.9	4.4	7.9	7.2	7.5
29	8.1	7.2	7.6	7.3	4.8	6.4	6.0	4.4	5.4	8.0	7.1	7.4
30	8.1	7.2	7.7	6.6	6.0	6.4	6.1	5.0	5.5	7.6	6.9	7.3
31	---	---	---	7.4	6.1	6.5	7.1	5.5	6.2	---	---	---
MONTH	8.5	5.6	7.6	9.2	3.1	6.8	9.5	3.9	6.4	9.7	5.3	7.3



Hoar frost on elm tree, Boise City, Oklahoma

ARKANSAS RIVER BASIN

07178520 DOG CREEK SOUTH OF CLAREMORE, OK

LOCATION.--Lat 36°16'42", long 95°36'41", in NW 1/4 NW 1/4 sec.28, T.21 N., R.16 E., Rogers County, Hydrologic Unit 11070105, on right downstream abutment of county road bridge, 2.4 mi south of Claremore, 1.5 mi downstream from Cat Creek, and 3.1 mi upstream from Panther Creek.

WATER-DISCHARGE RECORDS

DRAINAGE AREA.--74.9 mi².

PERIOD OF RECORD.--August 1997 to current year.

GAGE.--Water-stage recorder. Datum of gage is 548.52 ft above sea level from topographic map.

REMARKS.--Records good. U.S. Geological Survey satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	e3.3	8.6	11	22	e13	e15	e16	24	26	13	e12
2	4.6	e3.3	8.2	12	e14	e17	34	e19	14	16	12	e11
3	4.7	e98	8.9	12	e14	e15	37	e15	11	13	14	e14
4	3.9	e14.6	9.4	12	e14	e19	e16	e14	13	12	12	e13
5	3.1	e5.6	11	13	e14	26	e14	e14	41	14	12	e11
6	4.0	e4.6	11	13	e18	28	e14	e16	19	16	12	e11
7	6.1	e4.4	10	13	e15	18	e42	e14	14	17	12	e14
8	4.6	e3.7	9.9	13	e14	16	343	e14	15	14	12	e12
9	9.7	e3.9	9.5	14	e14	19	177	e23	17	14	11	e12
10	28	e3.7	9.6	14	e14	16	82	e19	13	13	15	e11
11	9.0	e4.1	15	14	e14	14	48	e14	13	23	13	e11
12	e3.7	e3.9	25	14	e14	13	36	e13	105	27	13	e11
13	13	e3.6	19	15	e14	13	26	e24	432	29	61	e11
14	4.0	e3.6	21	14	e14	13	19	e19	110	48	256	16
15	3.1	e4.4	17	14	e14	28	16	e15	41	17	e17	11
16	3.1	e4.5	76	14	e14	15	15	e14	68	15	e11	11
17	e3.1	e4.4	59	14	e14	12	16	243	33	13	e15	10
18	e3.2	e10	18	14	e13	15	15	188	20	14	e12	10
19	e3.4	22	14	15	e19	45	26	69	14	14	e12	30
20	e3.2	7.0	12	14	e13	56	46	44	14	18	e11	e7.5
21	e3.3	5.5	12	14	e13	57	31	30	14	15	e12	e12
22	e3.3	5.0	12	15	e13	28	20	19	16	15	e11	e6.2
23	e3.4	5.4	11	17	e13	14	583	13	13	16	e12	e4.9
24	e3.3	18	11	17	e13	13	518	25	12	17	e13	e4.5
25	e3.3	7.3	11	15	e14	113	e154	23	13	16	e15	e5.6
26	e3.5	6.5	12	14	e16	76	e63	16	11	16	e12	e4.0
27	e3.4	7.2	12	14	e13	40	e22	15	11	16	e11	e3.9
28	e3.3	8.0	12	15	e14	30	e17	80	13	15	e11	5.8
29	e3.3	9.1	12	15	---	34	e18	238	15	96	e11	3.4
30	e3.4	8.6	12	135	---	19	e15	72	13	17	e11	3.6
31	e3.4	---	11	123	---	17	---	41	---	12	e14	---
TOTAL	159.1	293.2	500.1	663	405	852	2478	1379	1162	624	679	303.4
MEAN	5.132	9.773	16.13	21.39	14.46	27.48	82.60	44.48	38.73	20.13	21.90	10.11
MAX	28	98	76	135	22	113	583	243	432	96	256	30
MIN	3.1	3.3	8.2	11	13	12	14	13	11	12	11	3.4
AC-FT	316	582	992	1320	803	1690	4920	2740	2300	1240	1350	602

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2002, BY WATER YEAR (WY)

	1997	1998	1999	2000	2001	2002
MEAN	15.89	12.56	25.91	47.40	56.33	129.7
MAX	51.2	20.1	46.8	88.7	145	258
(WY)	1999	1999	1998	2001	2001	1998
MIN	3.31	8.02	8.31	3.65	13.2	27.5
(WY)	2000	2000	2001	2000	2000	2002

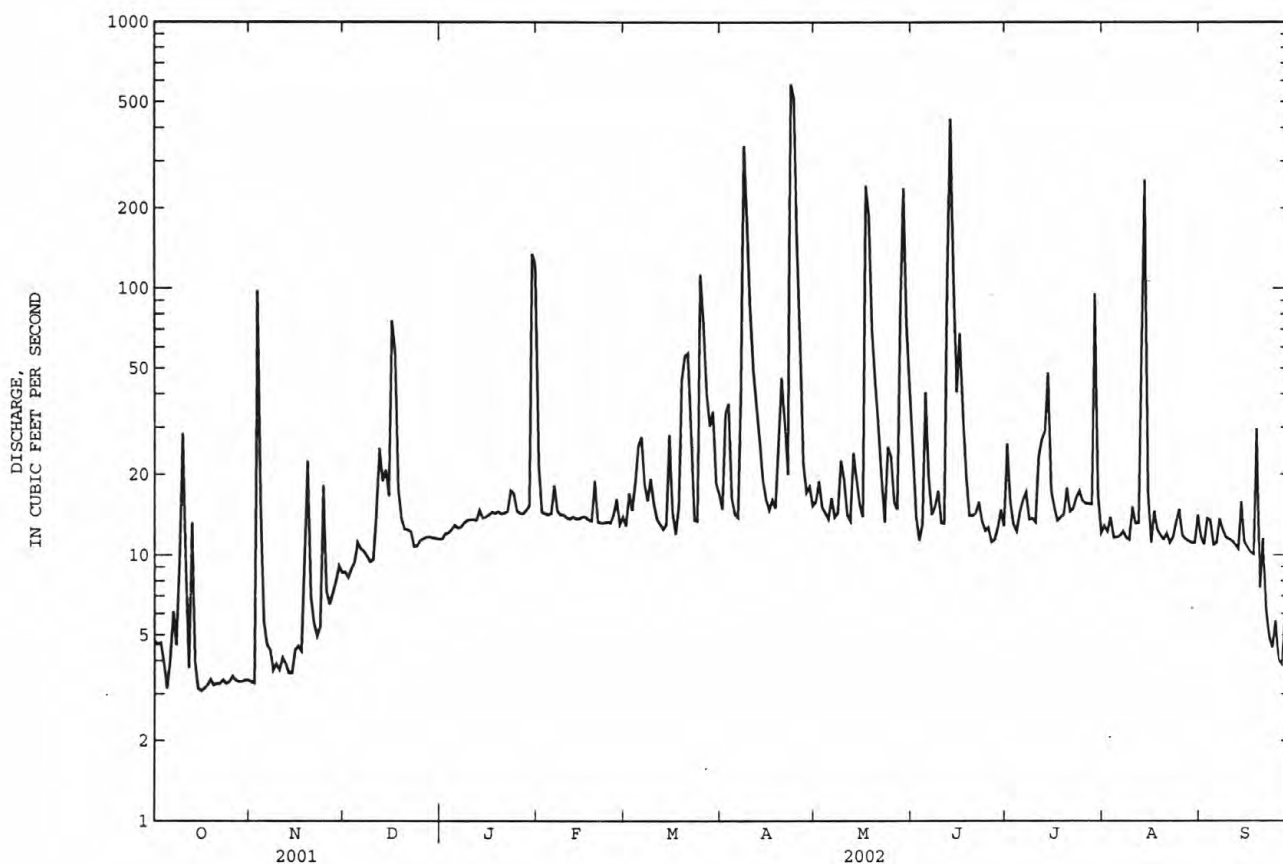
e Estimated

ARKANSAS RIVER BASIN

119

07178520 DOG CREEK SOUTH OF CLAREMORE, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1997 - 2002	
ANNUAL TOTAL	12366.6		9497.8		53.64	
ANNUAL MEAN	33.88		26.02		98.7	
HIGHEST ANNUAL MEAN					26.0	
LOWEST ANNUAL MEAN					1990	
HIGHEST DAILY MEAN	1380	Jan 29	583	Apr 23	1990	Apr 26 1999
LOWEST DAILY MEAN	3.1	Sep 21	3.1	Oct 5,15-17	0.00	Nov 12 1999
ANNUAL SEVEN-DAY MINIMUM	3.2	Oct 15	3.2	Oct 15	0.20	Nov 26 1999
MAXIMUM PEAK FLOW			915	Apr 23	2280	Jun 20 1999
MAXIMUM PEAK STAGE			13.85	Apr 23	19.47	Jun 20 1999
ANNUAL RUNOFF (AC-FT)	24530		18840		38860	
10 PERCENT EXCEEDS	64		41		102	
50 PERCENT EXCEEDS	8.8		14		13	
90 PERCENT EXCEEDS	4.1		4.4		3.2	



ARKANSAS RIVER BASIN

07178520 DOG CREEK SOUTH OF CLAREMORE, OK --Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--August 1997 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: August 1997 to current year.

INSTRUMENTATION.--Water temperature recorder provides continuous readings.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 32.0°C, July 10, 1998; minimum, -0.6°C, Dec. 13, 2000.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 31.5°C, July 10, Aug. 2; minimum, -0.2°C, Jan. 3.

WATER TEMPERATURE VIA SATELLITE, in (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	19.0	16.1	17.6	16.9	14.3	15.7	8.5	5.5	6.8	2.2	0.8	1.3
2	19.1	16.3	17.7	17.2	16.2	16.6	10.2	6.9	8.4	1.6	0.4	0.9
3	19.7	17.0	18.3	17.1	16.6	16.8	12.0	9.6	10.6	1.4	-0.2	0.5
4	20.7	17.8	19.2	18.0	16.5	17.0	15.0	12.0	13.5	2.0	0.1	1.0
5	20.6	16.0	18.5	18.6	15.7	16.9	15.9	14.2	14.9	3.2	1.8	2.5
6	16.5	14.1	15.4	17.9	15.1	16.5	14.2	12.2	13.2	3.6	2.1	2.7
7	16.1	13.1	14.6	17.5	15.4	16.4	12.5	10.3	11.5	3.1	1.4	2.1
8	18.1	14.7	16.2	16.2	14.5	15.5	11.4	8.5	9.8	3.8	1.6	2.6
9	18.1	16.3	17.0	14.5	13.0	13.9	8.5	6.7	7.6	5.9	3.2	4.4
10	19.0	17.7	18.5	14.6	13.0	13.7	7.2	5.2	6.2	6.6	5.1	5.8
11	18.0	17.3	17.7	14.7	12.4	13.5	7.6	5.1	6.2	6.6	4.7	5.5
12	18.7	16.9	17.6	14.4	13.0	13.7	9.1	6.7	7.7	6.3	4.3	5.1
13	18.5	17.2	17.7	15.2	13.2	14.1	9.3	8.7	9.0	6.4	4.4	5.2
14	18.1	16.2	17.0	15.9	14.2	15.1	9.3	8.4	9.0	6.6	4.9	5.5
15	16.2	13.4	14.9	15.8	14.2	15.1	8.4	7.9	8.2	5.8	3.8	4.8
16	14.4	11.8	13.0	15.3	13.9	14.7	9.7	8.3	8.9	6.1	4.9	5.4
17	13.8	11.2	12.5	15.5	14.7	15.1	9.6	9.0	9.3	5.4	4.2	4.9
18	15.0	12.1	13.4	15.9	14.9	15.4	9.2	8.2	8.7	4.2	3.0	3.5
19	16.0	13.3	14.6	15.6	12.0	14.2	8.5	6.6	7.8	4.8	3.1	3.7
20	17.4	14.2	15.7	12.0	9.7	10.9	7.3	5.7	6.4	4.6	3.0	3.6
21	18.7	16.2	17.2	10.4	8.1	9.3	7.8	6.2	6.9	5.3	2.8	3.9
22	19.3	17.0	18.1	11.1	8.5	9.7	9.2	7.2	8.1	7.0	4.0	5.2
23	20.8	18.8	19.6	13.6	10.8	12.2	7.4	5.0	6.5	9.5	7.0	8.2
24	19.6	17.3	18.8	14.2	11.5	12.6	5.0	3.6	4.3	8.8	5.9	7.3
25	17.3	14.5	15.7	12.4	10.2	11.3	4.0	2.8	3.3	6.6	4.5	5.5
26	14.5	12.2	13.3	12.1	10.9	11.4	3.2	2.0	2.6	6.8	4.3	5.4
27	13.0	10.7	11.9	10.9	7.8	9.2	3.8	1.9	2.7	7.9	5.3	6.4
28	13.3	10.8	11.9	7.8	4.9	6.0	4.7	2.6	3.5	9.7	6.8	8.0
29	14.1	11.3	12.6	5.0	4.6	4.8	3.9	2.5	3.2	8.9	7.3	8.2
30	14.6	12.1	13.2	6.9	4.4	5.6	2.5	1.4	2.0	7.3	3.7	4.9
31	14.8	12.9	13.8	---	---	---	2.2	0.5	1.3	4.1	3.3	3.8
MONTH	20.8	10.7	15.9	18.6	4.4	13.1	15.9	0.5	7.4	9.7	-0.2	4.4

ARKANSAS RIVER BASIN

121

07178520 DOG CREEK SOUTH OF CLAREMORE, OK --Continued

WATER TEMPERATURE VIA SATELLITE, in (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	4.4	2.9	3.7	5.7	4.4	5.1	16.3	12.9	14.5	22.2	19.5	20.7
2	4.8	3.7	4.3	5.7	1.1	2.9	15.2	12.1	14.3	22.3	18.3	20.2
3	6.8	4.7	5.6	2.9	-0.1	1.2	12.1	10.1	11.1	18.5	16.9	17.8
4	6.4	5.3	5.9	3.5	-0.1	1.7	14.6	10.9	12.0	18.8	16.8	17.7
5	5.8	4.8	5.3	6.5	2.3	4.2	16.4	10.3	13.0	21.4	18.0	19.5
6	4.8	4.4	4.6	7.8	5.7	6.7	14.3	11.4	12.8	22.7	20.4	21.7
7	6.2	4.7	5.3	11.0	7.8	9.3	12.6	10.7	11.7	24.2	22.3	23.1
8	6.7	5.0	5.7	13.0	11.0	12.0	12.7	11.1	11.9	23.7	22.6	23.3
9	8.1	5.7	6.6	13.0	8.9	10.6	15.5	12.0	13.4	22.6	19.3	20.5
10	6.7	5.0	6.1	9.6	7.1	8.2	17.3	13.1	15.1	21.6	19.2	19.8
11	6.2	3.6	4.8	8.4	7.6	7.9	17.2	14.6	15.6	21.5	19.1	20.0
12	7.0	4.1	5.3	10.6	7.3	8.7	17.4	16.1	16.5	22.3	19.1	21.6
13	8.0	5.3	6.2	12.4	8.5	10.2	---	---	---	21.4	17.4	19.1
14	7.5	5.0	6.1	15.6	11.0	13.0	---	---	---	21.3	19.6	20.4
15	8.3	5.8	6.7	13.7	9.3	11.8	21.5	18.5	19.8	21.3	19.7	20.4
16	8.5	5.4	6.7	9.3	8.0	8.5	21.2	19.9	20.6	19.9	19.3	19.6
17	8.9	6.0	7.3	9.9	8.2	9.1	21.4	18.9	19.8	20.2	18.9	19.7
18	9.3	7.0	8.2	10.7	9.3	9.9	21.9	20.4	21.2	21.4	18.6	19.8
19	11.2	9.1	10.3	11.0	10.5	10.8	22.2	21.0	21.5	21.3	19.1	19.9
20	12.4	10.0	11.0	11.8	10.0	10.9	21.7	19.3	19.9	21.0	19.5	20.2
21	12.1	9.6	10.6	11.6	9.2	10.1	20.8	19.6	20.1	21.0	19.5	20.2
22	11.0	8.3	9.5	9.2	6.6	7.7	20.5	18.8	19.5	22.2	20.7	21.5
23	10.7	8.0	9.2	10.2	6.5	8.2	19.8	15.5	18.2	22.2	21.1	21.6
24	11.8	8.8	10.1	12.3	9.2	10.9	21.2	19.6	20.2	21.4	20.8	21.0
25	10.0	6.7	8.7	12.2	8.0	9.4	20.1	18.0	19.1	21.2	19.7	20.6
26	6.7	2.8	4.7	8.9	7.1	7.9	19.9	16.9	17.7	21.9	19.6	20.5
27	4.5	1.4	2.8	10.8	8.2	9.3	18.5	16.3	16.9	23.5	21.0	22.4
28	6.1	2.2	3.9	13.2	10.4	11.5	19.2	17.3	18.3	22.8	21.2	22.1
29	---	---	---	15.1	12.8	13.8	19.3	18.4	18.9	25.8	22.4	23.4
30	---	---	---	13.9	13.0	13.5	20.2	19.2	19.8	26.1	24.1	25.0
31	---	---	---	14.6	11.7	13.3	---	---	---	27.3	25.8	26.4
MONTH	12.4	1.4	6.6	15.6	-0.1	9.0	22.2	10.1	16.9	27.3	16.8	21.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	27.4	26.0	26.7	27.7	25.0	26.1	30.7	27.9	29.0	28.5	26.2	27.1
2	27.8	26.0	26.7	25.9	24.8	25.2	31.5	28.9	29.8	28.9	26.1	27.4
3	28.7	26.4	27.1	27.0	25.2	26.0	30.6	28.6	29.4	29.3	26.5	27.7
4	28.4	25.4	27.0	28.3	25.5	26.8	31.0	28.6	29.6	29.3	26.7	27.8
5	26.4	23.4	24.3	29.6	26.8	28.0	31.0	28.4	29.4	29.2	26.6	27.7
6	24.6	22.6	23.5	30.0	27.6	28.5	30.5	28.1	29.1	29.0	26.4	27.6
7	26.0	23.5	24.6	30.3	27.8	28.8	30.5	28.2	29.1	28.7	26.3	27.3
8	26.2	24.8	25.3	30.8	28.0	29.2	29.8	27.5	28.4	27.8	26.4	27.1
9	26.9	25.3	25.9	31.0	28.2	29.5	28.8	25.7	27.2	27.7	25.6	26.5
10	27.1	25.8	26.3	31.5	28.4	29.6	27.8	25.8	26.8	27.8	25.2	26.3
11	28.4	26.0	26.9	28.9	27.3	28.3	28.9	26.5	27.4	27.6	25.3	26.3
12	27.0	23.5	26.0	28.0	26.8	27.1	27.6	26.5	27.0	26.9	24.9	25.8
13	26.7	23.7	25.5	27.1	26.1	26.7	26.7	22.0	25.5	26.6	24.2	25.4
14	27.1	25.0	26.0	26.7	25.2	25.9	23.9	21.9	22.6	25.6	24.6	25.1
15	26.9	24.2	25.2	28.1	25.9	26.8	25.7	23.9	24.8	24.6	23.7	24.2
16	26.1	23.6	24.5	28.8	26.5	27.4	26.9	25.0	25.8	24.1	22.8	23.5
17	26.7	24.8	25.9	27.6	26.7	27.1	27.3	26.1	26.6	25.4	23.1	24.1
18	26.7	25.1	25.9	28.8	26.0	27.2	28.6	26.4	27.3	26.9	24.2	25.3
19	27.0	24.6	25.6	30.0	27.2	28.4	29.9	27.2	28.2	25.8	23.0	24.2
20	28.4	25.5	26.6	30.5	28.2	29.1	30.2	27.8	28.7	23.9	21.5	22.7
21	29.0	26.9	27.7	31.0	28.1	29.3	30.2	28.0	28.8	23.2	20.4	21.8
22	29.0	27.3	27.9	30.9	28.2	29.3	30.4	27.7	28.8	22.6	20.5	21.5
23	29.0	26.9	27.8	30.1	28.1	28.8	30.6	28.0	29.0	21.6	18.9	20.3
24	29.1	26.7	27.8	29.5	27.8	28.5	28.7	27.0	28.1	21.0	18.0	19.5
25	29.4	26.8	27.9	29.9	27.1	28.3	27.7	26.1	26.8	21.2	17.9	19.5
26	29.5	26.8	27.9	30.7	27.9	29.0	26.3	25.8	26.1	22.0	19.1	20.5
27	29.6	26.8	28.1	30.9	28.4	29.3	28.2	25.9	26.8	21.2	18.7	20.1
28	30.1	27.2	28.4	29.4	28.3	28.8	28.5	25.8	26.9	22.4	19.0	20.7
29	29.7	27.7	28.5	28.4	23.9	25.4	28.3	25.9	26.9	24.4	21.1	22.7
30	28.9	27.2	27.9	27.5	24.6	25.9	27.3	25.3	26.3	24.5	22.1	23.4
31	---	---	---	29.8	26.5	28.0	27.6	25.4	26.3	---	---	---
MONTH	30.1	22.6	26.5	31.5	23.9	27.8	31.5	21.9	27.5	29.3	17.9	24.3

ARKANSAS RIVER BASIN

123

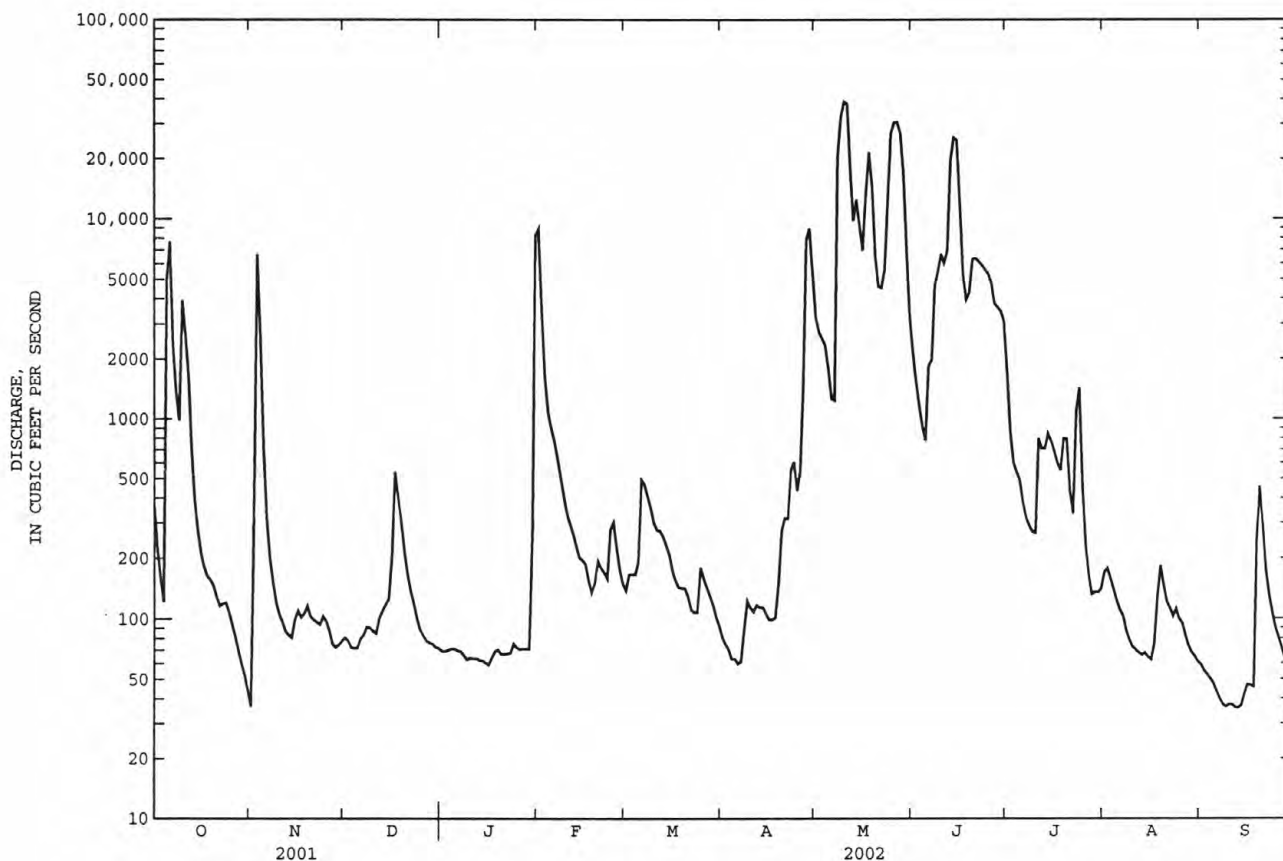
07185000 NEOSHO RIVER NEAR COMMERCE, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1940 - 2002	
ANNUAL TOTAL	995558		752706		3781	
ANNUAL MEAN	2728		2062		11140	
HIGHEST ANNUAL MEAN					246	
LOWEST ANNUAL MEAN					1993	
HIGHEST DAILY MEAN	30000	Feb 26	38700	May 10	251000	Jul 15 1951
LOWEST DAILY MEAN	37	Nov 1	36	Sep 9,12,13	^a 0.00	Aug 21 1953
ANNUAL SEVEN-DAY MINIMUM	60	Jan 1	37	Sep 8	0.00	Sep 27 1953
MAXIMUM PEAK FLOW			42500	May 10	^b 267000	Jul 15 1951
MAXIMUM PEAK STAGE			20.59	May 10	^c 34.03	Jul 16 1951
ANNUAL RUNOFF (AC-FT)	1975000		1493000		2739000	
10 PERCENT EXCEEDS	7510		5920		11200	
50 PERCENT EXCEEDS	704		152		929	
90 PERCENT EXCEEDS	79		64		60	

^aIn 1953-54 and 1956.

^bComputed by flood-routing method from hydrograph defined at Miami, mile 144.2, by several discharge measurements, gage height record, and by comparison with computed inflow into Lake O' the Cherokees.

^cFrom floodmark.



ARKANSAS RIVER BASIN

07185080 NEOSHO RIVER AT MIAMI, OK

LOCATION.--Lat 36°51'53", long 94°52'43", in NW 1/4 SE 1/4 sec.31, T.28 N., R.23 E., Ottawa County, Hydrologic Unit 11070206, near left downstream wingwall of State Highway 125 bridge, on southwest side of Miami, 1.5 mi upstream from Tar Creek, 2.8 mi downstream from Coal Creek and at mile 143.7.

DRAINAGE AREA.--6,001 mi².

PERIOD OF RECORD.--October 1994 to current year (gage heights only).

GAGE.--Water-stage recorder. Datum of gage is 1.10 ft above sea level (U.S. Army Corps of Engineers' datum).

REMARKS.--Records fair. At high flow, drawdown on stage may be as great as .20 ft.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 766.33 ft, June 12, 1995; minimum gage height, 740.44 ft, Oct. 7, 2000.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 16, 1951, reached a stage of 778.53 ft at site on old U.S. Highway 66 at Miami bridge currently Highway 169, .5 mi upstream from present site, and at same datum.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 759.87 ft, May 11; minimum gage height, 740.64 ft, Sept. 19.

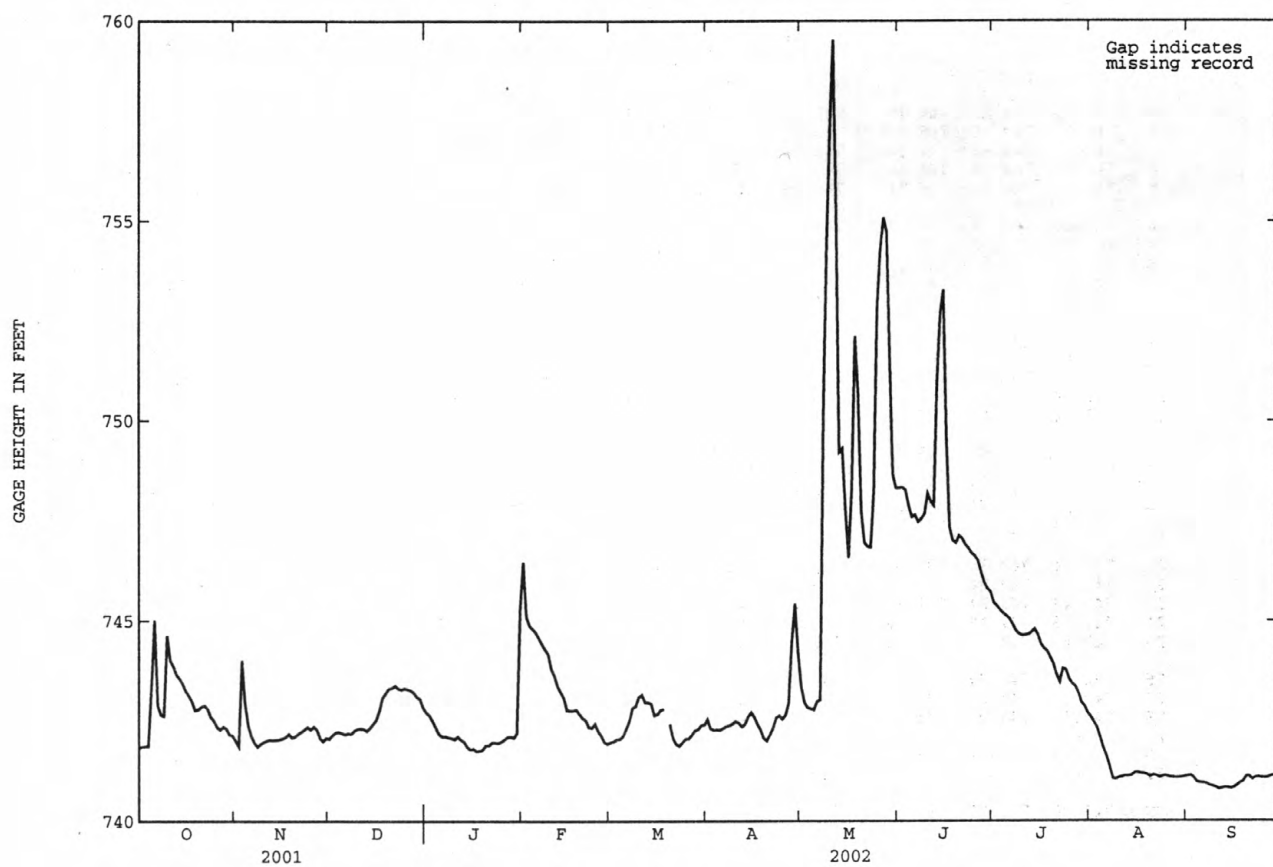
GAGE HEIGHT ACUBAR VIA SATELLITE, in FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	741.86	741.79	741.83	742.18	741.86	742.00	742.11	741.99	742.05	742.78	742.62	742.70
2	742.01	741.79	741.86	742.17	741.66	741.86	742.28	742.03	742.14	742.69	742.53	742.63
3	741.96	741.81	741.87	744.60	742.17	744.01	742.36	742.10	742.21	742.65	742.38	742.49
4	742.00	741.79	741.87	743.62	742.50	742.92	742.45	742.06	742.22	742.50	742.18	742.33
5	746.40	741.82	743.35	742.54	742.20	742.38	742.49	741.97	742.20	742.23	742.01	742.17
6	746.40	743.28	745.02	742.29	741.95	742.12	742.26	742.02	742.16	742.25	741.94	742.11
7	743.28	742.67	742.87	742.08	741.82	741.95	742.26	742.09	742.19	742.27	741.97	742.12
8	742.72	742.52	742.65	742.05	741.67	741.85	742.33	742.04	742.17	742.16	742.01	742.09
9	743.10	742.42	742.62	742.08	741.79	741.93	742.34	742.17	742.25	742.17	741.98	742.07
10	745.28	743.10	744.63	742.06	741.86	741.98	742.36	742.25	742.29	742.26	741.93	742.04
11	744.09	743.91	744.01	742.09	741.94	742.01	742.39	742.25	742.31	742.24	741.95	742.11
12	744.06	743.67	743.86	742.10	741.92	742.03	742.46	742.20	742.30	742.19	741.85	742.03
13	743.93	743.45	743.64	742.09	741.92	742.02	742.41	742.17	742.25	742.12	741.81	741.99
14	743.63	743.43	743.55	742.11	741.95	742.03	742.41	742.23	742.32	742.00	741.71	741.85
15	743.68	742.80	743.43	742.09	741.98	742.03	742.54	742.28	742.42	741.88	741.64	741.78
16	743.49	743.07	743.24	742.10	742.02	742.06	742.71	742.32	742.51	741.97	741.54	741.80
17	743.22	742.93	743.12	742.15	742.06	742.10	742.90	742.56	742.74	741.89	741.60	741.75
18	743.14	742.68	742.98	742.28	742.10	742.17	743.21	742.89	743.06	741.91	741.60	741.75
19	742.86	742.68	742.76	742.37	741.75	742.08	743.31	742.89	743.18	741.89	741.63	741.77
20	742.88	742.69	742.78	742.17	742.01	742.11	743.35	743.25	743.30	742.07	741.76	741.89
21	742.89	742.74	742.84	742.34	742.05	742.18	743.43	743.23	743.31	742.07	741.62	741.89
22	743.01	742.74	742.88	742.38	742.08	742.23	743.59	743.09	743.37	742.11	741.84	741.96
23	742.92	742.61	742.79	742.45	742.12	742.28	743.36	743.17	743.30	742.13	741.74	741.96
24	742.84	742.18	742.59	742.55	742.14	742.34	743.38	743.14	743.27	742.07	741.73	741.95
25	742.67	742.36	742.51	742.38	742.09	742.28	743.37	743.25	743.31	742.11	741.90	741.98
26	742.47	742.17	742.35	742.49	742.23	742.36	743.40	743.11	743.28	742.11	741.93	742.04
27	742.37	742.15	742.28	742.39	742.13	742.28	743.37	743.16	743.25	742.22	741.97	742.09
28	742.45	742.28	742.35	742.29	741.84	742.07	743.27	743.04	743.20	742.22	741.95	742.11
29	742.45	742.17	742.31	742.11	741.85	741.99	743.36	742.82	743.08	742.16	741.98	742.08
30	742.32	742.01	742.16	742.27	741.93	742.07	743.14	742.86	743.03	742.64	742.02	742.19
31	742.29	742.01	742.13	---	---	---	742.95	742.66	742.82	747.25	742.64	745.29
MONTH	746.40	741.79	742.88	744.60	741.66	742.19	743.59	741.97	742.69	747.25	741.54	742.16

GAGE HEIGHT ACUBAR VIA SATELLITE, in FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	747.20	745.57	746.48	742.06	741.87	741.97	742.76	742.26	742.53	743.65	742.97	743.34
2	745.57	744.89	745.10	742.16	741.82	741.98	742.64	741.74	742.30	743.04	742.88	742.95
3	744.92	744.83	744.88	742.13	741.99	742.05	742.39	742.11	742.27	742.90	742.74	742.82
4	744.85	744.74	744.80	742.17	741.94	742.04	742.39	742.19	742.28	742.84	742.73	742.79
5	744.78	744.61	744.71	742.26	742.02	742.12	742.34	742.19	742.27	742.87	742.64	742.77
6	744.66	744.48	744.57	742.43	742.17	742.31	742.44	742.21	742.31	743.19	742.73	742.97
7	744.49	744.32	744.42	742.76	742.28	742.50	742.63	742.18	742.36	743.65	742.76	743.01
8	744.36	744.19	744.28	742.99	742.55	742.82	742.65	742.11	742.38	752.83	743.65	750.03
9	744.29	743.91	744.16	743.11	742.43	742.86	742.53	---	742.42	755.96	752.83	754.36
10	743.95	743.63	743.78	743.20	742.92	743.08	742.57	742.39	742.48	758.89	755.96	757.34
11	743.71	743.44	743.62	743.26	742.98	743.14	742.59	742.32	742.44	759.87	758.89	759.52
12	743.56	743.22	743.35	743.05	742.88	742.96	742.48	742.21	742.35	759.06	750.07	755.17
13	743.33	743.12	743.21	743.10	742.77	742.95	742.53	742.24	742.41	750.07	749.02	749.21
14	743.24	742.86	743.06	743.13	742.55	742.92	742.70	742.47	742.59	749.46	748.88	749.30
15	742.94	742.57	742.76	742.82	742.41	742.63	742.93	742.56	742.70	748.88	746.92	747.74
16	742.82	742.62	742.75	742.79	742.56	742.66	742.80	742.33	742.59	746.92	746.34	746.58
17	742.84	742.66	742.75	742.86	742.65	742.76	742.57	742.25	742.41	751.35	746.29	748.32
18	742.94	742.53	742.77	742.86	742.67	742.79	742.49	741.99	742.27	752.33	751.33	752.09
19	742.83	742.43	742.66	---	---	---	742.38	741.67	742.06	752.08	748.80	750.68
20	742.72	742.41	742.56	---	742.25	742.41	742.10	741.85	742.00	748.80	747.13	747.73
21	742.64	742.32	742.51	742.30	741.78	742.06	742.27	741.98	742.15	747.13	746.83	746.96
22	742.47	742.24	742.34	742.05	741.81	741.92	742.42	742.19	742.32	746.90	746.80	746.86
23	742.43	742.24	742.33	742.00	741.78	741.87	742.79	742.34	742.57	746.92	746.75	746.84
24	742.75	742.19	742.42	742.10	741.80	741.96	742.83	742.17	742.62	751.45	746.74	748.29
25	742.42	742.01	742.24	742.23	741.93	742.05	742.65	742.39	742.54	753.71	751.45	752.79
26	742.33	741.94	742.13	742.13	741.93	742.06	742.79	742.38	742.63	754.83	753.71	754.29
27	742.16	741.83	741.97	742.31	742.04	742.14	743.13	742.75	742.92	755.24	754.82	755.08
28	742.13	741.82	741.93	742.37	742.16	742.26	746.08	742.91	744.49	755.20	753.78	754.72</

ARKANSAS RIVER BASIN
07185080 NEOSHO RIVER AT MIAMI, OK--Continued





07171000 Verdigris River near Lenapah

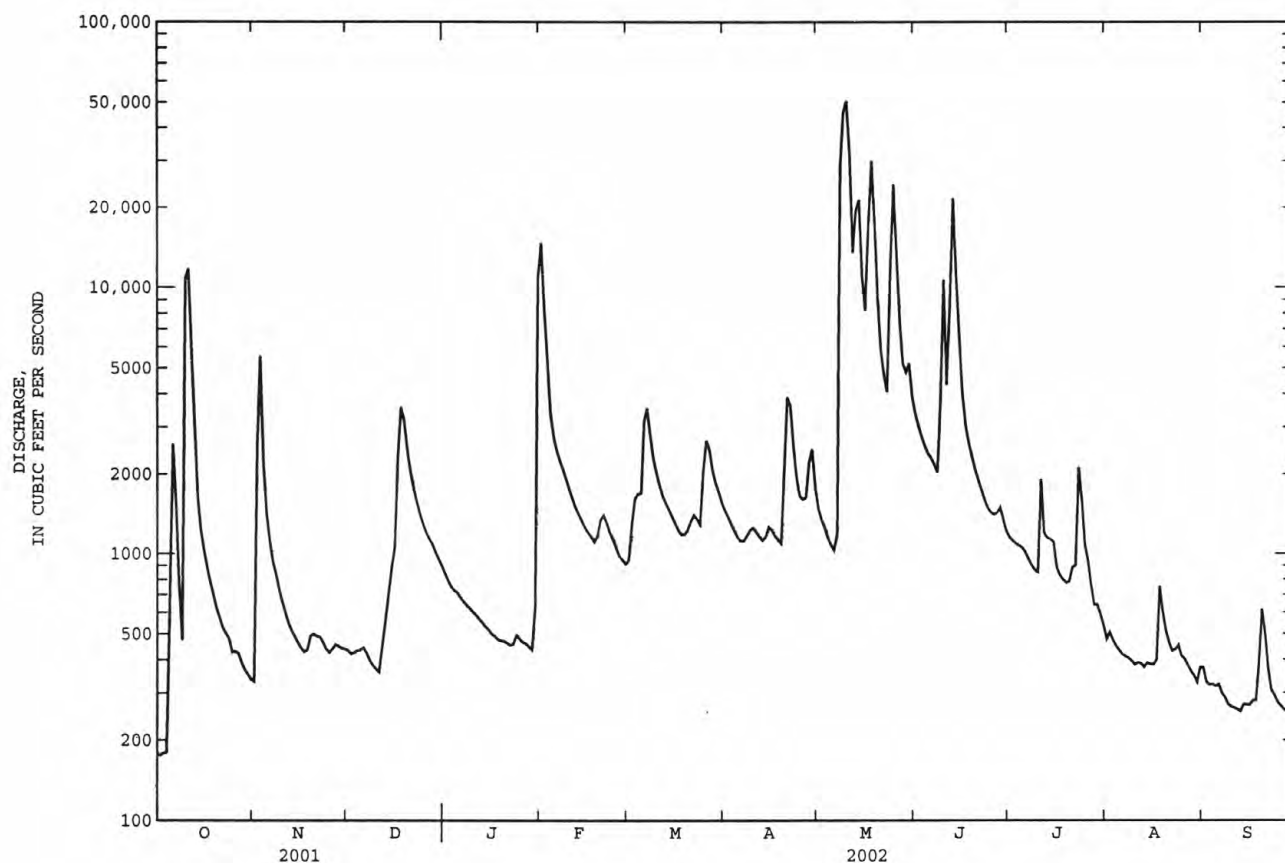
ARKANSAS RIVER BASIN

129

07188000 SPRING RIVER NEAR QUAPAW, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1940 - 2002	
ANNUAL TOTAL	604168		881187		2192	
ANNUAL MEAN	1655		2414		191	
HIGHEST ANNUAL MEAN					6623	
LOWEST ANNUAL MEAN					191	
HIGHEST DAILY MEAN	34600	Feb 25	50500	May 10	210000	Sep 26 1993
LOWEST DAILY MEAN	176	Oct 2	176	Oct 2	5.8	Jul 8 1954
ANNUAL SEVEN-DAY MINIMUM	180	Sep 28	265	Sep 24	7.3	Sep 12 1954
MAXIMUM PEAK FLOW			54000	May 10	230000	Sep 26 1993
MAXIMUM PEAK STAGE			25.56	May 10	^a 46.60	Sep 26 1993
ANNUAL RUNOFF (AC-FT)	1198000		1748000		1588000	
ANNUAL RUNOFF (CFSM)	0.66		0.96		0.87	
ANNUAL RUNOFF (INCHES)	8.95		13.06		11.87	
10 PERCENT EXCEEDS	3330		4170		4370	
50 PERCENT EXCEEDS	702		1050		846	
90 PERCENT EXCEEDS	220		365		213	

^aFrom floodmark.



07189000 ELK RIVER NEAR TIFF CITY, MO

LOCATION.--Lat 36°37'53", long 94°35'12", in NE 1/4 NE 1/4 sec.22, T.22 N., R.34 W., McDonald County, Hydrologic Unit 11070208, near right abutment of bridge on State Highway 34, 0.8 mi downstream from Blackfoot Branch, 2.8 mi upstream from Buffalo Creek, 3.0 mi southeast of Tiff City, and at mile 15.8.

DRAINAGE AREA.--872 mi².

PERIOD OF RECORD.--October 1939 to current year.

REVISED RECORDS.--WSP 927: 1940. WSP 1117: Drainage area.

GAGE.--Water stage recorder. Datum of gage is 750.61 ft above sea level (levels by U.S. Army Corps of Engineers). Sept. 6, 1960 to Aug. 25, 1961, at site 100 ft downstream.

REMARKS.--No estimated daily discharge. Records good. U.S. Army Corps of Engineers' satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 17	1845	9,510	11.77	May 18	0400	33,100	20.57
May 8	2230	15,200	14.69				

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	117	235	431	492	4670	530	891	726	1370	408	240	124
2	116	242	522	465	3210	580	826	711	1230	391	227	122
3	112	256	503	442	2160	860	773	684	1110	407	215	119
4	112	282	441	422	1640	1080	721	661	1020	439	207	116
5	162	326	405	407	1320	1080	679	633	990	509	198	112
6	200	324	376	399	1130	1130	647	1620	999	512	194	108
7	236	311	352	388	993	1210	640	2410	950	436	189	103
8	226	301	333	377	895	1190	2110	6680	880	385	184	102
9	218	296	316	366	832	1110	4900	8400	819	356	177	101
10	245	288	301	358	780	1000	2950	6520	787	342	170	95
11	390	282	290	347	734	910	2140	3530	760	332	169	94
12	780	269	304	338	692	856	1710	2600	765	331	168	93
13	788	262	329	331	661	811	1440	6410	1580	338	178	90
14	631	255	381	322	630	769	1310	5230	2740	329	198	91
15	518	248	424	317	601	734	1170	3310	1670	322	223	93
16	442	246	606	309	575	697	1060	2530	1240	311	220	99
17	393	240	6540	303	551	661	977	8980	1030	298	206	105
18	361	238	6030	299	528	633	921	20600	914	326	198	102
19	334	271	3310	295	532	673	863	6210	829	553	188	121
20	314	323	2170	292	587	1440	832	3740	756	525	177	121
21	299	348	1610	287	645	2260	791	2810	698	441	167	117
22	286	336	1300	284	650	1820	754	2250	646	365	160	108
23	277	324	1070	283	639	1490	749	1880	604	402	151	102
24	274	330	912	299	627	1280	765	1740	561	361	148	97
25	272	472	816	363	611	1390	751	1780	533	325	159	91
26	274	512	741	387	588	1670	742	1540	575	312	159	85
27	267	437	687	372	565	1530	766	1370	552	296	153	81
28	258	398	640	360	540	1350	774	1340	492	285	145	79
29	248	377	597	355	---	1210	760	1920	458	287	138	74
30	242	378	557	386	---	1080	737	1970	431	294	134	73
31	238	---	522	1280	---	974	---	1580	---	274	127	---
TOTAL	9630	9407	33816	11925	28586	34008	35149	112365	27989	11492	5567	3018
MEAN	310.6	313.6	1091	384.7	1021	1097	1172	3625	933.0	370.7	179.6	100.6
MAX	788	512	6540	1280	4670	2260	4900	20600	2740	553	240	124
MIN	112	235	290	283	528	530	640	633	431	274	127	73
AC-FT	19100	18660	67070	23650	56700	67450	69720	222900	55520	22790	11040	5990
CFSM	0.36	0.36	1.25	0.44	1.17							

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2002, BY WATER YEAR (WY)

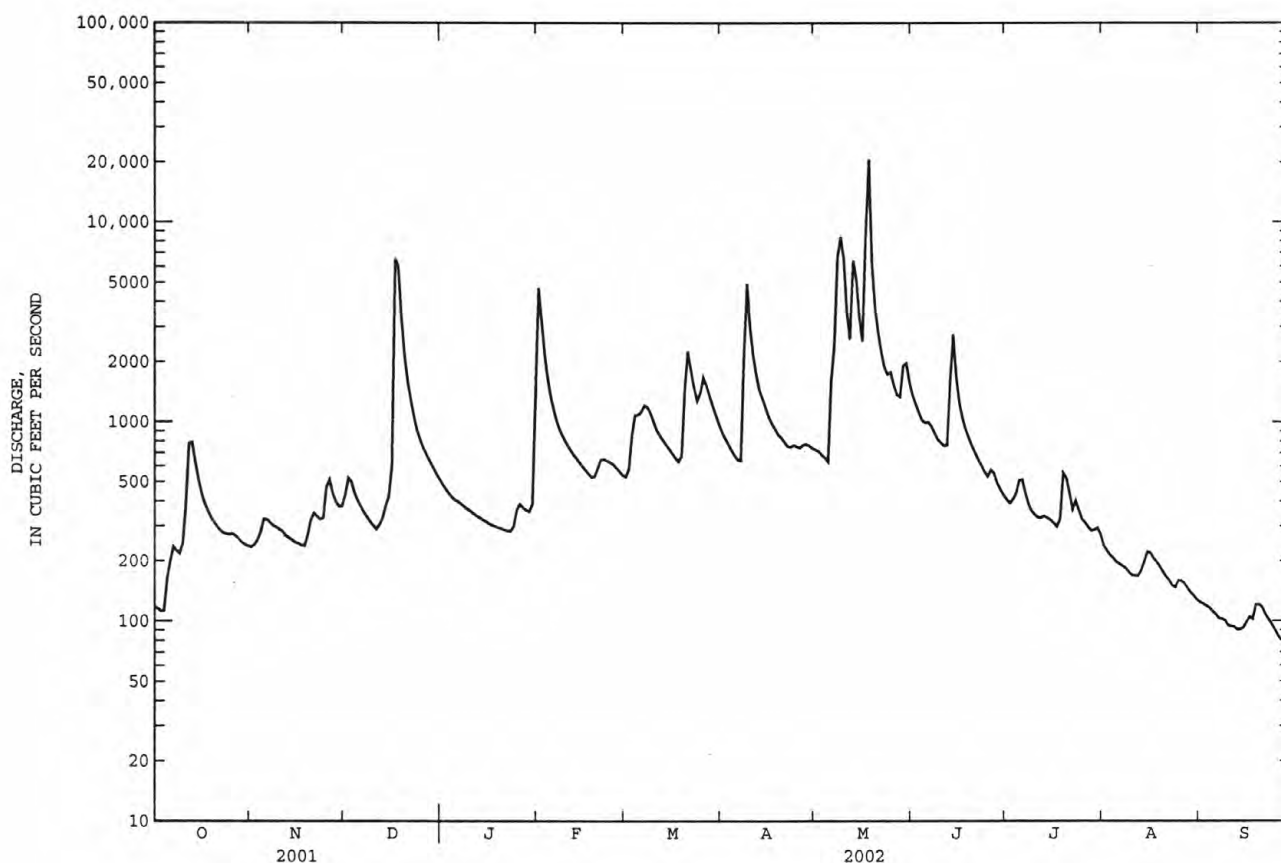
MEAN	417.5	721.7	772.8	687.0	897.0	1339	1588	1526	986.4	487.6	260.1	291.7
MAX	2938	4094	3651	2509	2971	5020	6119	8964	4245	2565	2418	2164
(WY)	1942	1975	1993	1985	1951	1945	1945	1943	1995	1976	1950	1993
MIN	25.7	49.8	58.5	55.9	70.7	75.7	145	227	78.6	14.3	12.0	30.9
(WY)	1957	1964	1964	1964	1954	1956	1956	1964	1954	1954	1954	1953

ARKANSAS RIVER BASIN

131

07189000 ELK RIVER NEAR TIFF CITY, MO--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1940 - 2002	
ANNUAL TOTAL	225893		322952		830.0	
ANNUAL MEAN	618.9		884.8		1881	
HIGHEST ANNUAL MEAN					135	
LOWEST ANNUAL MEAN					1993	
HIGHEST DAILY MEAN	19800	Feb 25	20600	May 18	68600	Apr 19 1941
LOWEST DAILY MEAN	79	Aug 23	73	Sep 30	5.1	Sep 5 1954
ANNUAL SEVEN-DAY MINIMUM	83	Sep 1	83	Sep 24	5.6	Sep 2 1954
MAXIMUM PEAK FLOW			33100	May 18	137000	Apr 19 1941
MAXIMUM PEAK STAGE			20.57	May 18	28.40	Apr 19 1941
ANNUAL RUNOFF (AC-FT)	448100		640600		601300	
ANNUAL RUNOFF (CFSM)	0.71		1.01		0.95	
ANNUAL RUNOFF (INCHES)	9.64		13.78		12.93	
10 PERCENT EXCEEDS	1130		1690		1750	
50 PERCENT EXCEEDS	329		441		343	
90 PERCENT EXCEEDS	117		136		88	



ARKANSAS RIVER BASIN

07189540 CAVE SPRINGS BRANCH NEAR SOUTH WEST CITY, MO

LOCATION.--Lat 36°32'52", long 94°37'04", in SE 1/4 NE 1/4 sec.22, T.24 N., R.25 E., Delaware County, Hydrologic Unit 11070206, on right bank of downstream side of bridge on Stateline Highway 5, 2.5 mi northwest of Southwest City, Mo, 4.7 mi upstream from Honey Springs, and at mile 4.7.

DRAINAGE AREA.--7.9 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1997 to current year.

GAGE.--Water stage recorder. Datum of gage is 922.86 ft above sea level.

REMARKS.--Records fair except for estimated periods, which are poor. U.S. Geological Survey satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	4.0	2.2	e2.0	6.4	4.1	5.5	5.0	7.3	5.1	3.3	1.7
2	3.8	4.2	2.3	e2.0	5.6	e4.3	5.4	4.8	6.2	5.4	2.9	1.8
3	4.0	3.6	2.6	e1.9	5.5	e4.2	5.2	4.6	6.1	5.5	2.4	2.1
4	4.1	3.5	2.6	e1.7	5.3	e4.1	5.1	4.5	5.6	9.7	2.2	2.2
5	4.6	3.9	2.6	1.6	4.9	e4.8	4.8	5.1	5.9	4.4	2.6	2.4
6	3.8	3.9	2.6	1.7	4.7	5.6	4.6	7.2	5.1	3.2	2.5	2.3
7	3.8	3.6	2.5	1.8	4.7	5.7	5.8	6.0	4.8	3.1	2.6	2.1
8	4.3	3.5	2.0	2.1	4.5	5.6	12	15	4.5	3.7	2.7	1.8
9	4.5	3.5	1.9	2.1	4.2	5.2	7.1	35	4.2	4.2	2.7	1.9
10	6.4	2.9	e2.0	2.3	3.9	4.5	6.8	8.3	4.7	4.3	2.7	2.2
11	9.4	2.6	e2.5	2.4	4.0	4.7	6.5	8.1	4.8	4.0	2.7	2.2
12	9.0	2.8	3.0	2.6	4.2	4.8	6.3	40	7.8	3.6	2.8	2.0
13	7.7	3.0	2.8	2.8	4.1	4.8	5.5	53	14	3.4	3.0	2.1
14	6.3	3.2	2.8	2.7	3.9	4.7	5.0	8.6	6.7	3.2	2.8	1.8
15	6.3	3.2	2.6	2.7	3.8	4.4	4.7	7.7	5.8	4.0	2.8	1.7
16	6.2	3.0	17	2.8	3.4	4.1	5.3	7.4	5.6	4.2	3.0	2.1
17	5.6	2.7	20	2.8	3.3	4.1	5.3	141	5.6	4.1	2.9	2.2
18	5.4	2.6	6.0	2.8	3.6	4.5	5.0	15	5.4	30	2.5	2.1
19	5.3	3.0	5.1	2.6	4.9	8.1	5.0	11	5.1	8.8	2.6	2.5
20	4.5	2.8	4.8	2.1	4.8	7.1	4.3	10	4.9	3.4	2.6	2.2
21	4.3	2.8	5.0	2.6	4.5	6.0	4.1	9.7	4.8	3.0	2.5	1.9
22	4.7	2.5	4.9	2.8	4.4	5.7	4.3	9.5	4.1	3.0	2.6	1.6
23	5.0	2.9	4.0	3.2	4.1	5.7	5.3	9.4	4.0	3.2	2.4	2.1
24	4.9	2.6	e3.5	3.0	4.1	5.7	5.2	12	4.5	3.1	2.1	2.2
25	4.6	2.0	e3.0	2.8	4.1	11	5.1	9.6	4.8	3.1	2.2	2.3
26	4.4	2.4	e3.1	2.7	3.6	6.8	5.3	9.4	4.7	3.0	2.4	2.1
27	3.9	2.5	e3.0	2.7	3.6	6.8	5.0	9.0	4.3	2.8	2.4	2.0
28	3.8	2.4	e2.8	2.9	4.0	6.8	4.7	12	4.3	2.4	2.4	1.7
29	3.8	2.2	e2.5	3.0	---	6.5	4.9	10	4.6	3.1	2.3	1.7
30	3.8	2.3	e2.2	5.1	---	6.0	4.9	8.8	4.6	3.3	2.3	1.9
31	3.9	---	e1.9	17	---	5.3	---	8.0	---	3.3	2.2	---
TOTAL	155.8	90.1	125.8	93.3	122.1	171.7	164.0	504.7	164.8	150.6	80.1	60.9
MEAN	5.026	3.003	4.058	3.010	4.361	5.539	5.467	16.28	5.493	4.858	2.584	2.030
MAX	9.4	4.2	20	17	6.4	11	12	141	14	30	3.3	2.5
MIN	3.7	2.0	1.9	1.6	3.3	4.1	4.1	4.5	4.0	2.4	2.1	1.6
AC-FT	309	179	250	185	242	341	325	1000	327	299	159	121

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2002, BY WATER YEAR (WY)

	1998	1999	2000	2001	2002
MEAN	5.935	3.259	4.160	6.912	7.915
MAX	16.6	4.19	6.17	15.5	19.6
(WY)	1999	2001	1998	1998	2001
MIN	2.03	1.91	3.41	2.35	3.29
(WY)	2000	2000	1999	2000	2000

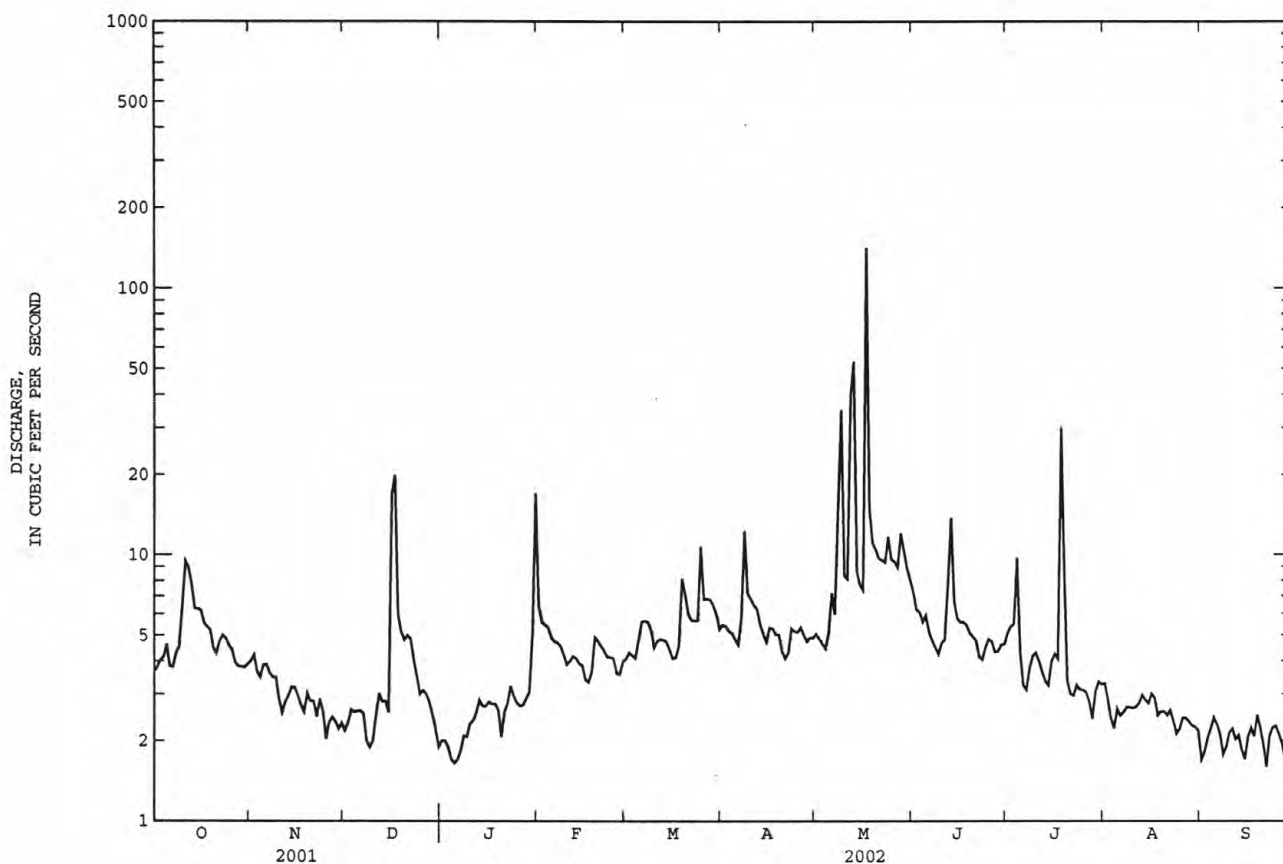
e Estimated

ARKANSAS RIVER BASIN

133

07189540 CAVE SPRINGS BRANCH NEAR SOUTH WEST CITY, MO--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1998 - 2002	
ANNUAL TOTAL	1946.6		1883.9		5.816	
ANNUAL MEAN	5.333		5.161		9.25	
HIGHEST ANNUAL MEAN					4.69	
LOWEST ANNUAL MEAN					344	
HIGHEST DAILY MEAN	344	Feb 24	141	May 17	344	Feb 24 2001
LOWEST DAILY MEAN	1.2	Jul 27	1.6	Jan 5, Sep 22	0.79	Aug 29 1999
ANNUAL SEVEN-DAY MINIMUM	1.5	Jul 21	1.8	Jan 1	1.5	Jan 28 2000
MAXIMUM PEAK FLOW			555	May 17	1360	Oct 5 1998
MAXIMUM PEAK STAGE			8.09	May 17	12.08	Oct 5 1998
ANNUAL RUNOFF (AC-FT)	3860		3740		4210	
10 PERCENT EXCEEDS	6.1		7.7		7.3	
50 PERCENT EXCEEDS	2.8		4.0		3.4	
90 PERCENT EXCEEDS	1.8		2.2		1.8	



ARKANSAS RIVER BASIN

07189540 CAVE SPRINGS BRANCH NEAR SOUTH WEST CITY, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1997 to current year.

REMARKS.--Samples were collected monthly. Specific conductance, pH, water temperature, dissolved oxygen, and alkalinity were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)		
JAN													
22...	1416	1028	1028	5.20	2.7	760	10.8	7.4	1880	11.2	1.00		
22...	1417	1028	1028	5.20	2.7	760	11.0	7.4	1880	11.2	3.00		
22...	1418	1028	1028	5.20	2.7	760	10.9	7.4	1880	11.2	5.00		
22...	1419	1028	1028	5.20	2.7	760	11.0	7.4	1880	11.2	7.00		
22...	1420	1028	1028	5.20	2.7	760	11.1	7.4	1880	11.2	9.00		
22...	1421	1028	1028	5.20	2.7	760	11.0	7.4	1880	11.2	11.0		
22...	1422	1028	1028	5.20	2.7	760	11.1	7.4	1880	11.2	13.0		
22...	1423	1028	1028	5.20	2.7	760	11.3	7.4	1880	11.2	15.0		
22...	1424	1028	1028	5.20	2.7	760	11.2	7.4	1880	11.2	16.0		
Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	
OCT													
22...	1535	80020	1028	5.23	4.8	746	9.7	111	7.1	1670	26.0	20.2	126
NOV													
14...	1245	80020	1028	5.22	3.3	763	11.0	119	7.6	2050	23.4	18.8	158
DEC													
12...	0900	80020	1028	5.27	3.1	758	7.3	68	7.2	1550	9.5	11.6	133
JAN													
22...	1410	80020	1028	5.20	2.7	760	11.0	101	7.4	1880	15.5	11.2	165
FEB													
08...	0920	80020	1028	5.30	4.6	765	10.4	81	6.8	1130	10.8	4.9	104
MAR													
18...	1135	80020	1028	5.25	4.3	760	11.9	116	7.0	1390	15.5	13.8	103
APR													
11...	1135	80020	1028	5.37	6.7	762	7.9	84	7.0	1020	23.6	18.0	98
MAY													
28...	1235	80020	1028	5.57	17	768	7.6	79	6.7	666	19.3	17.5	82
JUN													
12...	0800	80020	1028	5.52	11	755	5.8	66	7.3	620	21.4	21.0	96
JUL													
16...	1100	80020	1028	5.26	4.5	760	7.8	96	7.4	1600	26.8	25.4	149
AUG													
19...	1050	80020	1028	5.20	2.7	756	8.2	103	7.5	1810	31.5	26.1	118
SEP													
12...	0900	80020	1028	5.19	2.2	758	4.9	58	7.7	2100	21.0	22.5	79

ARKANSAS RIVER BASIN

135

07189540 CAVE SPRINGS BRANCH NEAR SOUTH WEST CITY, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)
OCT 22...	153	0	.09	1.1	.11	2.49	11.0	2.52	.099	.030	.96	3.6	.074
NOV 14...	192	0	.16	1.5	.21	2.52	11.2	2.60	.243	.074	1.4	4.1	.058
DEC 12...	162	0	.28	1.6	.37	1.68	7.43	1.73	.181	.055	1.3	3.3	.123
JAN 22...	201	0	.99	2.5	1.28	2.82	12.5	5.00	7.15	2.17	1.5	7.5	--
FEB 08...	126	0	.56	1.3	.72	7.74	34.2	7.79	.187	.057	.79	9.1	.055
MAR 18...	125	0	.16	1.1	.20	4.96	21.9	5.00	.131	.040	.92	6.1	--
APR 11...	120	0	.09	.97	.12	7.52	33.3	7.56	.112	.034	.88	8.5	.107
MAY 28...	99	0	.12	1.3	.15	2.54	11.2	2.56	.076	.023	1.2	3.9	.506
JUN 12...	117	0	.24	1.7	.31	2.18	9.66	2.26	.250	.076	1.5	4.0	.668
JUL 16...	181	0	.17	1.8	.22	2.46	10.9	2.59	.407	.124	1.6	4.4	.254
AUG 19...	143	0	.09	1.4	.11	6.10	27.0	6.18	.260	.079	1.3	7.6	.632
SEP 12...	96	0	.95	2.5	1.23	2.87	12.7	3.15	.920	.280	1.5	5.6	.141

Date	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)
OCT 22...	E.03	.02	E.05	900	860	860
NOV 14...	E.04	.02	.08	160	123	350
DEC 12...	.07	.04	.12	>400	>300	>500
JAN 22...	<.06	E.01	.07	20	24	40
FEB 08...	E.04	.02	E.06	E15	E3	86
MAR 18...	<.06	<.02	E.04	E52	E60	E54
APR 11...	E.03	.04	.07	E50	E52	107
MAY 28...	.18	.17	.28	>4000	>3000	>5000
JUN 12...	.25	.22	.41	12000	8600	29000
JUL 16...	.10	.08	.19	--	--	--
AUG 19...	.24	.21	.29	880	673	773
SEP 12...	.06	.05	.10	200	240	1080

ARKANSAS RIVER BASIN

07189542 HONEY CREEK NEAR SOUTHWEST CITY, MO

LOCATION.--Lat 36°32'56", long 94°41'01", in SE 1/4 NE 1/4 sec.24, T.24 N., R.24 E., Delaware County, Hydrologic Unit 11070206, on downstream abutment of county road bridge, 0.4 mi downstream from Cave Springs Creek, 2.3 mi southeast of Dodge, Ok, and 5.1 mi above Grand Lake and at mile 5.1.

DRAINAGE AREA.--48.2 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1997 to current year.

GAGE.--Water stage recorder. Datum of gage is 789 ft above sea level from topographic map.

REMARKS.--Records good. U.S. Geological Survey satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	12	13	20	83	24	37	23	40	14	11	7.2
2	7.5	14	13	19	75	27	36	22	36	14	10	6.2
3	8.0	14	14	18	69	25	33	20	33	14	8.8	6.3
4	8.0	13	14	18	60	26	30	20	30	35	7.8	6.4
5	13	12	14	16	53	30	28	19	32	32	7.9	6.9
6	11	13	13	16	47	38	26	48	28	19	7.6	7.0
7	9.6	12	13	15	43	43	30	38	26	16	7.6	6.4
8	9.2	12	12	15	39	44	63	59	24	15	7.3	6.1
9	10	12	11	15	37	43	70	105	23	14	7.2	6.0
10	19	12	10	15	34	39	70	79	22	14	7.1	6.1
11	34	11	11	15	31	38	66	67	21	13	7.3	6.9
12	53	10	15	15	30	37	60	77	32	13	7.1	6.6
13	54	10	15	15	28	35	54	167	54	12	9.5	6.5
14	48	11	17	15	26	33	47	106	43	12	13	7.1
15	38	11	16	15	25	31	42	91	36	12	11	7.8
16	30	11	37	15	24	28	39	80	31	12	9.9	8.0
17	25	11	122	15	23	26	36	224	27	12	11	8.5
18	21	11	119	14	22	27	33	179	25	25	9.4	7.9
19	19	15	97	14	27	35	32	143	23	39	8.5	15
20	17	14	81	14	28	47	30	119	21	17	8.3	12
21	15	13	70	14	28	53	27	99	19	14	8.0	9.6
22	14	12	60	14	27	52	25	85	18	14	7.9	8.0
23	15	12	49	16	26	50	30	73	16	16	7.7	7.6
24	14	e14	43	16	26	46	29	70	15	13	8.0	8.0
25	14	13	37	15	26	57	27	61	16	12	11	8.1
26	13	12	34	15	24	52	27	53	16	11	8.4	7.6
27	12	11	31	14	23	51	26	48	15	10	8.5	6.9
28	12	12	28	14	23	51	25	53	14	9.4	8.1	6.4
29	12	12	26	14	---	48	24	55	14	12	7.7	5.9
30	12	13	23	27	---	44	23	50	14	12	7.1	5.8
31	12	---	21	96	---	40	---	45	---	11	7.7	---
TOTAL	586.8	365	1079	569	1007	1220	1125	2378	764	488.4	267.4	224.8
MEAN	18.93	12.17	34.81	18.35	35.96	39.35	37.50	76.71	25.47	15.75	8.626	7.493
MAX	54	15	122	96	83	57	70	224	54	39	13	15
MIN	7.5	10	10	14	22	24	23	19	14	9.4	7.1	5.8
AC-FT	1160	724	2140	1130	2000	2420	2230	4720	1520	969	530	446

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2002, BY WATER YEAR (WY)

	1998	1999	2000	2001	2002
MEAN	26.99	18.20	29.16	46.06	56.04
MAX	75.9	28.7	41.8	128	139
(WY)	1999	1999	1998	1998	2001
MIN	13.0	12.2	17.7	12.0	18.2
(WY)	2000	2002	2001	2000	2000

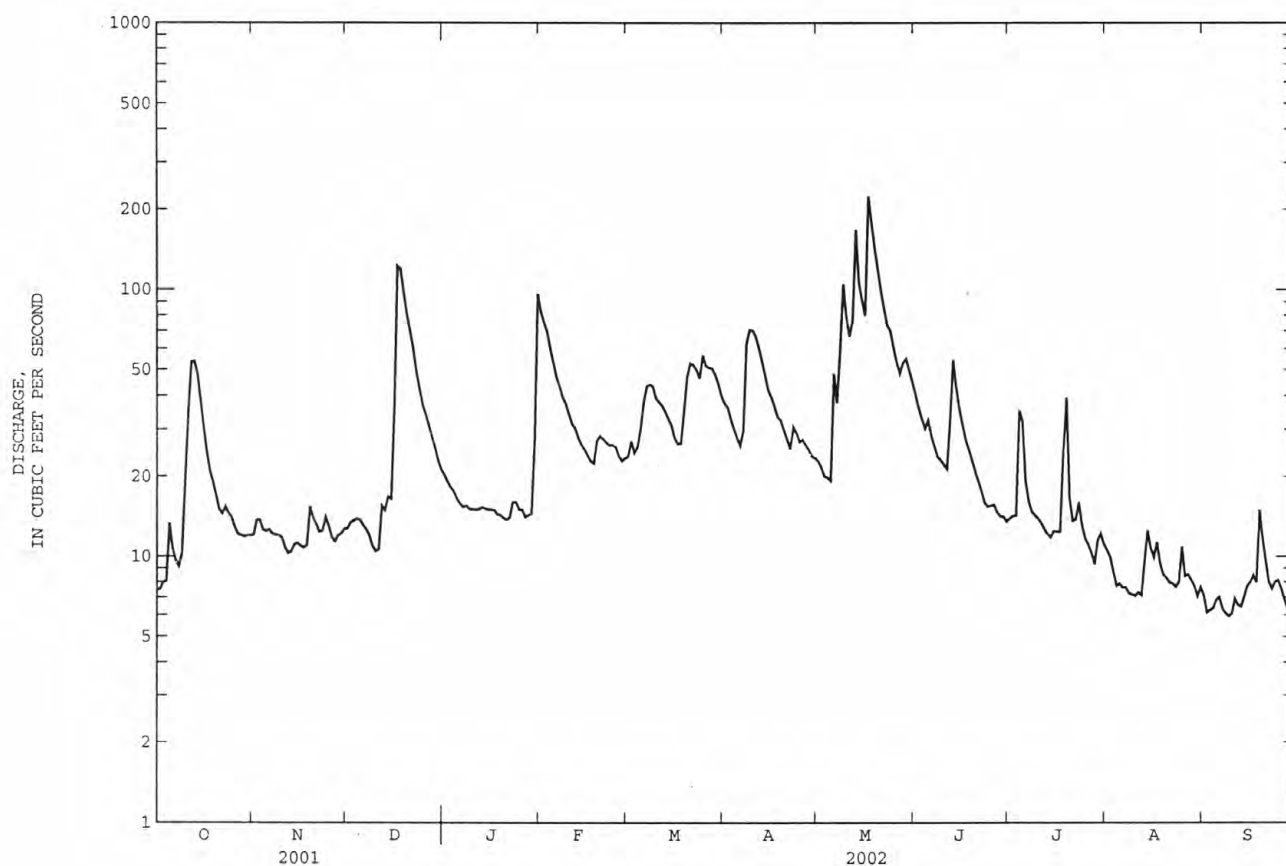
e Estimated

ARKANSAS RIVER BASIN

137

07189542 HONEY CREEK NEAR SOUTHWEST CITY, MO--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1998 - 2002	
ANNUAL TOTAL	11785.2		10074.4		36.21	
ANNUAL MEAN	32.29		27.60		64.1	
HIGHEST ANNUAL MEAN					23.5	
LOWEST ANNUAL MEAN					1460	
HIGHEST DAILY MEAN	1460	Feb 24	224	May 17	1460	Feb 24 2001
LOWEST DAILY MEAN	6.0	Sep 3	5.8	Sep 30	3.6	Sep 5 1998
ANNUAL SEVEN-DAY MINIMUM	6.8	Aug 17	6.4	Sep 7	3.7	Sep 4 1998
MAXIMUM PEAK FLOW			478	May 17	6140	Jun 30 1999
MAXIMUM PEAK STAGE			6.67	May 17	12.98	Jun 30 1999
ANNUAL RUNOFF (AC-FT)	23380		19980		26230	
10 PERCENT EXCEEDS	55		54		66	
50 PERCENT EXCEEDS	17		16		20	
90 PERCENT EXCEEDS	8.0		7.9		9.0	



ARKANSAS RIVER BASIN

07189542 HONEY CREEK NEAR SOUTHWEST CITY, MO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1997 to current year.

REMARKS.--Samples were collected monthly and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)		
OCT													
22...	1041	1028	1028	4.53	15	748	7.9	7.4	522	17.9	8.00		
22...	1042	1028	1028	4.53	15	748	7.9	7.4	522	17.9	16.0		
22...	1043	1028	1028	4.53	15	748	7.9	7.4	522	17.9	24.0		
22...	1044	1028	1028	4.53	15	748	7.9	7.4	522	17.9	32.0		
22...	1045	1028	1028	4.53	15	748	7.9	7.4	522	17.9	40.0		
JAN													
22...	1228	1028	1028	4.48	14	760	14.2	8.0	562	7.7	49.0		
22...	1229	1028	1028	4.48	14	760	14.2	8.0	564	7.4	44.0		
22...	1230	1028	1028	4.48	14	760	14.1	8.0	565	7.4	39.0		
22...	1231	1028	1028	4.48	14	760	14.1	8.0	565	7.4	34.0		
22...	1232	1028	1028	4.48	14	760	13.9	8.0	565	7.4	29.0		
22...	1233	1028	1028	4.48	14	760	13.9	8.0	565	7.4	24.0		
22...	1234	1028	1028	4.48	14	760	13.8	8.0	565	7.4	19.0		
22...	1235	1028	1028	4.48	14	760	13.6	8.0	565	7.4	14.0		
22...	1236	1028	1028	4.48	14	760	13.6	8.0	564	7.4	9.00		
22...	1237	1028	1028	4.48	14	760	13.5	8.0	565	7.4	4.00		
Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	
OCT													
22...	1435	80020	1028	4.53	15	748	7.9	85	7.4	522	25.5	17.9	122
NOV													
14...	1150	80020	1028	4.48	12	763	9.3	93	7.5	638	22.5	15.3	128
DEC													
12...	1015	80020	1028	4.56	17	758	8.6	77	7.6	620	10.5	10.1	135
JAN													
22...	1220	80020	1028	4.48	14	760	13.9	116	8.0	565	16.1	7.4	125
FEB													
08...	1045	1028	1028	4.73	39	765	11.8	99	7.6	400	10.1	7.8	115
MAR													
18...	1250	80020	1028	4.61	24	760	12.1	110	7.6	443	15.5	11.0	114
APR													
11...	1255	80020	1028	4.93	67	762	7.4	75	7.8	350	24.8	15.8	112
MAY													
28...	1405	80020	1028	4.86	56	765	8.8	90	7.6	362	21.0	16.8	108
JUN													
12...	0900	80020	1028	4.70	34	756	6.7	75	7.5	491	22.2	20.7	121
JUL													
16...	1210	80020	1028	4.47	14	766	7.0	89	7.5	499	27.2	27.9	129
AUG													
19...	1205	80020	1028	4.41	9.3	760	6.8	81	7.6	644	31.0	24.5	140
SEP													
12...	1025	80020	1028	4.37	7.0	758	5.7	65	7.2	790	25.0	21.9	137

ARKANSAS RIVER BASIN

139

07189542 HONEY CREEK NEAR SOUTHWEST CITY, MO--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	COLI- FORM, FECAL, 0.7 UM-MF (COLS. / 100 ML) (31625)
OCT 22...	149	0	<.04	.17	2.92	<.008	3.1	.190	.06	.06	.06	62	65
NOV 14...	156	0	E.02	.13	2.11	<.008	2.2	.172	.06	.06	.07	120	103
DEC 12...	164	0	<.04	.17	2.57	<.008	2.7	.147	E.06	.05	E.05	95	83
JAN 22...	153	0	E.02	.26	2.91	<.008	3.2	.123	E.04	.04	E.04	20	32
FEB 08...	140	0	--	--	--	--	--	--	--	--	--	27	24
MAR 18...	138	0	<.04	.15	3.06	E.004	3.2	.095	E.04	.03	E.04	95	86
APR 11...	136	0	<.04	.24	3.29	E.006	3.5	.120	<.06	.04	E.04	120	115
MAY 28...	131	0	<.04	.18	3.07	<.008	3.3	.181	.06	.06	E.06	310	280
JUN 12...	147	0	<.04	.24	2.64	<.008	2.9	.205	.07	.07	.08	1200	1030
JUL 16...	157	0	<.04	.22	2.49	<.008	2.7	.248	.07	.08	.08	--	--
AUG 19...	171	0	<.04	.28	2.46	E.007	2.7	.288	.11	.09	.10	250	240
SEP 12...	167	0	<.04	.19	1.70	<.008	1.9	.282	.09	.09	.10	150	400

FECAL
STREP,
KF STRP
MF,
WATER
(COL/
100 ML)
(31673)

Date	
OCT 22...	160
NOV 14...	233
DEC 12...	360
JAN 22...	25
FEB 08...	32
MAR 18...	37
APR 11...	E63
MAY 28...	960
JUN 12...	2330
JUL 16...	--
AUG 19...	470
SEP 12...	360

ARKANSAS RIVER BASIN

07190000 LAKE O' THE CHEROKEES AT LANGLEY, OK

LOCATION.--Lat 36°28'07", long 95°02'28", in SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.14, T.23 N., R.21 E., Mayes County, Hydrologic Unit 11070206, on upstream side of pier at intake structure near right end of Pensacola Dam on Neosho River at Langley, 9.9 mi upstream from Big Cabin Creek, and at mile 77.0.

DRAINAGE AREA.--10,298 mi².

PERIOD OF RECORD.--March 1940 to current year. Prior to October 1940, published as Grand Lake at Langley.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1.10 ft above sea level (U.S. Army Corps of Engineers' benchmark). Prior to Nov. 14, 1941, nonrecording gage at same site and datum.

REMARKS.--No estimated record. Reservoir is formed by multiple-arch concrete dam, with tops of taintor-type spillway gates at gage height 755.0 ft. Storage began Mr. 21, 1940; power-pool was first filled Apr. 19, 1941. Capacity between gage heights 682.0 ft, sill of powerhouse penstock, and 745.0 ft, maximum power pool is 1,492,000 acre-ft. Capacity between gage heights 745.0 ft and 755.0 ft is 525,200 acre-ft, and is reserved for flood control. Dead storage below gage height 682.0 ft is 180,200 acre-ft. Figures given herein represent total contents. Reservoir is utilized for power development and flood control. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 2,213,000 acre-ft, May 25, 1957, gage height, 755.27 ft; minimum since power-pool was first filled, 642,900 acre-ft, Sept. 28, 1954, gage height, 713.41 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,841,000 acre-ft, May 12, gage height, 748.50 ft; minimum, 1,478,000 acre-ft, Sept. 18, gage height, 740.63.

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

730	1,086,000	745	1,672,000
735	1,257,000	750	1,917,000
740	1,452,000	755	2,198,000

RESERVOIR STORAGE VIA SATELLITE, in (ACRE-FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY OBSERVATION AT 2400 HOURS

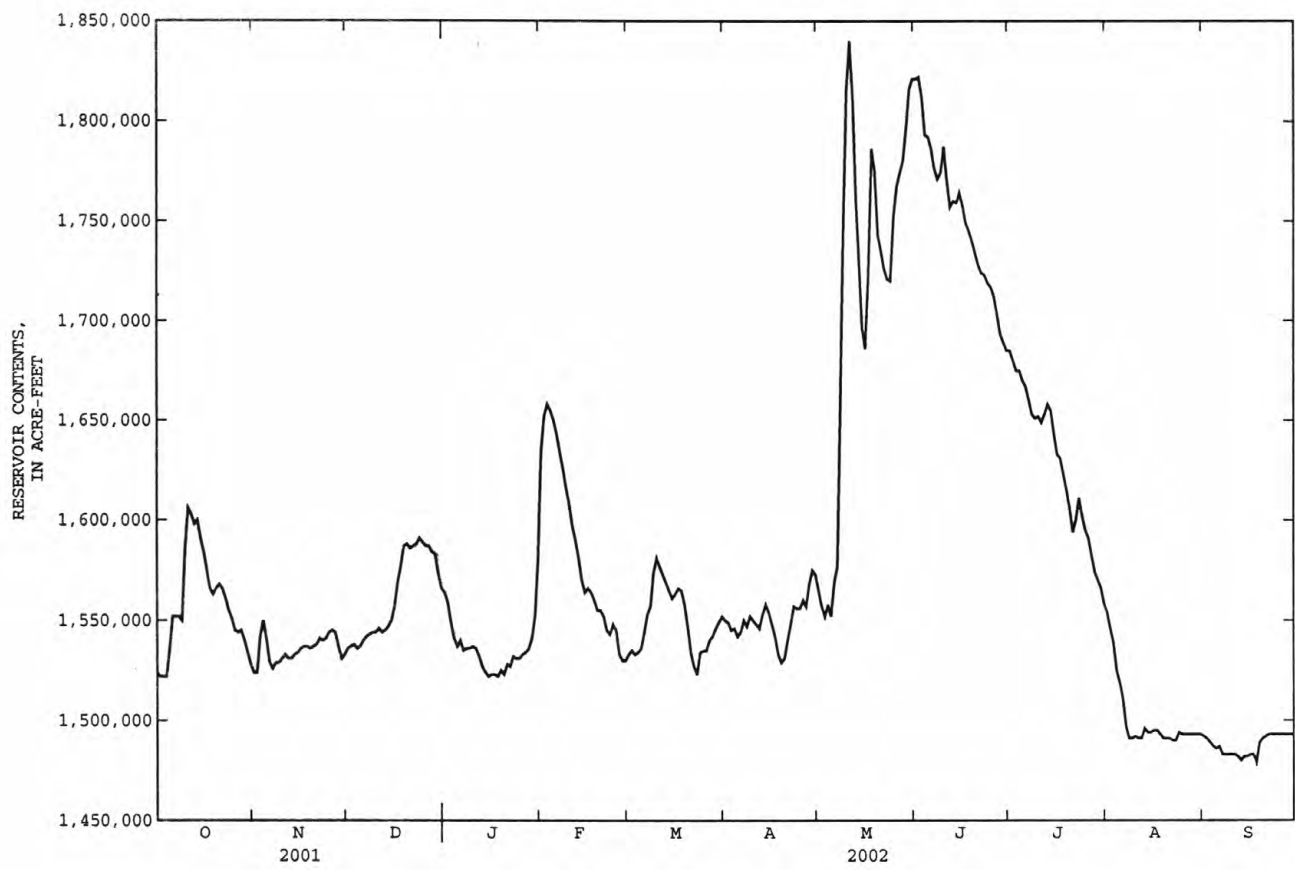
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1524000	1524000	1536000	1564000	1634000	1533000	1550000	1565000	1821000	1685000	1554000	1492000
2	1522000	1524000	1537000	1559000	1652000	1535000	1549000	1557000	1822000	1680000	1546000	1491000
3	1522000	1542000	1538000	1549000	1658000	1533000	1545000	1552000	1812000	1675000	1539000	1489000
4	1522000	1550000	1536000	1541000	1655000	1534000	1546000	1558000	1793000	1675000	1525000	1487000
5	1536000	1541000	1537000	1537000	1650000	1536000	1542000	1552000	1792000	1670000	1519000	1486000
6	1552000	1529000	1540000	1540000	1643000	1544000	1544000	1569000	1786000	1667000	1511000	1487000
7	1552000	1526000	1542000	1535000	1634000	1553000	1550000	1577000	1776000	1660000	1497000	1483000
8	1552000	1529000	1543000	1536000	1626000	1557000	1547000	1658000	1771000	1653000	1491000	1483000
9	1550000	1529000	1544000	1536000	1616000	1574000	1552000	1748000	1774000	1651000	1491000	1483000
10	1585000	1531000	1544000	1537000	1608000	1581000	1550000	1816000	1787000	1652000	1492000	1483000
11	1606000	1533000	1546000	1536000	1597000	1577000	1548000	1840000	1770000	1649000	1491000	1483000
12	1603000	1531000	1544000	1532000	1590000	1573000	1546000	1812000	1757000	1653000	1491000	1482000
13	1598000	1531000	1545000	1527000	1581000	1569000	1553000	1761000	1760000	1658000	1496000	1480000
14	1600000	1533000	1547000	1524000	1570000	1565000	1558000	1730000	1759000	1655000	1494000	1482000
15	1591000	1534000	1550000	1522000	1564000	1561000	1554000	1696000	1764000	1643000	1494000	1482000
16	1584000	1536000	1557000	1523000	1566000	1563000	1548000	1686000	1758000	1633000	1495000	1483000
17	1575000	1537000	1569000	1523000	1564000	1566000	1542000	1724000	1749000	1631000	1495000	1483000
18	1566000	1537000	1577000	1522000	1560000	1565000	1533000	1786000	1745000	1623000	1493000	1479000
19	1563000	1536000	1577000	1525000	1555000	1558000	1529000	1775000	1740000	1615000	1491000	1489000
20	1566000	1537000	1588000	1523000	1555000	1547000	1531000	1743000	1734000	1606000	1491000	1491000
21	1568000	1538000	1586000	1528000	1552000	1534000	1540000	1735000	1728000	1594000	1491000	1492000
22	1566000	1541000	1587000	1527000	1545000	1527000	1548000	1726000	1724000	1600000	1490000	1493000
23	1561000	1540000	1588000	1532000	1543000	1523000	1557000	1721000	1723000	1611000	1490000	1493000
24	1555000	1541000	1591000	1531000	1548000	1534000	1556000	1720000	1719000	1602000	1494000	1493000
25	1551000	1544000	1589000	1531000	1545000	1535000	1556000	1752000	1717000	1595000	1493000	1493000
26	1545000	1545000	1587000	1533000	1533000	1535000	1560000	1767000	1712000	1591000	1493000	1493000
27	1544000	1544000	1587000	1534000	1530000	1540000	1557000	1774000	1703000	1582000	1493000	1493000
28	1545000	1537000	1584000	1536000	1530000	1542000	1568000	1780000	1693000	1574000	1493000	1493000
29	1540000	1531000	1583000	1541000	---	1546000	1575000	1796000	1689000	1570000	1493000	1493000
30	1534000	1533000	1573000	1552000	---	1549000	1573000	1816000	1685000	1566000	1493000	1493000
31	1528000	---	1566000	1581000	---	1552000	---	1821000	---	1558000	1493000	---
MAX	1606000	1550000	1591000	1581000	1658000	1581000	1575000	1840000	1822000	1685000	1554000	1493000
MIN	1522000	1524000	1536000	1522000	1530000	1523000	1529000	1552000	1685000	1558000	1490000	1479000
(+)	741.80	741.91	742.66	743.00	741.84	742.34	742.82	748.10	745.28	742.48	740.98	740.98
(++)	+4000	+5000	+33000	+15000	-51000	+22000	+21000	+248000	-136000	-127000	-65000	0
CAL YR 2001	MAX 1956000	MIN 1502000	(++)	+24000								
WTR YR 2002	MAX 1840000	MIN 1479000	(++)	-31000								

(+) ELEVATION, IN FEET, AT END OF MONTH
(++) CHANGE IN CONTENTS, IN ACRE-FEET

ARKANSAS RIVER BASIN

141

07190000 LAKE O' THE CHEROKEES AT LANGLEY, OK--Continued



ARKANSAS RIVER BASIN

07190500 NEOSHO RIVER NEAR LANGLEY, OK

LOCATION.--Lat 36°26'20", long 95°02'54", in SW $\frac{1}{4}$, SE $\frac{1}{4}$ sec.27, T.23 N., R.21 E., Mayes County, Hydrologic Unit 11070209, in concrete stilling well on left bank, 0.5 mi upstream from bridge on State Highway 82, 1.5 mi south of Langley, 3.6 mi downstream from Pensacola Dam, 6.3 mi upstream from Big Cabin Creek, and at mile 73.4.

DRAINAGE AREA.--10,335 mi².

PERIOD OF RECORD.--October 1939 to current year.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 607.65 ft above sea level (U.S. Army Corps of Engineers bench mark). Prior to Feb. 16, 1940, nonrecording gage at site 0.1 mi upstream at same datum. Feb. 10, 1954 to Sept. 30, 1963, water-stage recorder at site 0.5 mi downstream at same datum. Auxiliary water-stage recorders at sites 2.0 and 3.0 mi upstream at same datum.

REMARKS.--Records fair. Low flow values of 25 ft³/s consist of estimated base flow (since July 1964). Flow regulated since 1940 by Lake O' The Cherokees (station 07190000).

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	129	4150	e25	2500	10200	592	4550	10900	5490	3890	3060	643
2	394	4190	e25	4450	9670	2160	4190	8850	4810	5140	4150	75
3	33	3890	340	6370	9120	4350	3980	6870	9130	4740	5010	2130
4	45	1870	2290	5220	9680	3500	2200	2150	12500	4240	7890	1730
5	2240	7870	1360	3360	9640	3190	3870	5350	5780	4070	3630	458
6	4320	8240	e25	519	9770	2460	1520	5980	7180	3660	6020	65
7	4180	2390	28	3780	9430	1940	3160	4840	9250	5530	7260	1810
8	1860	755	e25	873	9450	246	6150	14900	9120	4330	3010	43
9	4290	201	e25	1740	8720	460	5260	38100	7060	3050	56	e25
10	7090	42	69	603	8790	644	6080	57600	10700	2000	79	728
11	8520	e25	1210	452	9240	6350	5020	69600	20600	3610	112	37
12	11300	1950	3270	4520	7160	6240	4920	75700	26400	695	118	220
13	8230	529	952	3070	7500	4790	67	66500	37700	712	973	254
14	3670	e25	374	3100	8380	6630	793	55700	38300	2980	1160	43
15	7020	80	182	1920	6100	4300	5760	43700	32700	8340	80	e25
16	5630	e25	2240	438	2080	1120	6740	26300	23600	6340	229	e25
17	5700	e25	7140	830	3060	944	6220	22200	13600	2470	1180	34
18	5670	25	6200	1240	4820	4940	7690	41300	7720	6100	1090	1210
19	2980	4510	5730	e25	5000	6860	6510	46900	9540	6710	2180	312
20	104	26	5550	100	3500	9690	3020	37400	10700	7210	660	105
21	e25	25	6850	41	4420	10200	1570	19500	10900	7620	416	40
22	2260	113	3310	499	6660	7790	1510	16100	10300	1450	1120	199
23	3610	790	2550	72	3180	4930	1130	15200	8800	1390	431	226
24	4040	40	3020	1290	315	172	5660	23100	10200	8320	532	836
25	2690	28	2970	1090	4020	5400	3140	34400	8600	5280	1560	495
26	4570	73	3030	51	6660	5720	885	36500	8600	2690	283	428
27	290	1910	3390	85	4830	2830	4700	37500	9840	4830	743	449
28	e25	6130	4150	67	2510	3850	6500	26300	11600	5070	167	657
29	2890	e7480	2430	1270	---	2020	10100	17200	6540	5110	126	744
30	3820	e25	6540	2600	---	3200	10700	4660	6140	4030	96	668
31	2680	---	5910	7360	---	1310	---	6370	---	5150	469	---
TOTAL	110305	57432	81210	59535	183905	118828	133595	877670	393400	136757	53890	14714
MEAN	3558	1914	2620	1920	6568	3833	4453	28310	13110	4412	1738	490.5
MAX	11300	8240	7140	7360	10200	10200	10700	75700	38300	8340	7890	2130
MIN	25	25	25	25	315	172	67	2150	4810	695	56	25
AC-FT	218800	113900	161100	118100	364800	235700	265000	1741000	780300	271300	106900	29190

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2002, BY WATER YEAR (WY)

	MEAN	6108	6859	5711	4874	6156	8753	11160	12080	11270	8909	4368	4917
MAX	51120	38870	35580	21440	23460	33250	50780	77710	43540	67920	20910	30350	
(WY)	1987	1986	1993	1993	1949	1973	1945	1943	1995	1951	1950	1993	
MIN	37.5	63.0	40.9	144	243	321	38.1	71.4	33.1	26.5	25.6	77.1	
(WY)	1981	1957	1981	1954	1981	1967	1971	1940	1940	1940	1940	1953	

e Estimated

ARKANSAS RIVER BASIN

143

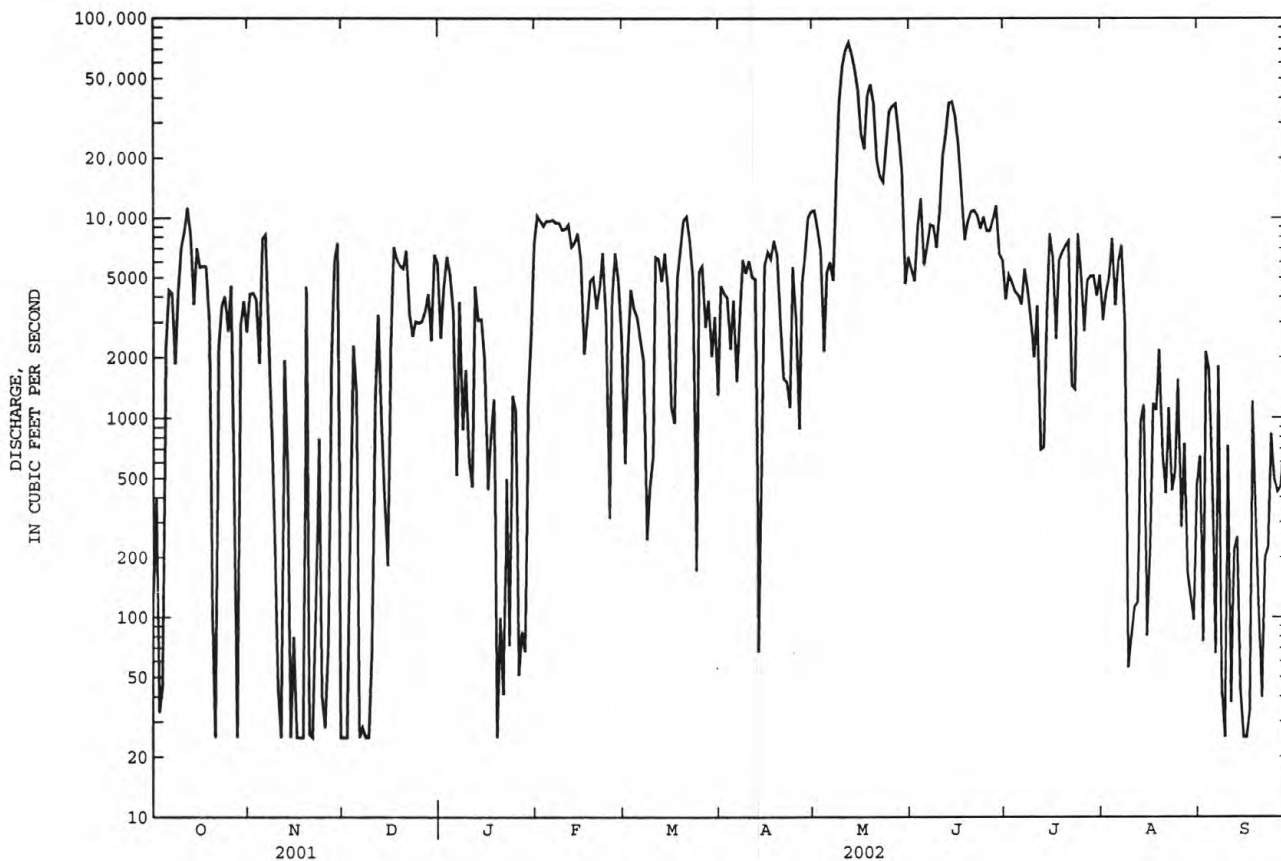
07190500 NEOSHO RIVER NEAR LANGLEY, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1940 - 2002	
ANNUAL TOTAL	2003180		2221241		7598	
ANNUAL MEAN	5488		6086		21710	
HIGHEST ANNUAL MEAN					210	
LOWEST ANNUAL MEAN					287000	
HIGHEST DAILY MEAN	56100	Feb 27	75700	May 12	May 20 1943	
LOWEST DAILY MEAN	25	at times	25	at times	9.0	
ANNUAL SEVEN-DAY MINIMUM	97	Sep 28	91	Sep 11	15	
MAXIMUM PEAK FLOW			79900	May 12	3000000	
MAXIMUM PEAK STAGE			26.33	May 12	45.50	
ANNUAL RUNOFF (AC-FT)	3973000		4406000		5504000	
10 PERCENT EXCEEDS	13900		10700		16900	
50 PERCENT EXCEEDS	2940		3500		3920	
90 PERCENT EXCEEDS	25		68		107	

^aCaused by closure of Pensacola Dam.

^bFrom computation of overflow from Lake O' the Cherokees.

^cFrom floodmark.



ARKANSAS RIVER BASIN

07191000 BIG CABIN CREEK NEAR BIG CABIN, OK

LOCATION.--Lat 36°34'06", long 95°09'07", in NE 1/4, NE 1/4 sec.15, T.24 N., R.20 E., Craig County, Hydrologic Unit 11070209, near downstream side of right bank end of county road bridge, 4.9 mi northeast of Big Cabin, 0.9 mi downstream from White Oak Creek, 6.8 mi upstream from Mustang Creek, and at mile 13.0.

DRAINAGE AREA.--450 mi².

PERIOD OF RECORD.--October 1947 to current year.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 622.00 ft above sea level (U.S. Army Corps of Engineers bench mark). Prior to Sept. 30, 1972, water-stage recorder at site 4.5 mi downstream at same datum.

REMARKS.--No estimated daily discharge. Records good. Low flow sustained in part by sewage from city of Vinita. U.S. Army Corps of Engineer's satellite telemeter at station.

EXTREMES FOR OUTSIDE PERIOD OF RECORD.--Flood of May 18, 1943, reached a stage of 34.96 ft at former site; discharge, 63,000 ft³/s, by slope-area measurement of peak flow.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 9	1600	9,330	28.72	No other peak greater than base discharge.			

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	7.3	6.7	14	1540	37	70	78	109	9.7	7.0	2.6
2	1.5	7.3	6.5	12	457	47	64	68	83	9.2	6.2	2.2
3	1.4	17	6.1	11	275	76	58	59	68	29	6.1	1.8
4	1.3	25	6.6	11	197	97	53	52	58	55	5.9	1.6
5	719	16	6.2	9.7	149	147	50	47	58	23	6.4	1.8
6	758	14	6.1	9.6	134	1000	48	3080	107	14	4.3	1.9
7	111	12	6.2	9.5	161	521	52	509	83	11	3.3	1.8
8	45	11	6.6	9.8	179	213	562	5600	60	7.9	2.6	1.6
9	30	12	6.9	11	147	134	435	8290	49	6.3	2.5	1.4
10	3650	13	6.9	13	113	110	229	2320	44	8.0	2.4	1.4
11	1050	13	6.5	13	86	60	139	384	40	16	2.1	1.5
12	249	13	9.0	12	71	45	104	346	788	9.1	1.6	1.6
13	123	13	14	12	64	36	85	1560	2360	6.5	4.1	2.0
14	87	13	22	11	59	31	75	340	453	5.8	19	2.5
15	61	13	30	9.7	56	25	69	192	199	4.6	9.4	3.4
16	38	12	311	9.4	51	21	63	146	130	4.4	4.4	3.6
17	28	12	2210	9.3	47	17	58	3050	105	4.1	3.1	3.6
18	22	13	510	9.6	45	17	54	1840	85	3.3	2.5	2.8
19	19	13	201	9.2	51	22	52	351	70	2.9	2.2	7.8
20	17	13	104	9.1	157	88	112	209	60	2.5	1.8	10
21	15	17	64	9.2	151	67	188	159	48	2.2	1.5	17
22	15	24	48	9.6	95	36	123	125	35	2.0	1.2	25
23	13	19	37	10	70	24	125	101	28	657	1.0	13
24	12	16	31	12	59	20	218	511	24	223	1.5	8.0
25	13	13	27	13	51	1450	129	817	21	90	5.2	5.1
26	12	11	25	14	46	418	97	214	18	55	3.6	4.0
27	11	9.3	22	14	44	197	151	238	16	27	2.3	3.3
28	9.2	9.1	20	14	39	141	249	680	16	15	2.0	3.1
29	8.2	8.2	19	13	---	115	156	529	14	19	2.0	2.4
30	7.6	7.5	18	270	---	95	99	253	11	14	2.1	2.1
31	7.4	---	16	5850	---	79	---	154	---	9.6	2.6	---
TOTAL	7136.1	396.7	3809.3	6443.7	4594	5386	3967	32302	5240	1346.1	121.9	139.9
MEAN	230.2	13.22	122.9	207.9	164.1	173.7	132.2	1042	174.7	43.42	3.932	4.663
MAX	3650	25	2210	5850	1540	1450	562	8290	2360	657	19	25
MIN	1.3	7.3	6.1	9.1	39	17	48	47	11	2.0	1.0	1.4
AC-FT	14150	787	7560	12780	9110	10680	7870	64070	10390	2670	242	277
CFSM	0.51	0.03	0.27	0.46	0.36	0.39	0.29	2.32	0.39	0.10	0.01	0.01
IN.	0.59	0.03	0.31	0.53	0.38	0.45	0.33	2.67	0.43	0.11	0.01	0.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 2002, BY WATER YEAR (WY)

	MEAN	262.8	417.1	292.7	235.8	328.6	578.5	501.8	657.3	487.6	205.5	80.85	206.6
MAX	4250	2844	2552	1157	2940	2621	2285	3580	2817	1947	1757	1891	
(WY)	1960	1986	1993	1973	1985	1990	1999	1961	1948	1958	1948	1961	
MIN	0.22	0.89	1.52	1.29	1.50	1.37	30.0	20.3	2.47	0.53	0.41	0.22	
(WY)	1957	1956	1956	1954	1954	1956	1954	1963	1988	1954	1954	1954	

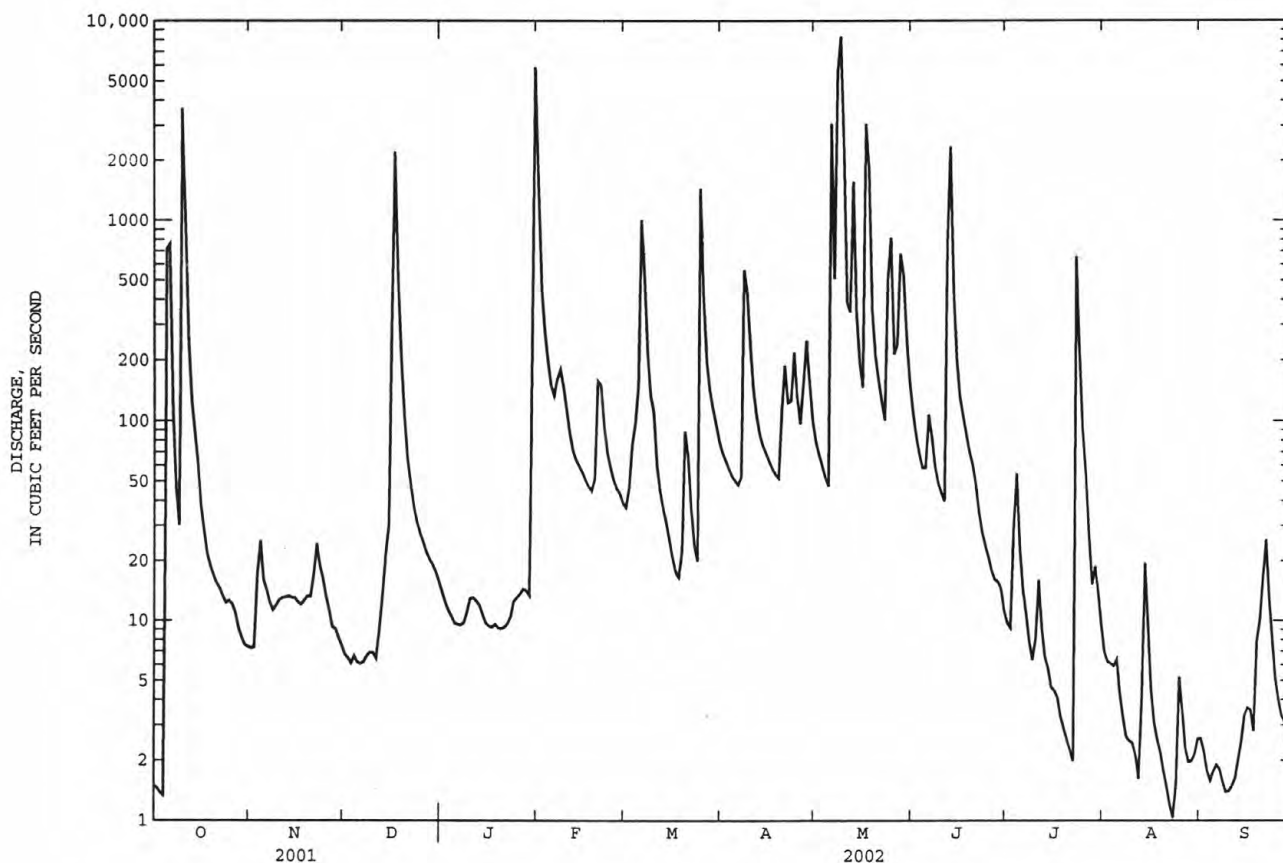
ARKANSAS RIVER BASIN

145

07191000 BIG CABIN CREEK NEAR BIG CABIN, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1948 - 2002
ANNUAL TOTAL	84272.47	70882.7	
ANNUAL MEAN	230.9	194.2	354.2
HIGHEST ANNUAL MEAN			1044 1993
LOWEST ANNUAL MEAN			37.9 1956
HIGHEST DAILY MEAN	12600 Feb 24	8290 May 9	46300 Oct 3 1959
LOWEST DAILY MEAN	0.83 Sep 7	1.0 Aug 23	0.10 Oct 4 1954
ANNUAL SEVEN-DAY MINIMUM	0.98 Sep 7	1.6 Sep 6	0.11 Sep 11 1956
MAXIMUM PEAK FLOW		9330 May 9	^a 52000 Oct 3 1959
MAXIMUM PEAK STAGE		28.72 May 9	46.65 Feb 23 1985
ANNUAL RUNOFF (AC-FT)	167200	140600	256600
ANNUAL RUNOFF (CFSM)	0.51	0.43	0.79
ANNUAL RUNOFF (INCHES)	6.97	5.86	10.70
10 PERCENT EXCEEDS	277	289	512
50 PERCENT EXCEEDS	22	21	32
90 PERCENT EXCEEDS	2.1	2.5	1.6

^aGage height, 34.55 ft at former site.



ARKANSAS RIVER BASIN

07191160 SPAVINAW CREEK NEAR MAYSVILLE, AR

LOCATION.--Lat 36°21'52", long 94°33'04", in SW $\frac{1}{4}$ SE $\frac{1}{4}$ sec.36, T.20 N., R.34 W., Benton County, Hydrologic Unit 11070209, on downstream left end of bridge on State Highway 102, 1 mi upstream from Columbia Hollow, 3.1 mi southeast of Maysville, Ar. and at mile 42.9.

DRAINAGE AREA.--88.2 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 2001 to September 20, 2002.

GAGE.--Water-stage recorder. Datum of gage is 938.40 ft above sea level.

REMARKS.--Records good except for estimated periods which are poor. U.S. Geological Survey satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	24	55	53	271	40	67	61	169	39	e33	e23
2	19	24	65	51	226	44	63	58	135	40	e32	e22
3	19	40	62	48	181	51	60	55	112	41	e30	e21
4	18	68	55	46	137	53	57	52	96	41	e28	e19
5	19	62	50	45	107	54	55	51	94	46	e27	e18
6	21	52	45	44	91	57	52	48	86	48	e26	e18
7	23	44	41	43	79	75	54	45	78	46	e26	e18
8	23	39	38	41	71	77	491	44	72	43	e25	e17
9	23	36	35	40	65	74	426	51	67	39	e25	e17
10	31	34	33	39	60	68	291	68	64	38	e25	e17
11	70	31	32	38	57	64	226	73	61	38	e24	e17
12	127	31	33	37	55	61	179	67	69	40	e24	e16
13	102	29	37	36	51	59	145	167	88	40	e24	e16
14	82	29	43	36	48	57	124	201	88	38	e27	e17
15	73	28	46	35	46	55	109	158	79	37	e30	e17
16	63	27	90	34	44	51	98	122	71	35	e32	e16
17	54	26	681	34	43	48	88	738	65	33	e30	e17
18	46	26	484	33	41	47	81	657	61	34	e29	e18
19	40	28	315	33	42	54	76	381	59	44	e27	e19
20	37	31	237	32	48	172	72	276	55	40	e26	e19
21	34	33	182	32	52	194	69	210	52	35	e25	e18
22	31	32	143	31	52	162	66	164	49	34	e24	e17
23	30	31	116	32	50	132	67	132	47	35	e24	e16
24	29	43	98	38	48	112	68	122	45	e34	e24	e16
25	28	78	86	44	46	109	65	110	44	e34	e23	e16
26	27	81	78	43	44	106	64	98	44	e33	e24	e15
27	26	69	72	41	43	98	64	87	43	e32	e23	e16
28	25	59	68	39	41	91	65	257	43	e31	e22	e15
29	24	52	65	38	---	85	65	421	42	e31	e22	e15
30	24	49	61	40	---	79	63	293	40	e32	e23	e14
31	24	---	56	102	---	71	---	221	---	e34	e24	---
TOTAL	1211	1236	3502	1278	2139	2500	3470	5488	2118	1165	808	520
MEAN	39.06	41.20	113.0	41.23	76.39	80.65	115.7	177.0	70.60	37.58	26.06	17.33
MAX	127	81	681	102	271	194	491	738	169	48	33	23
MIN	18	24	32	31	41	40	52	44	40	31	22	14
AC-FT	2400	2450	6950	2530	4240	4960	6880	10890	4200	2310	1600	1030

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2002, BY WATER YEAR (WY)

	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002
MEAN	39.06	41.20	113.0	41.23	76.39	80.65	115.7	177.0	70.60	37.58	26.06	17.33
MAX	39.1	41.2	113	41.2	76.4	80.6	116	177	70.6	37.6	26.1	17.3
(WY)	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002
MIN	39.1	41.2	113	41.2	76.4	80.6	116	177	70.6	37.6	26.1	17.3
(WY)	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002

e Estimated

ARKANSAS RIVER BASIN

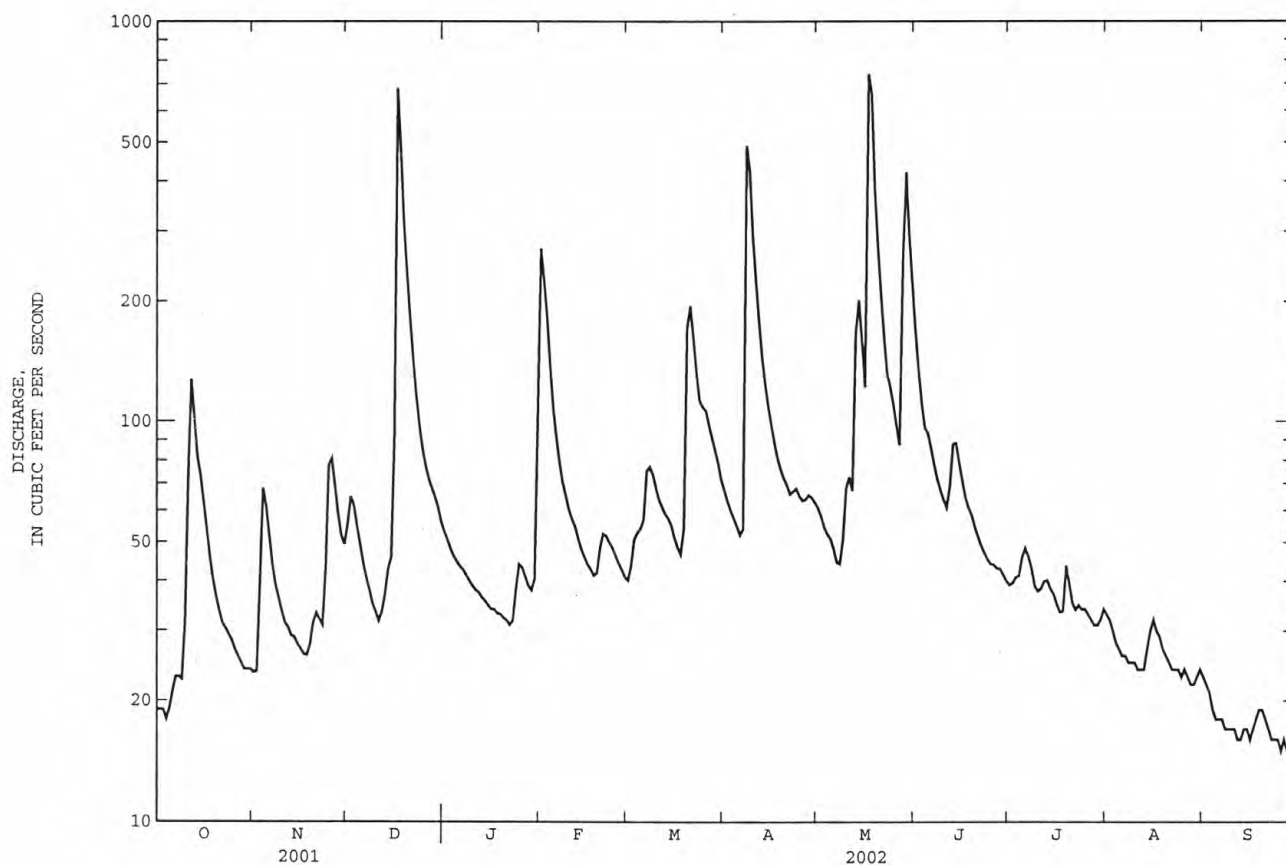
147

07191160 SPAVINAW CREEK NEAR MAYSVILLE, AR--Continued

SUMMARY STATISTICS

FOR 2002 WATER YEAR

ANNUAL TOTAL	25435	
ANNUAL MEAN	69.68	
HIGHEST DAILY MEAN	738	May 17
LOWEST DAILY MEAN	14	Sep 30
ANNUAL SEVEN-DAY MINIMUM	15	Sep 23
MAXIMUM PEAK FLOW	1580	May 17
MAXIMUM PEAK STAGE	10.57	May 17
ANNUAL RUNOFF (AC-FT)	50450	
10 PERCENT EXCEEDS	129	
50 PERCENT EXCEEDS	45	
90 PERCENT EXCEEDS	22	



ARKANSAS RIVER BASIN

07191160 SPAVINAW CREEK NEAR MAYSVILLE, AR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 2001 to current year.

REMARKS.--Six event samples collected by USGS, nine periodic samples collected by City of Tulsa. All water-quality samples were analyzed at City of Tulsa Quality Assurance Laboratory, Tulsa, Oklahoma. Specific conductance, pH, water temperature, air temperature, and dissolved oxygen were determined in the field.

COOPERATION.--All analytical records were furnished by City of Tulsa, Tulsa, Oklahoma.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
DEC											
17...	1245	1028	1028	9.15	700	757	--	7.3	233	12.5	7.00
17...	1252	1028	1028	9.15	700	757	--	7.2	233	12.5	17.0
17...	1256	1028	1028	9.15	700	757	--	7.3	233	12.5	27.0
17...	1300	1028	1028	9.15	700	757	--	7.2	233	12.5	37.0
17...	1304	1028	1028	9.15	700	757	--	7.3	233	12.5	47.0
17...	1308	1028	1028	9.15	700	757	--	7.4	233	12.5	57.0
17...	1312	1028	1028	9.15	700	757	--	7.3	234	12.5	67.0
17...	1314	1028	1028	9.15	700	757	--	7.3	234	12.5	77.0
FEB											
01...	0940	1028	1028	7.73	305	767	11.6	7.4	246	8.9	90.0
01...	0941	1028	1028	7.73	305	767	11.7	7.3	246	8.9	81.0
01...	0944	1028	1028	7.73	305	767	11.8	7.3	246	8.9	72.0
01...	0946	1028	1028	7.73	305	767	11.9	7.2	246	8.9	63.0
01...	0947	1028	1028	7.73	305	767	11.9	7.3	245	8.9	54.0
01...	0949	1028	1028	7.73	305	767	11.9	7.2	245	8.9	45.0
01...	0951	1028	1028	7.73	305	767	11.9	7.3	246	8.9	36.0
01...	0953	1028	1028	7.73	305	767	11.9	7.3	246	8.9	27.0
01...	0954	1028	1028	7.73	305	767	11.9	7.3	246	8.9	18.0
01...	0956	1028	1028	7.73	305	767	11.9	7.3	246	8.9	9.00
APR											
08...	1144	1028	1028	8.81	648	763	10.7	6.7	215	11.8	10.0
08...	1145	1028	1028	8.81	648	763	10.7	6.9	215	11.8	20.0
08...	1146	1028	1028	8.81	648	763	10.7	7.0	215	11.8	30.0
08...	1147	1028	1028	8.81	648	763	10.7	7.2	215	11.8	40.0
08...	1148	1028	1028	8.81	648	763	10.6	7.3	215	11.8	50.0
08...	1149	1028	1028	8.81	648	763	10.7	7.3	215	11.8	60.0
08...	1150	1028	1028	8.81	648	763	10.7	7.3	215	11.8	70.0
MAY											
13...	1329	1028	1028	7.35	176	765	9.7	6.9	273	15.9	8.00
13...	1330	1028	1028	7.35	176	765	9.5	7.0	273	15.9	16.0
13...	1331	1028	1028	7.35	176	765	9.5	7.0	274	15.9	24.0
13...	1332	1028	1028	7.35	176	765	9.4	7.0	275	15.9	32.0
13...	1333	1028	1028	7.35	176	765	9.4	7.0	275	16.0	40.0
17...	1240	1028	1028	10.52	1560	755	8.7	7.5	156	15.7	5.00
17...	1241	1028	1028	10.52	1560	755	8.7	7.4	157	15.6	15.0
17...	1243	1028	1028	10.52	1560	755	8.4	7.4	157	15.6	25.0
17...	1244	1028	1028	10.52	1560	755	8.4	7.4	157	15.6	35.0
17...	1245	1028	1028	10.52	1560	755	8.6	7.4	156	15.6	45.0
17...	1246	1028	1028	10.52	1560	755	8.7	7.4	157	15.6	55.0
17...	1247	1028	1028	10.52	1560	755	8.7	7.4	157	15.6	65.0
17...	1248	1028	1028	10.52	1560	755	8.6	7.4	157	15.6	75.0
17...	1249	1028	1028	10.52	1560	755	8.5	7.4	157	15.6	85.0

ARKANSAS RIVER BASIN

149

07191160 SPAVINAW CREEK NEAR MAYSVILLE, AR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)
DEC													
17...	1204	1028	99999	9.15	700	757	8.2	--	--	7.3	233	9.2	12.5
JAN													
15...	0820	99999	99999	6.32	35	--	7.5	9.8	--	7.5	277	-3.9	9.6
FEB													
01...	1010	1028	99999	7.73	305	767	9.6	11.9	102	7.3	246	3.9	8.9
12...	0815	99999	99999	6.61	55	--	15	7.5	--	7.2	269	-4	9.3
MAR													
12...	0845	99999	99999	6.66	61	--	21	10.9	--	7.0	277	9.0	9.7
20...	1445	1028	99999	7.43	221	766	6.8	11.3	104	7.6	262	14.3	12.1
APR													
08...	1205	1028	99999	8.81	648	763	14	10.7	99	7.2	215	--	11.8
18...	0817	99999	99999	6.81	82	--	11	8.3	--	7.3	275	25.0	13.8
MAY													
13...	1320	1028	99999	7.35	176	765	25	9.5	95	7.0	274	18.6	15.9
17...	1300	1028	99999	10.52	1560	755	6.8	8.6	87	7.4	157	12.8	15.6
23...	0808	99999	99999	7.10	136	--	11	8.0	--	7.3	--	19.5	14.8
JUN													
13...	0838	99999	99999	6.81	88	--	12	7.6	--	7.2	265	25.0	17.1
JUL													
18...	0832	99999	99999	6.32	34	--	8.8	7.3	--	7.4	317	--	18.2
AUG													
13...	0820	99999	99999	6.35	E24	--	8.3	6.2	--	7.5	327	27.0	18.8
SEP													
19...	0810	99999	99999	6.22	E19	--	3.2	6.6	--	7.9	319	20.0	19.0

Date	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
DEC											
17...	84	<.050	--	3.80	3.80	<.020	.65	.209	--	.068	.130
JAN											
15...	120	<.050	--	4.80	4.80	<.020	<.21	--	.022	--	.028
FEB											
01...	95	.075	.10	3.40	3.40	<.020	<.21	.098	--	.032	.045
12...	110	<.030	--	4.80	4.80	<.015	<.15	--	.020	--	.024
MAR											
12...	110	.055	.07	4.20	4.20	<.015	<.15	--	.018	--	.024
20...	140	<.030	--	4.00	4.00	<.015	<.15	.067	.024	.022	.028
APR											
08...	104	.092	.12	3.30	3.30	<.015	.67	.150	.055	.049	.160
18...	110	.047	.06	4.20	4.20	<.015	<.15	--	.025	--	.028
MAY											
13...	130	<.030	--	3.44	3.44	<.015	<.15	.077	.032	.025	.033
17...	88	.120	.15	2.49	2.50	<.015	4.9	.920	--	.300	.500
23...	110	<.030	--	4.18	4.20	<.015	.34	--	.030	--	.042
JUN											
13...	110	<.030	--	3.67	3.68	<.015	<.15	--	.027	--	.035
JUL											
18...	120	<.030	--	3.41	3.41	<.015	<.15	--	.025	--	.025
AUG											
13...	130	.043	.06	3.20	3.20	<.015	<.15	--	.022	--	.031
SEP											
19...	130	.041	.05	2.85	2.85	<.015	<.15	--	.026	--	.033

ARKANSAS RIVER BASIN

07191160 SPAVINAW CREEK NEAR MAYSVILLE, AR--Continued

WATER-QUALITY DATA

Date	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI- MENT, SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)
DEC 2001			
17...	92	80	151
JAN 2002			
15...	--	--	--
FEB			
01...	99	29	23.9
12...	--	--	--
MAR			
12...	--	--	--
20...	96	26	15.5
APR			
08...	94	91	159
18...	--	--	--
MAY			
13...	93	27	12.8
17...	74	1070	4490
23...	--	--	--
JUN			
13...	--	--	--
JUL			
18...	--	--	--
AUG			
13...	--	--	--
SEP			
19...	--	--	--



07191300 Spavinaw Lake near Spavinaw, OK

ARKANSAS RIVER BASIN

07191179 SPAVINAW CREEK NEAR CHEROKEE, AR

LOCATION.--Lat 36°20'31", long 94°35'15", in NW 1/4 SE 1/4 sec.10, T.19 N., R.34 W., Benton County, Hydrologic Unit 11070209, on downstream left end of bridge on State Highway 43, 1.25 mi upstream from Coon Creek, 3.1 mi north of Cherokee, Ar. and at mile 39.3.

DRAINAGE AREA.--104 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 2001 to September 20, 2002.

GAGE.--Water-stage recorder. Datum of gage is 906.20 ft above sea level.

REMARKS.--Records good except for estimated periods which are poor. U.S. Geological Survey satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	28	54	61	288	57	94	73	210	49	35	26
2	18	28	62	57	248	62	90	70	168	50	33	25
3	18	38	60	56	202	69	89	67	138	52	31	24
4	18	67	55	55	157	71	87	64	118	52	30	23
5	22	61	49	54	126	73	83	61	114	57	29	21
6	23	52	45	53	110	78	81	58	105	58	29	20
7	25	44	41	51	97	95	88	57	95	e56	29	19
8	24	39	38	49	89	99	480	56	88	e54	28	19
9	24	37	35	48	84	98	465	64	84	e50	27	18
10	33	33	32	48	79	90	341	79	80	e48	27	17
11	63	31	31	47	74	85	272	84	78	e46	26	18
12	116	29	33	46	71	81	218	81	87	e44	26	18
13	118	27	37	44	68	80	179	162	109	e45	28	18
14	92	27	44	43	64	78	152	211	111	e47	32	19
15	75	27	48	42	63	75	130	183	101	46	36	19
16	63	28	79	42	61	70	118	158	90	43	35	18
17	55	28	674	42	59	67	109	746	82	42	33	18
18	47	27	522	42	57	65	100	715	77	42	31	19
19	42	30	360	41	58	78	94	422	75	52	28	21
20	37	32	271	41	66	189	89	304	72	49	28	21
21	34	33	207	39	72	224	84	230	68	44	27	21
22	32	32	162	39	71	192	80	180	64	41	26	20
23	32	31	131	40	68	163	82	146	62	41	25	18
24	32	37	112	46	66	141	84	135	59	40	25	17
25	32	71	97	52	63	133	81	123	57	39	25	17
26	31	75	87	53	61	131	79	109	57	37	25	17
27	30	65	81	49	59	124	80	98	56	34	26	17
28	29	57	76	46	57	117	79	275	55	33	25	17
29	28	51	74	45	---	112	76	489	53	35	24	16
30	27	48	70	50	---	109	74	357	51	38	26	15
31	27	---	64	105	---	101	---	270	---	37	26	---
TOTAL	1265	1213	3731	1526	2638	3207	4158	6127	2664	1401	881	576
MEAN	40.81	40.43	120.4	49.23	94.21	103.5	138.6	197.6	88.80	45.19	28.42	19.20
MAX	118	75	674	105	288	224	480	746	210	58	36	26
MIN	18	27	31	39	57	57	74	56	51	33	24	15
AC-FT	2510	2410	7400	3030	5230	6360	8250	12150	5280	2780	1750	1140

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2002, BY WATER YEAR (WY)

	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002
MEAN	40.81	40.43	120.4	49.23	94.21	103.5	138.6	197.6	88.80	45.19	28.42	19.20
MAX	40.8	40.4	120	49.2	94.2	103	139	198	88.8	45.2	28.4	19.2
(WY)	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002
MIN	40.8	40.4	120	49.2	94.2	103	139	198	88.8	45.2	28.4	19.2
(WY)	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002

e Estimated

ARKANSAS RIVER BASIN

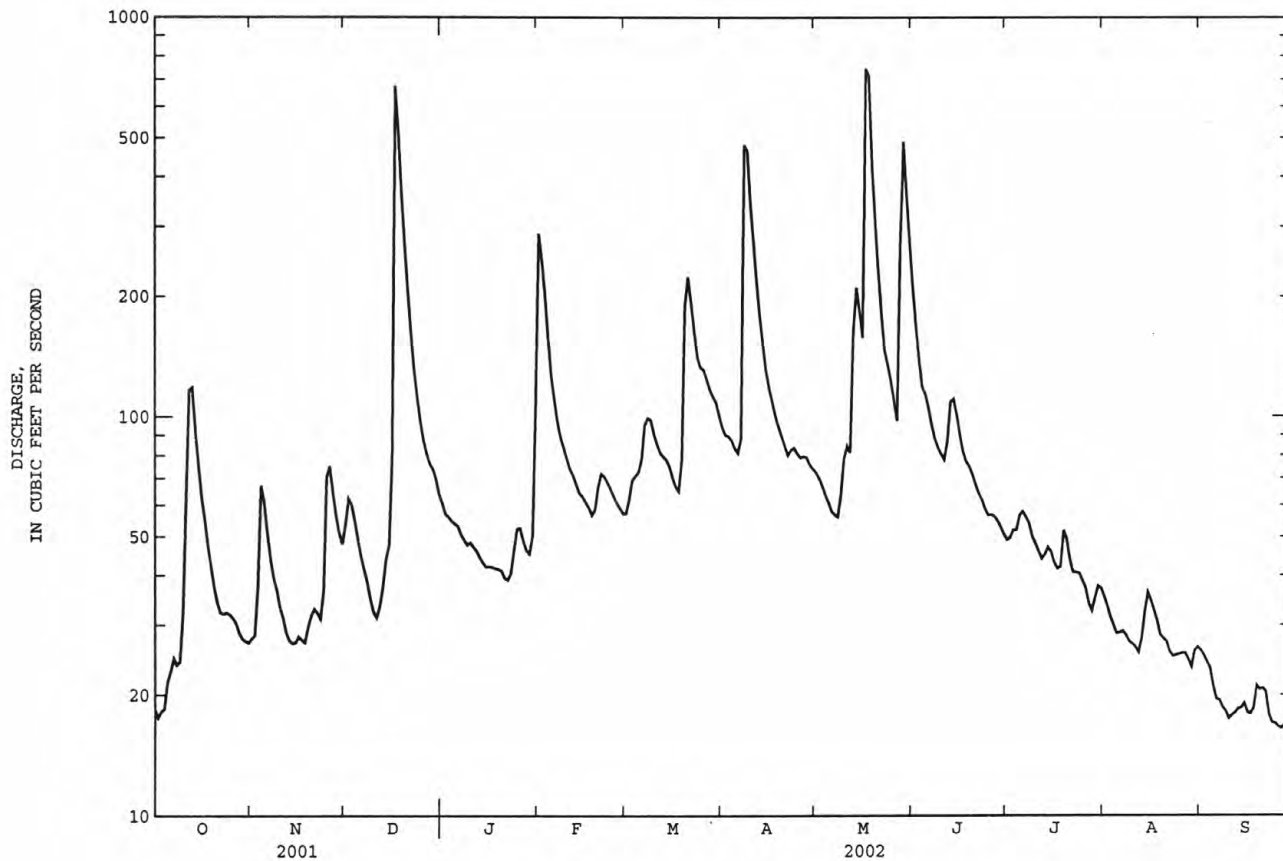
153

07191179 SPAVINAW CREEK NEAR CHEROKEE, AR--Continued

SUMMARY STATISTICS

FOR 2002 WATER YEAR

ANNUAL TOTAL	29387	
ANNUAL MEAN	80.51	
HIGHEST DAILY MEAN	746	May 17
LOWEST DAILY MEAN	15	Sep 30
ANNUAL SEVEN-DAY MINIMUM	17	Sep 24
MAXIMUM PEAK FLOW	1700	May 17
MAXIMUM PEAK STAGE	9.77	May 17
ANNUAL RUNOFF (AC-FT)	58290	
10 PERCENT EXCEEDS	154	
50 PERCENT EXCEEDS	56	
90 PERCENT EXCEEDS	24	



ARKANSAS RIVER BASIN

07191179 SPAVINAW CREEK NEAR CHEROKEE, AR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 2001 to current year.

REMARKS.--Six event samples collected by USGS, monthly samples collected by City of Tulsa. All water-quality samples were analyzed at City of Tulsa Quality Assurance Laboratory, Tulsa, Oklahoma. Specific conductance, pH, water temperature, air temperature, and dissolved oxygen were determined in the field.

COOPERATION.--All analytical records were furnished by City of Tulsa, Tulsa, Oklahoma.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

Date	Time	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	OXYGEN, DIS- SOLVED (MG/L AS O2) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)
JUL 12...	0835	99999	99999	5.6	5.1	7.7	336	--	22.3	130	.074	.10	3.40
AUG 16...	0828	99999	99999	5.6	4.8	7.7	368	22.5	22.7	130	<.050	--	3.20
SEP 13...	0830	99999	99999	5.3	5.6	7.7	348	16.3	19.6	140	<.050	--	3.20
Date				NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)					
JUL 12...				3.50	<.020	<.21	.248	.248					
AUG 16...				3.20	<.020	<.21	.297	.311					
SEP 13...				3.20	<.020	<.21	.339	.359					

ARKANSAS RIVER BASIN

155

07191179 SPAVINAW CREEK NEAR CHEROKEE, AR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
DEC											
17...	1444	1028	1028	8.48	730	758	--	7.3	245	12.8	80.0
17...	1448	1028	1028	8.48	730	758	--	7.3	244	12.8	60.0
17...	1451	1028	1028	8.48	730	758	--	7.4	244	12.8	40.0
17...	1456	1028	1028	8.48	730	758	--	7.4	243	12.8	20.0
FEB											
01...	1232	1028	1028	7.57	290	767	11.7	7.7	258	9.5	4.00
01...	1233	1028	1028	7.57	290	767	11.7	7.8	257	9.5	14.0
01...	1234	1028	1028	7.57	290	767	11.7	7.7	258	9.5	24.0
01...	1235	1028	1028	7.57	290	767	11.7	7.7	258	9.5	34.0
01...	1237	1028	1028	7.57	290	767	11.7	7.6	258	9.5	44.0
01...	1238	1028	1028	7.57	290	767	11.7	7.6	258	9.5	54.0
01...	1239	1028	1028	7.57	290	767	11.7	7.6	258	9.5	64.0
01...	1240	1028	1028	7.57	290	767	11.7	7.6	258	9.5	74.0
01...	1241	1028	1028	7.57	290	767	11.7	7.6	258	9.5	84.0
01...	1242	1028	1028	7.57	290	767	11.7	7.6	258	9.5	94.0
01...	1243	1028	1028	7.57	290	767	11.7	7.6	259	9.5	104
APR											
08...	1404	1028	1028	8.32	700	763	10.6	7.1	223	12.3	5.00
08...	1407	1028	1028	8.32	700	763	11.3	7.2	223	12.3	15.0
08...	1409	1028	1028	8.32	700	763	11.3	7.3	223	12.3	25.0
08...	1412	1028	1028	8.32	700	763	11.3	7.3	223	12.3	35.0
08...	1415	1028	1028	8.32	700	763	11.3	7.4	223	12.3	45.0
08...	1418	1028	1028	8.32	700	763	11.2	7.4	223	12.3	55.0
08...	1420	1028	1028	8.32	700	763	11.3	7.5	224	12.3	65.0
MAY											
13...	1522	1028	1028	7.29	190	765	10.8	7.3	286	17.4	94.0
13...	1523	1028	1028	7.29	190	765	10.8	7.3	286	17.4	84.0
13...	1524	1028	1028	7.29	190	765	10.7	7.4	286	17.4	74.0
13...	1525	1028	1028	7.29	190	765	10.6	7.4	286	17.4	64.0
13...	1526	1028	1028	7.29	190	765	10.6	7.4	286	17.4	54.0
13...	1527	1028	1028	7.29	190	765	10.6	7.4	286	17.4	44.0
13...	1528	1028	1028	7.29	190	765	10.6	7.4	286	17.4	34.0
13...	1529	1028	1028	7.29	190	765	10.5	7.4	286	17.4	24.0
13...	1530	1028	1028	7.29	190	765	10.5	7.4	286	17.4	14.0
13...	1531	1028	1028	7.29	190	765	10.4	7.4	286	17.4	4.00
27...	1605	1028	1028	9.65	1590	757	8.9	7.7	157	15.4	6.00
27...	1606	1028	1028	9.65	1590	757	9.0	7.6	157	15.4	16.0
27...	1607	1028	1028	9.65	1590	757	9.0	7.6	158	15.4	26.0
27...	1608	1028	1028	9.65	1590	757	9.0	7.6	158	15.4	36.0
27...	1609	1028	1028	9.65	1590	757	8.8	7.6	158	15.4	46.0
27...	1610	1028	1028	9.65	1590	757	8.8	7.5	158	15.4	56.0
27...	1611	1028	1028	9.65	1590	757	8.8	7.6	159	15.4	66.0
27...	1612	1028	1028	9.65	1590	757	8.7	7.6	159	15.4	76.0
27...	1613	1028	1028	9.65	1590	757	8.7	7.6	160	15.4	86.0
27...	1615	1028	1028	9.65	1590	757	8.6	7.6	160	15.4	96.0

ARKANSAS RIVER BASIN

07191179 SPAVINAW CREEK NEAR CHEROKEE, AR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)
OCT													
18...	0805	99999	99999	6.81	49	--	5.2	6.4	--	7.7	344	10.0	14.5
NOV													
15...	0820	99999	99999	6.68	27	--	5.9	6.8	--	7.6	348	7.2	14.3
DEC													
12...	0825	99999	99999	6.72	32	--	4.8	7.1	--	7.7	291	11.6	11.7
17...	1404	1028	99999	8.48	730	758	6.7	--	--	7.4	244	11.8	12.8
JAN													
15...	0835	99999	99999	6.70	41	--	4.1	10.6	--	7.7	288	-1.5	6.8
FEB													
01...	1236	1028	99999	7.57	290	767	4.6	11.7	102	7.6	258	7.6	9.5
12...	0835	99999	99999	6.87	71	--	2.5	7.8	--	7.9	278	-3.2	7.8
MAR													
12...	0900	99999	99999	6.92	82	--	5.6	11.6	--	7.6	293	8.0	8.9
20...	1641	1028	99999	7.41	233	762	3.2	12.5	118	7.9	272	15.9	12.8
APR													
08...	1410	1028	99999	8.32	700	763	9.1	11.3	105	7.3	223	--	12.3
18...	0835	99999	99999	7.00	101	--	1.8	8.6	--	8.1	285	25.0	14.5
MAY													
13...	1510	1028	99999	7.29	190	765	11	10.6	110	7.4	286	20.2	17.4
17...	1630	1028	99999	9.65	1590	757	4.8	8.8	89	7.6	158	13.3	15.4
23...	0823	99999	99999	7.18	150	--	7.4	8.2	--	7.5	280	22.0	15.1
JUN													
13...	0850	99999	99999	7.03	107	--	9.0	8.3	--	7.4	274	25.0	17.4
JUL													
18...	0847	99999	99999	6.72	42	--	6.3	7.7	--	7.6	335	--	19.3
AUG													
13...	0835	99999	99999	6.63	26	--	6.8	6.4	--	7.6	345	27.5	21.2
SEP													
19...	0825	99999	99999	6.67	25	--	4.3	6.2	--	7.8	343	21.0	21.3

Date	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHATE, ORTHO- DIS- SOLVED (MG/L AS PO4) (00660)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
OCT											
18...	130	.066	.08	4.60	4.60	<.020	<.21	--	.269	--	.293
NOV											
15...	130	.320	.41	3.80	3.80	--	<.21	--	.269	--	.277
DEC											
12...	120	<.050	--	4.70	4.70	<.020	<.21	--	.265	--	.303
17...	87	<.050	--	4.00	4.00	<.020	<.21	.399	--	.130	.190
JAN											
15...	110	<.050	--	5.40	5.40	<.020	<.21	--	.213	--	.233
FEB											
01...	100	<.050	--	3.60	3.60	<.020	<.21	.491	--	.160	.170
12...	110	<.030	--	5.20	5.20	<.015	<.15	--	.227	--	.230
MAR											
12...	110	<.030	--	4.45	4.40	<.015	<.15	--	.217	--	.227
20...	142	<.030	--	4.30	4.30	<.015	.53	.491	.160	.160	.170
APR											
08...	105	.160	.21	3.60	3.60	<.015	.66	.399	.130	.130	.190
18...	110	.050	.06	4.60	4.60	<.015	<.15	--	.207	--	.204
MAY											
13...	140	<.030	--	3.28	3.28	<.015	<.15	.460	.160	.150	.170
17...	91	.086	.11	2.52	2.52	<.015	4.3	.951	--	.310	.380
23...	110	<.030	--	4.42	4.40	<.015	<.15	--	.162	--	.170
JUN											
13...	120	1.14	1.47	3.92	3.92	<.015	<.15	--	.180	--	.186
JUL											
18...	130	<.030	--	3.59	3.59	<.015	<.15	--	.234	--	.234
AUG											
13...	130	<.030	--	3.33	3.33	<.015	<.15	--	.228	--	.234
SEP											
19...	130	<.030	--	3.16	3.16	<.015	<.15	--	.276	--	.301

ARKANSAS RIVER BASIN

157

07191179 SPAVINAW CREEK NEAR CHEROKEE, AR--Continued

WATER-QUALITY DATA

Date	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)
OCT 2001			
18...	--	--	--
NOV			
15...	--	--	--
DEC			
12...	--	--	--
17...	94	72	142
JAN 2002			
15...	--	--	--
FEB			
01...	93	26	20.4
12...	--	--	--
MAR			
12...	--	--	--
20...	97	25	15.7
APR			
08...	94	71	134
18...	--	--	--
MAY			
13...	96	26	13.3
17...	94	584	2510
23...	--	--	--
JUN			
13...	--	--	--
JUL			
18...	--	--	--
AUG			
13...	--	--	--
SEP			
19...	--	--	--

LOCATION.--Lat 36°20'05", long 94°38'29", in NE $\frac{1}{4}$ NW $\frac{1}{4}$ sec. 4, T.21 N., R.25 E., Delaware County, Hydrologic Unit 11070209, on right bank 1.8 mi upstream from Cherokee Creek, 4.8 mi northeast of Row, 6.5 mi southeast of Sycamore, and at mile 35.0.

WATER-DISCHARGE RECORDS

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s and maximum:

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 2002, BY WATER YEAR (WY)

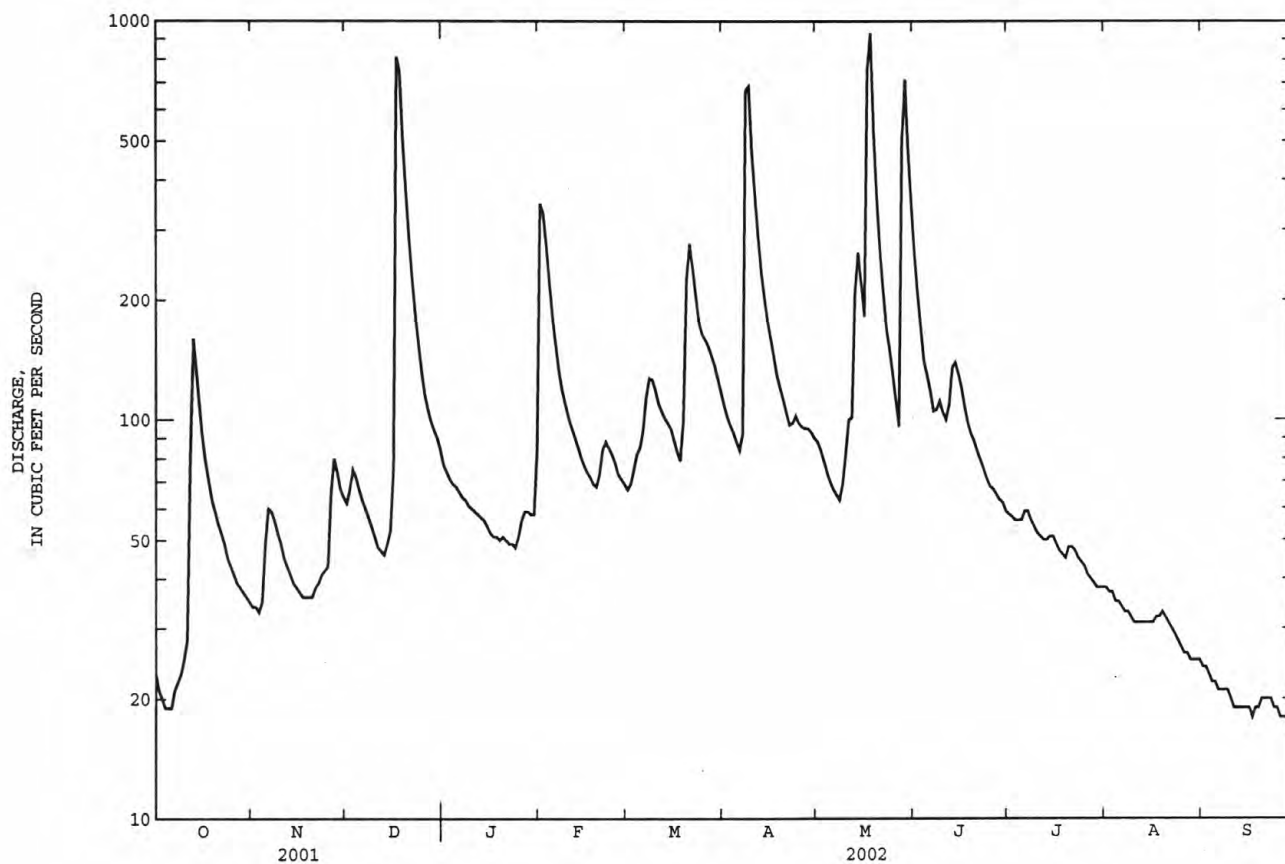
MEAN	57.86	113.3	127.5	106.5	131.7	188.9	196.8	152.9	155.5	67.11	31.50	49.92
MAX	382	683	585	328	480	563	600	550	880	483	78.5	248
(WY)	1987	1974	1993	1998	2001	1973	1973	1990	1974	1975	1975	1986
MIN	4.84	8.56	10.5	9.34	12.4	12.7	21.7	19.0	14.5	10.1	6.27	5.75
(WY)	1964	1964	1967	1981	1964	1967	1981	1967	1972	1966	1980	1963

ARKANSAS RIVER BASIN

159

07191220 SPAVINAW CREEK NEAR SYCAMORE, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1962 - 2002	
ANNUAL TOTAL	37998		36326		114.7	
ANNUAL MEAN	104.1		99.52		265	
HIGHEST ANNUAL MEAN					18.0	
LOWEST ANNUAL MEAN					11700	
HIGHEST DAILY MEAN	3820	Feb 24	931	May 18	1.3	Jul 27 1975
LOWEST DAILY MEAN	15	Sep 6	17	Sep 29	1.6	Aug 9 1964
ANNUAL SEVEN-DAY MINIMUM	16	Sep 1	18	Sep 24	39800	Jul 27 1975
MAXIMUM PEAK FLOW			1680	May 17	22.07	Jul 27 1975
MAXIMUM PEAK STAGE			7.86	May 17	83080	
ANNUAL RUNOFF (AC-FT)	75370		72050		0.86	
ANNUAL RUNOFF (CFSM)	0.78		0.75		11.72	
ANNUAL RUNOFF (INCHES)	10.63		10.16		233	
10 PERCENT EXCEEDS	168		191		56	
50 PERCENT EXCEEDS	59		65		15	
90 PERCENT EXCEEDS	21		23			



ARKANSAS RIVER BASIN

07191220 SPAVINAW CREEK NEAR SYCAMORE, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1972 to April 1988, December 2001 to current year.

REMARKS.--Six event samples collected by USGS, periodic samples collected by City of Tulsa. All water-quality samples were analyzed at City of Tulsa Quality Assurance Laboratory, Tulsa, Oklahoma. Specific conductance, pH, water temperature, air temperature, and dissolved oxygen were determined in the field.

COOPERATION.--All analytical records were furnished by City of Tulsa, Tulsa, Oklahoma.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY	AGENCY	GAGE	DIS-	BARO-	OXYGEN,	PH	SPE-	TEMPER-	SAMPLE		
		ANA- LYZING SAMPLE (CODE NUMBER) (00028)	COL- LECTING SAMPLE (CODE NUMBER) (00027)		CHARGE, INST. CUBIC FEET PER SECOND (00061)	METRIC PRES- SURE (MM OF HG) (00025)		WATER WHOLE FIELD (STAND- ARD UNITS) (00400)				CIFIC CON- DUCT- ANCE (US/CM) (00095)	LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
DEC													
17...	1425	1028	1028	6.74	994	758	--	7.3	257	13.0	10.0		
17...	1428	1028	1028	6.74	994	758	--	7.3	258	13.0	30.0		
17...	1430	1028	1028	6.74	994	758	--	7.4	257	13.0	50.0		
17...	1435	1028	1028	6.74	994	758	--	7.4	257	12.0	70.0		
FEB													
01...	1445	1028	1028	5.34	384	766	11.5	7.6	239	10.1	93.0		
01...	1446	1028	1028	5.34	384	766	11.5	7.6	239	10.1	84.0		
01...	1447	1028	1028	5.34	384	766	11.5	7.6	239	10.1	75.0		
01...	1448	1028	1028	5.34	384	766	11.5	7.5	239	10.1	66.0		
01...	1449	1028	1028	5.34	384	766	11.5	7.5	239	10.1	57.0		
01...	1450	1028	1028	5.34	384	766	11.5	7.4	239	10.0	48.0		
01...	1451	1028	1028	5.34	384	766	11.5	7.4	239	10.0	39.0		
01...	1452	1028	1028	5.34	384	766	11.5	7.4	239	10.0	30.0		
01...	1453	1028	1028	5.34	384	766	11.5	7.4	239	10.0	21.0		
01...	1454	1028	1028	5.34	384	766	11.6	7.4	239	10.0	12.0		
01...	1455	1028	1028	5.34	384	766	11.6	7.4	239	10.0	3.00		
MAR													
21...	1200	1028	1028	5.13	268	762	11.8	7.9	277	10.8	3.00		
21...	1201	1028	1028	5.13	268	762	11.8	7.9	277	10.8	8.00		
21...	1202	1028	1028	5.13	268	762	11.8	7.8	277	10.8	13.0		
21...	1203	1028	1028	5.13	268	762	11.8	7.8	277	10.8	18.0		
21...	1204	1028	1028	5.13	268	762	11.7	7.8	276	10.8	23.0		
21...	1205	1028	1028	5.13	268	762	11.7	7.8	276	10.8	28.0		
21...	1206	1028	1028	5.13	268	762	11.7	7.8	277	10.8	33.0		
21...	1207	1028	1028	5.13	268	762	11.7	7.8	277	10.8	38.0		
21...	1208	1028	1028	5.13	268	762	11.7	7.7	277	10.8	43.0		
21...	1209	1028	1028	5.13	268	762	11.7	7.6	277	10.8	48.0		
21...	1210	1028	1028	5.13	268	762	11.6	7.5	277	10.8	53.0		
APR													
08...	1652	1028	1028	6.66	952	763	11.1	7.0	232	12.5	10.0		
08...	1655	1028	1028	6.66	952	763	11.0	7.1	232	12.5	20.0		
08...	1658	1028	1028	6.66	952	763	11.0	7.3	231	12.5	30.0		
08...	1701	1028	1028	6.66	952	763	10.9	7.3	228	12.5	40.0		
08...	1703	1028	1028	6.66	952	763	10.9	7.3	230	12.5	50.0		
08...	1705	1028	1028	6.66	952	763	11.1	7.4	215	12.5	65.0		
08...	1707	1028	1028	6.66	952	763	11.1	7.4	220	12.5	75.0		
08...	1709	1028	1028	6.66	952	763	11.0	7.5	227	12.5	85.0		
08...	1711	1028	1028	6.66	952	763	10.9	7.5	223	12.5	95.0		
SEP													
11...	1020	1028	1028	3.78	19	759	7.1	8.4	343	20.6	--		
Date	Time	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	
DEC													
17...	1539	1028	99999	6.74	994	758	8.0	--	--	7.3	257	11.9	13.0
JAN													
15...	0755	99999	99999	3.85	54	--	13	10.1	--	7.2	287	-3.7	9.6
FEB													
01...	1506	1028	99999	5.34	384	766	7.0	11.5	102	7.4	239	5.7	10.0
12...	0750	99999	99999	4.14	92	--	3.9	7.5	--	7.7	278	-.3	9.2
MAR													
12...	0815	99999	99999	4.22	105	--	25	10.7	--	7.0	294	8.9	9.4
21...	1123	1028	99999	5.13	268	762	4.2	11.7	106	7.8	277	3.4	10.8
APR													
08...	1708	1028	99999	6.66	952	763	9.5	11.0	103	7.3	228	--	12.5
18...	0817	99999	99999	4.41	131	--	3.1	8.0	--	7.8	283	23.0	14.0
MAY													
13...	1205	1028	99999	4.74	203	768	6.1	9.6	96	7.7	287	18.0	15.8
17...	1428	1028	99999	6.53	885	--	6.1	9.3	--	7.5	251	15.5	15.2
23...	0740	99999	99999	4.70	174	--	13	7.9	--	7.2	282	19.5	15.0
JUN													
13...	0803	99999	99999	4.52	135	--	11	7.6	--	7.3	271	20.5	17.4
JUL													
18...	0800	99999	99999	4.01	46	--	9.7	6.6	--	7.4	334	--	19.2

ARKANSAS RIVER BASIN

161

07191220 SPAVINAW CREEK NEAR SYCAMORE, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
DEC 17...	93	<.050	--	4.20	4.20	<.020	<.21	.429	--	.140	.190
JAN 15...	110	<.050	--	5.50	5.50	<.020	<.21	--	.147	--	.144
FEB 01...	100	<.050	--	3.20	3.20	<.020	<.21	.460	--	.150	.160
12...	100	<.030	--	5.30	5.30	<.015	<.15	--	.140	--	.147
MAR 12...	120	<.030	--	4.50	4.50	<.015	<.15	--	.149	--	.153
21...	144	.052	.07	4.40	4.40	<.015	<.15	.429	.140	.140	.140
APR 08...	107	.087	.11	4.20	4.20	<.015	.86	.368	.130	.120	.180
18...	110	.083	.11	4.70	4.70	<.015	<.15	--	.155	--	.149
MAY 13...	140	.043	.06	3.83	3.84	<.015	<.15	.460	.150	.150	.170
17...	110	.063	.08	3.00	3.00	<.015	4.1	.583	--	.190	.310
23...	110	<.030	--	4.30	4.30	<.015	<.15	--	.139	--	.153
JUN 13...	110	<.030	--	3.96	3.96	<.015	<.15	--	.140	--	.146
JUL 18...	120	<.030	--	3.64	3.65	<.015	<.15	--	.145	--	.143

WATER-QUALITY DATA

Date	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
DEC 2001 17...	92	72	193
JAN 2002 15...	--	--	--
FEB 01...	97	29	30.1
12...	--	--	--
MAR 12...	--	--	--
21...	97	26	18.8
APR 08...	92	72	185
18...	--	--	--
MAY 13...	99	25	13.7
17...	90	429	1030
23...	--	--	--
JUN 13...	--	--	--
JUL 18...	--	--	--
SEP 11...	--	--	--

ARKANSAS RIVER BASIN

071912213 SPAVINAW CREEK NEAR COLCORD, OK

LOCATION.--Lat 36°19'21", long 94°41'06", in SE 1/4 SE 1/4 sec.1, T.21 N., R.24 E., Delaware County, Hydrologic Unit 11070209, on left upstream end of country road bridge, .7 mi downstream from Hog Eye Creek, 4.1 mi north of Colcord, Ok, and at mile 31.7.

DRAINAGE AREA.--163 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 2001 to September 30, 2002.

REVISED RECORDS.--WSP 2121: 1965 (M).

GAGE.--Water-stage recorder. Datum of gage is 840.48 ft above sea level.

REMARKS.--Records good except for estimated periods which are poor. U.S. Geological Survey satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	42	68	102	317	93	144	e118	393	e63	e42	e26
2	24	41	71	98	329	97	137	e114	341	61	e42	e26
3	22	38	82	94	276	101	131	e112	296	e62	e41	e26
4	21	37	80	91	222	108	126	e112	e245	e63	e40	e25
5	22	49	74	90	186	112	122	111	e220	e64	e40	e25
6	22	66	69	88	164	120	119	107	e200	e65	e39	e24
7	22	66	64	85	148	134	125	108	e190	e63	e39	e24
8	e22	62	61	83	136	148	633	111	e170	e62	e39	e24
9	e26	59	57	81	130	149	713	123	e162	e62	e38	e23
10	33	55	53	79	123	143	512	129	e156	e61	e38	e23
11	41	50	50	77	117	137	414	141	e151	e61	e37	e23
12	73	47	50	77	113	131	337	144	142	e60	e37	e23
13	169	43	49	76	109	129	278	259	175	e60	e36	e23
14	144	40	52	75	105	125	242	314	e182	e60	e36	e23
15	119	39	58	74	102	121	208	267	e170	e59	e35	e22
16	104	38	92	73	99	116	192	218	e151	e59	e35	e22
17	97	37	689	71	97	111	181	741	142	e58	e36	e22
18	90	37	727	70	95	108	173	992	e135	e58	e35	e22
19	83	43	510	70	96	125	168	594	e127	e57	e34	e22
20	77	39	392	70	101	244	161	421	e119	e56	e33	e22
21	73	39	304	68	108	333	161	314	e108	e56	e33	e22
22	69	41	241	68	113	295	159	250	e100	e55	e35	e23
23	65	44	199	69	110	251	168	206	e94	e55	e31	e23
24	61	46	173	69	107	218	e162	195	e90	e54	e30	e22
25	57	45	151	71	103	202	e153	184	e85	e53	e29	e21
26	52	65	138	75	99	197	e142	171	e80	e52	e29	e21
27	49	87	129	79	96	190	e135	168	e77	e50	e29	e21
28	47	82	123	79	95	181	e128	669	e74	e48	e28	e21
29	46	75	117	77	---	172	e126	977	e70	e46	e27	e20
30	43	70	112	79	---	163	e122	698	e66	e45	e27	e20
31	43	---	107	103	---	153	---	508	---	e43	e27	---
TOTAL	1840	1522	5142	2461	3896	4907	6572	9576	4711	1771	1077	684
MEAN	59.35	50.73	165.9	79.39	139.1	158.3	219.1	308.9	157.0	57.13	34.74	22.80
MAX	169	87	727	103	329	333	713	992	393	65	42	26
MIN	21	37	49	68	95	93	119	107	66	43	27	20
AC-FT	3650	3020	10200	4880	7730	9730	13040	18990	9340	3510	2140	1360

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2002, BY WATER YEAR (WY)

	MEAN	59.35	50.73	165.9	79.39	139.1	158.3	219.1	308.9	157.0	57.13	34.74	22.80
MAX	59.4	50.7	166	79.4	139	158	219	309	157	57.1	34.7	22.8	
(WY)	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002
MIN	59.4	50.7	166	79.4	139	158	219	309	157	57.1	34.7	22.8	
(WY)	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002

e Estimated

ARKANSAS RIVER BASIN

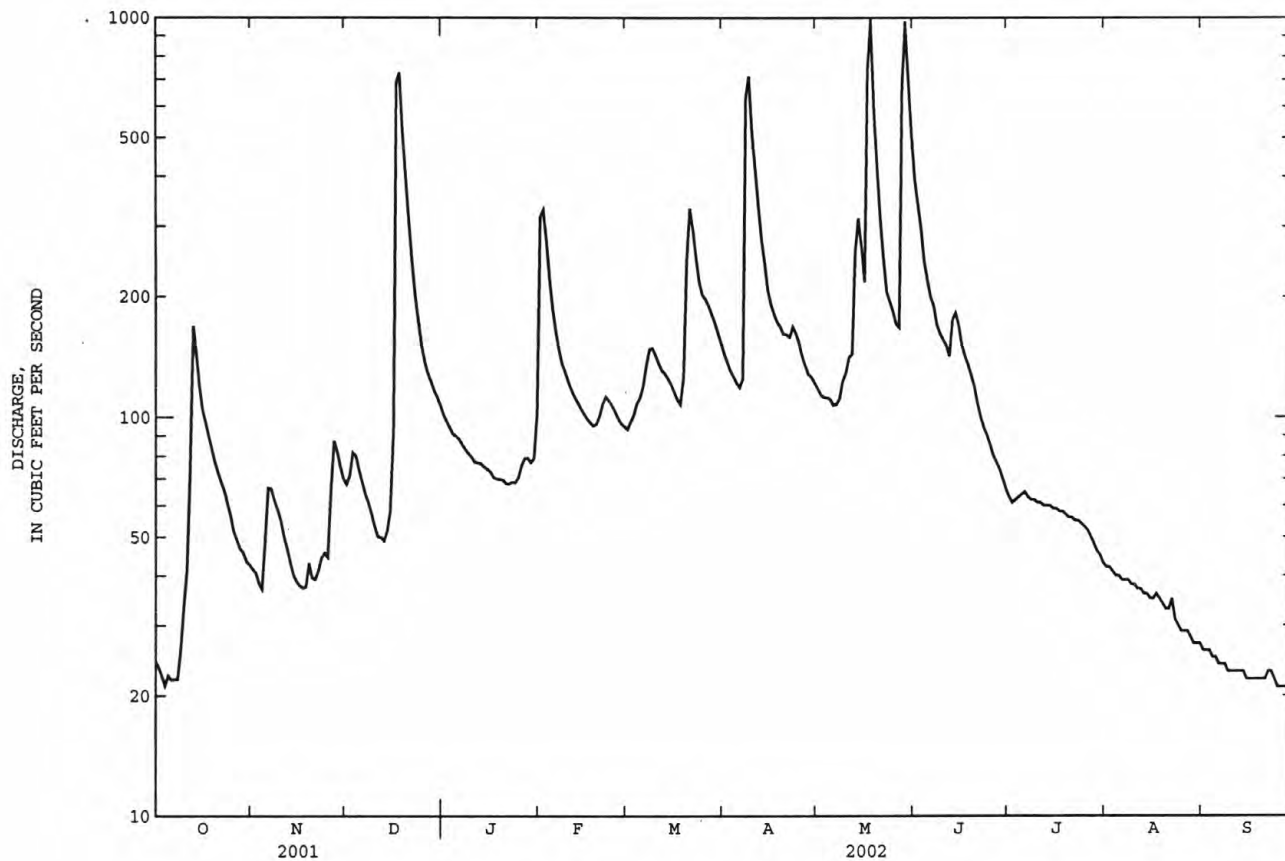
163

071912213 SPAVINAW CREEK NEAR COLCORD, OK--Continued

SUMMARY STATISTICS

FOR 2002 WATER YEAR

ANNUAL TOTAL	44159	
ANNUAL MEAN	121.0	
HIGHEST DAILY MEAN	992	May 18
LOWEST DAILY MEAN	20	Sep 29
ANNUAL SEVEN-DAY MINIMUM	21	Sep 24
MAXIMUM PEAK FLOW	1680	May 17
MAXIMUM PEAK STAGE	9.44	May 17
ANNUAL RUNOFF (AC-FT)	87590	
10 PERCENT EXCEEDS	241	
50 PERCENT EXCEEDS	80	
90 PERCENT EXCEEDS	26	



ARKANSAS RIVER BASIN

071912213 SPAVINAW CREEK NEAR COLCORD, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 2001 to current year.

REMARKS.--Six event samples collected by USGS, monthly samples collected by City of Tulsa. All water-quality samples were analyzed at City of Tulsa Quality Assurance Laboratory, Tulsa, Oklahoma. Specific conductance, pH, water temperature, air temperature, and dissolved oxygen were determined in the field.

COOPERATION.--All analytical records were furnished by City of Tulsa, Tulsa, Oklahoma.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

Date	Time	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)
JUL 12...	0900	99999	99999	8.1	6.3	7.5	329	--	19.9	130	.240	.31	3.30
AUG 16...	0855	99999	99999	9.3	5.7	7.4	365	24.7	21.1	130	<.050	--	3.00
SEP 13...	0935	99999	99999	7.8	6.2	7.5	348	24.0	19.4	140	<.050	--	2.90

Date	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
JUL 12...	3.40	<.020	<.21	.088	.089
AUG 16...	3.00	<.020	<.21	.086	.081
SEP 13...	2.90	<.020	<.21	.088	.090

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
DEC 17...	1745	1028	1028	8.65	839	758	--	7.4	268	12.7	150
17...	1750	1028	1028	8.65	839	758	--	7.5	268	12.7	110
17...	1754	1028	1028	8.65	839	758	--	7.5	268	12.7	70.0
17...	1803	1028	1028	8.65	839	758	--	7.5	268	12.7	30.0
17...	1805	1028	1028	8.65	839	758	--	7.5	268	12.7	10.0
FEB 01...	1649	1028	1028	7.68	388	766	11.5	7.8	246	10.3	5.00
01...	1650	1028	1028	7.68	388	766	11.4	7.8	246	10.3	15.0
01...	1651	1028	1028	7.68	388	766	11.4	7.8	247	10.4	25.0
01...	1652	1028	1028	7.68	388	766	11.4	7.8	246	10.4	35.0
01...	1653	1028	1028	7.68	388	766	11.4	7.8	246	10.4	45.0
01...	1654	1028	1028	7.68	388	766	11.3	7.8	246	10.4	55.0
01...	1655	1028	1028	7.68	388	766	11.3	7.8	247	10.4	65.0
01...	1656	1028	1028	7.68	388	766	11.3	7.8	247	10.4	75.0
01...	1657	1028	1028	7.68	388	766	11.3	7.8	247	10.4	85.0
01...	1658	1028	1028	7.68	388	766	11.3	7.8	247	10.4	135
MAY 17...	1827	1028	1028	9.44	1670	--	8.6	7.7	176	15.2	175
17...	1831	1028	1028	9.44	1670	--	8.8	7.6	177	15.3	145
17...	1833	1028	1028	9.44	1670	--	8.8	7.6	177	15.3	115
17...	1834	1028	1028	9.44	1670	--	8.8	7.6	178	15.3	85.0
17...	1835	1028	1028	9.44	1670	--	8.8	7.6	178	15.3	55.0
17...	1836	1028	1028	9.44	1670	--	8.8	7.6	178	15.3	25.0

ARKANSAS RIVER BASIN

165

071912213 SPAVINAW CREEK NEAR COLCORD, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)
OCT													
18...	0840	99999	99999	7.06	90	--	7.8	6.2	--	7.5	355	11.0	16.0
NOV													
15...	0900	99999	99999	6.86	39	--	8.3	6.8	--	7.5	349	10.1	14.9
DEC													
12...	0850	99999	99999	6.91	50	--	8.6	6.9	--	7.4	290	13.0	13.3
17...	1714	1028	99999	8.65	839	758	6.4	--	--	7.5	268	3.0	12.7
JAN													
15...	0905	99999	99999	6.91	73	--	13	10.1	--	7.2	283	1.2	8.3
FEB													
01...	1706	1028	99999	7.68	388	766	3.2	11.4	101	7.8	247	.8	10.4
12...	0900	99999	99999	7.06	113	--	3.1	7.5	--	7.8	280	3.0	8.3
MAR													
12...	0927	99999	99999	7.12	132	--	21	11.0	--	7.0	295	8.0	9.4
21...	1445	1028	99999	7.61	349	762	2.9	12.5	114	8.0	274	7.9	11.3
APR													
09...	1026	1028	99999	8.35	769	767	19	11.8	108	7.0	232	--	11.8
18...	0902	99999	99999	7.24	176	--	2.6	8.6	--	7.9	282	25.5	14.0
MAY													
13...	1342	1028	99999	7.47	269	767	3.9	10.6	108	7.8	283	21.2	16.4
17...	1850	1028	99999	9.44	1670	--	4.8	8.8	--	7.6	178	14.5	15.3
23...	0852	99999	99999	7.34	210	--	12	8.2	--	7.3	282	24.0	15.0
JUN													
13...	0917	99999	99999	7.25	168	--	15	8.4	--	7.2	269	25.0	17.2
JUL													
18...	0914	99999	99999	7.02	E58	--	9.8	7.2	--	7.4	332	--	19.3
AUG													
13...	0902	99999	99999	6.70	E36	--	10	5.9	--	7.4	345	26.0	20.8
SEP													
19...	0805	99999	99999	6.69	E22	--	6.5	6.4	--	7.6	334	23.5	20.9

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

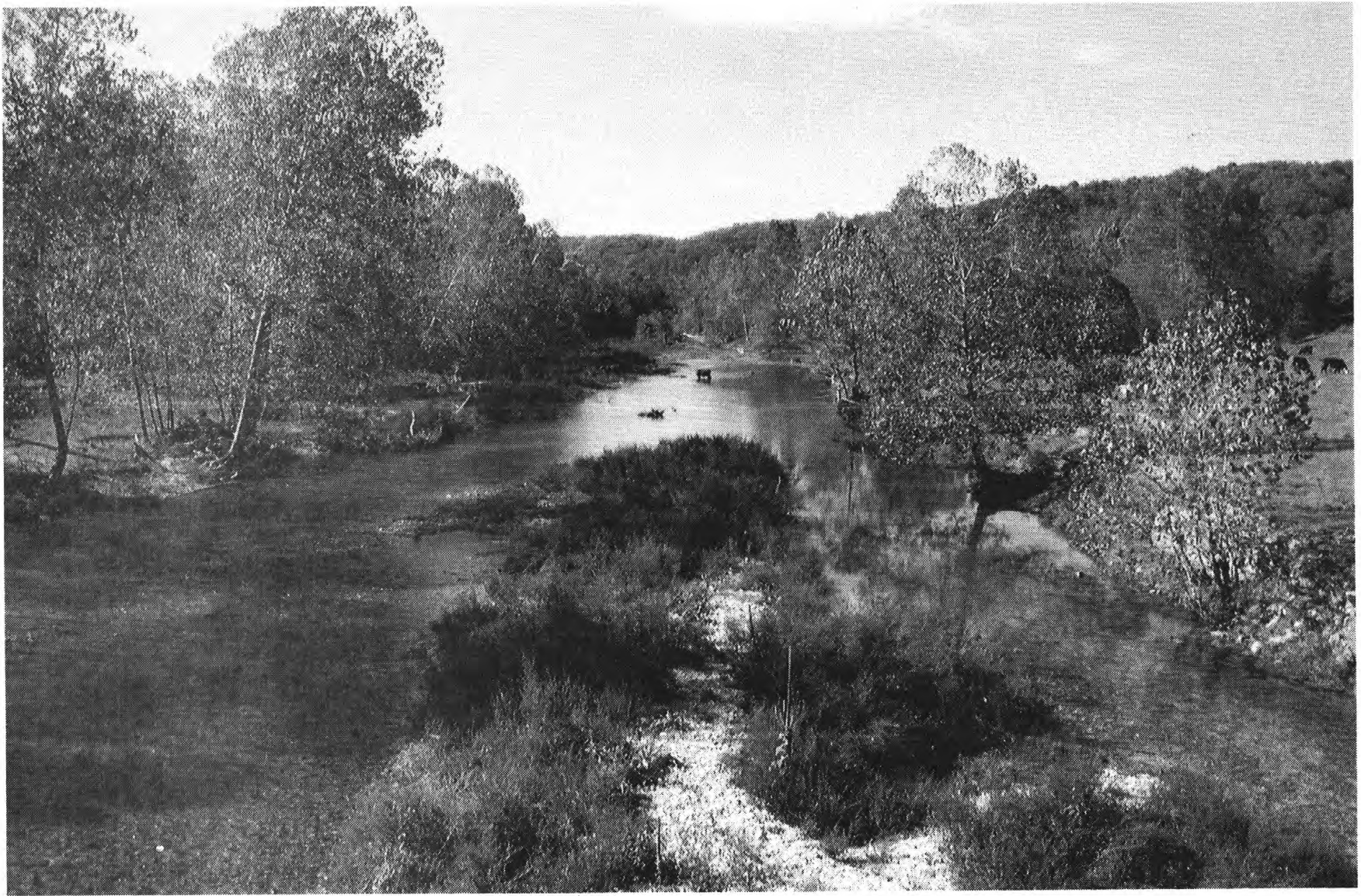
Date	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	NITRO- GEN, AMMONIA (MG/L AS N) (00610)	NITRO- GEN, AMMONIA (MG/L AS NH4) (71845)	NITRO- GEN, NITRATE (MG/L AS N) (00620)	NITRO- GEN, NO2+NO3 (MG/L AS N) (00630)	NITRO- GEN, NITRITE (MG/L AS N) (00615)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
OCT											
18...	130	.090	.12	4.00	4.00	<.020	<.21	--	.107	--	.123
NOV											
15...	130	<.050	--	3.70	3.70	--	<.21	--	.116	--	.098
DEC											
12...	120	<.050	--	4.10	4.10	<.020	<.21	--	.073	--	.096
17...	99	.100	.13	3.70	3.70	<.020	<.21	.399	--	.130	.200
JAN											
15...	110	<.050	--	5.20	5.20	<.020	<.21	--	.097	--	.105
FEB											
01...	110	.059	.08	3.90	3.90	<.020	<.21	.399	--	.130	.140
12...	110	<.030	--	5.00	5.00	<.015	<.15	--	.107	--	.108
MAR											
12...	120	<.030	--	4.14	4.10	<.015	<.15	--	.108	--	.111
21...	141	<.030	--	4.10	4.10	<.015	<.15	.368	.120	.120	.120
APR											
09...	110	.068	.09	4.10	4.10	<.015	<.15	.337	.110	.110	.130
18...	110	.540	.70	4.40	4.40	<.015	<.15	--	.115	--	.130
MAY											
13...	140	.056	.07	3.51	3.51	<.015	<.15	.368	.120	.120	.130
17...	97	.096	.12	1.98	1.99	<.015	<.15	.767	--	.250	.390
23...	110	.262	.34	3.97	4.00	<.015	<.15	--	.112	--	.122
JUN											
13...	120	<.030	--	3.62	3.62	<.015	<.15	--	.112	--	.121
JUL											
18...	130	<.030	--	3.42	3.42	<.015	<.15	--	.103	--	.104
AUG											
13...	130	<.030	--	3.22	3.22	<.015	<.15	--	.087	--	.101
SEP											
19...	130	.062	.08	2.82	2.82	<.015	<.15	--	.087	--	.100

ARKANSAS RIVER BASIN

071912213 SPAVINAW CREEK NEAR COLCORD, OK--Continued

WATER-QUALITY DATA

Date	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)
OCT 2001			
18...	--	--	--
NOV			
15...	--	--	--
DEC			
12...	--	--	--
17...	95	93	211
JAN 2002			
15...	--	--	--
FEB			
01...	94	36	37.7
12...	--	--	--
MAR			
12...	--	--	--
21...	97	26	24.5
APR			
09...	75	52	108
18...	--	--	--
MAY			
13...	94	34	24.7
17...	92	572	2580
23...	--	--	--
JUN			
13...	--	--	--
JUL			
18...	--	--	--
AUG			
13...	--	--	--
SEP			
19...	--	--	--



071912213 Spavinaw Creek near Colcord

ARKANSAS RIVER BASIN

07191222 BEATY CREEK NEAR JAY, OK

LOCATION.--Lat 36°21'19", long 94°46'34", in NW 1/4 SE 1/4 sec.30, T.22 N., R.24 E., Delaware County, Hydrologic Unit 11070209, on left bank of county road bridge, 0.8 mi upstream from Spavinaw Creek, 2.3 mi east of Lake Eucha Bridge on U.S. Highway 10 and 59, and at mile 0.5.

DRAINAGE AREA.--59.2 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 30, 1998 to current year.

GAGE.--Water-stage recorder. Datum of gage is 783.52 ft above sea level from topographic map.

REMARKS.--No estimated daily discharge. Records good. U.S. Geological Survey satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	6.8	8.4	16	107	18	38	15	77	11	5.9	0.40
2	3.0	6.4	9.0	15	86	21	34	14	62	11	5.9	0.25
3	2.8	7.1	9.1	14	71	23	32	13	51	11	5.5	0.19
4	2.6	6.8	9.2	14	58	23	29	12	42	11	5.0	0.14
5	3.0	6.5	8.2	14	48	24	26	11	39	10	4.7	0.10
6	3.3	6.1	7.5	13	42	31	24	11	35	9.8	4.2	0.08
7	3.6	5.9	7.1	13	37	41	27	9.9	32	9.1	3.7	0.06
8	4.1	5.4	6.3	13	35	42	161	9.3	29	8.5	3.3	0.04
9	4.5	5.3	6.1	12	33	40	129	13	28	7.7	2.8	0.02
10	6.3	5.2	5.9	11	29	37	95	18	26	7.3	2.6	0.0
11	16	5.0	5.6	11	27	34	76	16	24	7.2	2.3	0.0
12	60	4.9	7.3	11	25	33	63	14	37	7.0	1.9	0.0
13	57	4.9	8.0	10	23	32	53	69	62	7.4	2.5	0.0
14	43	4.5	10	9.6	23	32	46	55	58	8.1	5.6	0.0
15	33	4.4	12	9.5	21	29	41	40	46	8.4	6.1	0.0
16	23	4.3	23	9.2	20	27	36	34	38	7.8	6.8	0.0
17	20	4.2	202	8.7	19	26	33	224	33	7.3	5.7	0.0
18	17	4.4	137	8.8	19	25	30	188	28	7.4	4.8	0.02
19	14	6.0	100	8.7	22	35	26	122	26	7.4	4.1	0.07
20	12	6.2	78	8.8	25	88	24	96	23	7.1	3.5	0.57
21	11	8.6	62	8.7	27	85	22	80	20	6.3	2.8	0.93
22	10	9.2	51	8.8	26	72	20	65	19	5.7	2.0	0.56
23	10	8.6	41	10	24	61	21	53	17	8.7	1.6	0.22
24	9.0	7.5	35	11	24	55	22	50	16	11	1.2	0.09
25	9.3	7.6	31	12	21	60	19	45	15	9.0	1.4	0.05
26	9.9	7.3	28	11	20	64	19	43	15	7.3	1.2	0.03
27	9.0	6.3	26	9.9	19	59	19	39	14	6.0	1.3	0.0
28	8.1	6.2	24	9.7	18	56	18	256	13	5.1	1.1	0.0
29	7.4	6.4	21	9.2	---	52	17	239	12	5.7	0.74	0.0
30	7.0	7.4	20	13	---	45	16	134	12	5.6	0.54	0.0
31	6.8	---	18	59	---	41	---	97	---	6.1	0.38	---
TOTAL	428.8	185.4	1016.7	392.6	949	1311	1216	2085.2	949	248.0	101.16	3.82
MEAN	13.83	6.180	32.80	12.66	33.89	42.29	40.53	67.26	31.63	8.000	3.263	0.127
MAX	60	9.2	202	59	107	88	161	256	77	11	6.8	0.93
MIN	2.6	4.2	5.6	8.7	18	18	16	9.3	12	5.1	0.38	0.00
AC-FT	851	368	2020	779	1880	2600	2410	4140	1880	492	201	7.6

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2002, BY WATER YEAR (WY)

	1998	1999	2000	2001	2002
MEAN	42.32	14.35	30.82	30.33	105.7
MAX	141	22.7	51.9	59.0	229
(WY)	1999	1999	2000	2001	1999
MIN	7.14	6.18	14.6	12.7	24.3
(WY)	2000	2002	2001	2002	2000

ARKANSAS RIVER BASIN

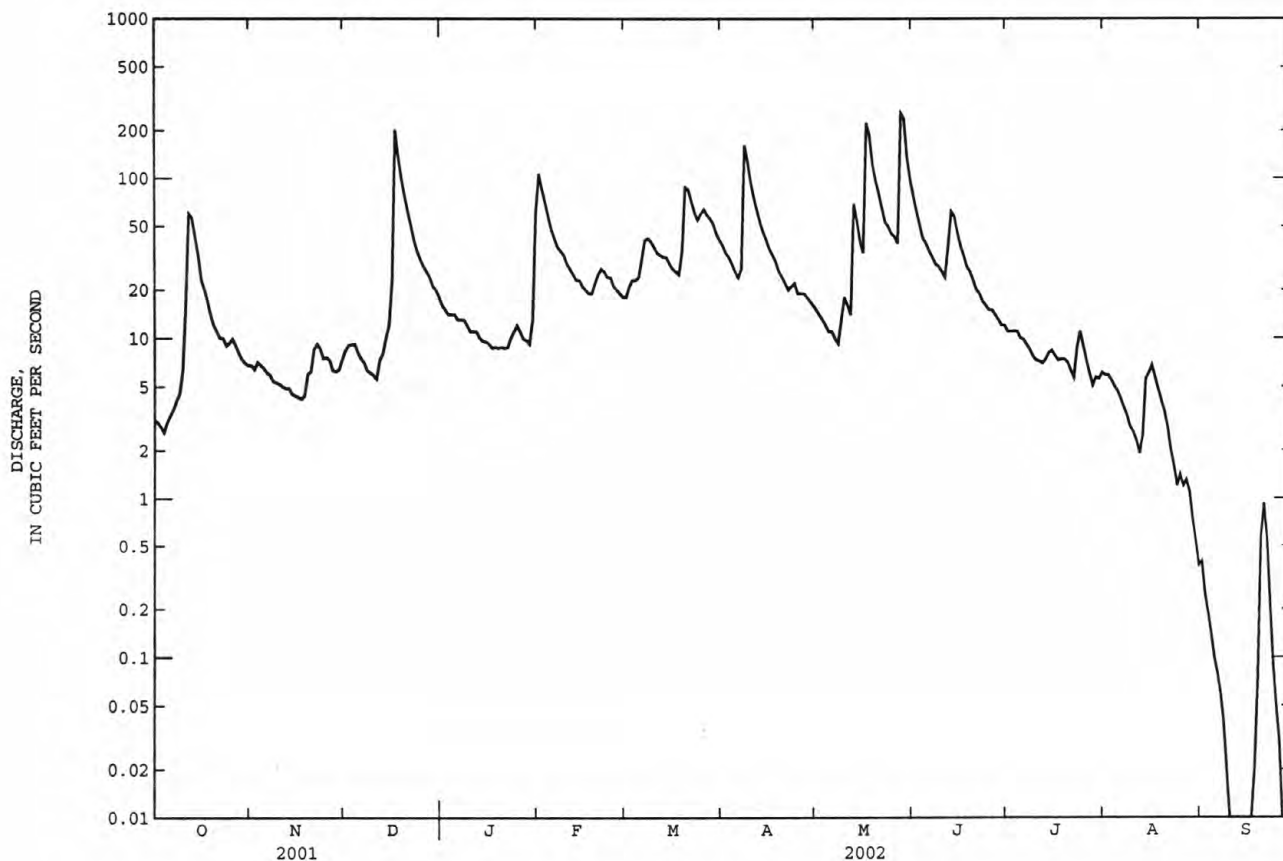
169

07191222 BEATY CREEK NEAR JAY, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1998 - 2002
ANNUAL TOTAL	12932.44	8886.68	
ANNUAL MEAN	35.43	24.35	45.97
HIGHEST ANNUAL MEAN			90.8 1999
LOWEST ANNUAL MEAN			24.3 2002
HIGHEST DAILY MEAN	3170 Feb 24	256 May 28	3170 Feb 24 2001
LOWEST DAILY MEAN	0.34 Sep 7	0.00 at times	0.00 at times
ANNUAL SEVEN-DAY MINIMUM	0.57 Sep 3	0.00 Sep 10	0.00 Sep 10 2002
MAXIMUM PEAK FLOW		606 May 28	^a 17400 Jun 30 1999
MAXIMUM PEAK STAGE		7.11 May 28	^b 14.26 Jun 30 1999
ANNUAL RUNOFF (AC-FT)	25650	17630	33300
10 PERCENT EXCEEDS	63	58	90
50 PERCENT EXCEEDS	12	12	17
90 PERCENT EXCEEDS	2.0	1.3	3.7

^aFrom rating extended above 9.39 ft on basis of slope-area measurement.

^bFrom high-water mark.



ARKANSAS RIVER BASIN

07191222 BEATY CREEK NEAR JAY, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1991 to September 1993, July 2001 to current year.

REMARKS.--Five event samples collected by USGS, monthly samples collected by City of Tulsa. All water-quality samples were analyzed at City of Tulsa Quality Assurance Laboratory, Tulsa, Oklahoma. Specific conductance, pH, water temperature, air temperature, and dissolved oxygen were determined in the field.

COOPERATION.--All analytical records were furnished by City of Tulsa, Tulsa, Oklahoma.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2000 TO SEPTEMBER 2001

Date	Time	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	CARBON DIOXIDE DIS- SOLVED (MG/L) AS CO2 (00405)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)
JUL 12...	0730	99999	99999	8.0	4.6	7.5	303	--	23.8	130	.079	.10	1.60
AUG 16...	0730	99999	99999	9.0	5.2	7.5	334	20.4	24.2	140	<.050	--	1.20
SEP 13...	0740	99999	99999	7.3	5.8	7.6	307	12.4	21.4	140	<.050	--	.99

Date	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
JUL 12...	1.60	<.020	<.21	.042	.040
AUG 16...	1.20	<.020	<.21	.040	.042
SEP 13...	.990	<.020	<.21	.034	.042

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
DEC											
18...	1609	1028	1028	5.37	129	758	10.0	7.2	245	11.8	6.00
18...	1610	1028	1028	5.37	129	758	9.7	7.3	247	11.8	12.0
18...	1611	1028	1028	5.37	129	758	9.7	7.3	248	11.8	18.0
18...	1612	1028	1028	5.37	129	758	9.6	7.4	248	11.8	24.0
18...	1614	1028	1028	5.37	129	758	9.6	7.4	247	11.8	30.0
18...	1616	1028	1028	5.37	129	758	9.5	7.4	247	11.8	36.0
18...	1618	1028	1028	5.37	129	758	9.4	7.4	248	11.8	42.0
18...	1620	1028	1028	5.37	129	758	9.4	7.4	247	11.8	48.0
18...	1622	1028	1028	5.37	129	758	9.0	7.4	247	11.8	54.0
FEB											
01...	1902	1028	1028	5.17	99	769	11.0	7.7	226	8.2	5.00
01...	1904	1028	1028	5.17	99	769	11.0	7.7	226	8.2	10.0
01...	1906	1028	1028	5.17	99	769	11.0	7.6	226	8.2	15.0
01...	1908	1028	1028	5.17	99	769	11.0	7.6	226	8.2	20.0
01...	1910	1028	1028	5.17	99	769	10.9	7.6	226	8.2	25.0
01...	1912	1028	1028	5.17	99	769	11.0	7.6	226	8.2	30.0
01...	1914	1028	1028	5.17	99	769	10.9	7.6	226	8.2	35.0
01...	1916	1028	1028	5.17	99	769	10.9	7.6	226	8.2	40.0
01...	1918	1028	1028	5.17	99	769	10.9	7.6	226	8.2	45.0
01...	1920	1028	1028	5.17	99	769	10.9	7.7	226	8.2	50.0
MAY											
17...	1159	1028	1028	5.94	231	767	9.0	7.1	231	15.4	5.00
17...	1200	1028	1028	5.94	231	767	8.9	7.2	231	15.4	10.0
17...	1201	1028	1028	5.94	231	767	8.9	7.2	230	15.3	15.0
17...	1202	1028	1028	5.94	231	767	8.9	7.2	229	15.3	20.0
17...	1203	1028	1028	5.94	231	767	8.9	7.2	229	15.3	25.0
17...	1204	1028	1028	5.94	231	767	8.9	7.2	228	15.3	30.0
17...	1205	1028	1028	5.94	231	767	8.9	7.2	229	15.3	35.0
17...	1206	1028	1028	5.94	231	767	8.9	7.2	229	15.3	40.0
17...	1207	1028	1028	5.94	231	767	8.9	7.3	229	15.3	45.0
17...	1208	1028	1028	5.94	231	767	8.9	7.3	229	15.3	50.0

ARKANSAS RIVER BASIN

171

07191222 BEATY CREEK NEAR JAY, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2) (00405)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)
OCT													
18...	0850	99999	99999	4.46	17	--	10	6.3	--	7.4	297	11.5	15.7
NOV													
15...	0815	99999	99999	4.14	4.2	--	9.4	7.7	--	7.5	270	6.2	14.6
DEC													
12...	0940	99999	99999	4.24	7.2	--	3.4	8.2	--	7.8	258	10.8	11.5
18...	1615	1028	99999	5.37	129	758	8.7	9.6	89	7.4	247	--	11.8
JAN													
15...	0940	99999	99999	4.26	9.6	--	4.1	11.3	--	7.7	260	1.4	6.1
FEB													
01...	1911	1028	99999	5.17	99	769	4.9	11.0	92	7.6	226	-5	8.2
12...	0755	99999	99999	4.51	25	--	6.9	8.0	--	7.5	276	-4.3	6.3
MAR													
12...	0750	99999	99999	4.61	33	--	4.2	10.7	--	7.7	285	8.0	7.8
APR													
08...	1837	1028	99999	5.74	189	--	9.9	10.5	--	7.3	220	14.5	12.0
18...	0752	99999	99999	4.61	29	--	4.2	7.7	--	7.7	252	19.2	15.2
MAY													
17...	1220	1028	99999	5.94	231	767	14	8.9	89	7.2	229	13.8	15.3
23...	0805	99999	99999	4.86	54	--	7.5	7.6	--	7.5	257	17.0	15.6
28...	1542	1028	99999	6.89	519	--	5.1	8.4	--	7.4	183	21.5	17.0
JUN													
13...	0735	99999	99999	5.09	58	--	10	7.4	--	7.3	272	19.1	18.5
JUL													
18...	0742	99999	99999	4.54	7.2	--	19	4.7	--	7.1	273	--	20.5
AUG													
13...	0820	99999	99999	4.39	1.8	--	9.1	5.9	--	7.4	288	25.6	23.6
SEP													
19...	0755	99999	99999	4.32	.08	--	24	4.9	--	7.1	297	20.3	22.8

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

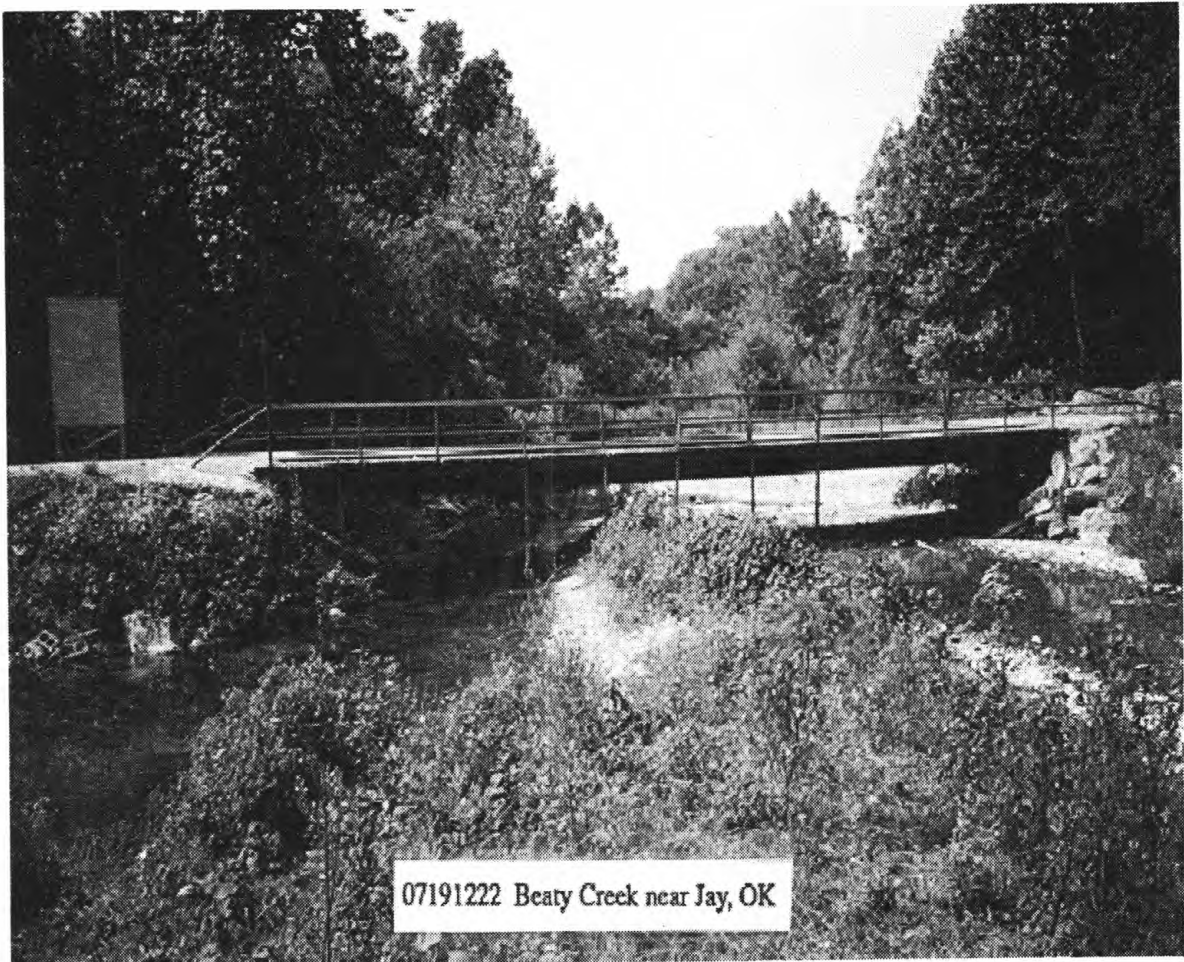
Date	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	NITRO- GEN, AMMONIA (MG/L AS N) (00610)	NITRO- GEN, AMMONIA (MG/L AS NH4) (71845)	NITRO- GEN, NITRATE (MG/L AS N) (00620)	NITRO- GEN, NO2+NO3 (MG/L AS N) (00630)	NITRO- GEN, NITRITE (MG/L AS N) (00615)	NITRO- GEN, ORGANIC (MG/L AS N) (00605)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
OCT											
18...	120	.098	.13	2.20	2.20	<.020	<.21	--	.037	--	.042
NOV											
15...	140	.067	.09	1.90	1.90	--	<.21	--	.048	--	.036
DEC											
12...	120	<.050	--	1.60	1.60	<.020	<.21	--	.031	--	.037
18...	103	<.050	--	3.10	3.10	<.020	<.21	.175	--	.057	.071
JAN											
15...	110	<.050	--	3.20	3.20	<.020	<.21	--	.033	--	.043
FEB											
01...	110	.067	.09	2.60	2.60	<.020	<.21	.126	--	.041	.049
12...	110	.130	.17	3.20	3.20	<.015	<.15	--	.031	--	.033
MAR											
12...	120	.045	.06	2.70	2.70	<.015	<.15	--	.029	--	.031
APR											
08...	112	.066	.08	2.50	2.50	<.015	1.1	.294	.110	.096	.150
18...	110	.059	.08	2.90	2.90	<.015	<.15	--	.038	--	.043
MAY											
17...	120	.064	.08	2.68	2.68	<.015	1.3	.187	--	.061	.170
23...	110	--	--	2.82	2.80	<.015	<.15	--	--	--	.053
28...	70	.100	.13	2.16	2.18	.026	2.5	.797	.280	.260	.810
JUN											
13...	110	<.030	--	2.56	2.57	<.015	<.15	--	.048	--	.053
JUL											
18...	130	.030	.04	2.03	2.03	<.015	.24	--	.030	--	.033
AUG											
13...	130	<.030	--	1.45	1.45	<.015	<.15	--	.038	--	.045
SEP											
19...	140	<.030	--	1.15	1.15	<.015	<.15	--	.045	--	.048

ARKANSAS RIVER BASIN

07191222 BEATY CREEK NEAR JAY, OK--Continued

WATER-QUALITY DATA

Date	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)
OCT 2001			
18...	--	--	--
NOV			
15...	--	--	--
DEC			
12...	--	--	--
18...	93	32	11.1
JAN 2002			
15...	--	--	--
FEB			
01...	89	24	6.4
12...	--	--	--
MAR			
12...	--	--	--
APR			
08...	68	55	28.1
18...	--	--	--
MAY			
17...	87	104	64.9
23...	--	--	--
28...	82	448	628
JUN			
13...	--	--	--
JUL			
18...	--	--	--
AUG			
13...	--	--	--
SEP			
19...	--	--	--



07191222 Beaty Creek near Jay, OK

ARKANSAS RIVER BASIN

07191285 LAKE EUCHA NEAR EUCHA, OK

LOCATION.--Lat 36°22'30", long 95°52'06", in SE 1/4 NE 1/4 sec.22, T.22 N., R.22 E., Delaware County, Hydrologic Unit 11070209, on left side of Eucha Dam, 1.8 mi downstream of Galcatcher Hollow, 3.5 mi northwest of Eucha, and at mile 15.

DRAINAGE AREA.--358 mi².

PERIOD OF RECORD.--October 2001 to September 2002.

GAGE.--Water-stage recorder. Datum of gage is sea level.

REMARKS.--No estimated record. Reservoir is formed by a concrete dam with an uncontrolled spillway. Levels in Lake Eucha are maintained by inflow from Spavinaw Creek and Beaty Creek. Storage began in 1952. At normal pool elevation 778.0 ft, the capacity is 75,900 acre-ft. Reservoir is used for water supply, recreation, and fish and wildlife. U.S. Geological Survey satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of August 14, 1961, reached a stage of 781.4 NGVD, from City of Tulsa readings.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 78,500 acre-ft, May 18, elevation 778.88 ft; minimum, 55,900 acre-ft, Oct. 9, elevation 769.90 ft.

Capacity Table (elevation, in feet, and contents, in acre-ft)

730	3,730	760	35,700
740	9,690	770	56,100
750	20,300	780	81,900

RESERVOIR STORAGE VIA SATELLITE, in (ACRE-FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57200	57200	58700	72200	72700	75900	76400	76500	77100	75800	72100	67000
2	57100	57200	58700	72300	73600	76000	76400	76500	76900	75700	71800	66800
3	56800	57300	58900	72400	74500	75900	76400	76400	76800	75500	71600	66600
4	56600	57400	58900	72500	75100	75900	76400	76500	76800	75300	71500	66400
5	56400	57500	59100	72500	75700	75900	76300	76400	76800	75000	71300	66200
6	56300	57600	59200	72600	76000	76000	76400	76400	76600	74800	71100	66000
7	56100	57600	59400	72600	76200	76000	76600	76300	76600	74600	70900	65800
8	56000	57700	59500	72400	76100	76000	77400	76300	76500	74500	70600	65700
9	55900	57800	59500	72200	76000	76100	77500	76400	76500	74500	70400	65400
10	56000	57700	59600	72000	76100	76200	77300	76300	76500	74400	70100	65200
11	56300	57800	59600	71700	76000	76100	77100	76300	76500	74400	69800	64900
12	56500	57800	59900	71600	76000	76200	77000	76800	77100	74300	69500	64700
13	56700	57800	59900	71300	76000	76100	76800	76800	77100	74200	69800	64500
14	57200	57900	59900	71100	75900	76000	76700	76900	76800	74300	69700	64200
15	57500	57900	60100	71000	75900	76100	76600	76800	76800	74300	69600	64000
16	57600	57900	60600	71100	75900	76100	76500	76700	76700	74400	69400	63800
17	57600	57900	61300	71100	75900	76100	76500	78300	76400	74400	69300	63600
18	58000	58000	63700	71000	75800	76200	76500	78200	76400	74300	69100	63500
19	57600	58100	66500	71000	75900	76200	76500	77600	76200	74100	69000	63500
20	57600	58100	67700	71000	75900	76500	76500	77400	76200	74000	68900	63500
21	57500	58100	68600	70900	75900	76700	76500	77100	76200	73800	68700	63400
22	57400	58300	69300	70900	76000	76700	76400	76900	76100	73700	68600	63200
23	57400	58300	69800	71000	76000	76800	76500	76800	76000	73500	68400	62900
24	57400	58300	70300	71000	75800	76900	76500	76800	76000	73300	68300	62700
25	57100	58400	70600	70900	75900	76700	76500	76700	75900	73100	68200	62500
26	56900	58500	71000	71000	75900	76700	76500	76700	76000	72900	68100	62300
27	57200	58500	71100	71000	75900	76600	76500	76600	75900	72700	67900	62200
28	57200	58500	71400	71000	75900	76600	76500	77700	75900	72500	67700	62000
29	57200	58700	71400	71000	---	76600	76500	77900	75800	72500	67600	61800
30	57200	58700	71800	71400	---	76500	76500	77500	75800	72400	67300	61600
31	57200	---	72000	71800	---	76500	---	77300	---	72200	67200	---
MAX	58000	58700	72000	72600	76200	76900	77500	78300	77100	75800	72100	67000
MIN	55900	57200	58700	70900	72700	75900	76300	76300	75800	72200	67200	61600
(+)	770.50	771.20	776.36	776.39	778.01	778.21	778.19	778.46	777.97	776.56	774.58	772.39
(++)	-200	+1500	+13300	-200	+4100	+600	0	+800	-1500	-3600	-5000	-5600

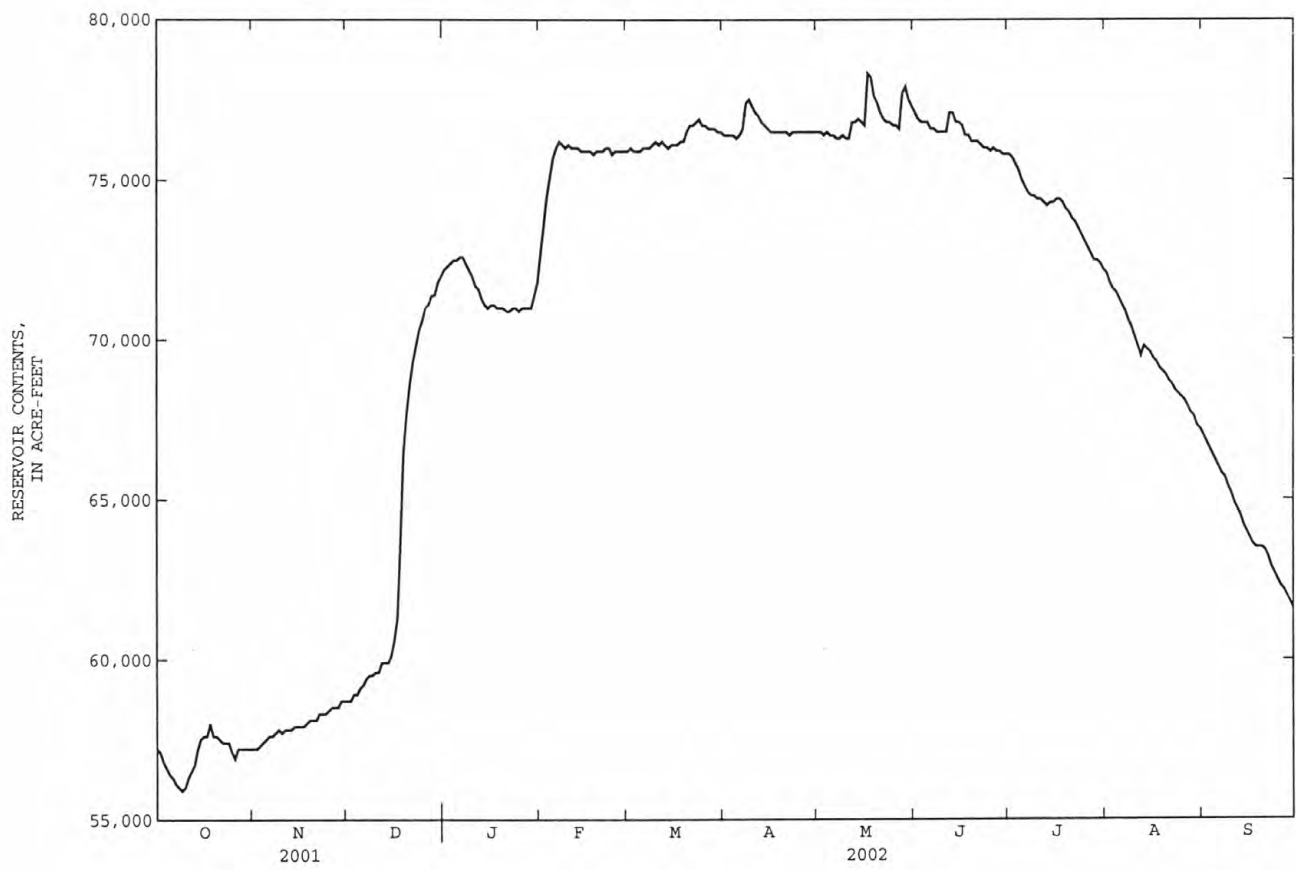
WTR YR 2002 MAX 78300 MIN 55900 (++) +4200

(+) ELEVATION, IN FEET, AT END OF MONTH
(++) CHANGE IN CONTENTS, IN ACRE-FEET

ARKANSAS RIVER BASIN

175

07191285 LAKE EUCHA NEAR EUCHA, OK--Continued



ARKANSAS RIVER BASIN

07191288 SPAVINAW CREEK NEAR EUCHA, OK

LOCATION.--Lat 36°22'45", long 94°56'12", in NE 1/4 NE 1/4 sec.22, T.22 N., R.22 E., Delaware County, Hydrologic Unit 1107020, on right downstream abutment of county road bridge, .3 mi downstream from Eucha Dam, 3.2 mi northwest of Eucha, and at mile 14.7

DRAINAGE AREA.--358 mi².

PERIOD OF RECORD.--October 2001 to September 2002.

GAGE.--Water-stage recorder. Datum of gage is 682.13 ft above sea level.

REMARKS.--Records good except for estimated periods, which are poor. Flow completely regulated by Eucha Lake (station 07191285) since 1952. U.S. Geological Survey satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e164	72	67	55	88	188	338	215	768	250	153	139
2	e164	72	67	54	88	200	289	196	597	245	165	139
3	e164	72	67	81	88	182	261	205	477	239	165	127
4	e164	72	67	98	88	181	258	176	379	249	165	122
5	e164	72	67	98	88	198	249	192	402	247	145	126
6	e164	72	67	98	137	200	247	182	332	247	140	126
7	e164	71	66	123	250	247	304	168	285	245	152	125
8	e164	72	66	195	295	285	675	165	258	158	168	125
9	e100	71	65	243	252	233	1470	192	250	80	193	142
10	e69	72	65	238	213	280	1280	228	215	165	193	148
11	e36	72	64	235	221	273	989	163	189	107	188	147
12	e36	72	64	235	200	237	768	185	350	144	188	137
13	e36	70	45	234	191	271	633	452	609	176	171	133
14	e36	70	35	234	199	246	541	524	572	140	108	132
15	e140	70	35	121	162	200	490	546	541	62	107	132
16	e140	70	36	60	160	219	424	469	472	44	146	131
17	e164	69	36	81	170	211	370	1250	391	87	144	115
18	164	69	36	111	213	236	338	2660	337	150	130	106
19	164	70	36	121	186	281	302	1750	294	174	129	71
20	163	70	35	119	170	355	284	1180	249	169	130	51
21	163	69	46	118	176	490	250	895	229	143	128	64
22	164	68	55	118	185	578	253	682	199	157	128	105
23	164	68	55	119	205	579	322	492	184	163	127	139
24	163	68	56	110	225	518	258	493	170	165	127	131
25	105	68	56	94	144	526	262	398	168	165	127	123
26	71	68	56	89	145	481	322	363	160	165	123	111
27	71	68	56	89	158	472	262	335	143	164	120	106
28	72	68	55	89	167	434	217	589	141	164	121	106
29	72	68	54	88	---	409	225	1820	146	162	132	106
30	71	68	54	89	---	393	214	1430	122	138	138	106
31	71	---	54	89	---	340	---	1020	---	127	138	---
TOTAL	3747	2101	1683	3926	4864	9943	13095	19615	9629	5091	4489	3571
MEAN	120.9	70.03	54.29	126.6	173.7	320.7	436.5	632.7	321.0	164.2	144.8	119.0
MAX	164	72	67	243	295	579	1470	2660	768	250	193	148
MIN	36	68	35	54	88	181	214	163	122	44	107	51
AC-FT	7430	4170	3340	7790	9650	19720	25970	38910	19100	10100	8900	7080

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2002, BY WATER YEAR (WY)

	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002
MEAN	120.9	70.03	54.29	126.6	173.7	320.7	436.5	632.7	321.0	164.2	144.8	119.0
MAX	121	70.0	54.3	127	174	321	436	633	321	164	145	119
(WY)	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002
MIN	121	70.0	54.3	127	174	321	436	633	321	164	145	119
(WY)	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002

e Estimated

ARKANSAS RIVER BASIN

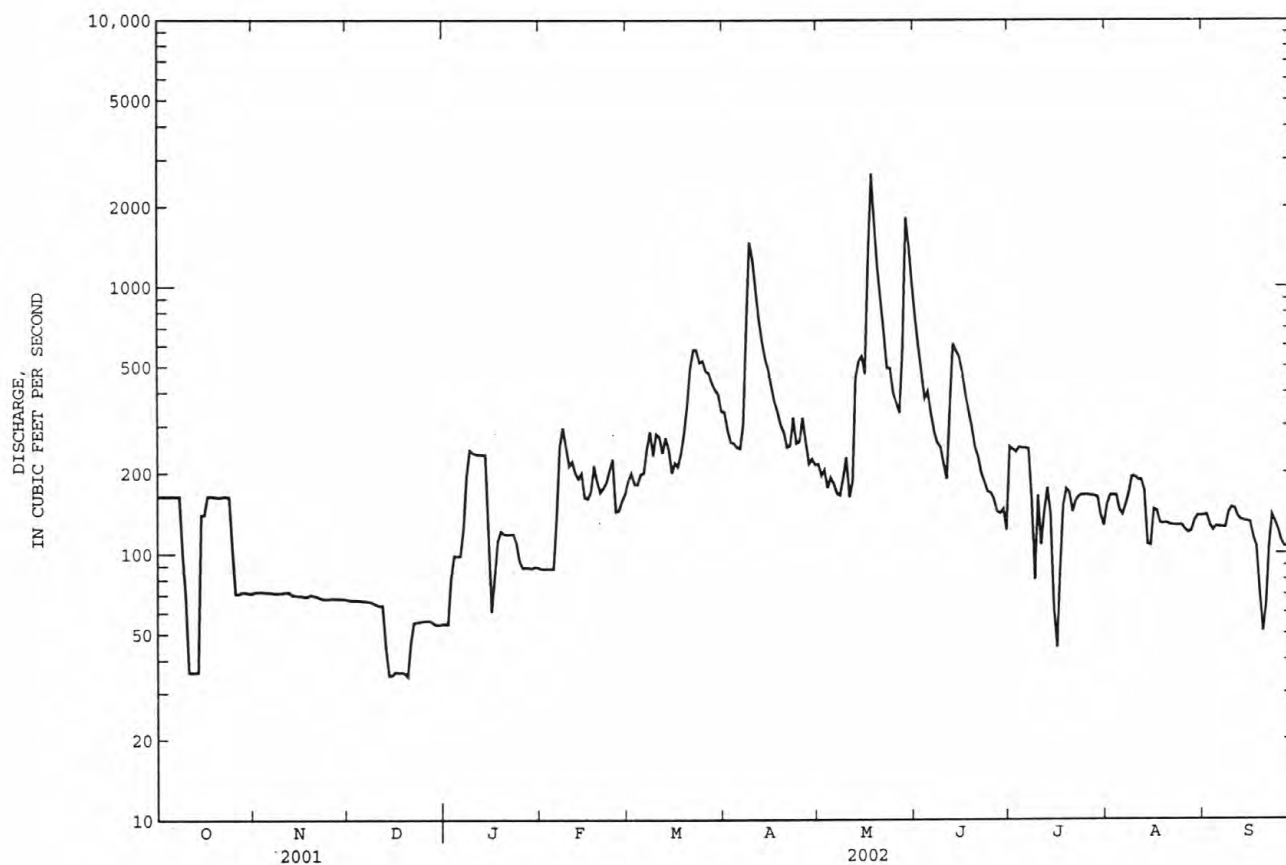
177

07191288 SPAVINAW CREEK NEAR EUCHA, OK--Continued

SUMMARY STATISTICS

FOR 2002 WATER YEAR

ANNUAL TOTAL	81754	
ANNUAL MEAN	224.0	
HIGHEST DAILY MEAN	2660	May 18
LOWEST DAILY MEAN	35	Dec 14,15,20
ANNUAL SEVEN-DAY MINIMUM	36	Dec 14
MAXIMUM PEAK FLOW	2940	May 18
MAXIMUM PEAK STAGE	13.41	May 18
ANNUAL RUNOFF (AC-FT)	162200	
10 PERCENT EXCEEDS	470	
50 PERCENT EXCEEDS	163	
90 PERCENT EXCEEDS	67	



ARKANSAS RIVER BASIN

07191300 SPAVINAW LAKE AT SPAVINAW, OK

LOCATION.--Lat 36°22'59", long 95°02'52", in SW 1/4 SE 1/4 sec.15, T.22 N., R.21 E., Mayes County, Hydrologic Unit 11070209, right of intake tower on face of dam on Spavinaw Creek at Spavinaw, and at mile 5.5.

DRAINAGE AREA.--386 mi² (U.S. Army Corps of Engineers).

PERIOD OF RECORD.--October 1991 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level.

REMARKS.--No estimated record. Reservoir is formed by earth dam with uncontrolled concrete spillway. Much of Tulsa municipal-water supply is drawn from lake. Levels are maintained in Spavinaw Lake by releases from Lake Eucha. Storage began 1924; conservation pool first filled November 1924. Capacity 41,200 acre-ft at elevation 682 ft. Dead storage, 15,300 acre-ft at elevation 662 ft. Figures given herein represent total contents. Reservoir is used for water supply, recreation, and fish and wildlife. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 39,400 acre-ft, Dec. 14, 1992, elevation 683.30 ft; minimum, 23,920 acre-ft, Jan. 8, 2002, elevation, 675.81 ft.

EXTREMES FOR OUTSIDE PERIOD OF RECORD.--Flood of April 1942 reached a stage of 689.13 ft, contents unknown.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 32,130 acre-ft, May 18, elevation 681.03 ft; minimum, 23,920 acre-ft, Jan. 8, elevation 675.81 ft.

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

675.5	23,300	679	28,960
676	24,300	680	30,590
677	25,400	685	46,500
678	27,690		

RESERVOIR STORAGE VIA SATELLITE, in (ACRE-FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30270	29600	27550	e24360	27430	30740	30840	30780	31100	30780	30110	30300
2	30300	29520	27480	24320	27450	30770	30790	30740	31040	30790	30160	30320
3	30330	29740	27420	24100	27470	30750	30760	30750	30980	30790	30200	30320
4	30390	29650	27360	24100	27500	30740	30770	30760	30930	30790	30220	30280
5	30450	29570	27300	23940	27510	30750	30770	30750	30930	30780	30200	30270
6	30490	29460	27230	e23940	27560	30760	30770	30780	30900	30780	30130	30270
7	30520	29370	27170	23940	27790	30770	30900	30730	30870	30780	30080	30230
8	30520	29260	27020	23920	28090	30780	31070	30760	30840	30730	30060	30220
9	30570	29160	26810	24440	28340	30780	31500	30750	30830	30640	30080	30220
10	30600	29070	26570	24830	28540	30800	31390	30740	30810	30650	30130	30250
11	30560	28960	26470	25030	28760	30800	31210	30740	30790	30600	30160	30270
12	30400	28880	26360	25240	28950	30770	31090	30890	30920	30570	30200	30270
13	30270	28780	26190	25570	29100	30790	31050	30960	31010	30610	30400	30300
14	30060	28690	25880	26160	29300	30770	31010	30990	31000	30600	30370	30300
15	29940	28610	25570	26540	29410	30730	30990	31000	31000	30490	30230	30320
16	29940	28510	25780	26330	29520	30710	30960	30960	30960	30250	30220	30350
17	29960	28430	25640	26230	29650	30740	30930	31560	30910	30150	30250	30330
18	30010	28410	25370	26260	29820	30760	30910	32030	30890	30150	30230	30280
19	30080	28440	25300	26430	30060	30810	30900	31610	30860	30180	30230	30540
20	30150	28340	25210	26540	30200	30820	30870	31350	30820	30230	30230	30400
21	30230	28260	25120	26740	30320	30890	30820	31160	30800	30180	30230	30280
22	30300	28180	25060	26880	30470	30970	30810	31050	30780	30160	30220	30180
23	30390	28120	24990	27140	30630	30980	30870	30980	30760	30180	30220	30220
24	30440	28020	24920	27190	30720	30990	30800	30980	30750	30180	30230	30250
25	30420	27960	24850	27180	30690	30950	30800	30930	30740	30160	30280	30270
26	30280	27870	24780	27150	30690	30940	30840	30910	30740	30150	30270	30250
27	30160	27800	24720	27120	30710	30930	30800	30910	30720	30100	30230	30230
28	30030	27750	24640	27090	30730	30910	30780	31120	30720	30080	30200	30230
29	29930	27690	e24560	27140	---	30890	30800	31730	30710	30250	30200	30220
30	29790	27620	e24490	27330	---	30870	30790	31480	30690	30230	30220	30200
31	29680	---	24410	27390	---	30840	---	31250	---	30160	30280	---
MAX	30600	29740	27550	27390	30730	30990	31500	32030	31100	30790	30400	30540
MIN	29680	27620	24410	23920	27430	30710	30760	30730	30690	30080	30060	30180
(+)	679.46	677.94	676.09	677.74	680.13	680.24	680.19	680.57	680.09	679.75	679.82	679.77
(++)	-550	-2060	-3210	+2980	+3340	+110	-50	+460	-560	-530	+120	-80
CAL YR 2001	MAX 38960	MIN 24410	(++)	-6360								
WTR YR 2002	MAX 32030	MIN 23920	(++)	+307								

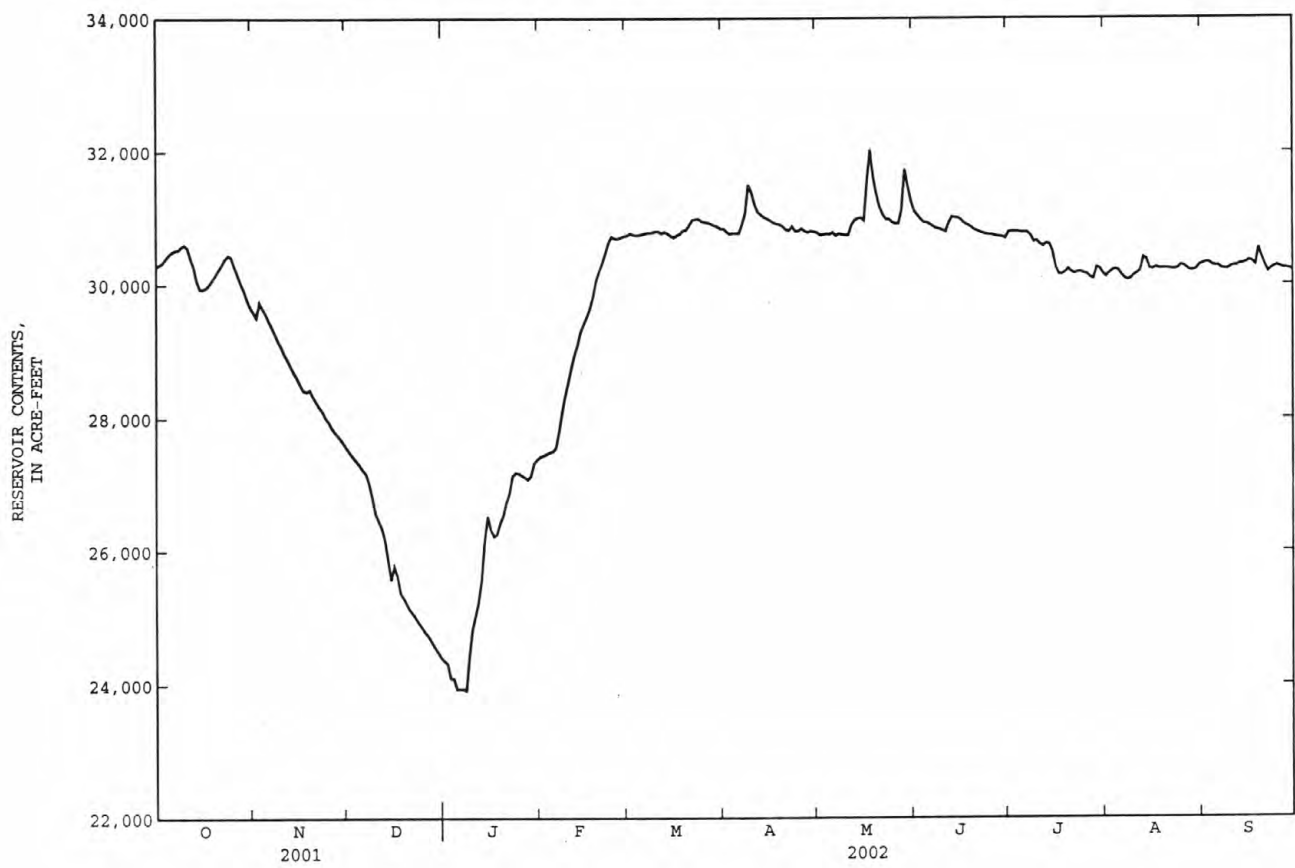
(+) ELEVATION, IN FEET, AT END OF MONTH
(++) CHANGE IN CONTENTS, IN ACRE-FEET

e Estimated

ARKANSAS RIVER BASIN

179

07191300 SPAVINAW LAKE AT SPAVINAW, OK--Continued



ARKANSAS RIVER BASIN

07191400 LAKE HUDSON NEAR LOCUST GROVE, OK

LOCATION.--Lat 36°13'48", long 95°10'55", in SE 1/4 NW 1/4 sec.9, T.20 N., R. 20 E., Mayes County, Hydrologic Unit 11070209, at left side of Robert S. Kerr dam on Neosho River, 2.0 mi northwest of Locust Grove, 3.5 mi downstream from Saline Creek, and at mile 47.3.

DRAINAGE AREA.--11,534 mi².

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Remote-controlled indicator and nonrecording gage. Datum of gage is sea level.

REMARKS.--Reservoir is formed by earth dam and concrete spillway controlled by seventeen 22-foot taintor gates. Storage began Nov. 12, 1963; power pool first filled June 12, 1964. Capacity, 444,500 acre-ft at elevation 636.0 ft, top of taintor gates, 200,300 acre-ft at elevation 619.0 ft, power pool, and 48,630 acre-ft at elevation 599.0 ft, top of spillway crest. Figures given herein represent total contents. Reservoir was designed for flood control and power development. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 443,600 acre-ft, Oct. 4, 1986 and June 15, 1995, elevation, 635.95 ft; minimum since power pool first filled, 153,200 acre-ft, Mar. 24, 1988, elevation, 614.31 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 298,100 acre-ft, May 13, elevation, 626.94 ft; minimum, 187,300 acre-ft, Sept. 29, elevation, 617.78 ft.

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

615	159,600	630	342,600
620	211,300	635	426,100
625	272,000	640	525,100

RESERVOIR STORAGE VIA SATELLITE, in (ACRE-FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY OBSERVATION AT 2400 HOURS

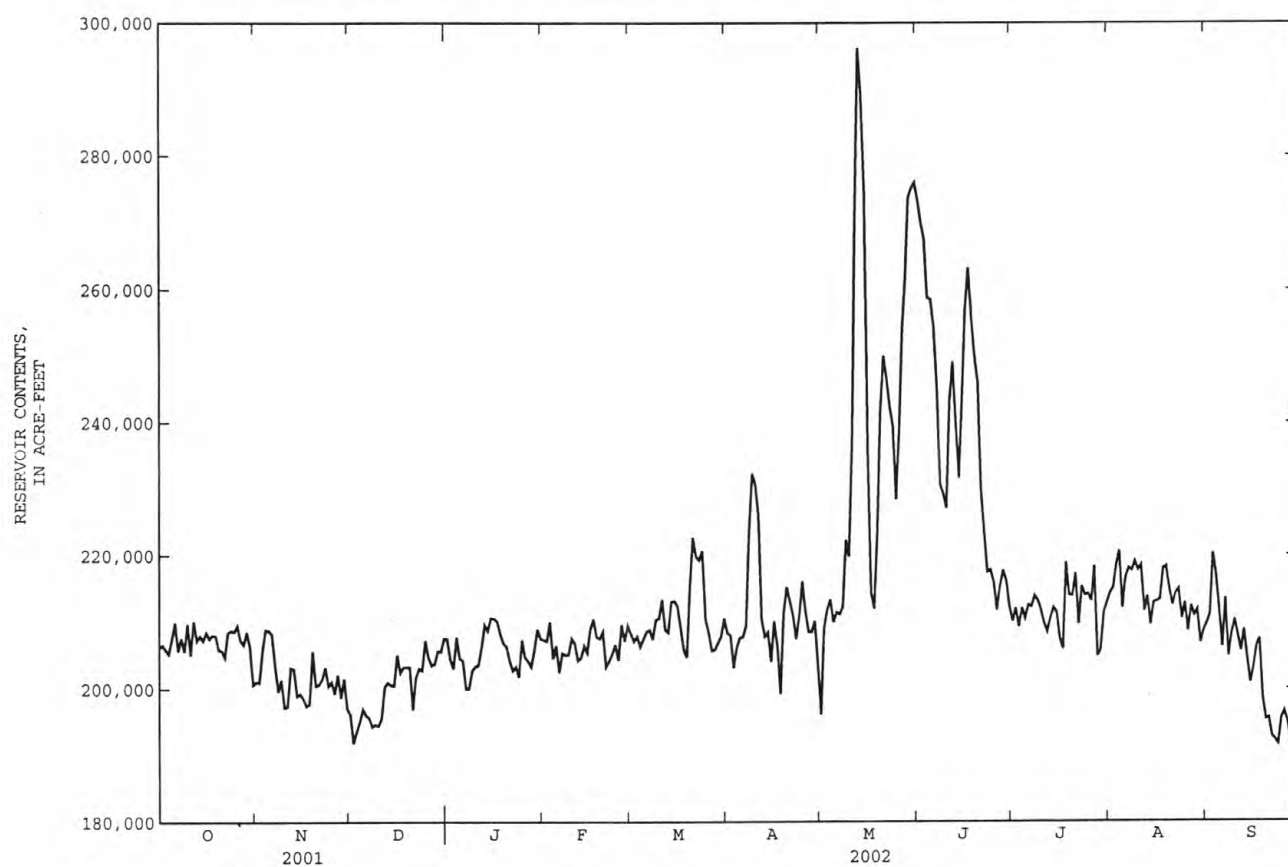
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	206200	201100	196200	207500	207400	208300	208400	196200	273300	210100	214300	209800
2	206600	201000	191900	204400	207200	207200	208100	209100	270000	212100	215100	211100
3	205900	205700	193600	203100	210100	207900	203200	211900	267500	209300	218600	220300
4	205300	208900	195100	207800	204600	206400	206200	213400	258700	212100	220600	217200
5	207500	208800	197000	204600	206500	207500	207700	210000	258500	210600	212100	211900
6	210000	208300	196100	204300	202500	208600	207800	211500	254500	212500	216600	206300
7	205700	203600	195700	200100	205400	208900	209500	211200	245200	212300	218000	213600
8	207700	199600	194400	200100	205100	207500	223400	212300	230600	213900	217700	204900
9	205600	201400	194700	202800	205200	210400	232300	222300	229200	213200	219000	208300
10	209800	197300	194500	203400	207600	210600	230800	219800	227100	211800	217800	210400
11	205100	197400	195600	203600	206900	213400	226100	236900	243300	209800	218500	208000
12	210200	203200	200400	206200	204300	208900	210500	270500	249100	208600	211600	205700
13	207300	203000	201000	209600	204700	208500	207900	296200	239600	210600	213900	208900
14	208000	199000	200600	208800	206500	213100	208500	289300	231600	212100	209600	204700
15	207300	199300	200500	210700	205500	213200	204100	275000	244300	211500	212900	200900
16	208500	198600	205100	210600	209100	212500	210200	235800	257100	207500	213100	203100
17	207600	197500	202500	210200	210500	209300	206500	214300	263200	206000	213300	206400
18	208100	197800	203300	208300	207800	205900	199300	212000	255800	218900	218000	207500
19	208000	205700	203300	206900	207600	204800	211200	223200	250100	214000	218300	198700
20	205900	200500	203300	206400	208600	215200	215300	241500	246100	213900	215000	195400
21	205800	200700	196900	204300	203400	222700	213200	250000	229900	217300	212500	195600
22	204800	201500	201800	202800	204200	219800	211100	246700	223600	209700	214300	192800
23	208500	203300	203100	203400	205300	219300	207500	242400	217500	215300	214900	192300
24	208800	200500	202800	201800	206700	220700	210900	239500	217800	214000	210500	191600
25	208600	201100	207300	207400	204300	210500	216100	228400	216000	214200	212900	195500
26	209500	199300	204800	204800	209700	208500	211600	238500	211800	213100	208700	196600
27	207300	202200	203600	204200	207200	205800	208600	254000	215300	218300	212400	195100
28	206700	198700	203800	203400	209500	205900	208600	261400	217700	204900	211000	192100
29	208600	201600	205700	205800	---	206900	210200	273600	216200	205800	211800	193200
30	206400	197100	205600	209000	---	207900	203200	275100	212300	211400	206900	195300
31	200700	---	207600	207600	---	210600	---	275900	---	212900	208700	---
MAX	210200	208900	207600	210700	210500	222700	232300	296200	273300	218900	220600	220300
MIN	200700	197100	191900	200100	202500	204800	199300	196200	211800	204900	206900	191600
(+)	619.04	618.70	619.66	619.66	619.83	619.93	619.26	625.30	620.08	620.14	619.76	618.53
(++)	-6200	-3600	+10500	---	+1900	+1100	-7400	+72700	-63600	+600	-4200	-13400
CAL YR 2001	TOTAL 80031700	MEAN 219300	MAX 360400	MIN 191900	(++) +1,700							
WTR YR 2002	TOTAL 77565800	MEAN 212500	MAX 296200	MIN 191600	(++) -11,600							

(+) ELEVATION, IN FEET, AT END OF MONTH
(++) CHANGE IN CONTENTS, IN ACRE-FEET

ARKANSAS RIVER BASIN

181

07191400 LAKE HUDSON NEAR LOCUST GROVE, OK--Continued



ARKANSAS RIVER BASIN

07191500 NEOSHO RIVER NEAR CHOUTEAU, OK

LOCATION.--Lat 36°13'46", long 95°10'57", in SE 1/4 NW 1/4 sec.9, T.20 N., R.20 E., Mayes County, Hydrologic Unit 11070209, in Robert S. Kerr Dam about 100 ft from left end of dam, 2.2 mi northwest of Locust Grove, 10.0 mi northeast of Chouteau, and at mile 47.2.

DRAINAGE AREA.--11,534 mi².

PERIOD OF RECORD.--October 1937 to September 1950, October 1963 to current year.

REVISED RECORDS.--WSP 1117: Drainage area. WDR OK-86-1: 1979.

GAGE.--Water-stage recorder. Datum of gage is 554.00 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to Apr. 3, 1941, nonrecording gage at bridge on State Highway 33, 8.2 mi downstream, at datum 17.63 ft lower. Apr. 3, 1941 to Sept. 30, 1950, and Oct. 1963 to Apr. 6, 1964, at site 2.5 mi downstream, at datum 2.17 ft lower. Supplemental water-stage recorder Oct. 4, 1963, to July 10, 1973, at site 8.2 mi downstream.

REMARKS.--Records fair. Some regulation since 1940 by Lake O' The Cherokees (station 07190000), and completely regulated since 1963 by Lake Hudson (station 07191400).

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2150	5350	544	4360	14700	1740	4890	15500	e9500	3330	5290	765
2	1160	4970	418	6910	10300	5090	5200	2660	e8870	6760	4240	810
3	550	3400	381	7960	7530	4920	6260	4740	e12300	6100	4760	386
4	395	1210	389	3430	12800	5900	1730	2890	e21000	5990	7550	730
5	796	8880	393	5680	10000	3070	3430	7160	e7690	5560	6220	3400
6	4790	9890	399	2240	11700	3570	1510	8280	e9650	4440	5440	1450
7	7440	5390	397	6300	8820	3710	4370	6880	16900	5420	5970	1800
8	2370	4290	403	1770	11300	812	2770	18900	17000	3220	5110	665
9	6220	1110	401	737	9970	356	4140	41100	9820	3730	714	366
10	9920	563	397	316	8240	500	8300	61200	12600	2060	403	321
11	13900	420	377	256	9550	6110	9910	65500	11000	2980	581	307
12	9820	360	509	2680	9060	8980	14100	62400	25200	1870	424	307
13	11800	351	1080	2150	9900	6240	981	61200	43100	1430	2180	304
14	4430	344	1300	4950	8050	7960	595	61300	43400	2490	3410	322
15	9400	346	600	4910	4610	5240	10700	56100	31400	8750	1000	328
16	6530	341	748	739	529	1150	4100	48800	20700	8700	457	317
17	7890	353	12400	321	2600	371	8340	40900	14900	2560	1210	317
18	6610	367	7970	278	7540	7280	11700	51400	14800	866	1620	3250
19	4760	3260	7200	273	7170	8970	1430	48600	14700	11100	2060	3160
20	1330	1160	7310	263	3920	5830	282	34500	16200	12700	4080	599
21	598	574	11000	244	7540	8590	2810	16100	17200	4300	1490	344
22	3030	440	2260	228	7280	9680	3030	20800	14800	7420	1480	299
23	3520	419	2590	238	3580	5110	4880	19000	11800	2030	445	290
24	5250	431	5000	236	1000	1980	5770	25900	10300	9800	355	304
25	3670	397	1450	1250	4500	11900	1870	38600	10100	6980	335	311
26	6060	392	4820	1190	5310	8130	1470	33300	8920	6860	317	310
27	1620	1360	5540	342	6990	5070	7590	30900	11900	6190	707	307
28	604	10000	5630	254	1460	4790	6120	e37900	12000	9880	484	296
29	2860	4550	2380	233	---	2240	10100	e22000	7090	8860	357	290
30	6540	1050	7350	2680	---	4280	13600	e7180	6800	3100	333	285
31	6910	---	6250	14700	---	1400	---	e8470	---	6450	418	---
TOTAL	152923	71968	97886	78118	205949	150969	161978	960160	471640	171926	69440	22940
MEAN	4933	2399	3158	2520	7355	4870	5399	30970	15720	5546	2240	764.7
MAX	13900	10000	12400	14700	14700	11900	14100	65500	43400	12700	7550	3400
MIN	395	341	377	228	529	356	282	2660	6800	866	317	285
AC-FT	303300	142700	194200	154900	408500	299400	321300	1904000	935500	341000	137700	45500

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 2002, BY WATER YEAR (WY)

	MEAN	6045	8878	8091	6663	7717	12250	13330	12440	13380	8659	4435	4416
MAX	59840	40780	40400	23350	23640	39260	46000	40650	48020	28710	15140	28460	
(WY)	1987	1986	1993	1973	1985	1973	1973	1995	1995	1976	1993	1993	
MIN	169	83.3	87.5	189	79.4	75.8	160	122	735	1067	603	591	
(WY)	1964	1964	1964	1981	1964	1964	1971	1964	1972	1991	1991	1983	

e Estimated

ARKANSAS RIVER BASIN

183

07191500 NEOSHO RIVER NEAR CHOUTEAU, OK--Continued

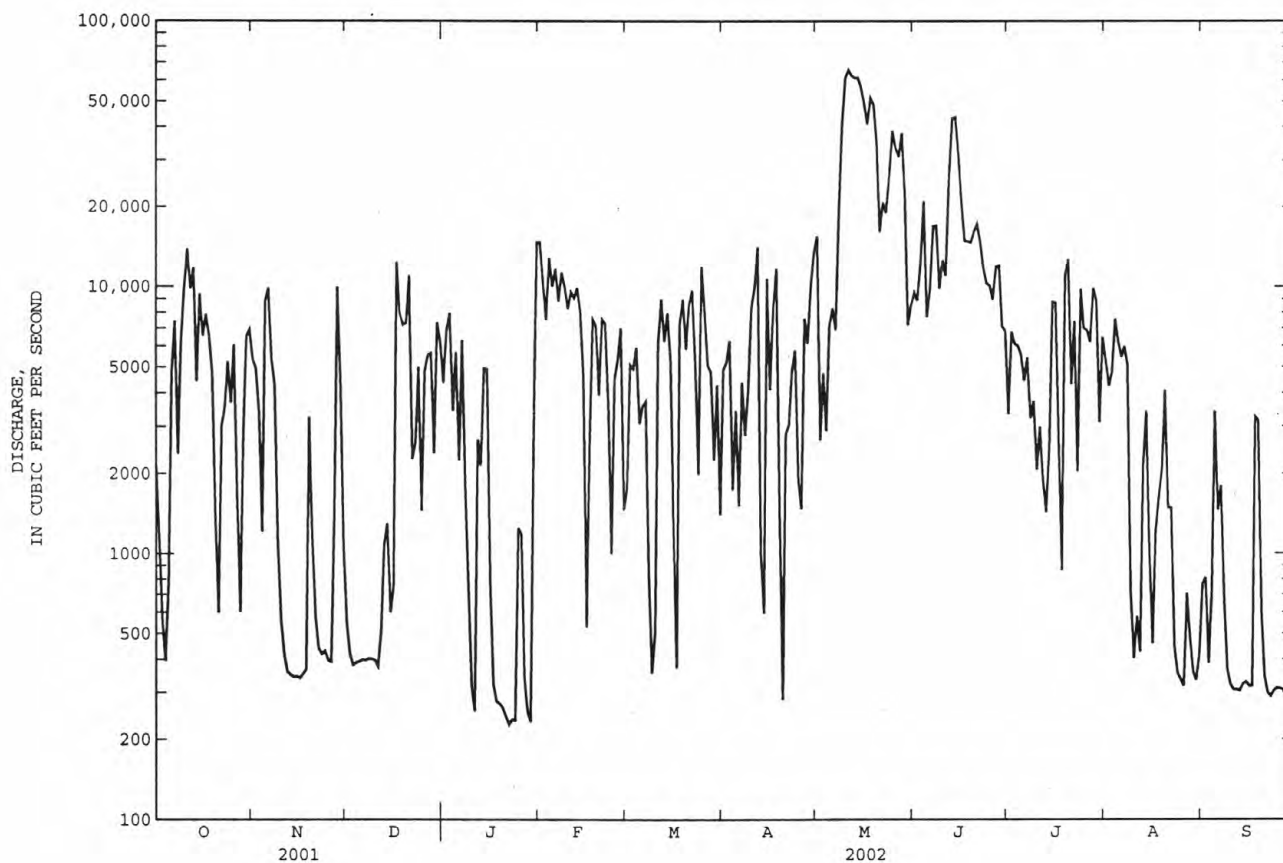
SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1964 - 2002	
ANNUAL TOTAL	2258454		2615897		^a 8855	
ANNUAL MEAN	6188		7167		22240	
HIGHEST ANNUAL MEAN					1924	
LOWEST ANNUAL MEAN					154000	
HIGHEST DAILY MEAN	65300	Feb 28	65500	May 11	Jun 11 1995	
LOWEST DAILY MEAN	295	Jan 2	228	Jan 22	^b 12 Nov 13 1963	
ANNUAL SEVEN-DAY MINIMUM	318	Apr 28	251	Jan 18	45 Feb 21 1964	
MAXIMUM PEAK FLOW			70200	May 11	^c 164000 Jun 11 1995	
MAXIMUM PEAK STAGE			22.41	May 11	^d 36.29 Jun 11 1995	
ANNUAL RUNOFF (AC-FT)	4480000		5189000		6415000	
10 PERCENT EXCEEDS	13500		14700		21900	
50 PERCENT EXCEEDS	3280		4360		4770	
90 PERCENT EXCEEDS	332		344		187	

^aSince regulation by Lake Hudson.

^bMinimum daily for period of record, caused by closure of Robert S. Kerr Dam.

^cMaximum discharge for period of record, 400,000 ft³/s, May 20, 1943, gage height 45.00 ft, site and datum them in use, rating curve extended above 140,000 ft³/s on basis of slope-area measurement of peak flow.

^dOccurred during backwater.



LOCATION.--Lat 36°07'48", long 94°34'19", in NW $\frac{1}{4}$ NE $\frac{1}{4}$ sec.18, T.19 N., R.26 E., Adair County, Hydrologic Unit 11110103, near right bank on downstream side of pier of bridge on U.S. Highway 59, 1.5 mi north of Watts, 4.5 mi downstream from Cincinnati Creek, and at mile 106.2.

WATER-DISCHARGE RECORDS

GAGE.--Water-stage recorder. Datum of gage is 893.78 ft above sea level.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,500 ft³/s and maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 17	1230	17,900	17.83	Apr 8	1630	20,300	18.94
Feb 1	0500	7,710	11.24	Aug 14	1630	7,490	11.05
Mar 20	0630	9,110	12.43				

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	145	189	1070	466	4780	388	905	734	767	298	203	210
2	146	189	863	433	2080	517	814	724	651	299	195	198
3	144	1490	639	414	1560	794	724	669	570	323	188	187
4	139	1470	533	400	1240	615	648	604	531	408	181	184
5	144	686	470	388	1020	618	592	554	720	560	173	181
6	234	450	431	379	906	754	562	527	1460	421	172	178
7	209	365	395	365	840	772	709	510	830	339	173	176
8	171	316	368	356	769	720	12800	475	636	300	170	170
9	163	288	332	347	717	676	5300	534	557	284	165	164
10	200	268	297	340	635	653	2940	696	579	273	162	163
11	1600	247	284	328	558	571	2070	509	558	264	167	161
12	1540	227	361	319	522	557	1670	474	546	260	165	159
13	1020	218	607	308	493	530	1500	1580	1340	313	234	159
14	1030	215	636	293	461	498	1310	1260	1220	356	5030	154
15	630	209	703	286	440	475	1130	884	793	318	2580	153
16	476	202	5010	283	425	486	1010	738	628	274	1220	151
17	404	196	14300	274	400	491	1220	1330	544	256	803	155
18	360	189	5400	270	380	459	1040	2560	503	249	590	159
19	324	210	3140	277	457	3110	885	1390	468	251	481	168
20	300	332	2140	280	1200	7330	834	1070	433	256	417	197
21	272	296	1680	272	855	3270	758	892	403	234	363	191
22	248	268	1420	269	662	2090	675	755	387	217	323	169
23	238	257	1180	282	577	1650	2090	652	367	219	292	154
24	234	342	995	542	528	1390	2600	650	347	216	270	152
25	222	302	868	628	484	3190	1500	910	342	208	274	151
26	215	275	770	470	453	2840	1230	656	363	202	272	152
27	210	256	704	409	418	1990	1350	590	354	194	252	145
28	200	265	645	371	397	1630	1110	890	330	192	241	144
29	187	344	588	357	---	1400	909	2050	325	218	230	139
30	186	715	536	347	---	1200	789	1200	332	226	222	134
31	189	---	491	1890	---	1030	---	936	---	215	216	---
TOTAL	11780	11276	47856	12643	24257	42694	51674	28003	17884	8643	16424	4958
MEAN	380.0	375.9	1544	407.8	866.3	1377	1722	903.3	596.1	278.8	529.8	165.3
MAX	1600	1490	14300	1890	4780	7330	12800	2560	1460	560	5030	210
MIN	139	189	284	269	380	388	562	474	325	192	162	134
AC-FT	23370	22370	94920	25080	48110	84680	102500	55540	35470	17140	32580	9830
CFSM	0.60	0.59	2.43	0.64</								

MEAN	362.9	667.8	689.5	581.6	723.7	997.1	1030	1001	718.6	363.8	240.4	289.4
MAX	2734	3087	2786	2307	2361	2934	3347	4286	3552	1807	1172	1393
(WY)	1987	1974	1988	1998	2001	1973	1957	1961	2000	1958	1961	1986
MIN	20.9	65.6	60.4	61.4	75.1	114	176	144	113	50.7	33.2	14.9
(WY)	1957	1964	1956	1956	1964	1956	1963	1977	1963	1964	1956	1956

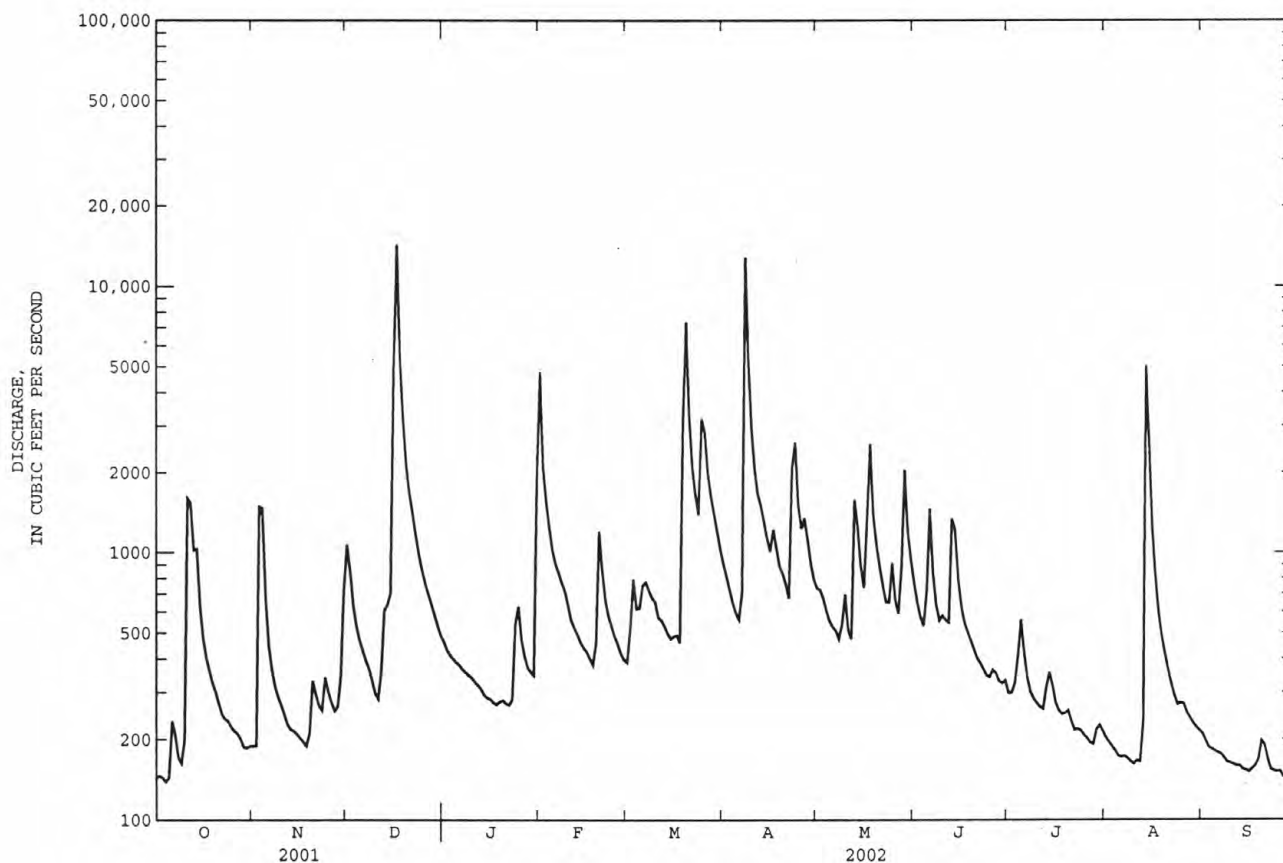
ARKANSAS RIVER BASIN

185

07195500 ILLINOIS RIVER NEAR WATTS, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1956 - 2002	
ANNUAL TOTAL	237009		278092		637.8	
ANNUAL MEAN	649.3		761.9		1247	
HIGHEST ANNUAL MEAN					151	
LOWEST ANNUAL MEAN					34500	
HIGHEST DAILY MEAN	14300	Dec 17	14300	Dec 17	10	Oct 1 1986
LOWEST DAILY MEAN	124	Sep 4	134	Sep 30	11	Sep 19 1956
ANNUAL SEVEN-DAY MINIMUM	134	Sep 2	145	Sep 24	11	Sep 22 1956
MAXIMUM PEAK FLOW			20300	Apr 8	a68000	
MAXIMUM PEAK STAGE			18.94	Apr 8	25.96	
ANNUAL RUNOFF (AC-FT)	470100		551600		462000	
ANNUAL RUNOFF (CFSM)	1.02		1.20		1.00	
ANNUAL RUNOFF (INCHES)	13.88		16.29		13.65	
10 PERCENT EXCEEDS	1190		1480		1280	
50 PERCENT EXCEEDS	332		431		297	
90 PERCENT EXCEEDS	166		175		101	

^aFrom rating curve extended above 51,000 ft³/s.



07195500 ILLINOIS RIVER NEAR WATTS, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1989 to July 1995, July 1996 to current year.

REMARKS.--Samples collected periodically. Specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY	AGENCY	GAGE	DIS-	BARO-	OXYGEN,	PH	SPE-	TEMPER-	SAMPLE		
		ANA- LYZING SAMPLE (CODE NUMBER) (00028)	COL- LECTING SAMPLE (CODE NUMBER) (00027)		CHARGE, INST. CUBIC FEET PER SECOND (00061)	METRIC PRES- SURE (MM OF HG) (00025)		WATER WHOLE FIELD (STAND- ARD UNITS) (00400)				CIFIC CON- DUCT- ANCE (US/CM) (00095)	ATURE WATER (DEG C) (00010)
OCT													
23...	0815	1028	1028	2.32	236	740	7.3	7.2	351	18.0	10.0		
23...	0816	1028	1028	2.32	236	740	7.3	7.2	351	18.0	25.0		
23...	0817	1028	1028	2.32	236	740	7.3	7.2	351	18.0	50.0		
23...	0818	1028	1028	2.32	236	740	7.3	7.2	351	18.0	75.0		
23...	0819	1028	1028	2.32	236	740	7.3	7.2	351	18.0	100		
JUN													
12...	1525	1028	1028	3.38	562	755	7.7	7.7	300	23.2	40.0		
12...	1526	1028	1028	3.38	562	755	7.7	7.7	302	23.2	60.0		
12...	1527	1028	1028	3.38	562	755	7.7	7.7	302	23.2	100		
12...	1528	1028	1028	3.38	562	755	7.7	7.7	302	23.2	140		
12...	1529	1028	1028	3.38	562	755	7.7	7.6	302	23.1	180		
Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TURBID- ITY LAB HACH 2100AN (NTU) (99872)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	
OCT													
11...	1230	80020	1028	6.14	2490	65	750	8.8	93	7.4	17.0	17.4	
23...	0800	80020	1028	2.32	236	12	740	7.3	80	7.2	21.5	18.0	
DEC													
11...	1515	80020	1028	2.50	284	4.7	765	10.3	86	7.8	12.5	7.8	
17...	1420	80020	1028	17.53	17300	170	743	9.8	--	7.6	16.9	--	
FEB													
01...	1115	80020	1028	8.27	4400	110	769	12.6	102	7.6	3.5	6.6	
MAR													
20...	1108	80020	1028	11.66	8210	120	761	10.9	99	7.2	12.4	11.0	
APR													
08...	1215	80020	1028	16.02	14400	390	756	8.2	75	7.0	15.0	10.9	
17...	0755	80020	1028	4.44	1170	14	757	9.3	98	7.3	15.5	17.5	
JUN													
12...	1515	80020	1028	3.38	562	16	755	7.7	91	7.7	28.9	23.2	
AUG													
14...	1640	80020	1028	11.05	7490	380	760	8.0	90	7.4	22.5	21.2	
SEP													
10...	1020	1028	1028	2.01	163	--	760	7.8	95	7.6	21.7	25.0	
Date	HARD- NESS NONCARB DISSOLV FLD. AS CAC03 (MG/L) (00904)	HARD- NESS TOTAL (MG/L AS CAC03) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SODIUM AD- SORP- TION RATIO (00931)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ALKA- LINITY WAT DIS TOT IT FIELD CAC03 (39086)	BICAR- BONATE WATER DIS IT FIELD HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD CO3 (00452)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT													
11...	--	--	--	--	--	--	--	--	103	125	0	--	--
23...	9	130	48.8	2.28	4.75	.6	16.2	20	123	149	0	16.9	15.6
DEC													
11...	20	130	49.0	2.41	4.24	.5	14.0	18	113	137	0	16.2	14.6
17...	--	--	--	--	--	--	--	--	38	47	0	--	--
FEB													
01...	6	60	21.5	1.60	3.21	.2	4.30	13	54	66	0	5.65	8.2
MAR													
20...	--	--	--	--	--	--	--	--	49	60	0	--	--
APR													
08...	--	--	--	--	--	--	--	--	40	48	0	--	--
17...	9	100	38.5	1.92	3.06	.3	6.92	12	95	116	0	8.12	9.6
JUN													
12...	11	110	42.4	1.99	3.78	.4	9.82	15	103	126	0	9.56	10.7
AUG													
14...	6	59	21.4	1.45	5.47	.2	4.33	12	53	65	0	5.06	7.7
SEP													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--

07195500 ILLINOIS RIVER NEAR WATTS, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L) AS N) (00625)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS NH4) (71846)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L) AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L) AS NO3) (71851)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) AS NO2) (71856)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) AS N) (00613)
OCT													
11...	--	--	--	--	--	<.04	.98	--	--	--	1.86	--	<.008
23...	11	.26	124	194	191	<.04	.22	--	--	--	2.86	--	<.008
DEC													
11...	12	.26	147	192	181	<.04	.14	--	--	--	2.75	--	<.008
17...	--	--	--	--	--	E.04	1.3	--	1.59	7.03	1.60	.026	.008
FEB													
01...	62	.14	1210	102	84	.07	1.1	.09	--	--	1.54	--	E.007
MAR													
20...	--	--	--	--	--	.07	1.2	.09	--	--	1.32	--	E.007
APR													
08...	--	--	--	--	--	.16	2.6	.21	1.04	4.59	1.05	.039	.012
17...	24	.20	473	150	140	<.04	.25	--	--	--	3.24	--	<.008
JUN													
12...	25	.22	241	159	153	<.04	.27	--	--	--	2.57	--	E.004
AUG													
14...	192	.14	2050	102	85	.08	2.0	.10	1.59	7.05	1.62	.079	.024
SEP													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	NITRO- GEN, ORGANIC TOTAL (MG/L) AS N) (00605)	NITRO- GEN, TOTAL (MG/L) AS N) (00600)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L) AS PO4) (00660)	PHOS- PHORUS DIS- SOLVED (MG/L) AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L) AS P) (00671)	PHOS- PHORUS TOTAL (MG/L) AS P) (00665)	PHEO- PHYTTIN PHYTO- PLANK- TON, ACID M. (UG/L) (32218)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MP, WATER (COL/ 100 ML) (31673)	CHLORO- HPYLL A PHYTO- PLANK- TON (UG/L) (32211)	CHLORO- PHYLL A PHYTO- PLANK- TON, UNCORR. (UG/L) (32230)	CHLORO- PHYLL B PHYTO- PLANK- TON, UNCORR. (UG/L) (32231)
OCT													
11...	--	2.8	.972	.34	.32	.59	--	9000	6000	14600	--	--	--
23...	--	3.1	.871	.29	.28	.31	<1.00	90	103	135	<1.00	<1.00	<1.00
DEC													
11...	--	2.9	.978	.34	.32	.36	<1.00	54	25	41	<1.00	<1.00	<1.00
17...	--	2.9	.770	.27	.25	.59	--	6400	5000	56000	--	--	--
FEB													
01...	.98	2.6	.592	.21	.19	.41	5.00	13000	8330	34000	<1.00	2.00	<1.00
MAR													
20...	1.1	2.5	.632	.22	.21	.40	--	7200	6400	9820	--	--	--
APR													
08...	2.4	3.6	.785	.30	.26	.91	--	24000	25000	E62000	--	--	--
17...	--	3.5	.438	.14	.14	.19	3.00	200	290	178	1.00	3.00	<1.00
JUN													
12...	--	2.8	.874	.30	.28	.33	3.00	510	273	1200	<1.00	2.00	<1.00
AUG													
14...	1.9	3.6	--	.41	E.01	.93	21.0	3500	3600	15000	<1.00	10.0	<1.00
SEP													
10...	--	--	--	--	--	--	--	--	--	--	--	--	--

Date	CHLORO- PHYLL C PHYTO- PLANK- TON, UNCORR. (UG/L) (32232)	MANGA- NESE, DIS- SOLVED (UG/L) AS MN) (01056)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
OCT					
11...	--	--	98	283	1900
23...	<1.00	24.1	97	48	30.6
DEC					
11...	<1.00	23.7	99	30	23.0
17...	--	--	95	264	12300
FEB					
01...	<1.00	12.4	95	162	1920
MAR					
20...	--	--	95	198	4390
APR					
08...	--	--	95	689	26700
17...	<1.00	14.4	94	49	155
JUN					
12...	<1.00	22.1	99	43	65.2
AUG					
14...	<1.00	24.2	94	492	9950
SEP					
10...	--	--	--	--	--

ARKANSAS RIVER BASIN

07195855 FLINT CREEK NEAR WEST SILOAM SPRINGS, OK

LOCATION.--Lat 36°12'58", long 94°36'15", in NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.14, T.20 N., R.25 E., Delaware County, Oklahoma, Hydrologic Unit 11110103, on left bank 800 ft downstream from county bridge, 2.5 mi from Arkansas-Oklahoma State line, northwest of West Siloam Springs, Oklahoma.

DRAINAGE AREA.--59.8 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1979 to current year.

GAGE.--Water-stage recorder. Datum of gage is 958.00 ft above sea level.

REMARKS.--Records good except estimated daily discharges, which are poor. Flow is partially regulated by Lake Siloam Springs, 4.5 mi upstream, and sewage discharge into Flint Creek from city of Gentry.

DISCHARGE ARKANSAS DV DATA, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	12	34	36	98	24	42	e38	106	29	15	10
2	7.3	14	34	34	82	32	40	e38	93	32	14	11
3	7.1	16	31	32	68	28	36	e38	82	28	14	10
4	7.2	18	28	31	59	27	34	e35	73	37	12	8.0
5	15	16	25	30	52	28	32	e35	89	37	11	6.9
6	17	15	23	33	48	32	30	e35	84	33	9.7	5.8
7	14	14	21	32	44	35	47	e34	84	30	11	5.4
8	11	13	19	27	40	35	298	e34	65	27	12	5.9
9	11	13	18	28	37	35	183	e40	62	25	11	6.1
10	65	13	17	25	35	32	142	e38	58	24	11	6.0
11	110	13	16	25	33	31	123	e35	54	23	12	5.8
12	88	13	24	24	31	30	109	e37	69	28	11	5.9
13	62	12	29	24	30	29	94	e60	93	30	21	5.9
14	46	12	31	24	28	28	82	e55	89	35	107	5.4
15	36	12	31	23	27	27	74	e50	78	30	49	6.2
16	30	12	130	22	26	25	67	e47	69	27	32	7.0
17	26	12	397	22	25	25	61	e75	62	26	25	7.3
18	22	12	227	22	24	26	56	e72	56	24	23	6.3
19	20	30	164	22	33	51	e51	e65	51	22	20	13
20	18	26	133	21	36	97	e47	e60	46	21	18	9.7
21	17	22	114	21	34	89	e45	e55	43	19	16	8.0
22	15	18	96	21	32	76	e43	e50	43	18	15	7.7
23	15	17	80	23	31	66	e45	e48	41	21	15	6.4
24	14	48	67	28	29	60	e45	e48	39	20	14	6.1
25	13	47	59	25	28	78	e43	e45	38	18	17	5.7
26	13	35	55	24	26	70	e43	e43	37	16	15	5.1
27	13	29	53	23	25	65	e43	e39	35	14	14	4.8
28	13	29	49	22	24	61	e43	e77	31	14	14	4.9
29	13	26	46	23	---	56	e40	e160	30	20	13	4.8
30	13	28	43	25	---	51	e40	e142	28	20	13	4.5
31	13	---	41	57	---	46	---	124	---	17	12	---
TOTAL	771.8	597	2135	829	1085	1395	2078	1752	1828	765	596.7	205.6
MEAN	24.90	19.90	68.87	26.74	38.75	45.00	69.27	56.52	60.93	24.68	19.25	6.853
MAX	110	48	397	57	98	97	298	160	106	37	107	13
MIN	7.1	12	16	21	24	24	30	34	28	14	9.7	4.5
AC-FT	1530	1180	4230	1640	2150	2770	4120	3480	3630	1520	1180	408

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2002, BY WATER YEAR (WY)

	MEAN	29.22	51.36	65.09	48.78	58.06	74.00	65.12	65.15	67.26	28.37	16.58	20.61
MAX	199	148	219	123	161	176	143	251	337	130	35.6	132	
(WY)	1987	1994	1993	1985	2001	1985	1985	1990	2000	1999	1986	1986	
MIN	3.48	3.86	6.62	3.88	4.37	7.04	7.43	20.9	9.72	2.79	0.77	1.80	
(WY)	1981	1981	1980	1980	1981	1981	1981	1981	1981	1980	1980	1980	

e Estimated

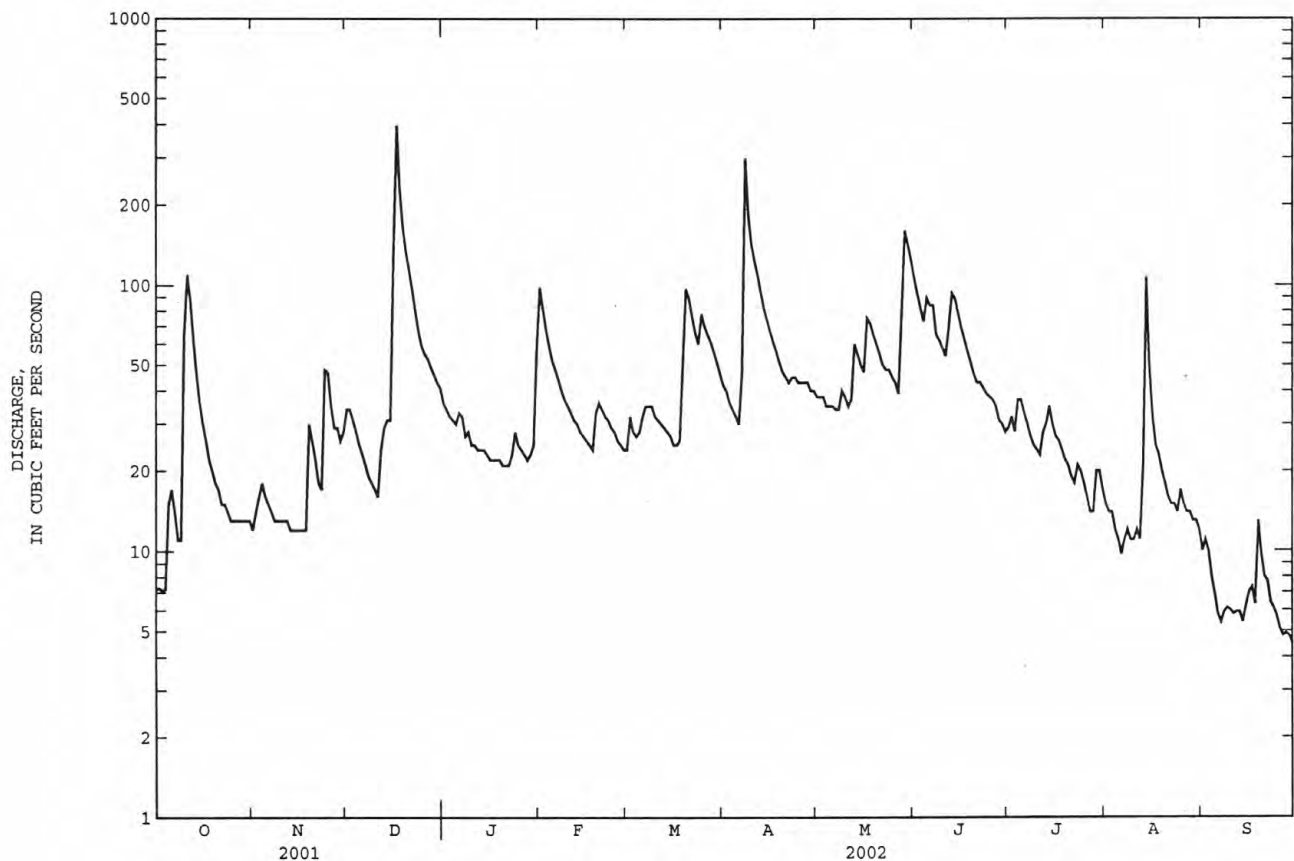
ARKANSAS RIVER BASIN

189

07195855 FLINT CREEK NEAR WEST SILOAM SPRINGS, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1980 - 2002
ANNUAL TOTAL	14787.3	14038.1	
ANNUAL MEAN	40.51	38.46	49.05
HIGHEST ANNUAL MEAN			97.9
LOWEST ANNUAL MEAN			10.7
HIGHEST DAILY MEAN	1390 Feb 24	397 Dec 17	3160 Jun 21 2000
LOWEST DAILY MEAN	4.2 Aug 9	4.5 Sep 30	0.40 Aug 7 1980
ANNUAL SEVEN-DAY MINIMUM	5.2 Aug 4	5.1 Sep 24	0.56 Aug 5 1980
MAXIMUM PEAK FLOW		494 Dec 17	^a 8750 Jun 21 2000
MAXIMUM PEAK STAGE		5.79 Dec 17	13.58 Jun 21 2000
ANNUAL RUNOFF (AC-FT)	29330	27840	35530
10 PERCENT EXCEEDS	80	76	102
50 PERCENT EXCEEDS	22	29	27
90 PERCENT EXCEEDS	8.0	11	7.2

^aFrom rating curve extended above 3,900 ft³/s.



ARKANSAS RIVER BASIN

07195855 FLINT CREEK NEAR WEST SILOAM SPRINGS, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June to September 1979, October 1983 to current year.

REMARKS.--Samples collected periodically. Specific conductance, pH, water temperature, dissolved oxygen, and alkalinity were determined in the field. Samples collected by Arkansas Department of Environmental Quality, Little Rock, Arkansas, from 1983 to 1994, were published by the U.S. Geological Survey, Arkansas District, in Water Resources Data, Arkansas.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)			
AUG														
	20...	1017	1028	1028	3.10	23	758	6.9	7.8	248	24.9	14.0		
	20...	1018	1028	1028	3.10	23	758	6.7	7.8	248	24.9	12.0		
	20...	1019	1028	1028	3.10	23	758	6.7	7.8	248	24.9	10.0		
	20...	1020	1028	1028	3.10	23	758	6.7	7.8	248	24.9	8.00		
	20...	1021	1028	1028	3.10	23	758	6.7	7.8	248	24.9	6.00		
	20...	1022	1028	1028	3.10	23	758	6.7	7.8	247	24.9	4.00		
	20...	1023	1028	1028	3.10	23	758	6.6	7.7	248	24.9	2.00		
Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TURBID- ITY LAB HACH 2100AN (NTU) (99872)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- CENT SATUR- ATION) UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)		
OCT														
23...	1000	80020	1028	3.03	11	1.5	740	5.8	64	7.1	23.5	18.4		
DEC														
06...	1030	80020	1028	3.17	20	1.2	758	9.3	88	7.3	9.8	12.6		
FEB														
07...	1230	80020	1028	3.42	38	3.8	762	12.6	105	7.8	9.0	7.4		
APR														
16...	1330	80020	1028	3.60	55	3.7	755	8.8	95	7.2	23.5	18.1		
JUN														
12...	1315	80020	1028	3.61	61	4.5	756	6.6	77	7.5	20.4	22.3		
AUG														
20...	1005	80020	1028	3.10	23	3.1	758	6.7	81	7.8	29.0	24.9		
Date	Time	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SODIUM AD- SORP- TION RATIO (00931)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT														
23...	17	120	43.1	2.18	3.34	.4	10.4	16	99	121	0	10.5	15.8	
DEC														
06...	11	110	42.2	2.03	2.90	.3	8.48	14	103	125	0	9.84	13.2	
FEB														
07...	18	100	38.0	1.83	2.58	.3	6.66	12	84	103	0	8.4	10.5	
APR														
16...	11	97	35.9	1.76	2.94	.3	6.35	12	86	104	0	7.28	9.5	
JUN														
12...	12	100	37.3	1.90	3.29	.4	8.34	15	90	109	0	7.76	12.9	
AUG														
20...	13	110	38.8	2.01	3.02	.4	9.02	15	92	112	0	8.88	12.8	
Date	Time	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)
OCT														
23...	<10	.22	4.87	164	156	<.04	.14	2.43	<.008	2.6	--	<.06	E.01	
DEC														
06...	<10	.23	9.07	168	154	<.04	E.09	3.24	<.008	--	--	E.04	E.02	
FEB														
07...	<10	.19	14.4	140	137	<.04	.15	4.18	E.005	4.3	--	<.06	E.01	
APR														
16...	<10	.19	20.7	140	131	<.04	.20	3.61	E.007	3.8	.071	<.06	.02	
JUN														
12...	13	.20	24.0	146	136	<.04	.28	2.40	E.005	2.7	.089	E.04	.03	
AUG														
20...	<10	.21	9.55	154	137	<.04	.15	1.65	E.005	1.8	.089	E.04	.03	

ARKANSAS RIVER BASIN

191

07195855 FLINT CREEK NEAR WEST SILOAM SPRINGS, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHEO- PHYTO- PLANK- TON, ACID M. (UG/L) (32218)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	CHLORO- HPYLL A PHYTO- PLANK- TON ACID M. (UG/L) (32211)	CHLORO- PHYLL A PHYTO- PLANK- TON UNCORR. (UG/L) (32230)	CHLORO- PHYLL B PHYTO- PLANK- TON UNCORR. (UG/L) (32231)	CHLORO- PHYLL C PHYTO- PLANK- TON UNCORR. (UG/L) (32232)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SED. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)
OCT 23...	<.06	<1.00	210	160	209	<1.00	<1.00	<1.00	<1.00	3.4	95	31	.92
DEC 06...	<.06	2.00	81	66	72	<1.00	<1.00	<1.00	<1.00	<2.0	100	24	1.3
FEB 07...	E.03	2.00	E9	E4	E15	4.00	5.00	<1.00	<1.00	<2	94	29	3.0
APR 16...	E.04	2.00	39	51	93	<1.00	2.00	<1.00	<1.00	E2.9	95	29	4.3
JUN 12...	E.05	2.00	1000	1370	2630	2.00	3.00	<1.00	<1.00	5.0	100	23	3.8
AUG 20...	E.03	3.00	250	107	273	<1.00	2.00	<1.00	<1.00	4.1	79	9.0	.56

ARKANSAS RIVER BASIN

07195865 SAGER CREEK NEAR WEST SILOAM SPRINGS, OK

LOCATION.--Lat 36°12'06", long 94°36'18", in NE 1/4 NE 1/4 sec.23, T.20 N., R.25 E., Delaware County, Hydrologic Unit 11110103, on right bank 1.4 mi upstream from Flint Creek, 2.4 mi northeast of West Siloam Springs.

DRAINAGE AREA.--18.9 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1996 to current year.

GAGE.--Water-stage recorder. Datum of gage is 961.90 ft above sea level from topographic map.

REMARKS.--Records fair. Low flow sustained in part by sewage effluent from Siloam Springs, Ar. U.S. Geological Survey satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	8.4	14	11	48	12	21	35	36	12	9.3	6.6
2	6.7	8.4	11	12	26	19	20	35	30	12	8.9	6.5
3	6.2	7.6	12	12	22	15	18	32	28	16	7.2	7.5
4	5.4	e7.4	11	12	21	16	17	29	25	25	6.8	8.1
5	11	7.6	10	11	19	18	17	26	48	17	8.2	8.0
6	7.1	7.8	9.7	9.6	18	19	15	29	33	13	8.2	7.3
7	5.2	7.7	9.5	11	17	18	92	27	26	12	8.3	6.5
8	7.1	7.5	7.1	11	16	17	450	26	23	12	8.0	6.4
9	8.3	7.6	7.6	11	13	17	104	59	20	12	7.7	7.4
10	104	e7.4	8.5	10	12	15	70	36	21	12	6.5	6.7
11	83	e7.4	8.6	10	13	16	59	28	20	12	6.2	8.1
12	53	7.4	28	8.6	13	15	51	71	62	12	7.0	7.0
13	24	7.3	20	8.2	12	14	45	124	73	20	76	7.5
14	16	7.4	17	9.6	12	14	42	55	34	17	212	5.2
15	16	7.8	15	9.7	12	14	42	47	24	14	25	5.6
16	14	7.8	302	9.5	10	11	39	43	21	12	17	6.7
17	12	e8.0	260	9.3	10	11	36	125	21	12	13	7.0
18	10	e8.2	69	9.3	12	13	34	71	19	12	11	6.2
19	9.6	19	45	9.1	33	139	33	50	18	11	12	8.8
20	e9.0	14	35	7.5	24	81	30	46	17	9.0	11	7.3
21	e8.6	11	28	8.8	18	41	27	41	16	8.4	11	5.8
22	8.2	11	23	9.0	16	32	30	37	15	9.9	9.9	5.1
23	8.9	11	20	19	13	26	153	34	13	11	9.7	5.8
24	8.2	63	18	23	12	24	64	61	15	10	8.5	5.7
25	e8.0	15	17	13	13	138	51	40	19	10	11	5.8
26	e7.8	12	17	10	13	51	51	32	16	10	9.8	5.7
27	e7.6	9.8	16	9.1	12	38	47	58	14	8.1	9.1	5.5
28	e7.8	12	15	10	12	32	40	204	13	7.5	8.6	4.7
29	e8.0	14	14	10	---	28	39	195	12	12	8.4	4.4
30	e8.0	18	12	12	---	23	36	62	10	11	8.3	5.1
31	e8.2	---	12	122	---	20	---	46	---	9.8	7.1	---
TOTAL	503.1	348.5	1092.0	447.3	472	947	1773	1804	742	381.7	570.7	194.0
MEAN	16.23	11.62	35.23	14.43	16.86	30.55	59.10	58.19	24.73	12.31	18.41	6.467
MAX	104	63	302	122	48	139	450	204	73	25	212	8.8
MIN	5.2	7.3	7.1	7.5	10	11	15	26	10	7.5	6.2	4.4
AC-FT	998	691	2170	887	936	1880	3520	3580	1470	757	1130	385

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2002, BY WATER YEAR (WY)

	1996	1997	1998	1999	2000	2001	2002
MEAN	9.634	20.79	20.63	20.90	36.86	32.66	23.67
MAX	16.2	54.7	35.2	53.6	90.3	44.0	59.1
(WY)	2002	1997	2002	1998	2001	1999	2002
MIN	6.24	6.46	11.4	11.4	9.18	16.9	10.7
(WY)	2000	2000	1999	1999	2000	2000	2001

e Estimated

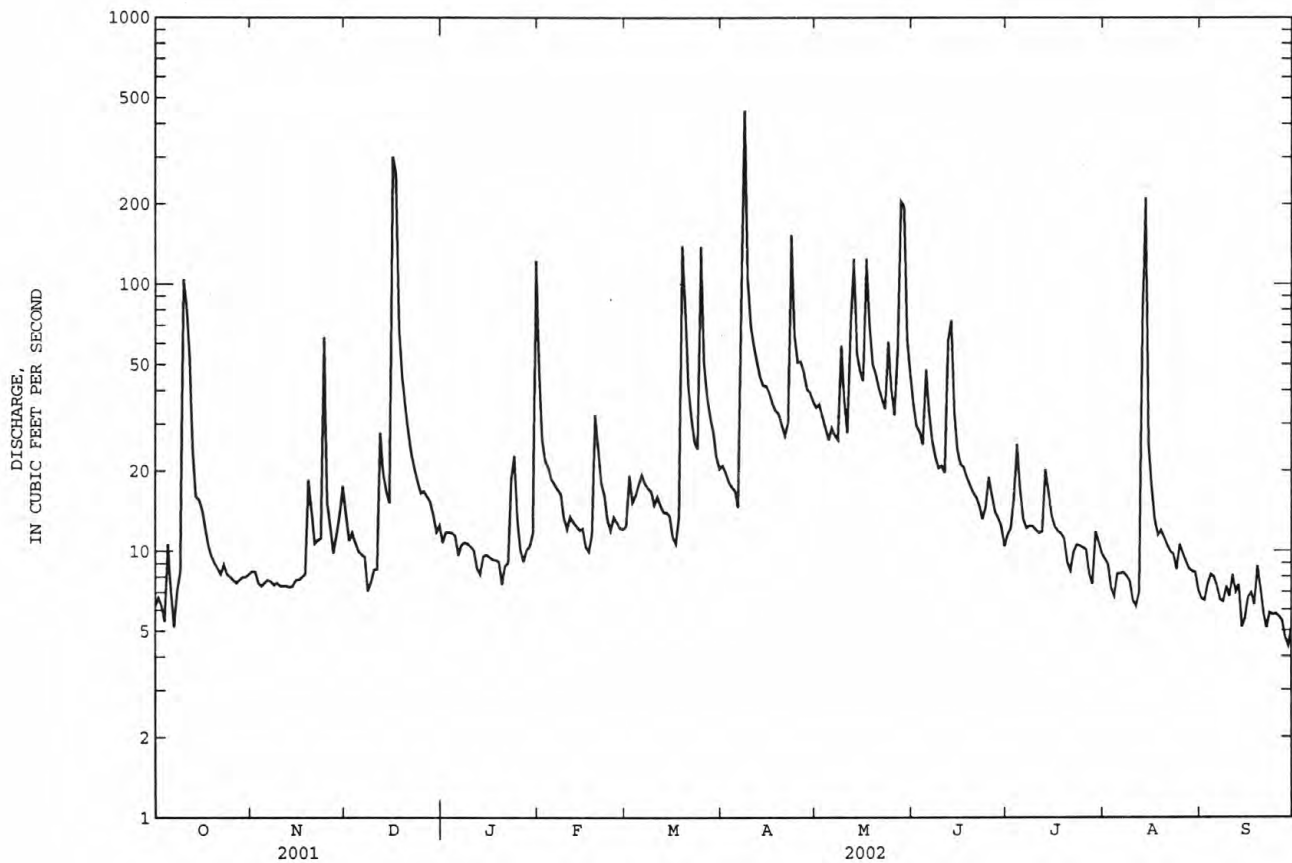
ARKANSAS RIVER BASIN

193

07195865 SAGER CREEK NEAR WEST SILOAM SPRINGS, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1996 - 2002
ANNUAL TOTAL	7742.8	9275.3	
ANNUAL MEAN	21.21	25.41	23.29
HIGHEST ANNUAL MEAN			29.1 2000
LOWEST ANNUAL MEAN			19.2 1998
HIGHEST DAILY MEAN	1110 Feb 24	450 Apr 8	1680 Jun 21 2000
LOWEST DAILY MEAN	3.7 Sep 7	4.4 Sep 29	^a 2.0 Aug 3 1997
ANNUAL SEVEN-DAY MINIMUM	5.0 Aug 2	5.3 Sep 24	2.8 Jul 31 1997
MAXIMUM PEAK FLOW		932 Apr 8	4130 Jun 21 2000
MAXIMUM PEAK STAGE		7.70 Apr 8	12.76 Jun 21 2000
ANNUAL RUNOFF (AC-FT)	15360	18400	16870
10 PERCENT EXCEEDS	30	51	42
50 PERCENT EXCEEDS	9.7	13	12
90 PERCENT EXCEEDS	5.6	7.3	5.7

^aAlso occurred Aug. 10, 1997.



ARKANSAS RIVER BASIN

07195865 SAGER CREEK NEAR WEST SILOAM SPRINGS, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1991 to July 1995, July 1996 to current year.

REMARKS.--Samples collected bimonthly. Specific conductance, pH, water temperature, dissolved oxygen, and alkalinity were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TURBID- ITY LAB HACH 2100AN (NTU) (99872)	BARO- METRIC PRES- SURE OF (MM HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	
AUG													
	20...	1141	1028	1028	4.96	12	760	7.0	7.7	408	25.0	4.00	
	20...	1142	1028	1028	4.96	12	760	7.0	7.7	408	25.0	8.00	
	20...	1143	1028	1028	4.96	12	760	7.0	7.7	408	25.0	12.0	
	20...	1144	1028	1028	4.96	12	760	7.0	7.7	408	25.0	16.0	
	20...	1145	1028	1028	4.96	12	760	7.0	7.8	408	25.0	20.0	
Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TURBID- ITY LAB HACH 2100AN (NTU) (99872)	BARO- METRIC PRES- SURE OF (MM HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (PER- CENT SATUR- ATION) (00301)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	
OCT 23...	1210	80020	1028	5.13	8.5	.9	740	7.1	80	7.1	474	26.5	19.7
DEC 06...	1145	80020	1028	5.16	9.6	.5	758	9.8	96	7.5	496	15.0	14.3
FEB 07...	1345	80020	1028	5.38	17	7.1	762	11.9	105	7.5	376	12.3	9.7
APR 16...	1500	80020	1028	5.56	40	2.6	755	8.8	95	7.2	339	22.5	18.3
JUN 11...	1700	80020	1028	5.36	20	.9	756	8.2	99	7.7	392	30.8	24.4
AUG 20...	1130	80020	1028	4.96	12	1.5	760	7.0	85	7.7	408	30.0	25.0
Date	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	HARD- NESS TOTAL AS CACO3 (MG/L) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SODIUM AD- SORP- TION RATIO (00931)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT 23...	42	140	51.5	2.88	10.8	1	29.7	29	99	120	0	49.9	17.3
DEC 06...	50	140	51.8	3.18	10.5	1	32.1	31	93	113	0	64.2	20.0
FEB 07...	37	120	45.5	2.49	7.04	.8	20.6	25	87	106	0	27.2	31.5
APR 16...	28	120	43.8	2.21	5.68	.6	15.0	21	91	110	0	20.7	22.2
JUN 11...	28	130	47.0	2.28	7.37	.7	18.5	23	99	120	0	23.1	22.9
AUG 20...	42	140	49.9	2.64	7.54	1	25.5	28	93	114	0	29.1	27.7
Date	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)
OCT 23...	<10	.36	6.10	266	265	<.04	.39	9.19	<.008	9.6	2.87	.91	.94
DEC 06...	<10	.41	7.88	304	281	<.04	.33	9.32	<.008	9.6	2.62	.89	.85
FEB 07...	<10	.30	10.3	224	219	<.04	.31	7.07	<.008	7.4	1.63	.51	.53
APR 16...	<10	.28	22.2	206	191	<.04	.28	5.72	E.004	6.0	1.52	.51	.50
JUN 11...	<10	.32	12.8	237	215	<.04	.64	7.19	<.008	7.8	2.76	.92	.90
AUG 20...	<10	.35	8.31	256	236	<.04	.35	7.54	E.004	7.9	3.84	1.29	1.25

ARKANSAS RIVER BASIN

195

07195865 SAGER CREEK NEAR WEST SILOAM SPRINGS, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHEO- PHYTIN PHYTO- PLANK- TON, ACID M. (UG/L) (32218)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	CHLORO- HPYLL A PHYTO- PLANK- TON ACID M. (UG/L) (32211)	CHLORO- PHYLL A PHYTO- PLANK- TON UNCORR. (UG/L) (32230)	CHLORO- PHYLL B PHYTO- PLANK- TON UNCORR. (UG/L) (32231)	CHLORO- PHYLL C PHYTO- PLANK- TON UNCORR. (UG/L) (32232)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
OCT 23...	.92	<1.00	E13	E21	159	<1.00	<1.00	<1.00	<1.00	E1.9	99	39	.90
DEC 06...	.89	<1.00	E5	E7	55	<1.00	<1.00	<1.00	<1.00	<2.0	100	40	1.0
FEB 07...	.54	1.00	42	E16	29	<1.00	<1.00	<1.00	<1.00	E1.0	99	35	1.6
APR 16...	.51	1.00	21	25	82	<1.00	<1.00	<1.00	<1.00	<2.0	99	33	3.6
JUN 11...	.94	1.00	25	39	81	<1.00	<1.00	<1.00	<1.00	<2.0	100	27	1.5
AUG 20...	1.28	1.00	480	600	223	<1.00	<1.00	<1.00	<1.00	E.9	83	1.0	.03

07196000 FLINT CREEK NEAR KANSAS, OK

LOCATION.--Lat 36°11'11", long 94°42'24", in SW $\frac{1}{4}$ NW $\frac{1}{4}$ sec.25, T.20 N., R.24 E., Delaware County, Hydrologic Unit 11110103, upstream from bridge on U.S. Highway 412, at left bank 6.0 mi southeast of Kansas, 6.0 mi downstream from Sager Creek, and at mile 2.2.

DRAINAGE AREA.--110 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1955 to September 1976, April 1979 to September 1990, October 1992 to current year.

GAGE.--Water-stage recorder. Datum of gage is 854.59 ft above sea level.

REMARKS.--No estimated daily discharge. Records good. Small diversion above station for irrigation. U.S. Army Corps of Engineers' satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s and maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	32	67	72	248	65	107	101	201	63	39	31
2	20	33	67	68	184	76	100	103	169	67	37	28
3	19	35	65	65	155	77	93	97	146	67	36	27
4	19	36	62	62	134	73	86	92	143	78	33	27
5	24	37	59	62	119	75	81	84	162	78	31	26
6	36	37	56	61	102	83	74	86	159	70	31	24
7	31	35	53	62	99	90	100	80	152	65	28	22
8	27	34	50	59	95	93	1040	76	122	60	29	20
9	27	34	46	58	87	95	518	101	117	56	29	19
10	90	33	44	56	80	87	350	97	111	53	29	20
11	227	32	44	54	76	84	276	84	104	50	28	19
12	198	30	53	52	73	83	227	91	147	50	27	20
13	136	31	73	50	70	79	203	393	268	57	37	20
14	107	31	71	49	67	76	177	267	232	69	323	20
15	88	32	71	49	63	75	165	200	180	61	124	19
16	76	32	273	48	60	72	142	168	159	56	85	18
17	68	32	992	47	60	68	131	274	140	54	70	20
18	59	31	518	42	63	73	120	329	124	53	61	21
19	54	50	331	46	74	152	112	238	107	50	55	25
20	50	64	246	47	98	328	109	195	102	48	51	30
21	45	57	199	47	88	248	102	168	95	44	47	28
22	44	51	170	46	84	194	97	143	90	42	43	25
23	42	47	144	52	80	161	275	125	83	41	40	22
24	41	85	125	73	75	143	243	142	79	44	39	21
25	38	84	111	61	73	254	176	134	87	42	40	21
26	36	69	102	47	71	214	156	112	83	40	40	20
27	36	61	95	51	68	179	135	124	78	37	38	20
28	34	59	88	51	65	160	125	459	74	35	36	19
29	34	59	86	55	---	145	113	564	70	37	35	18
30	33	62	81	61	---	130	106	325	66	44	33	17
31	29	---	76	142	---	117	---	241	---	43	32	---
TOTAL	1787	1345	4518	1795	2611	3849	5739	5693	3850	1654	1606	667
MEAN	57.65	44.83	145.7	57.90	93.25	124.2	191.3	183.6	128.3	53.35	51.81	22.23
MAX	227	85	992	142	248	328	1040	564	268	78	323	31
MIN	19	30	44	42	60	65	74	76	66	35	27	17
AC-FT	3540	2670	8960	3560	5180	7630	11380	11290	7640	3280	3190	1320
CFSM	0.52	0.41	1.32	0.53	0.85	1.13	1.74	1.67	1.17	0.49	0.47	0.20
IN.	0.60	0.45	1.53	0.61	0.88	1.30	1.94	1.93	1.30	0.56	0.54	0.23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2002, BY WATER YEAR (WY)

MEAN	73.18	132.0	129.8	108.7	127.1	177.9	180.4	184.2	156.1	63.48	44.75	59.24
MAX	415	850	624	385	439	593	577	783	1066	262	369	416
(WY)	1987	1974	1985	1969	2001	1973	1973	1961	1974	1958	1961	1986
MIN	0.73	9.87	11.4	10.3	16.4	11.5	13.0	37.5	25.1	11.7	4.84	1.27
(WY)	1957	1956	1956	1956	1956	1956	1956	1964	1972	1980	1956	1956

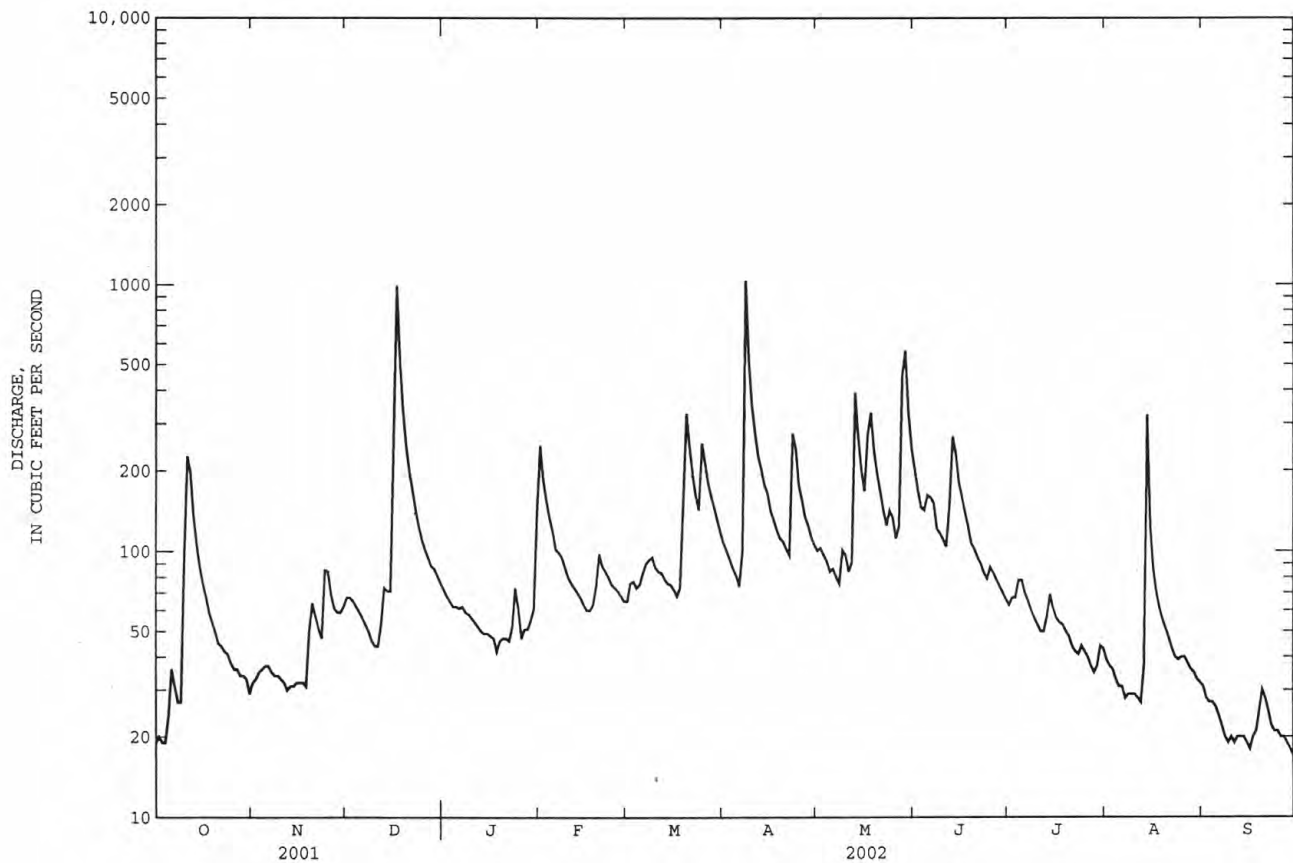
ARKANSAS RIVER BASIN

197

07196000 FLINT CREEK NEAR KANSAS, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1956 - 2002	
ANNUAL TOTAL	36984		35114		120.0	
ANNUAL MEAN	101.3		96.20		296	
HIGHEST ANNUAL MEAN					22.3	
LOWEST ANNUAL MEAN					14500	
HIGHEST DAILY MEAN	3770	Feb 24	1040	Apr 8	0.60	Nov 24 1973
LOWEST DAILY MEAN	14	Aug 6	17	Sep 30	0.66	Oct 11 1956
ANNUAL SEVEN-DAY MINIMUM	16	Aug 4	19	Sep 10	0.66	Oct 7 1956
MAXIMUM PEAK FLOW			1720	Apr 8	^a 44400	Jun 8 1974
MAXIMUM PEAK STAGE			7.98	Apr 8	19.42	Jun 8 1974
ANNUAL RUNOFF (AC-FT)	73360		69650		86950	
ANNUAL RUNOFF (CFSM)	0.92		0.87		1.09	
ANNUAL RUNOFF (INCHES)	12.51		11.87		14.82	
10 PERCENT EXCEEDS	173		194		239	
50 PERCENT EXCEEDS	59		68		57	
90 PERCENT EXCEEDS	21		28		18	

^aBased on indirect measurement.



ARKANSAS RIVER BASIN

07196000 FLINT CREEK NEAR KANSAS, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1955-61, 1963, 1975-80, July 1991 to July 1995, July 1996 to current year.

REMARKS.--Samples collected periodically. Specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)		
OCT													
11...	1047	1028	1028	6.77	224	750	8.3	7.0	286	18.1	70.0		
11...	1048	1028	1028	6.77	224	750	8.3	7.1	286	18.1	60.0		
11...	1051	1028	1028	6.77	224	750	8.3	7.2	286	18.1	50.0		
11...	1052	1028	1028	6.77	224	750	8.2	7.2	287	18.1	40.0		
11...	1053	1028	1028	6.77	224	750	8.2	7.2	287	18.1	30.0		
11...	1054	1028	1028	6.77	224	750	7.9	7.2	287	18.1	20.0		
11...	1055	1028	1028	6.77	224	750	7.8	7.2	286	18.1	10.0		
30...	1436	1028	1028	6.12	34	760	10.1	7.9	331	17.0	10.0		
30...	1437	1028	1028	6.12	34	760	10.1	8.0	331	17.0	15.0		
30...	1438	1028	1028	6.12	34	760	10.1	8.0	331	17.0	20.0		
30...	1439	1028	1028	6.12	34	760	10.1	7.9	331	17.0	25.0		
30...	1440	1028	1028	6.12	34	760	10.1	8.0	331	17.0	30.0		
FEB													
01...	0931	1028	1028	6.83	256	768	11.9	7.3	241	6.7	5.00		
01...	0932	1028	1028	6.83	256	768	11.9	7.3	241	6.7	15.0		
01...	0933	1028	1028	6.83	256	768	11.9	7.4	241	6.7	25.0		
01...	0934	1028	1028	6.83	256	768	11.7	7.4	241	6.7	35.0		
01...	0935	1028	1028	6.83	256	768	11.6	7.4	241	6.7	45.0		
01...	0936	1028	1028	6.83	256	768	11.4	7.4	241	6.7	55.0		
01...	0937	1028	1028	6.83	256	768	11.4	7.4	241	6.7	65.0		
AUG													
14...	1106	1028	1028	7.06	407	757	8.5	7.3	206	22.4	5.00		
14...	1107	1028	1028	7.06	407	757	8.5	7.2	206	22.4	15.0		
14...	1108	1028	1028	7.06	407	757	8.4	7.2	206	22.4	25.0		
14...	1109	1028	1028	7.06	407	757	8.1	7.2	206	22.4	35.0		
14...	1110	1028	1028	7.06	407	757	8.1	7.2	206	22.4	45.0		
14...	1111	1028	1028	7.06	407	757	7.9	7.2	206	22.4	55.0		
14...	1112	1028	1028	7.06	407	757	7.7	7.2	206	22.4	65.0		
14...	1113	1028	1028	7.06	407	757	7.4	7.2	206	22.4	75.0		
Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TURBID- ITY LAB HACH 2100AN (NTU) (99872)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (PER- CENT SATUR- ATION) (00301)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)
OCT													
11...	1045	80020	1028	6.77	224	13	750	8.2	88	7.2	286	17.5	18.1
30...	1430	80020	1028	6.12	34	.8	760	10.1	105	8.0	331	23.6	17.0
DEC													
06...	1330	80020	1028	6.25	55	.7	758	10.5	100	7.8	303	16.0	12.9
17...	1045	80020	1028	7.63	1030	34	744	10.4	97	7.8	200	9.5	11.0
FEB													
01...	0915	80020	1028	6.83	256	10	768	11.7	95	7.4	241	-1.5	6.7
MAR													
20...	0948	80020	1028	6.97	339	16	761	10.9	98	7.3	234	10.4	10.7
APR													
08...	1115	80020	1028	7.83	1390	72	760	7.1	65	7.1	160	15.0	11.6
16...	1145	80020	1028	6.55	139	2.1	756	9.4	98	7.2	227	24.8	17.0
MAY													
13...	1130	80020	1028	7.11	454	15	765	9.2	95	7.5	228	17.5	17.0
JUN													
11...	1555	80020	1028	6.43	100	1.1	756	8.7	105	8.0	270	31.1	24.1
AUG													
14...	1125	80020	1028	7.06	407	35	757	8.1	94	7.2	206	23.0	22.4

ARKANSAS RIVER BASIN

199

07196000 FLINT CREEK NEAR KANSAS, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

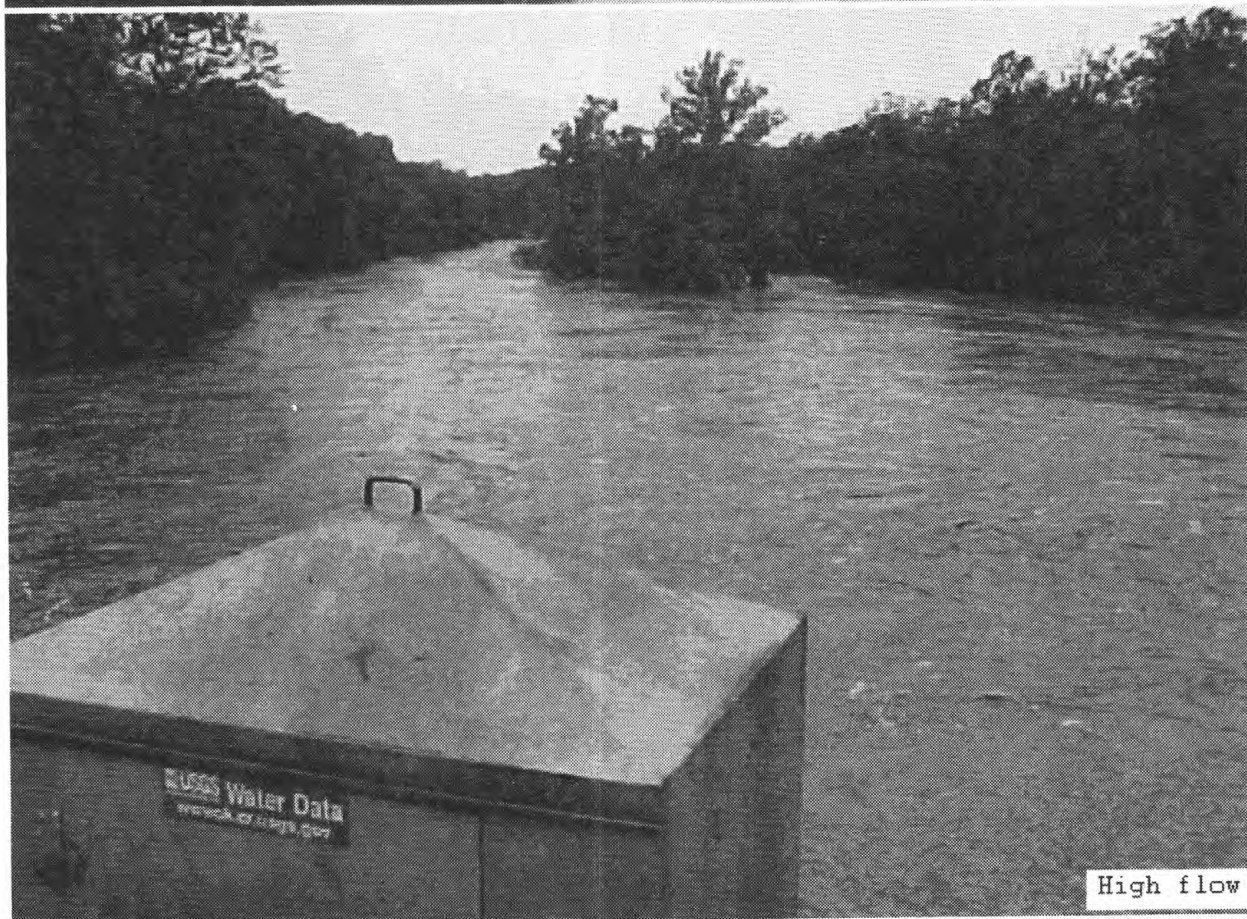
Date	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SODIUM AD- SORP- TION RATIO (00931)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT 11...	--	--	--	--	--	--	--	--	80	97	0	--	--
30...	25	120	44.0	2.19	4.26	.6	14.0	20	95	115	0	21.8	13.3
DEC 06...	13	110	42.1	2.09	4.29	.5	12.6	19	101	123	0	18.8	12.2
17...	--	--	--	--	--	--	--	--	76	92	0	--	--
FEB 01...	16	95	34.9	1.79	3.53	.4	8.43	16	79	96	0	10.9	12.0
MAR 20...	--	--	--	--	--	--	--	--	77	93	0	--	--
APR 08...	--	--	--	--	--	--	--	--	54	65	0	--	--
16...	7	92	34.0	1.66	3.32	.3	6.70	13	85	103	0	8.01	9.2
MAY 13...	--	--	--	--	--	--	--	--	79	96	0	--	--
JUN 11...	14	110	39.5	1.87	3.88	.4	8.34	14	94	113	0	9.56	11.6
AUG 14...	16	82	30.2	1.60	4.33	.4	7.50	16	66	80	0	9.45	11.9
Date	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
OCT 11...	--	--	--	--	--	M	.28	--	--	--	E2.93	--	E.001
30...	<10	.25	17.1	186	171	<.04	.12	--	--	--	3.35	--	<.008
DEC 06...	<10	.25	27.6	186	169	E.02	.11	--	--	--	3.52	--	<.008
17...	--	--	--	--	--	E.02	.68	--	--	--	3.00	--	E.005
FEB 01...	<10	.20	104	150	135	E.02	.32	--	--	--	3.50	--	<.008
MAR 20...	--	--	--	--	--	E.03	.63	--	--	--	2.79	--	E.006
APR 08...	--	--	--	--	--	.07	1.4	.09	1.84	8.14	1.85	.026	.008
16...	<10	.19	53.1	142	129	<.04	.16	--	--	--	3.37	--	<.008
MAY 13...	--	--	--	--	--	<.04	.52	--	--	--	2.25	--	E.006
JUN 11...	<10	.20	40.7	151	143	<.04	.14	--	--	--	2.70	--	<.008
AUG 14...	<10	.18	148	135	115	.27	.63	.35	2.06	9.14	2.07	.026	.008
Date	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHEO- PHYTIN PHYTO- PLANK- TON, ACID M. (UG/L) (32218)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	CHLORO- HPYLL A PHYTO- PLANK- TON ACID M. (UG/L) (32211)	CHLORO- PHYLL A PHYTO- PLANK- TON, UNCORR. (UG/L) (32230)	CHLORO- PHYLL B PHYTO- PLANK- TON, UNCORR. (UG/L) (32231)
OCT 11...	--	--	.22	E.19	.22	--	2600	2250	5000	--	--	--	--
30...	--	3.5	.353	.12	.12	.12	<1.00	190	144	30	1.00	<1.00	<1.00
DEC 06...	--	3.6	.380	.15	.12	.15	<1.00	36	30	29	<1.00	<1.00	<1.00
17...	--	3.7	.644	.22	.21	.32	--	3100	3000	13000	--	--	--
FEB 01...	--	3.8	.521	.17	.17	.20	2.00	2600	2000	5380	<1.00	3.00	<1.00
MAR 20...	--	3.4	.693	.24	.23	.26	--	2400	1530	4880	--	--	--
APR 08...	1.3	3.2	1.04	.38	.34	.56	--	10000	10000	E65000	--	--	--
16...	--	3.5	.343	.10	.11	.14	1.00	61	49	39	<1.00	<1.00	<1.00
MAY 13...	--	2.8	.573	.21	.19	.24	--	7200	6400	37700	--	--	--
JUN 11...	--	2.8	.414	.14	.14	.15	1.00	24	22	45	<1.00	<1.00	<1.00
AUG 14...	.36	2.7	.981	.34	.32	.41	7.00	840	2000	4870	<1.00	5.00	<1.00

ARKANSAS RIVER BASIN

07196000 FLINT CREEK NEAR KANSAS, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	CHLORO- PHYLL C PHYTO- PLANK- TON, UNCORR. (UG/L) (32232)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
OCT					
11...	--	--	94	34	20.6
30...	<1.00	E1.6	95	29	2.7
DEC					
06...	<1.00	<2.0	97	26	3.9
17...	--	--	95	83	231
FEB					
01...	<1.00	E1.0	76	44	30.4
MAR					
20...	--	--	88	39	35.7
APR					
08...	--	--	88	170	638
16...	<1.00	E2.6	94	26	9.8
MAY					
13...	--	--	88	39	47.8
JUN					
11...	<1.00	E3.0	100	12	3.2
AUG					
14...	<1.00	5.3	95	58	63.7



ARKANSAS RIVER BASIN

07196090 ILLINOIS RIVER AT CHEWEY, OK

LOCATION.--Lat 36°06'15", long 94°46'57", in SE 1/4 SE 1/4, sec. 19, T.19 N., R.24 E., Adair County, Hydrologic Unit 11110103, at Hampton Bridge, 0.85 mi west of Chewey, Ok.

PERIOD OF RECORD.--July 1996 to current year.

REMARKS.--Samples collected periodically. Specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)		
OCT													
11...	1558	1028	1028	6.00	1110	750	8.8	7.0	257	18.2	20.0		
11...	1559	1028	1028	6.00	1110	750	8.2	7.2	258	18.1	40.0		
11...	1600	1028	1028	6.00	1110	750	8.0	7.2	258	18.1	60.0		
11...	1601	1028	1028	6.00	1110	750	8.0	7.3	258	18.1	80.0		
11...	1602	1028	1028	6.00	1110	750	8.0	7.3	259	18.1	100		
11...	1603	1028	1028	6.00	1110	750	8.0	7.3	259	18.1	120		
11...	1604	1028	1028	6.00	1110	750	7.9	7.3	259	18.1	140		
11...	1607	1028	1028	6.00	1110	750	7.8	7.4	260	18.1	160		
11...	1608	1028	1028	6.00	1110	750	8.0	7.4	260	18.1	180		
11...	1609	1028	1028	6.00	1110	750	7.7	7.4	260	18.1	200		
DEC													
11...	1200	1028	1028	5.01	335	765	11.6	7.9	305	7.9	19.0		
11...	1201	1028	1028	5.01	335	765	11.3	7.9	305	7.9	39.0		
11...	1202	1028	1028	5.01	335	765	11.3	7.9	305	7.9	59.0		
11...	1203	1028	1028	5.01	335	765	11.2	7.9	305	8.0	79.0		
11...	1204	1028	1028	5.01	335	765	11.1	7.9	305	7.9	119		
11...	1205	1028	1028	5.01	335	765	11.2	7.9	305	7.9	139		
11...	1206	1028	1028	5.01	335	765	11.1	7.9	305	7.9	159		
11...	1207	1028	1028	5.01	335	765	11.0	7.8	305	7.9	179		
11...	1208	1028	1028	5.01	335	765	11.0	7.8	305	7.9	199		
FEB													
01...	1354	1028	1028	9.89	7420	768	11.3	7.3	152	7.0	20.0		
01...	1355	1028	1028	9.89	7420	768	11.3	7.3	151	7.0	70.0		
01...	1356	1028	1028	9.89	7420	768	11.5	7.3	151	7.0	120		
01...	1357	1028	1028	9.89	7420	768	11.7	7.3	150	7.0	170		
01...	1358	1028	1028	9.89	7420	768	11.6	7.3	150	7.0	220		
01...	1359	1028	1028	9.89	7420	768	11.8	7.3	150	7.0	270		
01...	1400	1028	1028	9.89	7420	768	12.0	7.3	149	7.0	320		
AUG													
15...	1147	1028	1028	7.76	3230	760	6.0	7.0	182	22.2	15.0		
15...	1148	1028	1028	7.76	3230	760	6.6	7.1	183	22.2	75.0		
15...	1149	1028	1028	7.76	3230	760	7.1	7.1	183	22.0	135		
15...	1150	1028	1028	7.76	3230	760	7.2	7.1	183	22.0	195		
15...	1151	1028	1028	7.76	3230	760	7.2	7.1	182	22.0	255		
15...	1152	1028	1028	7.76	3230	760	7.1	7.2	183	21.9	315		
Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TURBID- ITY LAB HACH 2100AN (NTU) (99872)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (PER- CENT SATUR- ATION) (00301)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)
OCT													
11...	1605	80020	1028	6.00	1110	11	750	8.0	86	7.3	259	18.3	18.1
DEC													
11...	1210	80020	1028	5.01	335	2.3	765	11.2	94	7.9	305	9.0	7.9
17...	1740	80020	1028	14.59	17400	260	743	9.9	91	7.6	130	4.8	10.4
FEB													
01...	1345	80020	1028	9.89	7420	190	768	11.6	95	7.3	150	8.5	7.0
MAR													
20...	1220	80020	1028	10.96	9540	230	766	10.3	93	7.1	148	12.5	11.1
APR													
08...	1400	80020	1028	11.86	11600	330	754	7.4	69	7.2	157	14.5	11.5
JUN													
14...	1040	80020	1028	6.46	1640	14	760	7.6	88	7.2	266	23.9	22.2
AUG													
15...	1210	80020	1028	7.76	3230	84	760	7.1	81	7.1	183	30.5	22.0

ARKANSAS RIVER BASIN

203

07196090 ILLINOIS RIVER AT CHEWEY, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, TOTAL (MG/L AS N) (00600)
OCT 11...	80	97	0	<.04	.29	--	--	--	1.91	--	<.008	--	2.2
DEC 11...	108	131	0	<.04	.14	--	--	--	2.49	--	<.008	--	2.6
DEC 17...	47	58	0	E.03	1.9	--	--	--	1.66	--	E.007	--	3.6
FEB 01...	53	64	0	.08	1.4	.10	--	--	1.34	--	E.006	1.3	2.7
MAR 20...	55	67	0	.09	2.0	.11	--	--	1.20	--	E.007	1.9	3.2
APR 08...	52	64	0	.10	2.1	.12	1.51	6.70	1.52	.033	.010	2.0	3.6
JUN 14...	99	121	0	<.04	.31	--	--	--	2.16	--	<.008	--	2.5
AUG 15...	68	83	0	E.02	.83	--	1.91	8.47	1.93	.039	.012	--	2.8

Date	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)
OCT 11...	.558	.21	.18	.22	2400	1010	1830	92	43	129
DEC 11...	.696	.25	.23	.26	E10	E10	22	97	31	28.0
DEC 17...	.984	.38	.32	.86	8900	6400	50000	92	446	21000
FEB 01...	.650	.23	.21	.53	16000	7670	29500	95	280	5610
MAR 20...	.659	.23	.21	.65	7300	8400	42000	92	413	10600
APR 08...	.819	.29	.27	.78	15000	20000	E67500	91	602	18900
JUN 14...	.739	.25	.24	.27	E290	E294	E459	98	32	142
AUG 15...	.865	.32	.28	.44	700	733	1950	96	109	951

ARKANSAS RIVER BASIN

07196320 ILLINOIS RIVER NEAR MOODYS, OK

LOCATION.--Lat 36°01'54", long 94°54'38", in SW 1/4 SE 1/4, sec. 13, T.18 N., R.22 E., Cherokee County, Hydrologic Unit 11110103, at Combs Bridge, 2.6 mi east of Moodys, Ok.

PERIOD OF RECORD.--January 2001 to July 2002 (discontinued).

REMARKS.--Samples collected periodically. Specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TURBID- ITY LAB HACH 2100AN (NTU) (99872)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	
OCT													
12...	1319	1028	1028	6.28	2100		750	7.2	7.4	256	18.5	142	
12...	1322	1028	1028	6.28	2100		750	7.2	7.4	256	18.5	122	
12...	1323	1028	1028	6.28	2100		750	7.1	7.4	255	18.5	102	
12...	1327	1028	1028	6.28	2100		750	7.0	7.4	255	18.5	82.0	
12...	1328	1028	1028	6.28	2100		750	6.9	7.4	255	18.4	62.0	
12...	1329	1028	1028	6.28	2100		750	6.9	7.4	256	18.4	42.0	
12...	1330	1028	1028	6.28	2100		750	6.9	7.4	256	18.4	22.0	
DEC													
18...	1320	1028	1028	12.19	9790		758	10.2	7.0	158	10.5	20.0	
18...	1322	1028	1028	12.19	9790		758	9.9	7.1	160	10.5	60.0	
18...	1324	1028	1028	12.19	9790		758	9.9	7.1	158	10.5	100	
18...	1326	1028	1028	12.19	9790		758	9.8	7.1	158	10.5	140	
18...	1328	1028	1028	12.19	9790		758	9.6	7.1	158	10.5	180	
JUN													
14...	1350	1028	1028	5.80	1980		762	8.7	7.4	274	23.4	12.0	
14...	1351	1028	1028	5.80	1980		762	8.7	7.6	273	23.5	32.0	
14...	1352	1028	1028	5.80	1980		762	8.7	7.7	273	23.5	52.0	
14...	1353	1028	1028	5.80	1980		762	8.7	7.6	274	23.6	72.0	
14...	1354	1028	1028	5.80	1980		762	8.7	7.7	274	23.6	92.0	
14...	1356	1028	1028	5.80	1980		762	8.6	7.7	274	23.6	112	
14...	1358	1028	1028	5.80	1980		762	8.6	7.7	274	23.6	132	
14...	1400	1028	1028	5.80	1980		762	8.5	7.7	274	23.6	152	
OCT													
12...	1340	80020	1028	6.28	2100	50	750	7.0	76	7.4	255	20.0	18.5
DEC													
11...	0935	80020	1028	3.76	366	2.7	765	10.3	86	7.6	292	-4.5	7.8
18...	1340	80020	1028	12.19	9790	100	758	9.9	89	7.1	158	17.8	10.5
FEB													
01...	1245	80020	1028	9.94	7300	190	760	12.2	102	6.8	198	9.5	7.4
MAR													
20...	1550	80020	1028	10.96	10100	260	765	10.2	94	7.2	153	14.6	11.8
APR													
08...	1730	80020	1028	11.46	11500	350	734	11.7	118	7.2	151	18.3	14.2
JUN													
14...	1330	80020	1028	5.80	1980	13	762	8.7	103	7.7	274	25.6	23.6
OCT													
12...	85	103	0	<.04	.59	--	--	--	1.81	--	<.008	--	2.4
DEC													
11...	102	124	0	<.04	E.10	--	--	--	2.19	--	<.008	--	--
18...	51	62	0	E.03	.86	--	--	--	2.40	--	E.006	--	3.3
FEB													
01...	64	78	0	.06	1.5	.08	--	--	1.70	--	E.006	1.4	3.2
MAR													
20...	54	66	0	.06	1.6	.08	1.28	5.67	1.29	.026	.008	1.5	2.9
APR													
08...	54	66	0	.09	2.1	.12	1.55	6.85	1.56	.033	.010	2.0	3.7
JUN													
14...	101	123	0	<.04	.26	--	--	--	2.26	--	<.008	--	2.5

ARKANSAS RIVER BASIN

205

07196320 ILLINOIS RIVER NEAR MOODYS, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
OCT										
12...	.629	.22	.20	.31	4100	2800	5330	96	106	601
DEC										
11...	.546	.18	.18	.19	29	26	32	100	26	25.7
18...	.561	.20	.18	.39	3300	2300	5600	87	200	5290
FEB										
01...	.619	.25	.20	.55	2300	5700	8700	98	396	7810
MAR										
20...	.632	.22	.21	.57	8300	8430	49000	90	421	11500
APR										
08...	.742	.26	.24	.82	2600	10200	21000	93	616	19100
JUN										
14...	.684	.23	.22	.25	E150	E176	E200	96	34	182

ARKANSAS RIVER BASIN

07196500 ILLINOIS RIVER NEAR TAHLEQUAH, OK

LOCATION.--Lat 35°55'22", long 94°55'24", in SE 1/4 NE 1/4 sec.26, T.17 N., R.22 E., Cherokee County, Hydrologic Unit 11110103, near center of channel on downstream side of pier of bridge, 0.2 mi downstream from U.S. Highway 62, 2.2 mi northeast of Tahlequah, 6.5 mi upstream from Baron Fork, and at mile 55.8.

DRAINAGE AREA.--959 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1935 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 664.14 ft, U.S. Army Corps of Engineers datum. Prior to Feb. 23, 1939, nonrecording gage.

REMARKS.--No estimated daily discharge. Records good. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of January 1916 reached a stage of about 26 ft.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 18	1030	19,700	13.98	Apr 9	1530	19,800	14.01
Mar 21	0130	10,400	10.48				

DISCHARGE FLOAT VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	218	229	698	730	3360	542	1470	1190	1400	390	268	292
2	206	227	1140	677	4330	557	1300	1140	1180	375	259	282
3	194	300	1120	630	2500	618	1170	1080	1010	371	248	265
4	191	1310	951	588	1920	850	1060	1020	888	370	231	250
5	191	1780	831	560	1560	796	974	943	879	419	219	239
6	201	1120	725	534	1340	802	903	881	1040	599	208	232
7	210	808	648	512	1180	911	965	820	1560	568	199	225
8	286	624	581	488	1080	968	4260	769	1150	446	191	218
9	282	509	528	468	1010	940	15700	768	930	383	186	211
10	631	435	479	449	932	896	6420	795	804	348	185	202
11	1760	385	428	436	852	863	3960	932	772	327	185	196
12	2440	348	436	415	777	799	2940	798	767	315	179	193
13	2570	318	468	399	715	762	2400	936	988	312	336	194
14	1900	292	710	381	671	729	2100	2190	1790	339	1030	193
15	1670	276	863	360	624	677	1830	1790	1680	395	5770	193
16	1290	266	1240	345	580	637	1620	1420	1270	417	3150	191
17	1010	255	9930	333	546	619	1460	1970	1030	362	1870	189
18	839	252	16800	326	514	642	1550	3340	884	335	1300	188
19	706	271	6660	317	550	849	1390	3270	782	317	986	200
20	600	290	4130	314	657	5990	1240	2260	686	305	775	213
21	521	355	2950	316	1200	7950	1160	1810	610	301	641	212
22	459	430	2340	313	1070	4050	1070	1520	550	288	547	226
23	407	400	1930	321	915	2890	1250	1290	506	269	478	217
24	363	374	1620	357	828	2330	4260	1180	471	254	426	199
25	333	430	1390	490	747	2500	3170	1130	439	256	403	188
26	311	475	1230	732	680	4730	2210	1230	431	250	377	183
27	293	425	1100	620	629	3590	1860	1030	437	240	366	179
28	280	398	1010	538	581	2740	1780	980	430	230	348	179
29	266	389	931	477	---	2280	1530	1840	408	247	326	173
30	249	419	860	453	---	1930	1320	2520	387	251	313	169
31	238	---	796	541	---	1670	---	1760	---	266	301	---
TOTAL	21115	14390	65523	14420	32348	57107	74322	44602	26159	10545	22301	6291
MEAN	681.1	479.7	2114	465.2	1155	1842	2477	1439	872.0	340.2	719.4	209.7
MAX	2570	1780	16800	732	4330	7950	15700	3340	1790	599	5770	292
MIN	191	227	428	313	514	542	903	768	387	230	179	169
AC-FT	41880	28540	130000	28600	64160	113300	147400	88470	51890	20920	44230	12480
CFSM	0.71	0.50	2.20	0.49	1.20	1.92	2.58	1.50	0.91	0.35	0.75	0.22
IN.	0.82	0.56	2.54	0.56	1.25	2.22	2.88	1.73	1.01	0.41	0.87	0.24

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 2002, BY WATER YEAR (WY)

	MEAN	538.4	918.6	929.0	854.0	1149	1462	1576	1655	1080	499.9	354.6	362.5
MAX	5222	4659	4258	3355	4661	6695	6864	8397	5993	2491	3907	1913	
(WY)	1987	1974	1993	1998	1938	1945	1945	1950	1974	1958	1948	1974	
MIN	7.05	75.3	77.5	74.0	113	147	151	189	80.1	22.9	10.5	3.15	
(WY)	1957	1964	1956	1956	1964	1940	1954	1936	1936	1954	1936	1954	

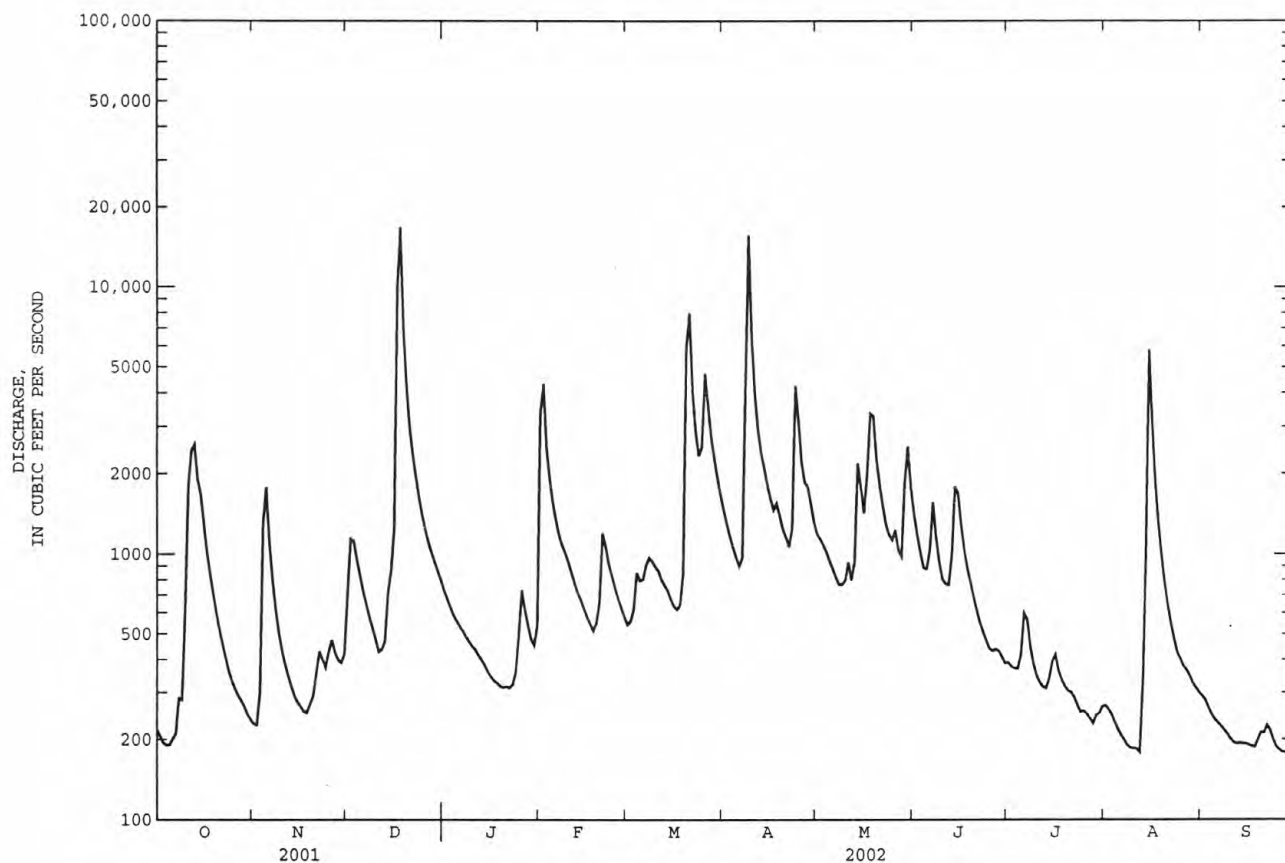
ARKANSAS RIVER BASIN

207

07196500 ILLINOIS RIVER NEAR TAHLEQUAH, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1936 - 2002	
ANNUAL TOTAL	377137		389123		946.3	
ANNUAL MEAN	1033		1066		1980	
HIGHEST ANNUAL MEAN					193	
LOWEST ANNUAL MEAN					193	
HIGHEST DAILY MEAN	23200	Feb 25	16800	Dec 18	90400	May 11 1950
LOWEST DAILY MEAN	154	Sep 7	169	Sep 30	0.10	Oct 10 1956
ANNUAL SEVEN-DAY MINIMUM	173	Sep 1	181	Sep 24	0.14	Oct 8 1956
MAXIMUM PEAK FLOW			19800	Apr 9	^a 150000	May 10 1950
MAXIMUM PEAK STAGE			14.01	Apr 9	27.94	May 10 1950
ANNUAL RUNOFF (AC-FT)	748100		771800		685500	
ANNUAL RUNOFF (CFSM)	1.08		1.11		0.99	
ANNUAL RUNOFF (INCHES)	14.63		15.09		13.41	
10 PERCENT EXCEEDS	1770		2200		1940	
50 PERCENT EXCEEDS	593		624		428	
90 PERCENT EXCEEDS	226		219		120	

^aFrom rating curve extended above 77,000 ft³/s on basis of slope-area measurement of peak flow.



ARKANSAS RIVER BASIN

07196500 ILLINOIS RIVER NEAR TAHLEQUAH, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1975-79, October 1989 to August 1995, July 1996 to current year.

REMARKS.--Samples collected periodically. Specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	
OCT												
12...	1050	1028	1028	5.99	2660	752	7.1	7.3	247	18.3	48.0	
12...	1052	1028	1028	5.99	2660	752	7.1	7.4	248	18.3	98.0	
12...	1054	1028	1028	5.99	2660	752	7.1	7.4	247	18.3	148	
12...	1056	1028	1028	5.99	2660	752	7.1	7.4	247	18.3	198	
24...	0856	1028	1028	3.29	368	743	6.8	7.3	289	19.2	10.0	
24...	0857	1028	1028	3.29	368	743	6.8	7.4	288	19.2	30.0	
24...	0858	1028	1028	3.29	368	743	6.6	7.4	288	19.2	50.0	
24...	0859	1028	1028	3.29	368	743	6.7	7.4	288	19.2	70.0	
24...	0900	1028	1028	3.29	368	743	6.6	7.4	288	19.2	90.0	
DEC												
18...	1143	1028	1028	13.92	19500	763	9.4	7.0	134	10.3	30.0	
18...	1145	1028	1028	13.92	19500	763	9.6	7.0	136	10.3	90.0	
18...	1148	1028	1028	13.92	19500	763	9.6	7.0	136	10.3	150	
18...	1150	1028	1028	13.92	19500	763	9.5	7.0	136	10.3	210	
18...	1152	1028	1028	13.92	19500	763	9.5	7.0	136	10.3	270	
18...	1153	1028	1028	13.92	19500	763	9.4	7.0	137	10.3	330	
JUN												
10...	1310	1028	1028	4.04	794	758	8.3	7.8	260	24.4	130	
10...	1311	1028	1028	4.04	794	758	8.5	7.8	262	24.4	110	
10...	1312	1028	1028	4.04	794	758	8.4	7.8	261	24.4	90.0	
10...	1313	1028	1028	4.04	794	758	8.4	7.8	262	24.4	70.0	
10...	1314	1028	1028	4.04	794	758	8.5	7.8	262	24.4	50.0	
10...	1315	1028	1028	4.04	794	758	8.4	7.8	262	24.4	30.0	
10...	1316	1028	1028	4.04	794	758	8.5	7.8	262	24.4	10.0	
AUG												
15...	1437	1028	1028	9.03	7360	760	6.7	7.2	180	22.9	30.0	
15...	1439	1028	1028	9.03	7360	760	6.8	7.1	179	22.9	60.0	
15...	1444	1028	1028	9.03	7360	760	6.7	7.1	179	22.9	90.0	
15...	1448	1028	1028	9.03	7360	760	6.7	7.1	179	22.9	120	
15...	1452	1028	1028	9.03	7360	760	6.5	7.1	179	22.9	150	
15...	1454	1028	1028	9.03	7360	760	6.6	7.1	180	22.9	180	
15...	1457	1028	1028	9.03	7360	760	6.7	7.1	180	22.9	210	
Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TURBID- ITY LAB HACH 2100AN (NTU) (99872)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)
OCT												
12...	1100	80020	1028	5.99	2660	36	752	7.1	77	7.4	247	19.5
24...	0850	80020	1028	3.29	368	1.4	743	6.7	74	7.4	288	23.0
NOV												
05...	1250	80020	1028	5.20	1690	33	765	7.3	76	7.2	231	22.0
DEC												
05...	1330	80020	1028	4.12	828	2.9	764	9.5	91	7.5	271	21.7
18...	1210	80020	1028	13.92	19500	170	763	9.5	85	7.0	136	13.3
FEB												
02...	1100	80020	1028	7.25	4090	83	770	11.7	94	7.2	177	5.5
MAR												
21...	1200	80020	1028	9.38	7940	110	771	9.8	87	7.2	140	5.3
APR												
09...	1130	80020	1028	13.39	17900	480	763	7.5	69	7.0	123	16.0
JUN												
10...	1300	80020	1028	4.04	794	3.0	758	8.4	101	7.8	262	28.2
AUG												
15...	1447	80020	1028	9.03	7360	250	760	6.7	78	7.1	179	30.6

ARKANSAS RIVER BASIN

209

07196500 ILLINOIS RIVER NEAR TAHLEQUAH, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SODIUM AD- SORP- TION RATIO (00931)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT													
12...	--	--	--	--	--	--	--	--	85	104	0	--	--
24...	9	110	40.9	2.13	3.71	.5	11.0	17	102	124	0	13.1	11.5
NOV													
05...	--	--	--	--	--	--	--	--	76	92	0	--	--
DEC													
05...	11	110	39.1	2.16	3.52	.4	10.1	17	96	117	0	12.5	13.5
18...	--	--	--	--	--	--	--	--	48	59	0	--	--
FEB													
02...	9	70	25.3	1.67	2.97	.3	5.35	14	61	74	0	6.70	9.4
MAR													
21...	--	--	--	--	--	--	--	--	53	64	0	--	--
APR													
09...	1	47	16.7	1.23	3.24	.2	2.83	11	46	56	0	3.55	5.5
JUN													
10...	8	100	38.8	1.96	3.58	.3	7.56	13	97	118	0	8.14	9.3
AUG													
15...	9	69	25.2	1.54	4.72	.3	5.43	14	61	74	0	6.05	8.9
	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NO2+NO3 SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)
OCT													
12...	--	--	--	--	--	<.04	.55	--	--	--	1.60	--	<.008
24...	<10	.23	165	166	150	<.04	.17	--	--	--	1.63	--	<.008
NOV													
05...	--	--	--	--	--	E.02	.64	--	--	--	1.64	--	E.006
DEC													
05...	<10	.22	358	160	147	<.04	.18	--	--	--	1.84	--	<.008
18...	--	--	--	--	--	E.02	1.2	--	--	--	1.81	--	E.006
FEB													
02...	74	.16	1300	118	96	.04	.69	.05	--	--	1.84	--	<.008
MAR													
21...	--	--	--	--	--	E.03	.88	--	--	--	1.52	--	E.006
APR													
09...	132	.11	3830	79	66	.08	2.2	.10	1.09	4.84	1.10	.030	.009
JUN													
10...	<10	.20	310	144	136	<.04	.27	--	--	--	1.77	--	<.008
AUG													
15...	208	.17	2430	122	97	.05	1.3	.06	1.82	8.05	1.83	.039	.012
	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHEO- PHYTIN PHYTO- PLANK- TON, ACID M. (UG/L) (32218)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	CHLORO- HPYLL A PHYTO- PLANK- TON ACID M. (UG/L) (32211)	CHLORO- PHYLL A PHYTO- PLANK- TON, UNCORR. (UG/L) (32230)	CHLORO- PHYLL B PHYTO- PLANK- TON, UNCORR. (UG/L) (32231)
OCT													
12...	--	2.2	.420	.14	.14	.22	--	2200	2000	2600	--	--	--
24...	--	1.8	--	<.06	E.02	<.06	<1.00	46	76	113	2.00	2.00	<1.00
NOV													
05...	--	2.3	.745	.28	.24	.35	--	1000	1400	1050	--	--	--
DEC													
05...	--	2.0	.432	.17	.14	.15	2.00	38	31	59	2.00	4.00	<1.00
18...	--	3.1	.607	.20	.20	.54	--	5700	3800	13100	--	--	--
FEB													
02...	.65	2.5	.469	.16	.15	.28	6.00	4800	2400	5800	<1.00	4.00	<1.00
MAR													
21...	--	2.4	.463	.16	.15	.31	--	4200	2000	10900	--	--	--
APR													
09...	2.1	3.3	.607	.23	.20	.82	9.00	15000	12000	47500	<1.00	5.00	<1.00
JUN													
10...	--	2.0	.356	.13	.12	.15	3.00	41	59	88	6.00	8.00	<1.00
AUG													
15...	1.3	3.2	.828	.30	.27	.61	20.0	670	666	833	<1.00	7.00	<1.00

ARKANSAS RIVER BASIN

07196500 ILLINOIS RIVER NEAR TAHLEQUAH, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	CHLORO- PHYLL C PHYTO- PLANK- TON, UNCORR. (UG/L) (32232)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
OCT					
12...	--	--	89	99	711
24...	<1.00	3.7	98	32	31.8
NOV					
05...	--	--	99	53	242
DEC					
05...	<1.00	<2.0	93	28	62.6
18...	--	--	91	309	16300
FEB					
02...	<1.00	E2.9	89	117	1290
MAR					
21...	--	--	89	180	3860
APR					
09...	<1.00	4.3	89	744	36000
JUN					
10...	<1.00	E3.0	100	19	40.7
AUG					
15...	<1.00	5.0	92	305	6060



07232250 Beaver River near Felt May 2, 1999



ARKANSAS RIVER BASIN

07196520 ILLINOIS RIVER NEAR PARK HILL, OK

LOCATION.--Lat 35°51'11", long 94°54'55", in NE 1/4 NE 1/4, sec. 24, T.16 N., R.22 E., Cherokee County, Hydrologic Unit 11110103, adjacent to unimproved road 0.2 mi upstream from Barron Fork, 2.3 mi southeast of Park Hill, Ok.

PERIOD OF RECORD.--July 1996 to June 2002 (discontinued).

REMARKS.--Samples collected periodically. Specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)
OCT										
24...	1042	1028	1028	385	745	8.4	7.7	283	19.8	20.0
24...	1043	1028	1028	385	745	8.7	7.8	283	19.8	40.0
24...	1044	1028	1028	385	745	8.7	7.8	283	19.9	60.0
24...	1045	1028	1028	385	745	8.7	7.9	284	19.9	80.0
24...	1046	1028	1028	385	745	8.6	7.9	285	19.9	100
24...	1047	1028	1028	385	745	8.5	7.9	285	20.0	120
24...	1048	1028	1028	385	745	8.5	7.9	285	20.2	140
24...	1049	1028	1028	385	745	8.8	8.0	285	20.6	160
DEC										
10...	1501	1028	1028	460	765	12.2	8.0	276	10.0	17.0
10...	1506	1028	1028	460	765	12.1	8.0	277	9.8	47.0
10...	1507	1028	1028	460	765	12.1	8.1	277	9.8	77.0
10...	1509	1028	1028	460	765	12.1	8.1	277	9.8	107
10...	1510	1028	1028	460	765	12.1	8.1	277	9.6	137
10...	1512	1028	1028	460	765	12.6	8.2	276	9.6	167
JUN										
11...	1325	1028	1028	772	762	8.9	7.9	262	24.9	20.0
11...	1326	1028	1028	772	762	8.9	8.0	263	25.0	50.0
11...	1327	1028	1028	772	762	9.0	8.0	264	25.1	80.0
11...	1328	1028	1028	772	762	9.0	8.0	264	25.2	110
11...	1329	1028	1028	772	762	9.1	8.0	265	25.2	140
11...	1330	1028	1028	772	762	9.2	8.0	265	25.3	170
11...	1331	1028	1028	772	762	9.2	8.1	264	25.5	200

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TURBID- ITY LAB HACH 2100AN (NTU) (99872)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (PER- CENT SATUR- ATION) (00301)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
OCT													
24...	1050	80020	1028	385	3.3	745	8.6	97	7.8	284	20.5	20.0	100
DEC													
10...	1525	80020	1028	460	3.9	765	12.1	106	8.1	277	10.8	9.8	104
FEB													
15...	1500	80020	1028	680	2.0	770	12.5	104	7.8	250	8.5	7.9	98
JUN													
11...	1345	80020	1028	772	3.5	762	9.0	109	8.0	264	28.0	25.2	97

Date	Time	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)
OCT														
24...	121	0	<.04	.14	1.65	<.008	1.8	.313	.11	.10	.09	40	E31	
DEC														
10...	126	0	<.04	.13	1.84	<.008	2.0	.343	.12	.11	.12	E6	E7	
FEB														
15...	107	0	<.04	.12	2.81	<.008	2.9	.245	.07	.08	.09	E4	E3	
JUN														
11...	118	0	<.04	.23	1.75	E.004	2.0	.346	.13	.11	.13	21	41	

ARKANSAS RIVER BASIN

213

07196520 ILLINOIS RIVER NEAR PARK HILL, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)
OCT 24...	62	94	28	29.1
DEC 10...	E13	95	26	32.3
FEB 15...	E5	97	22	40.4
JUN 11...	43	95	19	39.6

ARKANSAS RIVER BASIN

07196973 PEACHEATER CREEK AT CHRISTIE, OK

LOCATION.--Lat 35°57'17", long 94°41'46", in SW 1/4 NE 1/4 sec.13, T.17 N., R.24 E., Adair County, Hydrologic Unit 11110103, on the left downstream wingwall of bridge on U.S. Highway 62, .4 mi upstream from Baron Fork, 9.1 mi west of Westville, and 19.3 mi east of Tahlequah.

DRAINAGE AREA.--25.0 mi².

PERIOD OF RECORD.--September 1992 to current year.

REVISED RECORDS.--WRD OK-96-1: 1995 (m)

GAGE.--Water-stage recorder. Datum of gage is 801.72 ft above sea level.

REMARKS.--Records poor. U.S. Geological Survey satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1930 reached a stage of about 20.8 ft at present site and datum; information supplied by local resident.

PEAK DISCHARGES 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)
Dec 16	2215	811	8.00	Apr 8	0615	673	7.92

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	6.1	15	21	58	20	51	22	17	7.0	0.0	e0.0
2	0.0	6.5	16	20	62	21	44	24	14	7.5	e0.0	e0.0
3	0.0	141	16	19	59	19	37	21	11	7.6	e0.0	e0.0
4	0.0	18	15	17	49	19	31	17	9.7	7.4	e0.0	e0.0
5	0.0	13	14	17	40	20	28	12	19	6.2	e0.0	e0.0
6	0.0	11	13	16	33	23	26	11	14	5.0	e0.0	e0.0
7	0.0	9.4	12	15	27	26	52	12	12	4.5	e0.0	e0.0
8	0.0	7.6	10	15	24	28	503	11	11	3.5	e0.0	e0.0
9	0.0	6.5	9.3	14	22	28	254	13	11	2.7	e0.0	0.0
10	18	5.5	8.4	14	20	28	162	12	8.8	1.9	e0.0	e0.0
11	39	4.7	7.7	13	18	26	118	10	7.8	0.67	e0.0	e0.0
12	64	4.0	12	13	17	23	88	23	12	2.0	e0.0	e0.0
13	52	3.3	16	13	16	21	67	60	18	2.4	e55	e0.0
14	41	2.6	23	12	15	19	52	41	15	7.0	e30	e0.0
15	32	2.0	27	12	14	16	49	38	14	6.0	e11	e0.0
16	27	1.7	376	11	14	12	45	45	14	3.0	e7.0	e0.0
17	22	1.4	579	11	13	9.7	35	102	9.8	1.3	e3.2	e0.0
18	18	1.2	320	11	13	11	29	121	9.3	e0.70	e1.3	e0.0
19	15	1.7	198	11	16	90	29	113	8.4	e0.50	e0.65	e0.0
20	13	1.5	131	10	18	209	29	101	7.5	e0.27	e0.28	e0.0
21	11	1.5	94	10	20	157	29	87	6.4	e0.15	e0.10	e0.0
22	9.3	1.5	76	9.8	24	100	27	74	5.8	e0.10	e0.03	e0.0
23	8.4	2.0	63	11	27	76	36	70	5.3	e0.05	e0.0	e0.0
24	8.3	8.7	52	12	26	60	29	67	5.1	e0.01	e0.0	e0.0
25	7.5	10	44	11	26	159	31	54	7.4	e0.0	e0.0	e0.0
26	6.8	13	38	11	24	153	31	44	10	e0.0	e0.0	e0.0
27	6.7	13	33	11	23	123	28	36	8.3	e0.0	e0.0	e0.0
28	6.3	14	29	11	21	102	25	31	6.8	e0.0	e0.0	e0.0
29	6.3	13	27	11	---	82	25	26	6.9	e0.0	e0.0	e0.0
30	6.2	15	24	11	---	70	24	24	6.6	e0.0	e0.0	e0.0
31	6.2	---	23	26	---	60	---	21	---	e0.0	e0.0	---
TOTAL	424.0	340.4	2321.4	419.8	739	1810.7	2014	1343	311.9	77.45	108.56	0.0
MEAN	13.68	11.35	74.88	13.54	26.39	58.41	67.13	43.32	10.40	2.498	3.502	0.000
MAX	64	141	579	26	62	209	503	121	19	7.6	55	0.00
MIN	0.00	1.2	7.7	9.8	13	9.7	24	10	5.1	0.00	0.00	0.00
AC-FT	841	675	4600	833	1470	3590	3990	2660	619	154	215	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2002, BY WATER YEAR (WY)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	9.110	31.46	36.06	27.56	37.14	42.42	37.86	39.89	36.63	11.76
MAX	35.1	90.5	103	82.2	119	65.4	67.1	105	126	41.5
(WY)	1994	1997	1993	1998	2001	1994	2002	1993	2000	2000
MIN	0.032	1.31	4.07	8.10	4.73	4.85	13.6	13.4	6.14	0.24
(WY)	2000	2000	1996	1997	1996	1996	2001	1997	1998	1998

e Estimated

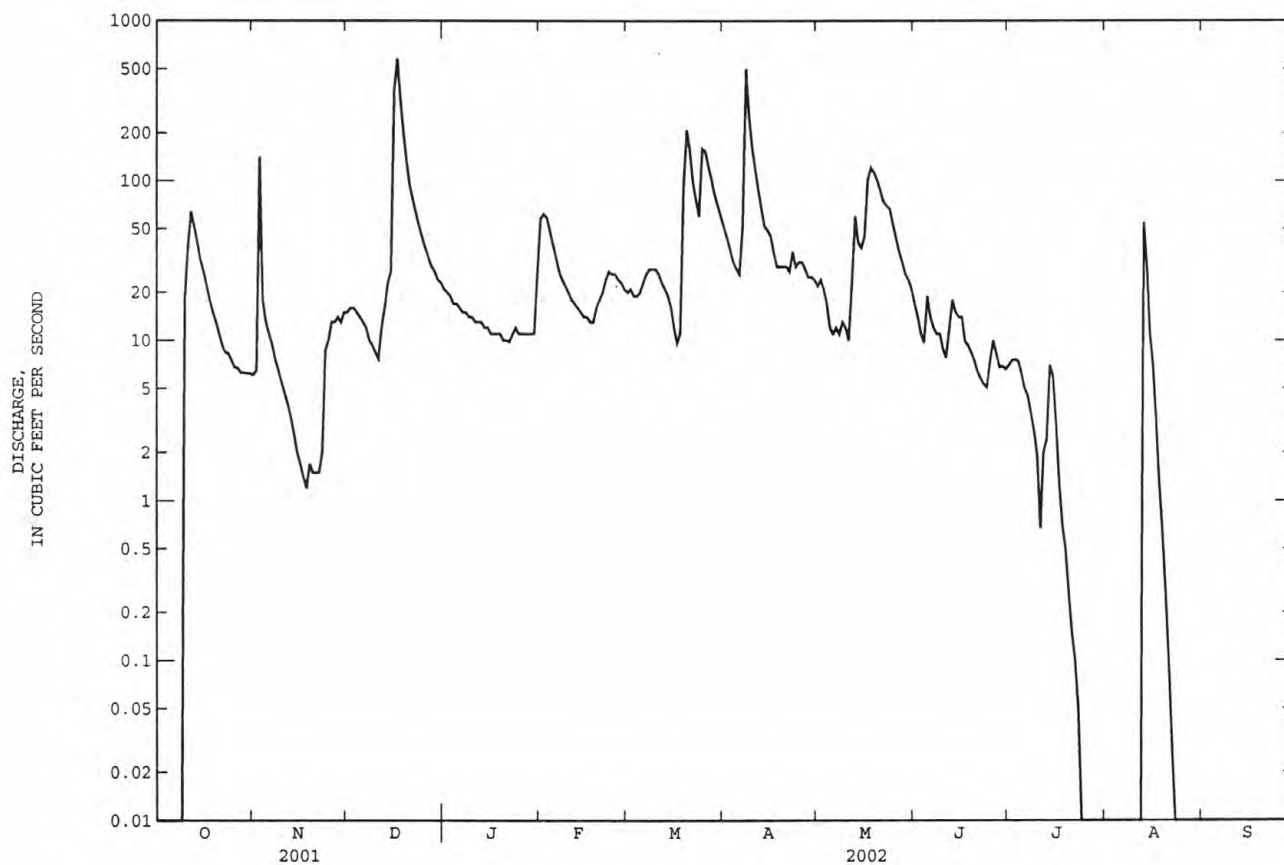
ARKANSAS RIVER BASIN

215

07196973 PEACHEATER CREEK AT CHRISTIE, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1993 - 2002
ANNUAL TOTAL	10239.27	9910.21	
ANNUAL MEAN	28.05	27.15	26.74
HIGHEST ANNUAL MEAN			48.2 1993
LOWEST ANNUAL MEAN			11.1 1996
HIGHEST DAILY MEAN	735 Feb 24	579 Dec 17	962 Jun 21 2000
LOWEST DAILY MEAN	0.00 Aug 6	0.00 at times	0.00 at times
ANNUAL SEVEN-DAY MINIMUM	0.00 Sep 26	0.00 Oct 1	0.00 Aug 8 1996
MAXIMUM PEAK FLOW		811 Dec 16	2750 Jun 21 2000
MAXIMUM PEAK STAGE		8.00 Dec 16	^a 15.84 Jun 21 2000
ANNUAL RUNOFF (AC-FT)	20310	19660	19370
10 PERCENT EXCEEDS	52	61	61
50 PERCENT EXCEEDS	13	12	12
90 PERCENT EXCEEDS	0.24	0.00	0.46

^aBackwater from Baron Fork.



ARKANSAS RIVER BASIN

07197000 BARON FORK AT ELDON, OK

LOCATION.--Lat 35°55'16", long 94°50'18", in NE 1/4 SE 1/4 sec.27, T.17 N., R.23 E., Cherokee County, Hydrologic Unit 11110103, on downstream left abutment of bridge on State Highway 51, 0.4 mi southeast of Eldon, 6.0 mi downstream from Tyner Creek, and at mile 8.8.

DRAINAGE AREA.--307 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1948 to current year. Prior to October 1970 published as Barren Fork at Eldon.

REVISED RECORDS.--WDR OK-93-1: 1990 (M), WDR OK-99-1: 1987 (M).

GAGE.--Water-stage recorder. Datum of gage is 701.14 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to Dec. 14, 1948, nonrecording gage at same site and datum.

REMARKS.--Records good. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 15, 1945, reached a stage of 23.8 ft, from information provided by local resident.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft³/s and maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 17	0530	13,100	15.36	Apr 8	1030	15,800	16.48
Mar 20	0030	7,500	12.56				

DISCHARGE WELL VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	79	284	234	1850	222	532	319	175	79	37	66
2	39	77	352	219	951	233	487	309	162	78	38	61
3	39	224	298	206	726	237	450	283	151	79	39	57
4	39	307	260	195	600	226	417	264	140	76	40	54
5	38	215	233	188	512	226	387	247	159	78	38	51
6	38	171	208	182	460	252	361	233	188	78	35	49
7	39	146	188	177	419	282	396	219	195	75	34	48
8	38	130	170	170	388	289	8390	202	170	e71	32	e48
9	39	119	155	166	364	286	2910	202	158	e69	31	48
10	70	111	142	161	333	282	1610	196	151	e68	30	46
11	546	103	133	155	297	270	1140	190	163	e67	30	44
12	693	98	159	150	272	263	924	185	164	e66	29	43
13	587	94	199	146	248	257	778	259	172	e65	138	42
14	788	90	235	142	228	245	678	265	174	e64	2360	41
15	482	87	271	138	214	231	590	242	167	e63	1360	41
16	362	85	2000	135	204	224	522	224	152	e62	699	41
17	290	83	8290	131	191	235	722	329	137	61	478	40
18	246	82	2820	130	182	226	569	521	127	60	374	40
19	210	85	1570	132	199	2110	484	477	119	58	293	44
20	185	85	1100	134	530	5260	449	417	111	55	236	43
21	165	86	861	133	461	2070	419	368	104	52	193	42
22	148	88	736	130	394	1310	380	322	97	49	159	41
23	136	87	620	134	350	1000	385	282	93	47	136	39
24	125	96	523	163	327	820	513	278	88	45	121	38
25	115	107	457	266	296	1130	439	278	85	44	106	37
26	108	110	403	242	276	1230	407	250	99	42	100	37
27	102	110	359	221	255	958	415	227	108	40	95	36
28	97	114	329	205	234	819	402	216	97	38	87	35
29	93	120	299	193	---	728	371	213	89	39	79	34
30	83	168	273	186	---	647	342	207	83	40	74	34
31	80	---	252	728	---	587	---	189	---	38	70	---
TOTAL	6060	3557	24179	5892	11761	23155	26869	8413	4078	1846	7571	1320
MEAN	195.5	118.6	780.0	190.1	420.0	746.9	895.6	271.4	135.9	59.55	244.2	44.00
MAX	788	307	8290	728	1850	5260	8390	521	195	79	2360	66
MIN	38	77	133	130	182	222	342	185	83	38	29	34
AC-FT	12020	7060	47960	11690	23330	45930	53290	16690	8090	3660	15020	2620
CFSM	0.64	0.39	2.54	0.62	1.37	2.43	2.92	0.88	0.44	0.19	0.80	0.14
IN.	0.73	0.43	2.93	0.71	1.43	2.81	3.26	1.02	0.49	0.22	0.92	0.16

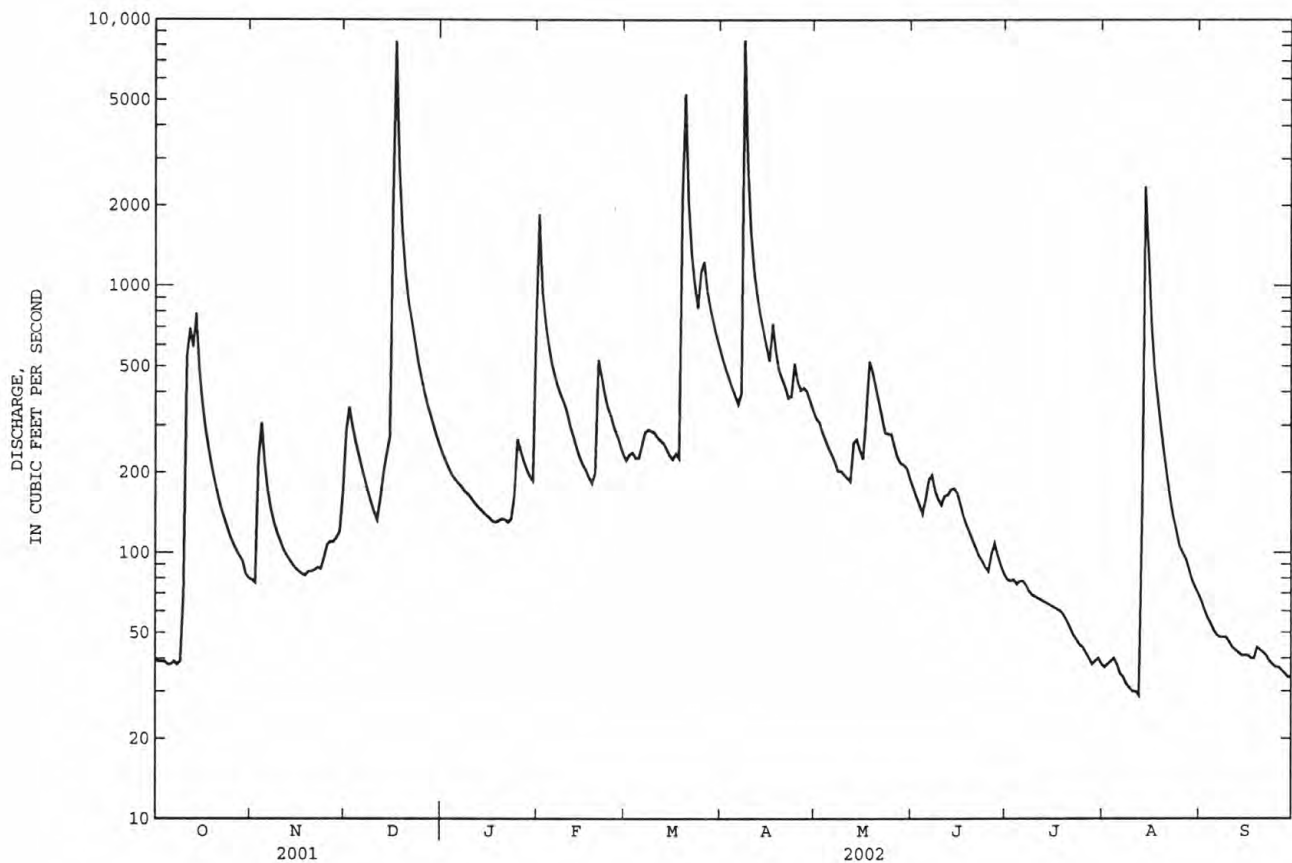
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2002, BY WATER YEAR (WY)

	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
MEAN	174.7	327.1	329.4	308.6	405.9	544.2	580.4	633.0	357.8	148.9	75.90	118.0
MAX	2077	1641	1692	1602	1441	1702	2105	2605	2290	903	437	927
(WY)	1987	1997	1988	1998	1951	1973	1957	1957	2000	1958	1992	1970
MIN	1.96	10.4	14.0	14.6	24.6	43.3	81.0	62.5	25.0	8.75	3.80	3.10
(WY)	1957	1964	1964	1964	1964	1967	1954	1977	1977	1954	1954	1956

e Estimated

07197000 BARON FORK AT ELDON, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1949 - 2002	
ANNUAL TOTAL	125303		124701		333.0	
ANNUAL MEAN	343.3		341.6		734	
HIGHEST ANNUAL MEAN					55.7	
LOWEST ANNUAL MEAN					34300	
HIGHEST DAILY MEAN	8290	Dec 17	8390	Apr 8	Oct 1	1986
LOWEST DAILY MEAN	38	Oct 5	29	Aug 12	Oct 7	1956
ANNUAL SEVEN-DAY MINIMUM	39	Oct 2	32	Aug 6	Oct 21	1956
MAXIMUM PEAK FLOW			15800	Apr 8	54700	Jun 21 2000
MAXIMUM PEAK STAGE			16.48	Apr 8	26.77	Jun 21 2000
ANNUAL RUNOFF (AC-FT)	248500		247300		241200	
ANNUAL RUNOFF (CFSM)	1.12		1.11		1.08	
ANNUAL RUNOFF (INCHES)	15.18		15.11		14.74	
10 PERCENT EXCEEDS	596		631		714	
50 PERCENT EXCEEDS	167		177		127	
90 PERCENT EXCEEDS	49		41		23	

^aAlso occurred Oct. 8, 21-28, 1956.

ARKANSAS RIVER BASIN

07197000 BARON FORK AT ELDON, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948, 1958-60, July 1991 to July 1995, July 1996 to current year.

REMARKS.--Samples collected periodically. Specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)			
OCT														
	11...	1744	1028	1028	6.65	927	752	8.0	7.5	188	18.6	90.0		
	11...	1745	1028	1028	6.65	927	752	7.8	7.4	188	18.6	80.0		
	11...	1746	1028	1028	6.65	927	752	7.7	7.4	188	18.6	40.0		
JUN														
	13...	0852	1028	1028	4.87	174	760	7.0	7.5	217	21.5	4.00		
	13...	0853	1028	1028	4.87	174	760	7.0	7.5	218	21.5	12.0		
	13...	0854	1028	1028	4.87	174	760	7.0	7.5	218	21.5	20.0		
	13...	0855	1028	1028	4.87	174	760	7.0	7.5	218	21.5	28.0		
	13...	0856	1028	1028	4.87	174	760	7.0	7.5	218	21.5	36.0		
Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TURBID- ITY LAB HACH 2100AN (NTU) (99872)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)		
OCT														
	11...	1740	80020	1028	6.65	927	43	752	7.8	85	7.4	18.5	18.6	
	23...	1555	80020	1028	4.74	136	3.5	746	8.5	98	7.1	28.0	21.0	
DEC														
	05...	1245	80020	1028	5.05	231	2.0	764	9.6	94	7.2	22.0	14.5	
	17...	1400	80020	1028	12.03	6650	120	747	11.4	113	6.9	18.7	14.0	
FEB														
	01...	1045	80020	1028	7.81	1700	67	759	12.3	104	6.5	3.4	8.0	
	15...	1615	80020	1028	5.00	215	1.9	769	12.7	109	7.8	10.5	8.9	
MAR														
	20...	1015	80020	1028	11.75	6200	220	766	10.5	94	7.0	10.8	10.7	
APR														
	08...	1607	80020	1028	12.87	8030	230	735	12.1	118	6.8	19.1	12.7	
	17...	0945	80020	1028	6.63	928	18	762	8.8	90	7.3	23.8	16.2	
JUN														
	13...	0845	80020	1028	4.87	174	1.5	760	7.0	80	7.5	21.5	21.5	
AUG														
	14...	1340	80020	1028	10.62	4580	350	760	7.7	87	7.3	20.8	21.6	
Date		HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	HARD- NESS TOTAL AS CACO3 (MG/L) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SODIUM AD- SORP- TION RATIO (00931)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT														
	11...	--	--	--	--	--	--	--	--	74	89	0	--	--
	23...	12	94	34.7	1.75	2.12	.1	3.19	7	82	100	0	5.49	5.9
DEC														
	05...	11	95	35.1	1.82	2.13	.1	3.30	7	84	102	0	5.89	8.1
	17...	--	--	--	--	--	--	--	--	45	55	0	--	--
FEB														
	01...	--	--	--	--	--	--	--	--	54	66	0	--	--
	15...	17	83	30.8	1.58	1.75	.1	2.87	7	67	81	0	5.2	7.6
MAR														
	20...	--	--	--	--	--	--	--	--	44	54	0	--	--
APR														
	08...	--	--	--	--	--	--	--	--	39	48	0	--	--
	17...	6	81	29.7	1.62	2.12	.1	2.80	7	75	92	0	4.32	6.8
JUN														
	13...	9	94	34.8	1.74	2.16	.1	3.06	6	85	104	0	5.22	5.8
AUG														
	14...	13	68	24.8	1.45	3.50	.1	2.24	6	55	66	0	4.33	5.5

ARKANSAS RIVER BASIN

219

07197000 BARON FORK AT ELDON, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L) (00625)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS NH4 (71846)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L) (71851)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) (71856)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) (00613)
OCT													
11...	--	--	--	--	--	<.04	.64	--	--	--	1.24	--	<.008
23...	<10	.17	44.8	122	111	<.04	.17	--	--	--	1.86	--	<.008
DEC													
05...	<10	.17	79.8	128	114	<.04	.38	--	--	--	1.56	--	<.008
17...	--	--	--	--	--	E.03	.40	--	--	--	2.15	--	E.005
FEB													
01...	--	--	--	--	--	E.03	.44	--	--	--	1.90	--	<.008
15...	<10	.14	60.4	104	99	<.04	E.06	--	--	--	2.17	--	<.008
MAR													
20...	--	--	--	--	--	E.03	1.1	--	--	--	1.25	--	<.008
APR													
08...	--	--	--	--	--	.08	1.6	.10	--	--	1.15	--	E.004
17...	26	.15	270	108	102	<.04	.22	--	--	--	2.12	--	<.008
JUN													
13...	<10	.16	54.0	115	109	<.040	.11	--	--	--	1.23	--	<.008
AUG													
14...	404	.14	1320	107	83	<.04	2.1	--	1.79	7.91	1.80	.033	.010
Date	NITRO- GEN, ORGANIC TOTAL (MG/L) AS N) (00605)	NITRO- GEN, TOTAL (MG/L) AS N) (00600)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L) AS PO4) (00660)	PHOS- PHORUS DIS- SOLVED (MG/L) AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L) AS P) (00671)	PHOS- PHORUS TOTAL (MG/L) AS P) (00665)	PHEO- PHYTIN PHYTO- PLANK- TON, ACID M. (UG/L) (32218)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	COLI- FORM, FECAL, 0.7 UM-MF WATER (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	CHLORO- HPYLL A PHYTO- PLANK- TON ACID M. (UG/L) (32211)	CHLORO- PHYLL A PHYTO- PLANK- TON UNCORR. (UG/L) (32230)	CHLORO- PHYLL B PHYTO- PLANK- TON UNCORR. (UG/L) (32231)
OCT													
11...	--	1.9	.163	.07	.05	.15	--	14000	8400	14800	--	--	--
23...	--	2.0	.374	.12	.12	.13	<1.00	E25	E20	40	<1.00	<1.00	<1.00
DEC													
05...	--	1.9	.071	E.04	.02	E.04	<1.00	42	29	137	1.00	2.00	<1.00
17...	--	2.5	.267	.09	.09	.15	--	4100	3100	2600	--	--	--
FEB													
01...	--	2.3	.199	.08	.07	.15	--	2600	1350	9100	--	--	--
15...	--	--	--	E.03	E.02	<.06	1.00	E3	E1	E9	<1.00	<1.00	<1.00
MAR													
20...	--	2.4	.316	.11	.10	.47	--	5300	5330	41500	--	--	--
APR													
08...	1.5	2.7	.491	.18	.16	.49	--	4500	4470	210	--	--	--
17...	--	2.3	.113	E.04	.04	.09	4.00	1200	1200	1640	4.00	6.00	<1.00
JUN													
13...	--	1.3	.074	<.060	.024	E.030	2.00	89	72	195	<1.00	<1.00	<1.00
AUG													
14...	--	3.9	.497	.19	.16	.74	25.0	2500	2000	13600	4.00	20.0	<1.00
Date					CHLORO- PHYLL C PHYTO- PLANK- TON, UNCORR. (UG/L) (32232)	MANGA- NESE, DIS- SOLVED (UG/L) AS MN) (01056)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)				
OCT													
11...	--	--	--	--	--	--	87	100	250				
23...	<1.00	E2.8	92	22	8.1								
DEC													
05...	<1.00	E1.2	93	22	13.7								
17...	--	--	99	201	3610								
FEB													
01...	--	--	99	83	380								
15...	<1.00	E1.6	100	19	11.0								
MAR													
20...	--	--	62	542	9070								
APR													
08...	--	--	96	273	5920								
17...	<1.00	6.0	92	50	125								
JUN													
13...	<1.00	6.9	100	14	6.6								
AUG													
14...	<1.00	17.6	82	757	9360								

ARKANSAS RIVER BASIN

07197360 CANEY CREEK NEAR BARBER, OK

LOCATION.--Lat 35°47'05", long 94°51'21", in SE 1/4 SW 1/4 sec.10, T.15 N., R.23 E., Cherokee County, Hydrologic Unit 11110103, on left downstream bank of county road bridge, 0.9 mi below Negro Jake Hollow, 1.9 mi northeast of Barber, and 0.5 mi upstream from Tenkiller Ferry Lake.

DRAINAGE AREA.--89.6 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1997 to current year.

GAGE.--Water-stage recorder. Datum of gage is 632.09 ft above sea level from topographic map.

REMARKS.--Records good. U.S. Geological Survey satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	18	84	88	359	63	138	95	52	23	9.0	24
2	13	19	93	83	242	74	128	90	49	26	8.7	22
3	13	1300	83	78	194	68	117	87	45	25	9.5	20
4	13	283	77	73	164	68	109	80	42	23	8.1	19
5	14	170	71	71	131	75	102	75	184	21	7.4	17
6	13	128	65	67	120	85	96	71	150	20	8.6	15
7	13	107	58	63	112	93	408	67	105	19	9.9	14
8	12	96	53	60	103	94	1960	64	86	18	9.6	13
9	13	88	49	58	96	96	e600	68	82	18	9.1	13
10	44	80	46	55	87	88	e500	61	70	18	9.4	12
11	75	72	44	53	79	85	e450	60	64	17	9.2	11
12	102	66	61	50	75	83	e400	61	65	17	7.6	11
13	93	60	60	49	71	80	e350	71	e77	18	35	11
14	86	56	69	47	67	77	e300	55	e63	20	513	11
15	63	52	74	44	64	73	240	53	e60	18	225	12
16	53	48	1340	43	61	69	209	53	e56	17	145	11
17	46	46	1510	41	58	65	190	113	e50	e16	113	11
18	41	43	626	40	55	70	172	101	e47	16	95	9.9
19	37	47	391	41	77	954	161	102	e45	15	82	11
20	33	41	290	38	105	1060	152	94	38	15	72	11
21	31	39	242	37	110	502	143	83	37	14	65	10
22	28	37	209	36	99	340	129	75	34	12	58	9.5
23	26	38	182	40	91	277	137	70	32	12	51	9.5
24	24	47	159	48	85	237	128	93	30	11	47	9.9
25	23	44	143	45	80	264	119	77	28	11	45	9.8
26	21	45	133	50	75	236	121	71	28	10	37	9.5
27	21	47	125	53	70	213	117	68	26	9.3	33	8.9
28	20	52	118	52	66	196	110	70	25	8.8	31	8.5
29	19	56	109	51	---	183	104	65	25	13	28	7.9
30	19	71	102	50	---	167	99	61	24	12	26	7.4
31	19	---	93	254	---	152	---	56	---	10	25	---
TOTAL	1042	3296	6759	1858	2996	6187	7989	2310	1719	503.1	1832.1	369.8
MEAN	33.61	109.9	218.0	59.94	107.0	199.6	266.3	74.52	57.30	16.23	59.10	12.33
MAX	102	1300	1510	254	359	1060	1960	113	184	26	513	24
MIN	12	18	44	36	55	63	96	53	24	8.8	7.4	7.4
AC-FT	2070	6540	13410	3690	5940	12270	15850	4580	3410	998	3630	733

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2002, BY WATER YEAR (WY)

	1997	1998	1999	2000	2001	2002
MEAN	46.77	68.93	107.9	151.6	154.3	191.0
MAX	129	117	218	537	492	316
(WY)	1999	2001	2002	1998	2001	1998
MIN	11.7	17.3	50.6	31.1	30.0	64.7
(WY)	2000	2000	2000	2000	2000	2000

e Estimated

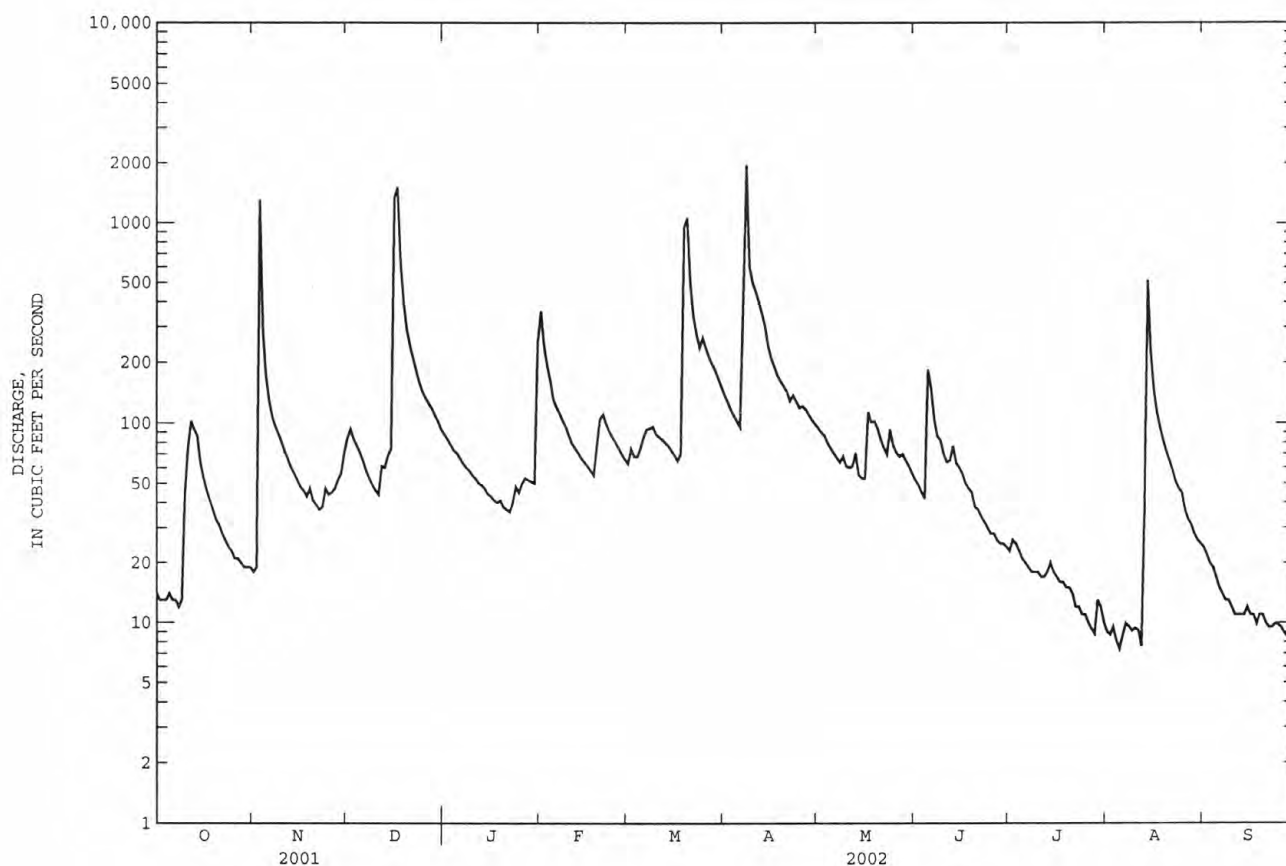
ARKANSAS RIVER BASIN

221

07197360 CANEY CREEK NEAR BARBER, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR			WATER YEARS 1997 - 2002	
ANNUAL TOTAL	39657		36861.0			98.09	
ANNUAL MEAN	108.6		101.0			112	1998
HIGHEST ANNUAL MEAN						85.2	2000
LOWEST ANNUAL MEAN						3600	Jan 4 1998
HIGHEST DAILY MEAN	3170	Feb 24	1960	Apr 8		3.5	Sep 10 1998
LOWEST DAILY MEAN	11	Aug 8	7.4	Aug 5	Sep 30	3.7	Sep 6 1998
ANNUAL SEVEN-DAY MINIMUM	12	Aug 18	8.7	Aug 1		9720	Jun 21 2000
MAXIMUM PEAK FLOW			6240	Nov 3		^a 20.74	Jun 30 2000
MAXIMUM PEAK STAGE			13.31	Nov 3		71060	
ANNUAL RUNOFF (AC-FT)	78660		73110				
10 PERCENT EXCEEDS	198		186				
50 PERCENT EXCEEDS	47		60				
90 PERCENT EXCEEDS	14		11				

^aOccurred during backwater from Tenkiller Ferry Lake



ARKANSAS RIVER BASIN

07197360 CANEY CREEK NEAR BARBER, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1997 to July 2002 (discontinued).

REMARKS.--Samples collected periodically. Specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)				
JUN														
10...	1130	1028	1028	6.39	72	760	8.3	7.4	247	22.0	40.0			
10...	1131	1028	1028	6.39	72	760	8.3	7.4	247	22.0	36.0			
10...	1132	1028	1028	6.39	72	760	8.4	7.4	247	22.0	32.0			
10...	1133	1028	1028	6.39	72	760	8.3	7.3	247	22.0	28.0			
10...	1134	1028	1028	6.39	72	760	8.3	7.3	247	22.0	24.0			
10...	1135	1028	1028	6.39	72	760	8.3	7.3	247	22.0	20.0			
10...	1136	1028	1028	6.39	72	760	8.3	7.3	247	22.0	16.0			
10...	1137	1028	1028	6.39	72	760	8.3	7.3	247	22.0	12.0			
10...	1138	1028	1028	6.39	72	760	8.4	7.3	247	22.1	8.00			
10...	1139	1028	1028	6.39	72	760	8.4	7.3	248	22.1	4.00			
Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TURBID- ITY LAB HACH 2100AN (NTU) (99872)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE WATER (DEG C) (00010)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)		
OCT														
24...	1325	80020	1028	6.19	24	--	750	7.8	87	7.6	262	21.0	20.1	
NOV														
08...	1335	80020	1028	6.38	95	--	768	8.2	85	7.7	231	23.5	17.5	
DEC														
10...	1300	80020	1028	6.11	46	--	765	10.5	95	7.4	234	10.1	11.2	
17...	1530	80020	1028	8.53	1180	58	750	10.7	105	7.5	167	13.1	13.6	
JAN														
23...	1000	80020	1028	6.02	37	--	760	12.0	106	7.6	217	18.5	9.8	
FEB														
13...	0945	80020	1028	6.26	73	--	771	11.6	96	7.3	214	6.5	7.8	
MAR														
18...	1700	80020	1028	6.24	69	--	760	10.8	100	7.4	221	12.0	11.7	
APR														
17...	1140	80020	1028	6.84	190	--	765	9.7	100	7.5	190	27.5	17.2	
MAY														
28...	1215	80020	1028	6.40	73	--	762	8.5	91	7.3	234	19.0	18.6	
JUN														
10...	1115	80020	1028	6.39	72	--	760	8.3	95	7.3	247	28.6	22.0	
Date		ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)
OCT														
24...	104	126	0	<.04	.15	1.31	<.008	1.5	.071	<.06	.02	<.06	E8	
NOV														
08...	90	110	0	<.04	E.10	2.08	<.008	--	.101	E.04	.03	E.04	87	
DEC														
10...	96	117	0	<.04	E.08	1.54	<.008	--	.083	E.03	.03	E.04	E4	
17...	62	76	0	E.02	.86	1.92	E.004	2.8	.150	E.06	.05	.32	1500	
JAN														
23...	91	111	0	<.04	.14	1.76	<.008	1.9	.074	<.06	.02	<.06	E7	
FEB														
13...	88	106	0	<.04	<.10	1.70	<.008	--	.064	E.03	.02	<.06	41	
MAR														
18...	86	104	0	<.04	E.10	1.30	E.004	--	.067	E.04	.02	E.04	47	
APR														
17...	89	108	0	<.04	E.09	1.47	<.008	--	.101	<.06	.03	E.04	E7	
MAY														
28...	98	119	0	<.04	E.09	1.23	<.008	--	.074	<.06	.02	<.06	110	
JUN														
10...	104	126	0	<.04	.15	1.21	<.008	1.4	.083	E.04	.03	E.04	68	

ARKANSAS RIVER BASIN

223

07197360 CANEY CREEK NEAR BARBER, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)
OCT					
24...	E20	E28	--	--	--
NOV					
08...	50	135	--	--	--
DEC					
10...	E2	E13	--	--	--
17...	573	4600	96	112	357
JAN					
23...	E5	24	--	--	--
FEB					
13...	57	E17	--	--	--
MAR					
18...	58	25	--	--	--
APR					
17...	E8	E11	--	--	--
MAY					
28...	115	272	--	--	--
JUN					
10...	58	45	--	--	--

ARKANSAS RIVER BASIN

07198000 ILLINOIS RIVER NEAR GORE, OK

LOCATION.--Lat 35°34'23", long 95°04'07", in NE 1/4 SW 1/4 sec.27, T.13 N., R.21 E., Sequoyah County, Hydrologic Unit 11110103, on right bank 4.2 mi downstream from Tenkiller Ferry Dam, 4.5 mi northeast of Gore, and at mile 8.5.

DRAINAGE AREA.--1,626 mi².

PERIOD OF RECORD.--March 1924 to April 1926, April 1939 to current year. Monthly discharge only for some periods, published in WSP 1311.

GAGE.--Water-stage recorder. Datum of gage is 468.00 ft above sea level. See WSP 1921 for history of changes prior to Feb. 19, 1952. Feb. 19, 1952 to Aug. 15, 1989, gage at same site and datum 5.00 ft higher.

REMARKS.--No estimated daily discharge. Records good. Except for 16 mi² intervening area, flow completely regulated since July 1952 by Tenkiller Ferry Lake (station 07197500). U.S. Army Corps of Engineers' satellite telemeter at station.

DISCHARGE VIA SATELLITE H350, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	876	34	1790	1200	425	4040	2620	23	2010	1090	47
2	46	829	27	1990	3740	25	3310	2500	21	2040	1120	891
3	359	49	1090	1880	3910	732	3270	1090	297	2030	567	980
4	48	36	467	1770	3850	1580	3280	1140	23	1000	106	1130
5	352	1110	472	585	3170	1430	3480	267	485	1000	949	1460
6	47	581	1020	30	3160	1150	3450	1450	167	834	767	1310
7	43	618	614	983	2100	697	3910	1170	139	862	637	60
8	873	1530	79	1140	1840	338	1790	930	303	1150	50	49
9	763	821	539	705	1800	275	3040	787	252	858	94	803
10	57	38	1710	708	1920	459	5590	940	617	871	46	1140
11	47	33	1240	977	2120	2100	5520	517	369	458	45	666
12	43	1440	1470	466	1640	2350	6110	836	1740	936	998	658
13	46	1300	1380	208	1330	2060	7510	1950	2770	49	472	353
14	47	1060	963	1290	891	2020	7490	1460	2000	85	64	55
15	44	792	785	1300	432	2030	7430	1640	1840	1150	959	52
16	645	725	613	873	256	621	7490	1980	1860	1180	53	347
17	821	35	661	998	31	558	7460	587	777	148	46	332
18	1260	30	3860	1590	829	1060	7430	2690	382	81	45	347
19	727	458	7030	31	1220	1440	6150	3390	1500	1310	1420	348
20	47	335	6750	24	2230	1270	5370	2710	2080	745	1120	58
21	246	624	4530	635	1620	2680	5390	2100	2050	743	1430	55
22	987	32	3650	853	2230	3780	4260	2360	1950	824	1280	55
23	1280	29	3650	297	33	3660	4530	1990	1990	1010	1120	55
24	1050	29	3640	30	1110	3650	5410	847	1940	1000	53	57
25	1830	28	3640	863	2170	3870	4220	29	1990	858	47	58
26	1840	1060	3630	589	1600	3710	3340	21	1930	1410	1280	59
27	313	1810	2840	27	509	4680	2710	20	2020	57	1120	60
28	662	1300	2150	145	706	5390	2280	28	1990	46	800	60
29	1480	1230	1120	561	---	5450	2380	39	2070	1080	807	60
30	2010	941	1200	1910	---	5410	2790	49	2000	372	1140	669
31	1540	---	887	1910	---	5410	---	27	---	953	55	---
TOTAL	19598	19779	61741	27158	47647	70310	140430	38164	37575	27150	19780	12274
MEAN	632.2	659.3	1992	876.1	1702	2268	4681	1231	1252	875.8	638.1	409.1
MAX	2010	1810	7030	1990	3910	5450	7510	3390	2770	2040	1430	1460
MIN	43	28	27	24	31	25	1790	20	21	46	45	47
AC-FT	38870	39230	122500	53870	94510	139500	278500	75700	74530	53850	39230	24350

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 2002, BY WATER YEAR (WY)

	MEAN	789.3	1234	1694	1655	1687	2110	2669	2249	1855	1406	866.7	645.6
MAX	8165	4538	9652	6204	5740	5358	8340	10940	7177	8046	2358	2174	
(WY)	1987	1992	1974	1998	1969	2001	1990	1990	1957	1957	1961	1993	
MIN	74.4	56.0	55.5	27.7	57.1	60.9	70.0	105	141	84.9	81.4	80.7	
(WY)	1981	1984	1981	1965	1981	1981	1980	1981	1963	1988	1963	1963	

ARKANSAS RIVER BASIN

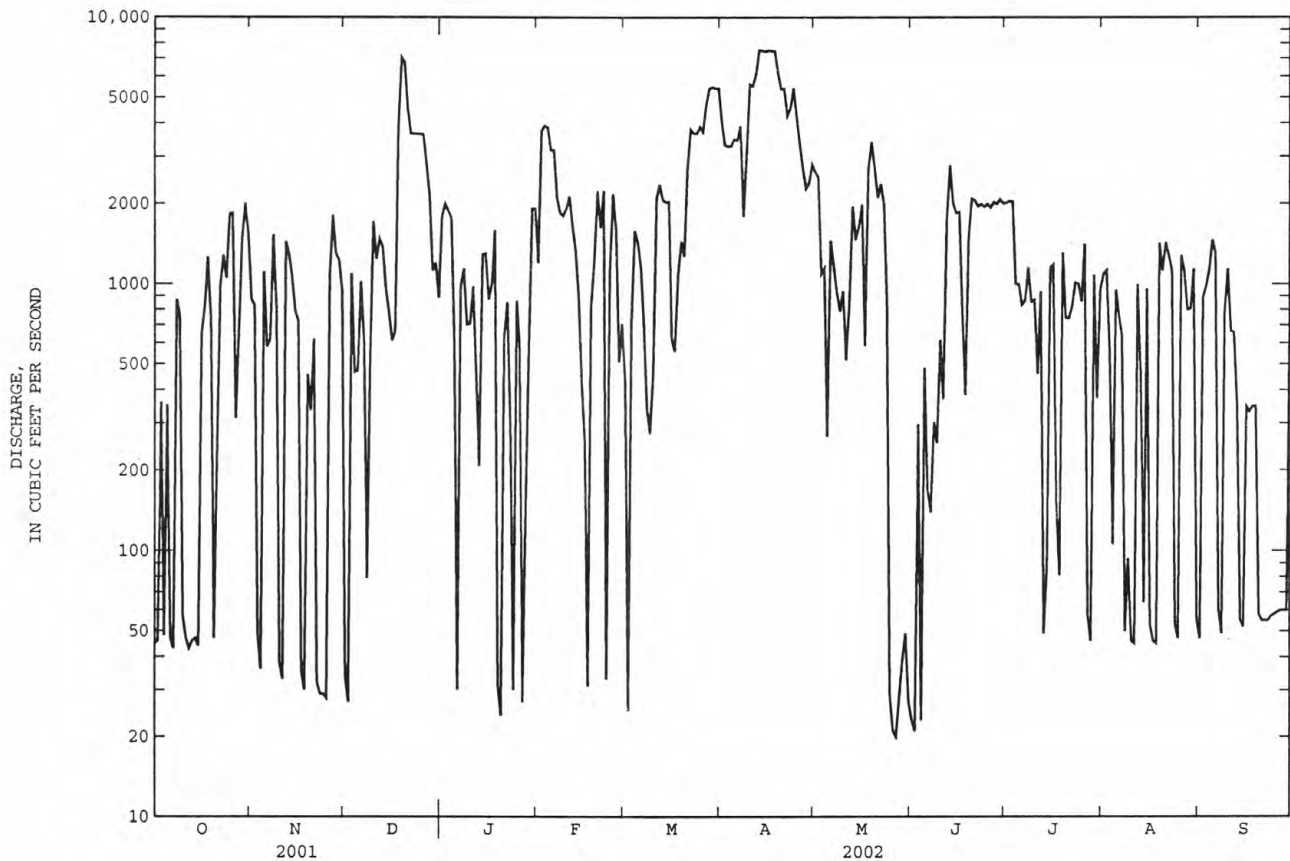
225

07198000 ILLINOIS RIVER NEAR GORE, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1954 - 2002	
ANNUAL TOTAL	549090		521606		1571	
ANNUAL MEAN	1504		1429		3199	
HIGHEST ANNUAL MEAN					280	
LOWEST ANNUAL MEAN					1993	
HIGHEST DAILY MEAN	10200	Mar 4	7510	Apr 13	15800	May 6 1957
LOWEST DAILY MEAN	11	Apr 29	20	May 27	2.1	Sep 16 1959
ANNUAL SEVEN-DAY MINIMUM	83	May 11	30	May 26	3.5	Feb 2 1965
MAXIMUM PEAK FLOW			7650	Dec 19, Apr 13	^a 18100	Jun 9 1957
MAXIMUM PEAK STAGE			14.29	Dec 19	^b 18.70	Jun 9 1957
ANNUAL RUNOFF (AC-FT)	1089000		1035000		1138000	
10 PERCENT EXCEEDS	3580		3650		3740	
50 PERCENT EXCEEDS	1000		980		940	
90 PERCENT EXCEEDS	43		46		74	

^aMaximum discharge, 180,000 ft³/s, May 11, 1950, from rating curve extended above 42,000 ft³/s by velocity area.

^bMaximum gage height, 34.6 ft, May 11, 1950, from floodmark, present site and datum.



ARKANSAS RIVER BASIN

07228500 CANADIAN RIVER AT BRIDGEPORT, OK

LOCATION.--Lat 35°32'37", long 98°19'03", SE 1/4 NW 1/4 sec.1, T.12 N., R.11 W., Caddo County, Hydrologic Unit 11090202, on downstream side of pier near center of bridge on U.S. Highway 281, 3.3 mi east of Bridgeport, 1.6 mi downstream from Lump-mouth Creek, and at mile 263.3.

DRAINAGE AREA.--25,276 mi², of which 4,801 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1944 to September 1964; October 1969 to current year.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,360.00 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to Oct. 1, 1947, at site 3.8 mi upstream at datum 24.25 ft higher. Oct. 1, 1947 to Sept. 30, 1948, nonrecording gage and Oct. 1, 1948, to September 1964, Oct. 1, 1969, to Dec. 17, 1980, at site 4.0 mi upstream and at datum 24.25 ft higher.

REMARKS.--Records poor. Flow regulated since October 1964 by Lake Meredith (station 07227900) located in Texas. U.S. Geological Survey satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1914 reached a stage of about 19.4 ft, a higher stage probably occurred during flood in October 1904.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	34	83	e122	187	252	283	235	370	186	e26	e22
2	26	36	75	e124	175	e231	277	214	344	e112	e22	e20
3	24	39	77	128	196	e220	271	199	358	e67	e20	e18
4	23	42	82	139	196	239	263	190	353	e54	e18	e16
5	20	44	83	170	239	281	263	180	389	e49	e16	e14
6	e19	46	85	183	308	291	265	171	402	186	e15	e13
7	e18	46	88	182	321	299	280	177	378	e114	e14	e12
8	e19	45	89	201	321	324	317	165	313	e63	e14	e12
9	21	45	90	214	333	312	331	147	276	e52	e14	e11
10	29	47	92	201	314	304	320	146	261	e47	e13	e11
11	38	48	97	190	280	287	320	150	223	e44	e13	e11
12	38	48	103	190	241	288	330	148	188	e42	e13	e10
13	31	50	108	193	241	277	441	140	677	e41	e13	e10
14	30	50	109	189	248	273	375	132	1230	e39	e13	191
15	30	50	112	190	268	275	313	122	605	e38	e12	e138
16	28	50	116	187	260	272	288	116	1040	e37	e12	e80
17	28	59	117	193	e255	266	254	492	652	e36	e12	e60
18	27	73	116	193	e261	281	226	496	509	36	e12	169
19	26	68	116	201	e311	316	215	316	425	e34	e12	737
20	27	59	117	208	e275	323	290	217	333	e33	12	329
21	29	56	120	209	251	304	325	204	259	e32	e20	195
22	30	56	118	213	253	299	263	173	217	e32	e15	e125
23	31	57	118	212	255	298	232	168	e174	e31	e13	e85
24	29	55	119	215	262	298	220	158	e114	e31	e12	e64
25	28	57	117	209	260	283	195	320	e100	e28	e11	e56
26	28	53	e116	211	254	278	208	369	e86	e28	e11	e52
27	29	54	e114	212	250	283	296	226	e80	e27	60	e50
28	30	60	e112	208	241	288	337	207	e75	e26	e50	e48
29	30	63	e116	209	---	295	275	232	e72	e52	e40	e46
30	31	72	e118	267	---	291	252	584	e68	e42	e30	e45
31	32	---	e120	218	---	289	---	467	---	e32	e24	---
TOTAL	858	1562	3243	5981	7256	8817	8525	7261	10571	1671	582	2650
MEAN	27.68	52.07	104.6	192.9	259.1	284.4	284.2	234.2	352.4	53.90	18.77	88.33
MAX	38	73	120	267	333	324	441	584	1230	186	60	737
MIN	18	34	75	122	175	220	195	116	68	26	11	10
AC-FT	1700	3100	6430	11860	14390	17490	16910	14400	20970	3310	1150	5260

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 2002, BY WATER YEAR (WY)

MEAN	200.9	237.9	199.6	244.3	274.3	494.4	425.1	766.8	534.7	120.4	137.5	187.2
MAX	2412	1525	870	1162	878	1907	1795	4188	2342	500	1036	1386
(WY)	1987	1975	1998	1988	2001	1973	1997	1987	1995	1979	1974	1996
MIN	7.01	17.5	16.2	22.5	36.8	60.8	20.5	13.4	12.9	3.18	0.14	1.14
(WY)	1979	1971	1979	1979	1981	1977	1971	1971	1970	1970	1970	1984

e Estimated

ARKANSAS RIVER BASIN

227

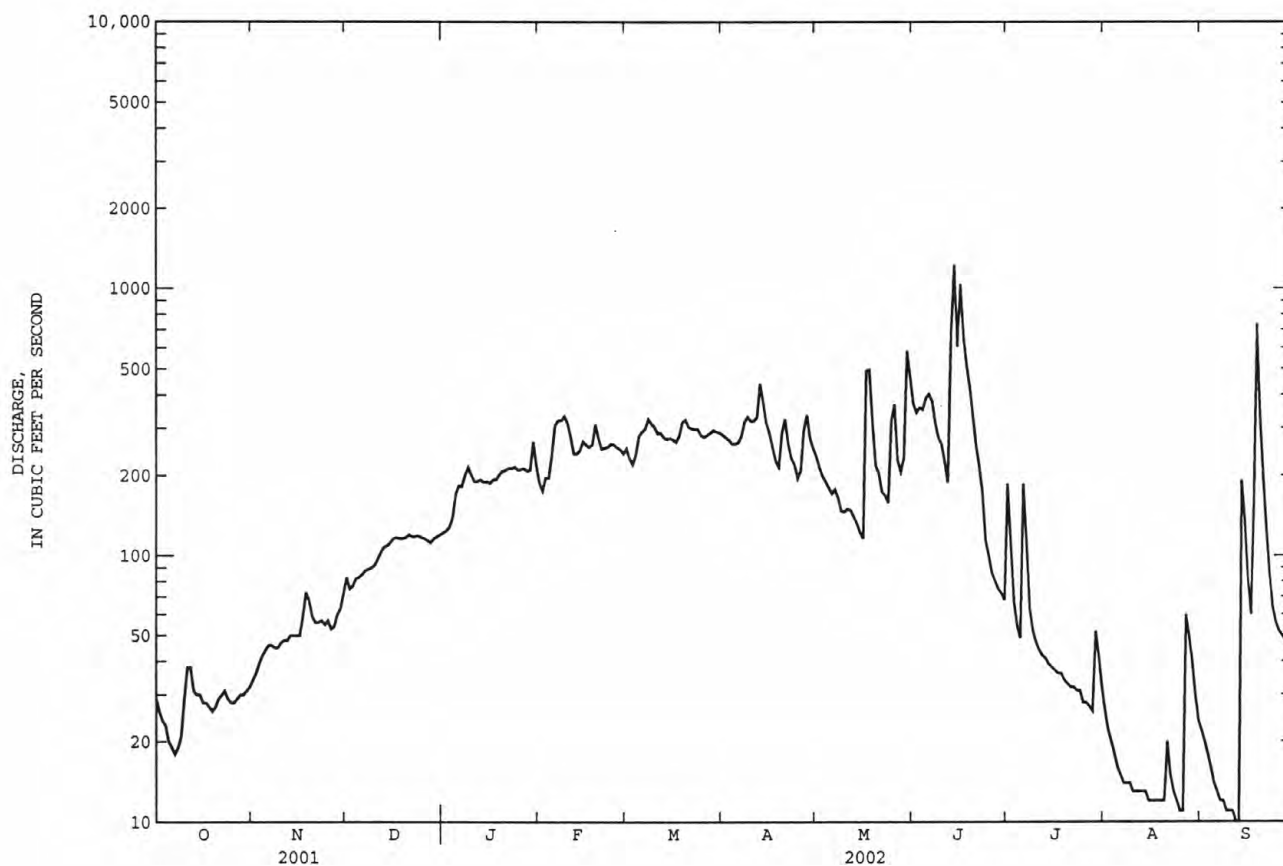
07228500 CANADIAN RIVER AT BRIDGEPORT, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1970 - 2002	
ANNUAL TOTAL	135786.0		58977		^a 318.6	
ANNUAL MEAN	372.0		161.6		1018	
HIGHEST ANNUAL MEAN					70.2	
LOWEST ANNUAL MEAN					42100	
HIGHEST DAILY MEAN	17800	May 30	1230	Jun 14	0.00	May 29 1987
LOWEST DAILY MEAN	5.5	Aug 9	10	Sep 12-13	0.00	at times
ANNUAL SEVEN-DAY MINIMUM	6.9	Aug 3	11	Sep 7	0.00	Aug 3 1970
MAXIMUM PEAK FLOW			2260	Jun 13	^b 86100	May 17 1982
MAXIMUM PEAK STAGE			12.22	Jun 13	^c 17.55	May 17 1982
ANNUAL RUNOFF (AC-FT)	269300		117000		230800	
10 PERCENT EXCEEDS	781		318		560	
50 PERCENT EXCEEDS	119		120		124	
90 PERCENT EXCEEDS	23		20		12	

^aPrior to regulation, water years 1945-64, 469 ft³/s.

^bMaximum discharge for period of record, 150,000 ft³/s, June 23, 1948, from rating curve extended above 50,000 ft³/s (at former site).

^cMaximum gage height for period of record, 14.60 ft, June 23, 1948, from flood mark at site and datum then in use.



ARKANSAS RIVER BASIN

07229200 CANADIAN RIVER AT PURCELL, OK

LOCATION.--Lat 35°00'50", long 97°20'50", in NW 1/4 sec.7, T.6 N., R.1 W., Cleveland County, Hydrologic Uni 11090202, near left bank on downstream side of pier of U.S. Highway 77, 0.5 mi east of Purcell, 1.0 mi upstream from Walnut Creek, and at mile 184.9.

DRAINAGE AREA.--25,939 mi², of which 4,801 mi² probably is noncontributing.

PERIOD OF RECORD.--October 1959 to June 1961, October 1979 to September 1983, October 1985 to current year.

REVISED RECORDS.--OK-95-1: 1994 (M).

GAGE.--Water-stage recorder. Datum of gage is 1,017.14 ft above sea level.

REMARKS.--Records fair. Flow regulated since October 1964 by Lake Meredith (station 07227900) located in Texas. U.S. Army Corps of Engineers' satellite telemeter located at site.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1904 reached a stage of 14.18 ft and flood in 1914 reached a stage of 12.98 ft, from information by the Atchison, Topeka, and Santa Fe Railway Co.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e64	e70	e161	256	663	597	655	827	1170	217	102	e34
2	e64	e90	e158	265	537	e585	599	600	1030	695	78	e29
3	e62	155	e148	260	443	e576	585	537	818	590	106	e26
4	e56	e146	e144	e270	397	e585	570	507	691	630	93	e24
5	e54	e138	150	e280	409	e600	564	482	1230	358	89	e22
6	e54	e133	e144	e310	492	e610	593	483	1120	282	67	e22
7	e52	e131	e139	342	524	619	1220	533	913	339	e52	e22
8	e54	128	e137	353	605	715	3110	503	862	216	e42	e21
9	e52	e111	e136	355	631	735	821	438	1130	196	e35	73
10	536	e116	e135	353	605	738	531	406	1100	190	e31	e24
11	1600	e116	141	387	581	733	604	401	678	182	e28	e22
12	286	e111	224	438	592	717	672	392	550	191	e27	e21
13	441	e118	228	422	573	701	1320	395	1030	346	e25	e20
14	337	e124	256	406	607	652	2720	361	1540	271	127	185
15	170	e111	219	383	589	624	906	366	2010	205	79	244
16	e162	e119	413	382	589	593	652	344	977	166	e55	195
17	e120	e130	453	361	660	594	638	586	1690	214	e51	104
18	e98	e123	346	364	743	670	602	958	1010	321	e43	98
19	e78	e115	274	380	773	1270	542	1020	651	149	e39	663
20	e72	e113	247	383	753	972	567	584	598	118	e36	1870
21	e70	e111	236	386	719	734	532	629	538	98	e33	777
22	e68	e133	231	384	717	696	504	570	493	80	e30	443
23	e67	e123	217	472	720	693	723	556	459	72	e26	358
24	e65	e113	212	561	659	672	709	541	397	70	e25	278
25	e64	e104	217	426	640	694	547	672	349	81	e23	202
26	e63	e123	213	398	e610	699	688	543	307	120	93	155
27	e62	e119	220	393	602	657	643	928	264	161	154	121
28	e61	e133	220	392	602	638	551	793	237	92	160	95
29	e59	143	222	390	---	617	539	907	210	287	81	70
30	e58	159	222	485	---	588	807	922	189	363	e60	57
31	e57	---	250	1440	---	693	---	1030	---	167	e47	---
TOTAL	5106	3659	6713	12677	17035	21267	24714	18814	24241	7467	1937	6275
MEAN	164.7	122.0	216.5	408.9	608.4	686.0	823.8	606.9	808.0	240.9	62.48	209.2
MAX	1600	159	453	1440	773	1270	3110	1030	2010	695	160	1870
MIN	52	70	135	256	397	576	504	344	189	70	23	20
AC-FT	10130	7260	13320	25140	33790	42180	49020	37320	48080	14810	3840	12450
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 2002, BY WATER YEAR (WY)												
MEAN	615.0	583.4	680.8	665.2	710.8	1040	980.8	1920	1422	385.7	262.6	413.5
MAX	7083	2648	2602	2055	1865	3533	3168	7717	5863	1216	1183	1563
(WY)	1987	1987	1992	1987	1987	1998	1999	1993	1989	1987	1996	1996
MIN	2.84	11.9	106	23.7	21.3	113	38.1	73.1	309	41.4	2.00	2.54
(WY)	1981	1981	1983	1981	1981	1981	1981	1981	1988	1980	1980	1980

e Estimated

ARKANSAS RIVER BASIN

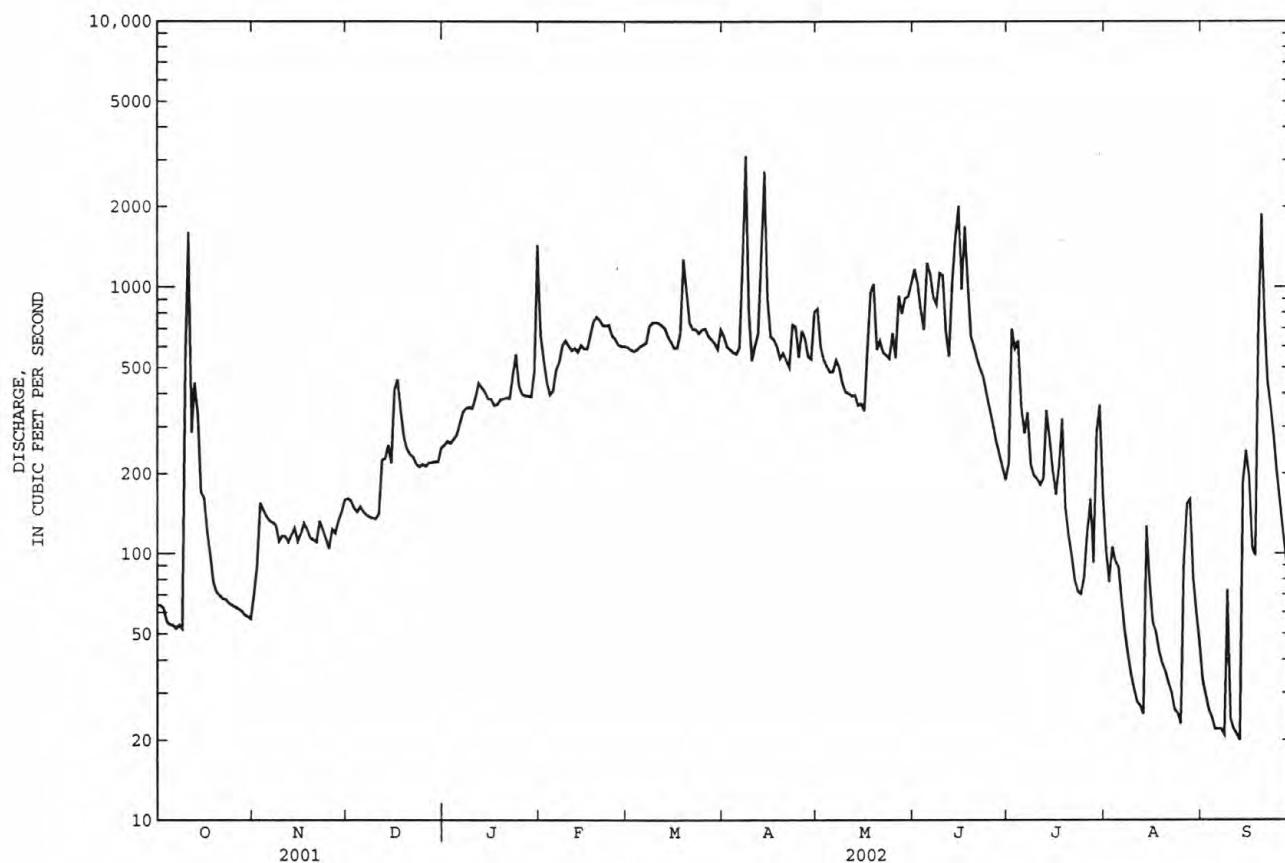
229

07229200 CANADIAN RIVER AT PURCELL, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1980 - 2002	
ANNUAL TOTAL	252349		149905		807.0	
ANNUAL MEAN	691.4		410.7		2287	
HIGHEST ANNUAL MEAN					117	
LOWEST ANNUAL MEAN					71000	
HIGHEST DAILY MEAN	14500	May 31	3110	Apr 8	May 29	1987
LOWEST DAILY MEAN	39	Aug 7	20	Sep 13	Aug 2	1980
ANNUAL SEVEN-DAY MINIMUM	40	Aug 5	24	Sep 2	Aug 6	1980
MAXIMUM PEAK FLOW			5900	Apr 14	May 29	1987
MAXIMUM PEAK STAGE			8.52	Apr 14	May 29	1987
ANNUAL RUNOFF (AC-FT)	500500		297300		584600	
10 PERCENT EXCEEDS	1450		775		1480	
50 PERCENT EXCEEDS	399		349		349	
90 PERCENT EXCEEDS	55		57		42	

^aNo flow at times in 1980.

^bFrom high-water mark.



ARKANSAS RIVER BASIN

07229445 STANLEY DRAPER LAKE OKLAHOMA CITY ,OK

LOCATION.--Lat 35°19'42", long 97°21'23", in SE 1/4 NE 1/4 sec.24, T.10 N., R.2 W., Cleveland County, Hydrologic Unit 11090203, in intake tower at end of walkway 100ft north of dam on East Elm Creek and at mile 2.5.

DRAINAGE AREA.--13.07 mi².

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

GAGE.--Water-stage recorder. Datum of gage is sea level.

REMARKS.--Reservoir is formed by a compacted earth dam constructed in 1962, 111 ft above streambed. Outlet works: circular intake tower with 5.5 ft sides and 3 ft by 5 ft intake gates with inverts at elevations 1,118.5 ft, 1,133.5 ft, 1,163.5 ft, and 1,178.5 ft. Two 60 inch pipes convey water through a 10.5 ft by 17 ft horseshoe conduit and open ditch to the treatment plant or lower level pump station. Top of Dam 1,201.00 ft, 148,000 acre-ft; maximum pool 1,196.4 ft, 134,00 acre-ft; normal pool 1,191.00 ft, 114,000 acre-ft. Lake is used for municipal water supply for Oklahoma City. U.S. Geological Survey satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 90,700 acre-ft, Oct. 1, 1999, elevation 1,187.77 ft; minimum, 78,050 acre-ft, Nov. 29, 2001, elevation, 1,182.86 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 89,200 acre-ft, June 16, elevation 1,187.19 ft; minimum contents, 78,050 acre- ft, Nov. 29, elevation, 1,182.66 ft.

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

1150	22190	1180	70690
1160	34190	1190	96440
1170	50040	1200	127200

RESERVOIR STORAGE VIA SATELLITE, in (ACRE-FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY OBSERVATION AT 0800 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79910	78490	78130	78880	81020	82790	84930	87560	88100	87610	86270	83850
2	79810	78470	78160	78900	81040	82970	85030	87610	88070	87660	86190	83800
3	79750	78470	78180	78880	81140	82950	84960	87500	88070	e87750	86060	83670
4	79730	78520	78210	78880	81200	82950	85010	87560	88020	e87840	85960	83590
5	79730	78520	78260	78930	81270	83000	85030	87580	88300	87930	85880	83490
6	79570	78520	78260	78960	81430	83000	85080	87610	88300	88020	85750	83360
7	79550	78470	78260	78930	81530	83100	85340	87660	88330	87990	85650	83260
8	79470	78470	78260	78980	81610	83230	85860	87680	88350	87920	85520	83150
9	79420	78440	78210	79080	81660	83280	85960	87560	88460	87870	85390	83280
10	79730	78390	78210	79080	81710	83310	86010	87630	88480	87790	85260	83280
11	79930	78390	78180	79190	81760	83360	86090	87660	88510	87710	85160	83180
12	79880	78360	78260	79240	81790	83380	86170	87710	88530	87610	85080	83080
13	80090	78360	78290	79260	81810	83440	86240	87760	89020	87580	84960	83000
14	80090	78360	78390	79320	81890	83490	86630	87710	89050	87500	85110	83050
15	79990	78360	78420	79420	81970	83440	86680	87680	88950	87430	85060	83330
16	79930	78360	78570	79450	82050	83590	86760	87630	89150	87320	85010	83260
17	79880	78360	78800	79520	82120	83620	86860	87990	89100	e87210	84900	83180
18	79830	78390	78780	79550	82170	83690	86940	87940	88970	87100	84850	83130
19	79780	78390	78780	79650	82330	84000	86990	87920	88920	86990	84780	83330
20	79780	78360	78720	79680	82380	84160	87070	87920	88820	86890	84650	83310
21	79750	78290	78720	79750	82430	84160	87140	87870	e88720	86730	84540	83230
22	79750	78290	78750	79830	82480	84290	87170	87840	e88630	86630	84390	83230
23	79730	78260	78780	79880	82530	84310	87170	87810	e88550	86550	84290	83100
24	79730	78310	78750	80040	82610	84390	87200	87920	88460	86460	84180	83050
25	79650	78260	78780	80060	82640	84340	87220	87970	88350	e86700	84080	83000
26	79630	78240	78780	80140	82640	84540	87380	87970	88230	86590	84080	82950
27	79500	e78160	78780	80220	82660	84570	87380	88020	88100	86470	84130	82900
28	79210	78110	78830	80220	82740	84600	87480	88020	87990	86320	84080	82840
29	79010	78160	78780	80270	---	84720	87450	88100	87890	86500	84030	82770
30	78780	78110	78780	80420	---	84830	87530	88100	87760	86420	83950	82740
31	78570	---	78880	80910	---	84850	---	88100	---	86350	83870	---
MAX	80090	78520	78880	80910	82740	84850	87530	88100	89150	88020	86270	83850
MIN	78570	78110	78130	78880	81020	82790	84930	87500	87760	86320	83870	82740
(+)	1183.06	1182.88	1183.18	1183.97	1184.68	1185.50	1186.54	1186.76	1186.63	1186.08	1185.12	1184.68
(++)	-1320	-460	+770	+2030	+1830	+2110	+2680	+570	-340	-1410	-2480	-1130
CAL YR 2001	MAX 88000	MIN 78110	(++) -4520									
WTR YR 2002	MAX 89150	MIN 78110	(++) +2840									

e Estimated

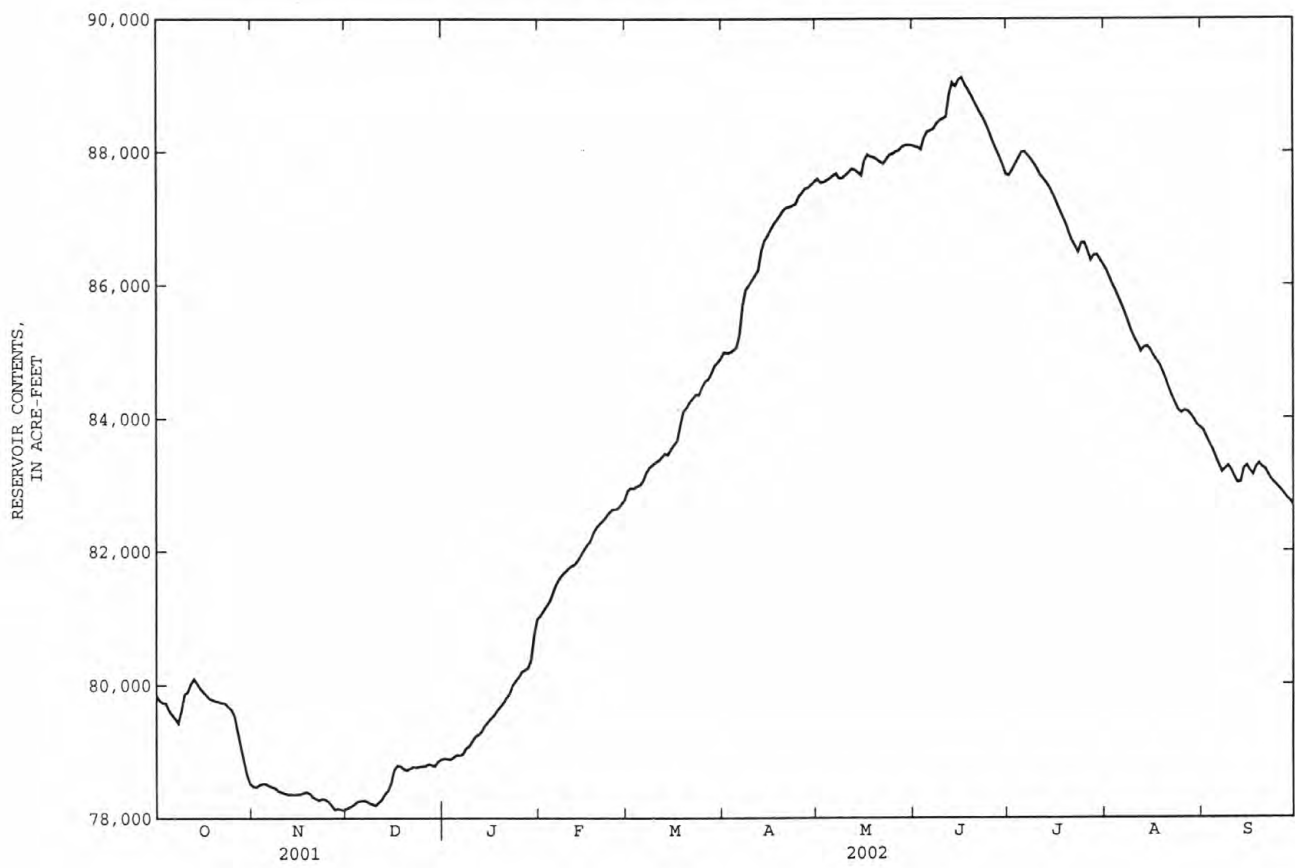
(+) ELEVATION, IN FEET, AT END OF MONTH

(++) CHANGE IN CONTENTS, IN ACRE-FEET

ARKANSAS RIVER BASIN

231

07229445 STANLEY DRAPER LAKE OKLAHOMA CITY ,OK--Continued



ARKANSAS RIVER BASIN

07229900 LAKE THUNDERBIRD NEAR NORMAN, OK

LOCATION.--Lat 35°13'24", long 97°13'02", in NW 1/4 SE 1/4 sec.29, T.9 N., R.1 E., Cleveland County, Hydrologic Unit 11090203, near center of dam on Little River, just downstream from Hog Creek, 13 mi east of Norman, and at mile 96.4.

DRAINAGE AREA.--256 mi².

PERIOD OF RECORD.--March 1965 to current year.

GAGE.--Nonrecording gage at outlet structure and at pump house. Datum of gage is sea level.

REMARKS.--Reservoir is formed by earth dam. Regulated storage began Mar. 1, 1965; minimum conservation pool first filled September 1965. Capacity, 196,200 acre-ft at elevation 1,049.4 ft, crest of drop inlet; 119,600 acre-ft at elevation 1,039.0 ft, top of conservation pool; 13,640 acre-ft at elevation 1,010.0 ft, minimum conservation pool. Dead storage, 13,600 acre-ft below elevation 997.0 ft, sill of gated outlet. Figures given herein represent total contents. Reservoir is used for flood control irrigation (inactive), and municipal water supplies diverted to Del City, Midwest City, and Norman. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Elevations and data on diversions furnished by Central Oklahoma Master Conservancy District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 187,400 acre-ft, May 5, 1990, elevation, 1,048.38 ft; minimum since conservation pool first reached, 15,370 acre-ft, Nov. 30, 1965, elevation, 1,011.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 133,200 acre-ft, Apr. 17, elevation, 1,041.15 ft; minimum, 111,100 acre-ft, Sep. 30, elevation, 1,037.57 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	*Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Diversions (acre-feet)
Sept. 30.....	1038.79	118,300	-	-
Oct. 31.....	1038.77	118,200	-100	1,510
Nov. 30.....	1038.51	116,700	-1,500	1,375
Dec. 31.....	1038.69	117,700	+1,000	1,268
CAL YR 01	-	-	-4,900	18,060
Jan. 31.....	1039.18	120,700	+3,000	1,263
Feb. 28.....	1039.27	121,200	+500	1,116
Mar. 31.....	1039.55	123,000	+1,800	1,377
Apr. 30.....	1039.50	122,600	-400	1,256
May 31.....	1039.16	120,600	-2,000	1,519
June 30.....	1039.17	120,600	0	1,706
July 31.....	1038.73	119,000	-2,600	1,831
Aug. 31.....	1037.92	113,100	-5,400	1,992
Sept. 30.....	1037.57	111,100	-4,900	1,817
WTR YR 02	-	-	-7,200	18,029

*Elevation at 2400



07197360 Caney Creek near Barber
Feb. 24, 2001

ARKANSAS RIVER BASIN

07230000 LITTLE RIVER BELOW LAKE THUNDERBIRD NEAR NORMAN, OK

LOCATION.--Lat 35°13'18", long 97°12'49", in NE 1/4 SE 1/4 sec.29, T.9 N., R.1 E., Cleveland County, Hydrologic Unit, 11090203, at right bank of outlet channel, 170 ft upstream from State Highway 9, 1,200 ft downstream from Lake Thunderbird, 1.0 mi upstream from Prairie Creek, 13.0 mi east of Norman, and at mile 96.2.

DRAINAGE AREA.--257 mi².

PERIOD OF RECORD.--October 1952 to current year. Prior to October 1964, published as Little River below Hog Creek near Norman.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 965.62 ft above sea level. Prior to Nov. 28, 1956, nonrecording gage 800 ft downstream at same datum. Nov. 28, 1956 to Oct. 14, 1964, water-stage recorder at site 800 ft downstream at same datum. Oct. 15, 1964 to Sept. 1, 1965, nonrecording gage at site 170 ft downstream at same datum.

REMARKS.--No estimated daily discharge. Records poor. Flow regulated by Lake Thunderbird since March 1965 (station 07229900). In prior years, occasional small diversions above station for irrigation.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.1	0.87	0.87	1.1	1.0	1.4	292	0.21	0.22	0.17	0.18
2	1.3	1.1	0.87	0.87	1.1	1.2	1.4	292	0.21	0.42	0.17	0.18
3	1.3	1.1	0.87	0.87	1.1	1.2	1.4	127	0.17	0.35	0.17	0.19
4	1.3	1.1	0.87	0.87	1.1	1.2	1.4	0.27	0.23	0.21	0.17	0.18
5	1.3	1.1	0.87	0.87	1.1	1.2	1.4	0.18	0.28	0.17	0.17	0.22
6	1.3	1.1	0.87	0.87	0.98	1.2	1.4	0.17	0.22	0.15	0.17	0.18
7	1.3	1.1	0.87	0.87	0.97	1.4	1.8	0.17	0.22	0.17	0.17	0.17
8	1.3	1.1	0.87	0.87	0.97	1.4	1.0	0.17	0.22	0.17	0.17	0.22
9	1.5	1.1	0.87	0.87	0.97	1.4	0.78	0.23	0.22	0.17	0.17	0.33
10	1.6	1.1	0.87	0.87	0.97	1.4	0.78	0.22	0.22	0.16	0.17	0.28
11	1.4	1.1	0.87	0.87	0.97	1.3	0.80	0.22	0.22	0.20	0.17	0.17
12	1.3	1.1	0.87	0.87	0.97	1.2	0.78	0.22	0.22	0.18	0.20	0.17
13	1.3	1.1	0.87	0.87	0.97	1.2	1.1	0.20	0.40	0.19	0.31	0.17
14	1.3	1.1	0.87	0.87	0.97	1.2	0.90	0.17	0.22	0.17	0.31	0.31
15	1.3	1.1	0.87	0.87	0.97	1.2	0.84	0.17	0.24	0.19	0.32	0.28
16	1.2	0.97	1.1	0.87	0.97	1.2	0.78	0.17	0.29	0.17	0.27	0.27
17	1.2	0.97	1.1	0.87	0.97	1.2	0.78	0.31	0.22	0.22	0.25	0.27
18	1.2	0.97	1.1	0.87	0.97	1.3	188	0.19	0.20	0.22	0.22	0.27
19	1.1	0.95	0.87	0.87	1.2	1.7	305	0.17	0.17	0.22	0.22	0.64
20	1.1	0.87	0.87	0.87	1.2	1.6	305	0.17	0.17	0.22	0.22	0.24
21	1.1	0.87	0.87	0.87	1.1	1.5	305	0.17	0.17	0.22	0.22	0.27
22	1.1	0.87	0.87	0.87	1.1	1.4	305	0.17	0.17	0.22	0.22	0.27
23	1.1	0.87	0.87	1.0	1.1	1.4	525	0.17	0.17	0.22	0.22	0.27
24	1.1	0.87	0.87	1.2	1.2	1.4	585	0.17	0.17	0.22	0.22	0.27
25	1.1	0.87	0.87	1.1	1.3	1.4	499	0.17	0.19	0.22	0.22	0.27
26	1.1	0.87	0.87	1.1	1.1	1.4	499	0.17	0.19	0.19	0.22	0.27
27	1.1	0.87	0.87	1.1	1.1	1.4	499	0.17	0.15	0.17	0.31	0.27
28	1.1	0.87	0.87	1.1	1.1	1.4	495	0.17	0.17	0.17	0.22	0.27
29	1.1	0.87	0.87	1.1	---	1.4	495	0.21	0.17	0.39	0.22	0.23
30	1.1	0.87	0.87	1.1	---	1.4	370	0.21	0.17	0.22	0.22	0.22
31	1.1	---	0.87	1.1	---	1.4	---	0.21	---	0.18	0.22	---
TOTAL	38.0	29.93	27.66	29.04	29.62	41.2	5393.74	716.39	6.27	6.59	6.70	7.53
MEAN	1.226	0.998	0.892	0.937	1.058	1.329	179.8	23.11	0.209	0.213	0.216	0.251
MAX	1.6	1.1	1.1	1.2	1.3	1.7	585	292	0.40	0.42	0.32	0.64
MIN	1.1	0.87	0.87	0.87	0.97	1.0	0.78	0.17	0.15	0.15	0.17	0.17
AC-FT	75	59	55	58	59	82	10700	1420	12	13	13	15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2002, BY WATER YEAR (WY)

	MEAN	28.84	51.59	36.19	44.63	46.38	92.92	93.51	123.0	130.3	36.61	15.90	7.253
MAX	489	626	431	438	324	548	625	936	688	323	266	96.5	
(WY)	1987	1984	1993	1985	1993	1985	1985	1990	1995	1989	1992	1989	
MIN	0.16	0.18	0.16	0.17	0.18	0.18	0.25	0.20	0.21	0.19	0.22	0.20	
(WY)	1966	1967	1966	1966	1967	1966	1966	1966	2002	1967	2002	1966	

ARKANSAS RIVER BASIN

235

07230000 LITTLE RIVER BELOW LAKE THUNDERBIRD NEAR NORMAN, OK--Continued

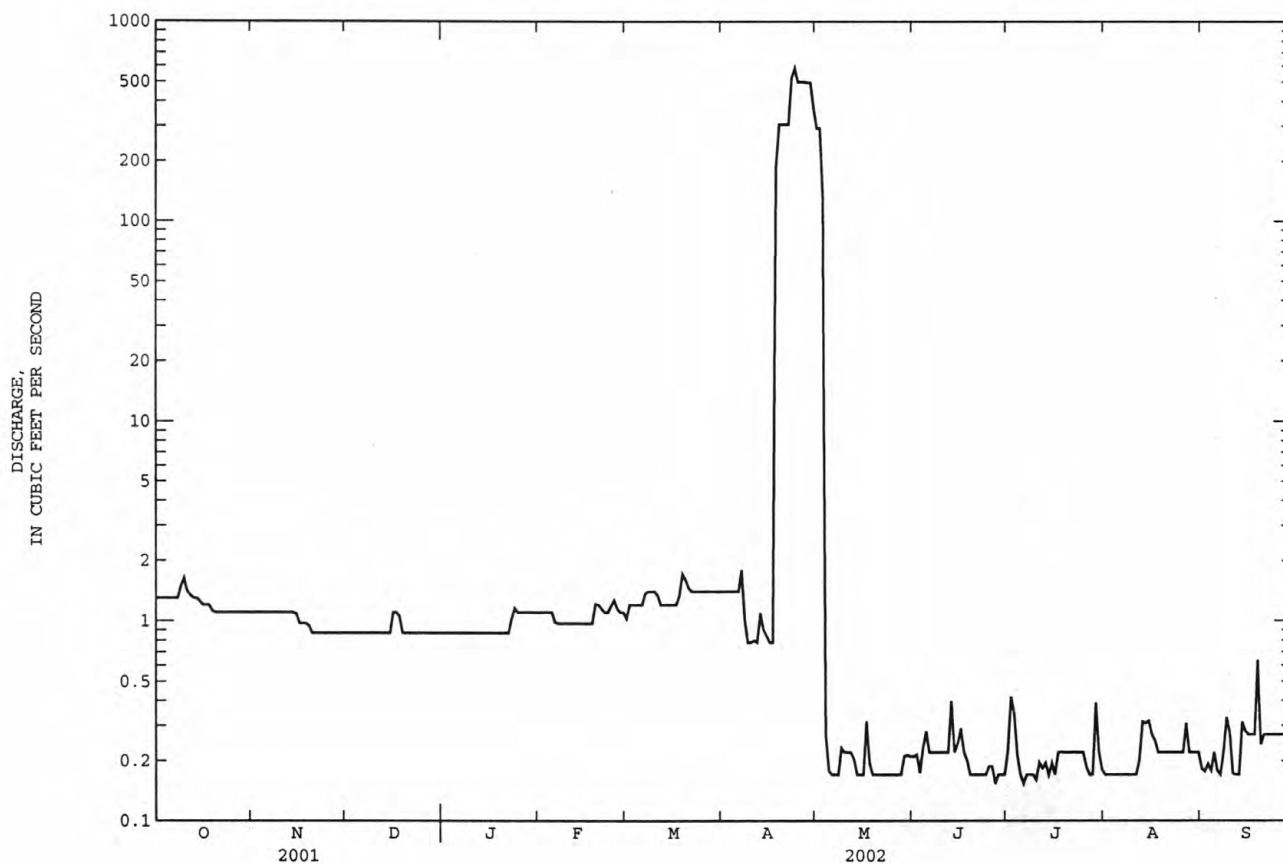
SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1966 - 2002	
ANNUAL TOTAL	24289.46		6332.67		^a 58.89	
ANNUAL MEAN	66.55		17.35		251	
HIGHEST ANNUAL MEAN					0.22	
LOWEST ANNUAL MEAN					1280	
HIGHEST DAILY MEAN	505	Feb 27	585	Apr 24	May 14 1990	
LOWEST DAILY MEAN	0.69	May 14	0.15	Jun 27, Jul 16	^b 0.10 Oct 1 1965	
ANNUAL SEVEN-DAY MINIMUM	0.79	May 21	0.17	May 19	0.10 Oct 19 1965	
MAXIMUM PEAK FLOW			727	Apr 23	^c 1450 May 10 1990	
MAXIMUM PEAK STAGE			6.25	Apr 23	^d 8.62 Oct 26 1983	
ANNUAL RUNOFF (AC-FT)	48180		12560		42660	
10 PERCENT EXCEEDS	300		1.4		258	
50 PERCENT EXCEEDS	1.1		0.87		0.69	
90 PERCENT EXCEEDS	0.87		0.17		0.35	

^aPrior to regulation, water years 1953-64, 58.9 ft³/s.

^bNo flow at times in 1954-56, 1964.

^cMaximum discharge for period of record 34,600 ft³/s May 25, 1957, from rating curve extended above 15,000 ft³/s.

^dFrom high-water mark. Maximum gage height for period of record 28.85 ft May 25, 1957, from high-water mark.



ARKANSAS RIVER BASIN

07230500 LITTLE RIVER NEAR TECUMSEH, OK

LOCATION.--Lat 35°10'21", long 96°55'54", NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec.13, T.8 N., R.3 E., Pottawatomie County, Hydrologic Unit 11090203, on downstream side of center pier of bridge on U.S. Highway 177, 1.5 mi downstream from Dance Creek, 5.0 mi south of Tecumseh, and at mile 77.2.

DRAINAGE AREA.--456 mi².

PERIOD OF RECORD.--October 1943 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 898.52 ft above sea level (levels by U.S. Army Corps of Engineers).

REMARKS.--Records poor. Flow regulated or diverted since 1965 by Lake Thunderbird, 19.2 mi upstream (station 07229900). U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1932 reached a stage of 25.58 ft, from floodmark.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e10	e9.4	e25	e33	140	16	e29	347	e57	12	7.8	e4.4
2	e10	e14	e28	e22	70	25	e28	363	e53	16	e6.1	e4.2
3	e11	90	e26	e39	53	28	e27	350	e21	42	e5.0	e3.8
4	11	57	e21	e52	42	26	e26	235	e29	65	e4.3	e3.4
5	e10	33	e20	e49	45	27	e25	e200	e93	35	e3.9	e3.1
6	e9.0	e26	e20	e46	91	23	e24	e125	e217	20	e3.7	e3.0
7	e8.5	e23	e19	e41	86	22	1130	e90	e97	16	e3.4	e3.0
8	e8.2	e20	e18	e36	54	21	1900	e61	e53	14	e3.2	e3.0
9	200	e18	e18	e34	44	21	333	e49	e45	12	e3.1	e2.8
10	535	e16	e18	32	35	19	139	e45	e45	11	e3.0	e3.0
11	413	e19	e20	30	30	18	91	e32	e33	e9.9	e2.9	e7.8
12	98	e21	e24	32	30	e17	85	e57	e13	11	e2.9	e16
13	97	e19	e26	31	27	e16	585	e161	459	13	21	e15
14	54	e17	e27	30	26	e15	449	e133	260	11	133	e11
15	34	e16	e27	29	27	e14	175	85	e170	10	28.0	e7.1
16	27	e15	800	29	27	e13	106	e61	e115	e9.8	e24	e5.4
17	23	e19	467	28	27	e12	90	200	e50	e9.6	e19	e3.3
18	21	e23	168	28	27	24	141	e230	25	10	e16	e2.0
19	e20	e20	124	34	127	543	427	e213	e24	15	e15	150
20	e19	e17	e107	31	57	279	414	e113	e23	12	e12	e59
21	e18	e16	e93	30	30	101	400	e69	e21	e9.9	e11	e30
22	e17	e18	e79	30	24	69	374	e53	e21	e9.7	e10	e23
23	e14	e17	e71	157	22	55	541	e37	e20	e9.4	e9.0	e9.8
24	e14	e17	e64	193	21	48	1100	e21	e20	9.3	e7.9	e8.5
25	e14	e16	e58	69	e19	42	804	e33	e18	22	e7.6	e5.2
26	e13	e16	e53	45	e18	37	873	e41	e16	12	e7.3	e5.1
27	e14	e14	e50	35	e17	e33	851	e39	e15	11	e7.2	e4.2
28	e12	e18	e41	e32	e17	e31	815	e37	e14	e8.6	e7.1	e3.2
29	e12	e20	e35	e29	---	e30	800	e241	e13	20	e7.0	e3.2
30	e11	e24	e27	123	---	e30	671	e193	e13	24	e6.5	e2.6
31	e10	---	e26	417	---	e29	---	e97	---	e14	e4.9	---
TOTAL	1767.7	668.4	2600	1846	1233	1684	13453	4011	2053	504.2	402.8	405.1
MEAN	57.02	22.28	83.87	59.55	44.04	54.32	448.4	129.4	68.43	16.26	12.99	13.50
MAX	535	90	800	417	140	543	1900	363	459	65	133	150
MIN	8.2	9.4	18	22	17	12	24	21	13	8.6	2.9	2.0
AC-FT	3510	1330	5160	3660	2450	3340	26680	7960	4070	1000	799	804

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2002, BY WATER YEAR (WY)

MEAN	105.5	113.7	100.8	97.14	134.8	216.2	260.5	343.0	272.0	75.99	45.92	55.33
MAX	898	628	851	844	783	1086	1265	1687	1401	505	510	477
(WY)	1984	1984	1993	1985	1985	1990	1990	1990	1995	1989	1996	1970
MIN	0.009	2.27	2.12	2.74	2.45	4.49	5.55	9.25	5.53	1.38	0.000	0.22
(WY)	1979	1981	1979	1981	1967	1966	1981	1981	1972	1967	1972	1980

e Estimated

ARKANSAS RIVER BASIN

237

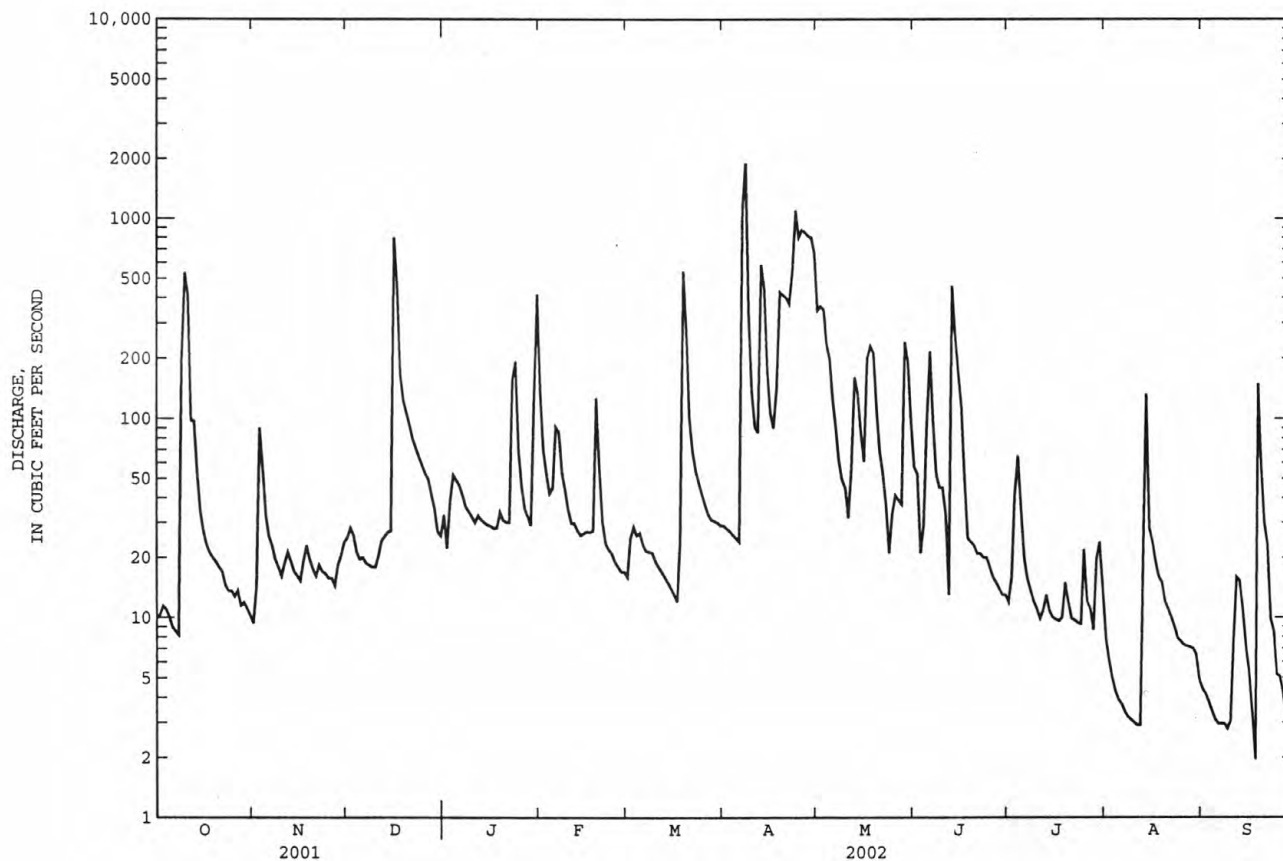
07230500 LITTLE RIVER NEAR TECUMSEH, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1966 - 2002
ANNUAL TOTAL	68401.6	30628.2	^a 151.6
ANNUAL MEAN	187.4	83.91	511
HIGHEST ANNUAL MEAN			9.34
LOWEST ANNUAL MEAN			1985
HIGHEST DAILY MEAN	3100 May 30	1900 Apr 8	9740 May 3 1990
LOWEST DAILY MEAN	5.9 Sep 14	2.0 Sep 18	0.00 Jun 23 1966
ANNUAL SEVEN-DAY MINIMUM	7.4 Aug 26	3.0 Sep 4	0.00 Jun 23 1966
MAXIMUM PEAK FLOW		5050 Apr 7	^b 14000 May 3 1990
MAXIMUM PEAK STAGE		14.48 Apr 7	^c 19.24 Oct 20 1984
ANNUAL RUNOFF (AC-FT)	135700	60750	109800
10 PERCENT EXCEEDS	515	200	495
50 PERCENT EXCEEDS	40	25	20
90 PERCENT EXCEEDS	9.2	7.3	1.9

^aPrior to regulation, water years 1944-64, 149 ft³/s.

^bMaximum discharge for period of record 32,400 ft³/s, May 25, 1957.

^cMaximum gage height for period of record 19.68, May 18, 1949.



ARKANSAS RIVER BASIN

07231000 LITTLE RIVER NEAR SASAKWA, OK

LOCATION.--Lat 34°57'55", long 96°30'44", NE 1/4 sec.25, T.6 N., R.7 E., Seminole County, Hydrologic Unit 11090203, near right abutment on downstream side of State Highway 56 bridge, 1.6 mi north of Sasakwa, 15.1 mi downstream from Salt Creek, and at mile 17.1.

DRAINAGE AREA.--884 mi².

PERIOD OF RECORD.--September 1942 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 731.76 ft above sea level. Prior to Apr. 11, 1946, nonrecording gage at site 6.4 miles upstream at datum 12.58 ft higher. Prior to Oct. 1, 1979, gage at site 6.4 miles upstream at datum 17.58 ft higher. Prior to Jan. 26, 1996 gage at site 6.4 miles upstream at datum 12.58 ft higher.

REMARKS.--Records poor. Flow regulated by Lake Thunderbird (station 07229900) 78.7 mi upstream since March 1965.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	32	48	72	700	e77	110	708	96	22	41	e6.2
2	32	32	47	e69	399	e86	104	478	66	108	14	e5.6
3	30	33	49	e64	251	e90	94	420	50	98	5.7	e5.3
4	27	60	46	e63	198	e96	85	406	40	77	e4.8	e5.0
5	25	139	43	96	172	108	82	236	122	67	e4.3	e4.8
6	22	79	41	122	179	109	81	145	273	65	e4.0	e4.5
7	20	55	38	116	230	104	1680	122	128	40	e3.7	e4.3
8	20	44	34	100	272	97	5170	108	74	42	e3.6	e4.2
9	22	41	32	86	205	94	4090	97	61	28	e3.5	e4.1
10	543	36	32	81	164	86	2510	86	61	20	e3.2	e4.0
11	1820	34	32	74	120	82	1190	89	54	14	e3.2	11
12	1180	34	35	67	115	79	859	99	34	14	e3.1	18
13	663	35	42	62	110	76	964	221	1050	46	9.2	e19
14	406	34	46	60	113	71	2320	180	1580	27	387	e14
15	230	32	53	59	105	63	1350	114	611	15	234	e10
16	149	32	846	54	106	58	873	89	333	10	141	e8.2
17	109	32	2750	52	95	56	626	126	377	39	86	e7.0
18	84	32	1250	51	93	61	479	367	225	80	43	e6.2
19	72	40	642	57	130	408	397	254	139	87	26	e5.7
20	66	36	385	67	361	1340	598	148	89	142	19	80.0
21	60	35	279	67	260	708	619	105	62	58	e16	115
22	57	32	223	64	170	384	596	81	48	31	e13	38.0
23	54	33	183	69	139	260	542	66	38	17	e12	15.0
24	48	33	150	570	118	220	569	61	32	10	e11	e12
25	43	32	125	425	107	198	929	68	32	8.2	e10	e10
26	39	32	110	226	93	169	833	75	24	12	e9.0	e9.4
27	35	29	104	160	83	144	894	75	21	16	e14	e8.6
28	33	31	101	130	78	131	843	66	19	7.5	e11	e8.2
29	32	34	96	110	---	123	778	294	17	32	e9.0	e7.9
30	32	40	88	101	---	117	752	240	14	83	e8.4	e7.5
31	32	---	80	428	---	115	---	138	---	141	e7.1	---
TOTAL	6021	1223	8030	3822	5166	5810	31017	5762	5770	1456.7	1159.8	458.7
MEAN	194.2	40.77	259.0	123.3	184.5	187.4	1034	185.9	192.3	46.99	37.41	15.29
MAX	1820	139	2750	570	700	1340	5170	708	1580	142	387	115
MIN	20	29	32	51	78	56	81	61	14	7.5	3.1	4.0
AC-FT	11940	2430	15930	7580	10250	11520	61520	11430	11440	2890	2300	910

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2002, BY WATER YEAR (WY)

	MEAN	244.4	308.9	273.7	240.4	368.3	530.5	656.3	816.7	601.8	150.9	84.26	128.1
MAX	2523	1705	2095	1307	1852	2618	3591	2762	2135	775	904	753	
(WY)	1971	1993	1993	1985	1993	1990	1990	1990	1995	1999	1992	1970	
MIN	0.000	0.009	0.30	1.69	1.80	7.39	17.2	30.7	11.2	2.00	0.004	0.005	
(WY)	1979	1981	1979	1967	1967	1967	1981	1981	1966	1967	1980	1980	

e Estimated

ARKANSAS RIVER BASIN

239

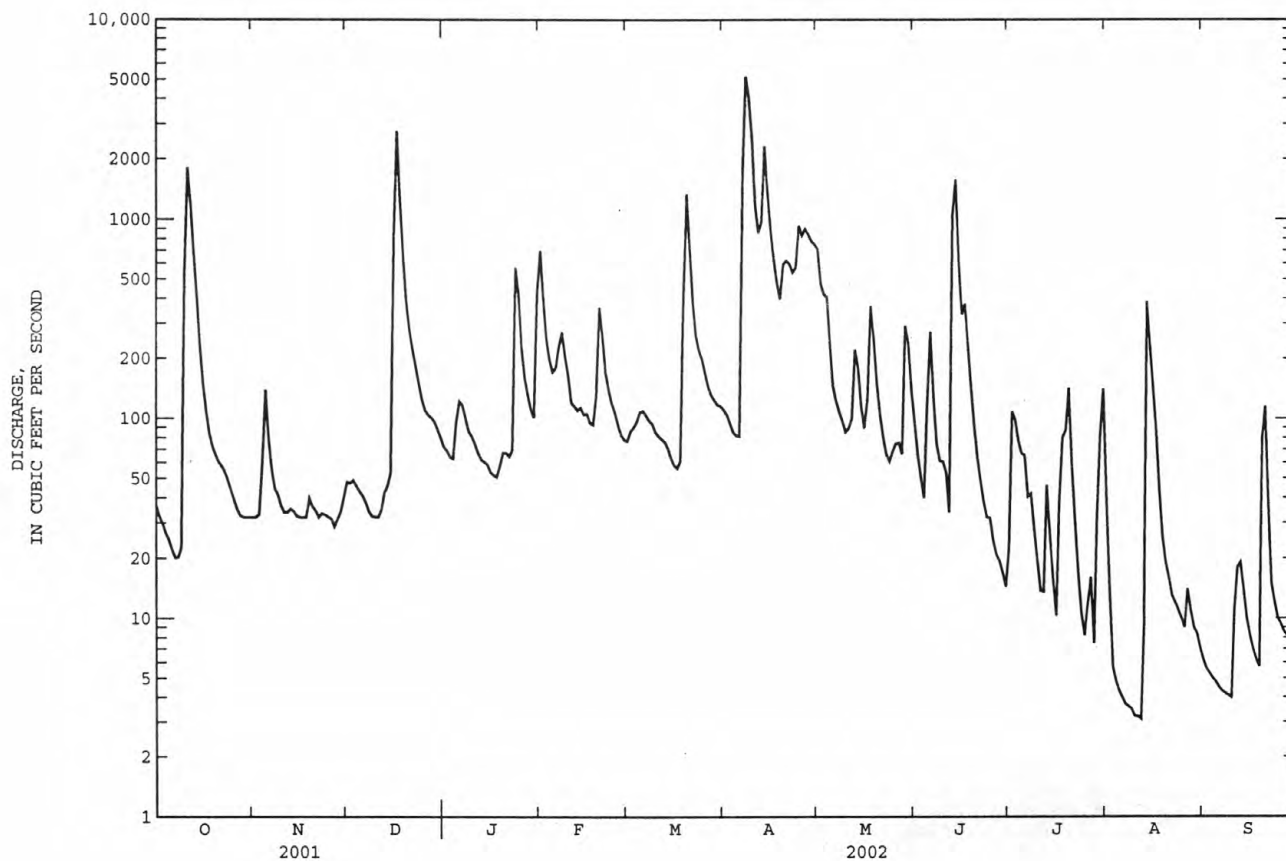
07231000 LITTLE RIVER NEAR SASAKWA, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1966 - 2002
ANNUAL TOTAL	125103.6	75696.2	^a 366.4
ANNUAL MEAN	342.7	207.4	996
HIGHEST ANNUAL MEAN			19.0
LOWEST ANNUAL MEAN			15600
HIGHEST DAILY MEAN	5440 Feb 24	5170 Apr 8	May 1 1985
LOWEST DAILY MEAN	6.0 Sep 5	3.1 Aug 12	0.00 Nov 23 1965
ANNUAL SEVEN-DAY MINIMUM	6.6 Aug 30	3.5 Aug 6	0.00 Nov 23 1965
MAXIMUM PEAK FLOW		5630 Apr 8	^b 18500 May 1 1985
MAXIMUM PEAK STAGE		16.26 Apr 8	^c 31.73 May 1 1985
ANNUAL RUNOFF (AC-FT)	248100	150100	265400
10 PERCENT EXCEEDS	874	553	976
50 PERCENT EXCEEDS	109	71	58
90 PERCENT EXCEEDS	12	9.8	1.6

^aPrior to regulation, water year 1943-64, 410 ft³/s.

^bMaximum discharge for period of record 44,600 ft³/s, May 11, 1950.

^cMaximum gage height for period of record 33.48 ft, May 11, 1950.



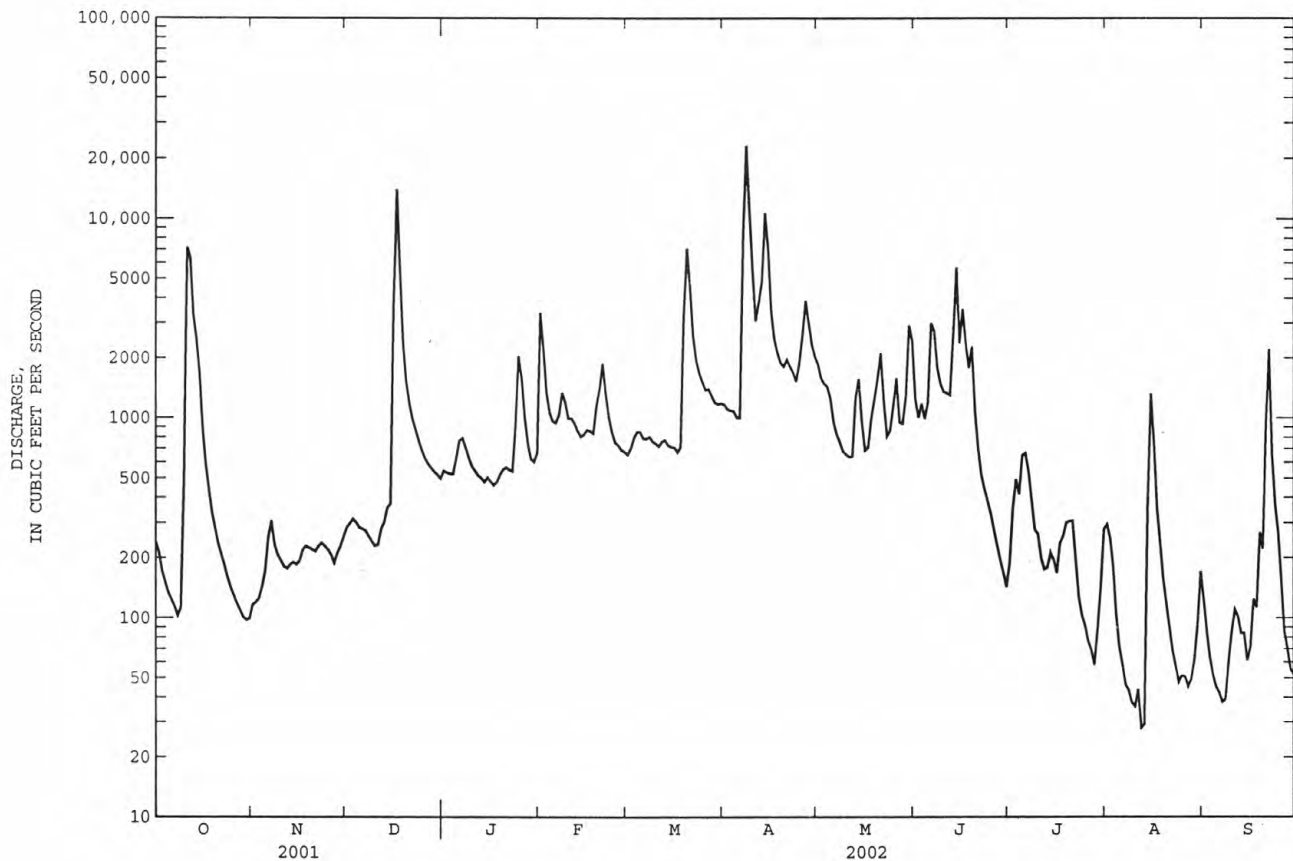
ARKANSAS RIVER BASIN

241

07231500 CANADIAN RIVER AT CALVIN, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1906 - 2002	
ANNUAL TOTAL	653932		389043		1818	
ANNUAL MEAN	1792		1066		5513	
HIGHEST ANNUAL MEAN					1942	
LOWEST ANNUAL MEAN					184	
HIGHEST DAILY MEAN	22900	Feb 24	23100	Apr 8	140000	May 29 1987
LOWEST DAILY MEAN	20	Aug 29	28	Aug 12	0.00	Sep 10 1939
ANNUAL SEVEN-DAY MINIMUM	26	Aug 23	38	Aug 7	0.00	Sep 10 1939
MAXIMUM PEAK FLOW			27900	Apr 8	174000	May 11 1950
MAXIMUM PEAK STAGE			8.89	Apr 8	^a 21.00	Aug 7 1906
ANNUAL RUNOFF (AC-FT)	1297000		771700		1317000	
10 PERCENT EXCEEDS	4150		2350		4110	
50 PERCENT EXCEEDS	1080		561		420	
90 PERCENT EXCEEDS	90		86		27	

^aFrom floodmark, site and datum then in use.



ARKANSAS RIVER BASIN

07232250 BEAVER RIVER NEAR FELT, OK

LOCATION.--Lat 36°37'47", long 102°40'52", NE 1/4 NE 1/4 sec.24, T.2 N., R.3 E., Cimarron County, Hydrologic Unit 11100101, on downstream side of pier of bridge on U.S. Highway 64, 8.0 miles northeast of Felt, 11.0 miles southwest of Boise City, and at mile 754.9.

DRAINAGE AREA.--879 mi².

PERIOD OF RECORD.--October 1980 to June 2002 (discontinued).

GAGE.--Water-stage recorder. Datum of gage 4,246.05 ft above sea level.

REMARKS.--Records good.

AVERAGE DISCHARGE.--21 years, .97 ft³/s, 703 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,160 ft³/s, Aug. 13, 1981, gage height, 10.96 ft on the basis of step-backwater measurement at gage site; no flow most days.

EXTREMES FOR CURRENT YEAR.--No flow all year.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

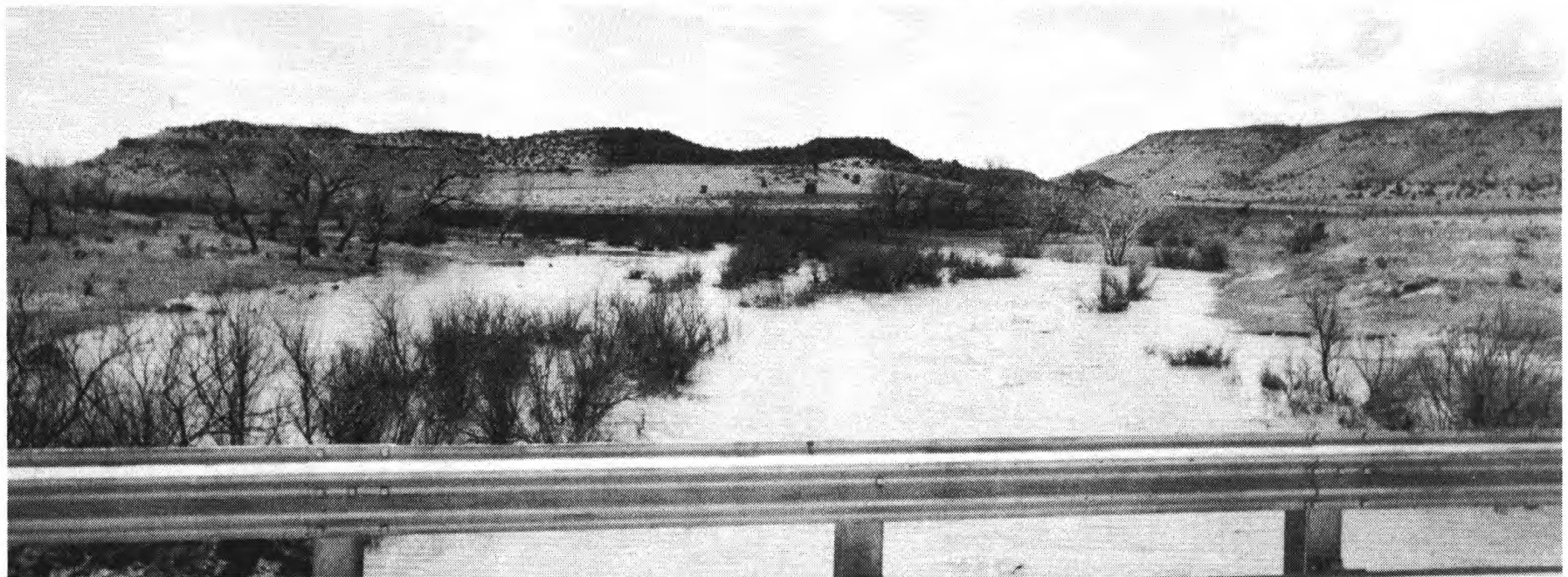
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
26	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
27	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
28	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
29	0.0	0.0	0.0	0.0	---	0.0	0.0	0.0	0.0	---	---	---
30	0.0	0.0	0.0	0.0	---	0.0	0.0	0.0	0.0	---	---	---
31	0.0	---	0.0	0.0	---	0.0	---	0.0	---	---	---	---
TOTAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	---	---	---
MEAN	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	---	---	---
MIN	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	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 2002, BY WATER YEAR (WY)

	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.970	0.553	0.778	6.590	1.459
MEAN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	36.7	6.07	9.56	73.2	25.9
MAX	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1999	1982	1997	1981	1994
(WY)	1981	1981	1981	1981	1981	1981	1981	1983	1983	1982	1983	1981
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)	1981	1981	1981	1981	1981	1981	1981	1983	1983	1982	1983	1981



071545000 Cimarron River near Kenton May 2, 1999



ARKANSAS RIVER BASIN

07232470 BEAVER RIVER NEAR GOODWELL, OK

LOCATION.--Lat 36°42'21", long 101°38'11", SE 1/4 SE 1/4 sec.22, T.3 N., R.13 E., Texas County, Hydrologic Unit 11100101, on left downstream abutment of county road bridge, 3.4 mi downstream from Teepee Creek, 7.5 mi north of Goodwell, 8 mi west of Guymon, and at mile 661.4

DRAINAGE AREA.--2,043 mi², of which 941 mi² is probably noncontributing.

PERIOD OF RECORD.--October 2001 to current year.

GAGE.--Water-stage recorder. Datum of gage 3,088.0 ft above mean sea level (from topographic map).

REMARKS.--Records fair except for estimated periods, which are poor. Natural flow affected by irrigation development. Satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	1.5	2.9	e3.0	e3.6	e3.2	4.2	3.6	1.9	1.3	0.58	1.4
2	0.99	1.4	3.0	e2.9	e3.8	e3.3	4.1	3.7	1.8	1.2	0.51	1.3
3	0.94	1.5	3.1	e3.0	3.9	e3.4	4.0	3.8	1.7	1.2	0.59	1.3
4	0.97	1.6	3.1	e3.2	3.8	e3.5	4.0	3.6	1.7	1.4	0.57	1.2
5	1.0	1.6	2.9	e3.4	3.8	3.6	4.1	3.5	2.7	3.2	0.47	1.3
6	1.2	1.6	2.9	3.5	3.8	3.6	4.2	3.2	2.6	2.0	0.48	1.3
7	1.2	1.6	2.9	3.5	3.7	3.7	4.1	3.0	2.3	1.7	0.42	1.2
8	1.2	1.7	2.8	3.5	3.7	3.6	4.2	2.8	2.0	1.6	0.41	1.2
9	1.1	1.8	2.8	3.6	3.3	3.4	4.2	3.2	1.8	1.4	0.40	1.4
10	1.1	1.7	2.8	3.7	e3.2	3.8	4.1	3.4	1.6	1.3	11	4.3
11	1.4	1.8	3.0	3.6	3.6	3.6	3.9	3.4	1.4	1.6	1.2	3.7
12	1.4	1.9	3.0	3.6	3.7	3.7	3.9	3.0	1.4	1.6	0.75	2.3
13	1.5	2.0	3.0	3.6	3.5	3.7	4.1	3.1	1.5	1.6	0.76	1.8
14	1.5	2.0	2.9	3.7	3.6	3.6	4.0	3.0	1.7	1.6	0.86	1.7
15	1.5	2.3	3.1	3.7	3.5	3.5	4.1	3.0	1.8	1.3	0.80	2.0
16	1.6	2.1	3.0	3.7	3.5	3.6	3.8	3.0	1.7	1.3	0.73	1.7
17	1.6	2.0	2.9	3.7	3.6	3.6	3.8	4.3	1.5	0.95	0.67	1.8
18	1.5	2.1	2.9	3.8	3.6	3.6	3.6	3.6	1.6	0.89	0.78	1.7
19	1.6	2.2	3.0	e3.7	3.6	3.5	3.6	3.2	1.5	0.78	0.72	2.1
20	1.7	2.2	3.1	e3.6	3.7	3.5	4.0	2.9	1.5	0.73	0.92	2.1
21	1.5	2.2	3.2	3.7	3.6	3.5	4.1	2.9	1.4	0.67	2.1	2.0
22	1.7	2.3	3.0	3.9	3.7	3.6	4.0	2.6	1.3	0.70	1.2	1.9
23	1.5	2.5	3.2	3.9	3.8	3.6	4.0	2.5	1.4	0.84	0.92	2.0
24	1.3	2.5	3.2	3.8	3.8	3.5	3.8	2.7	1.3	0.74	0.89	2.0
25	1.4	2.6	3.2	3.8	3.6	3.4	3.9	3.1	1.3	0.73	0.93	1.9
26	1.6	2.5	3.2	3.9	e3.5	3.6	4.2	3.0	1.3	0.61	0.84	1.9
27	1.7	2.6	3.2	3.9	e3.5	3.6	4.2	3.1	1.4	0.63	0.81	2.0
28	1.8	2.6	3.4	3.9	e3.6	3.6	4.1	3.3	1.3	0.73	1.2	1.9
29	1.9	2.9	3.3	3.9	---	3.8	4.0	3.0	1.2	0.77	20	1.8
30	1.9	2.9	e3.2	3.8	---	4.0	3.9	2.3	1.2	0.72	2.5	1.9
31	1.7	---	e3.1	e3.7	---	4.1	---	2.1	---	0.60	2.1	---
TOTAL	45.60	62.2	94.3	112.2	101.6	111.3	120.2	96.9	48.8	36.39	57.11	56.1
MEAN	1.471	2.073	3.042	3.619	3.629	3.590	4.007	3.126	1.627	1.174	1.842	1.870
MAX	2.6	2.9	3.4	3.9	3.9	4.1	4.2	4.3	2.7	3.2	20	4.3
MIN	0.94	1.4	2.8	2.9	3.2	3.2	3.6	2.1	1.2	0.60	0.40	1.2
AC-FT	90	123	187	223	202	221	238	192	97	72	113	111

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2002, BY WATER YEAR (WY)

	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002
MEAN	1.471	2.073	3.042	3.619	3.629	3.590	4.007	3.126	1.627	1.174	1.842	1.870
MAX	1.47	2.07	3.04	3.62	3.63	3.59	4.01	3.13	1.63	1.17	1.84	1.87
(WY)	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002
MIN	1.47	2.07	3.04	3.62	3.63	3.59	4.01	3.13	1.63	1.17	1.84	1.87
(WY)	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002

e Estimated

ARKANSAS RIVER BASIN

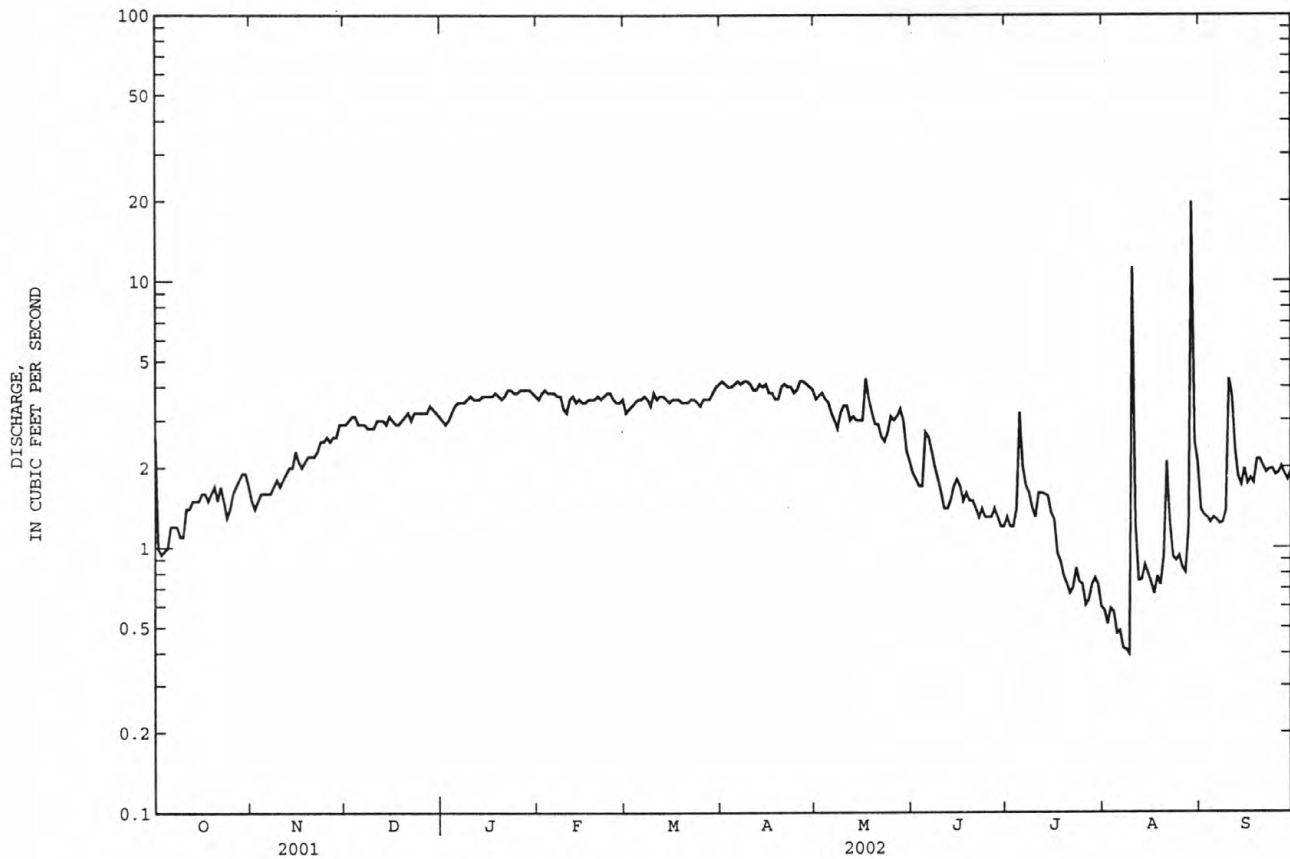
245

07232470 BEAVER RIVER NEAR GOODWELL, OK--Continued

SUMMARY STATISTICS

FOR 2002 WATER YEAR

ANNUAL TOTAL	942.70	
ANNUAL MEAN	2.583	
HIGHEST DAILY MEAN	20	Aug 29
LOWEST DAILY MEAN	0.40	Aug 9
ANNUAL SEVEN-DAY MINIMUM	0.48	Aug 3
MAXIMUM PEAK FLOW	93	Aug 29
MAXIMUM PEAK STAGE	6.68	Aug 29
ANNUAL RUNOFF (AC-FT)	1870	
10 PERCENT EXCEEDS	3.9	
50 PERCENT EXCEEDS	2.8	
90 PERCENT EXCEEDS	0.93	



LOCATION.--Lat 36°34'19", long 101°22'52", NW 1/4 NW 1/4 sec.7, T.1 N., R.16 E., Texas County, Hydrologic Unit 11100103, near left bank on downstream side of pier of bridge on county road, 0.3 mi downstream from Frisco Creek, 4.0 mi east and 7.5 mi south of Guymon, and at mile 18.0.

PERIOD OF RECORD.--October 1980 to current year.

GAGE.--Water-stage recorder. Datum of gage 2,870.83 ft above sea level.

REMARKS.--No estimated daily discharge. Records good. Natural flow affected by flood retarding structures and irrigation development. Satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
No peak greater than base discharge.							

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

[illegible]

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 2002, BY WATER YEAR (WY)

MEAN	1.129	0.147	0.000	0.000	0.000	0.000	2.394	7.164	4.090	0.023	0.981	1.443
MAX	21.0	3.23	0.000	0.000	0.000	0.000	52.7	86.0	42.3	0.31	6.90	27.5
(WY)	1986	1999	1981	1981	1981	1981	1990	1989	1991	1981	1992	1985
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)	1981	1981	1981	1981	1981	1981	1981	1981	1981	1982	1983	1981

ARKANSAS RIVER BASIN

247

07232900 COLDWATER CREEK NEAR GUYMON, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1981 - 2002
ANNUAL TOTAL	0.0	0.00	
ANNUAL MEAN	0.000	0.000	1.452
HIGHEST ANNUAL MEAN			8.37 1982
LOWEST ANNUAL MEAN			0.000 1983
HIGHEST DAILY MEAN			1500 May 18 1989
LOWEST DAILY MEAN			0.00 most years
ANNUAL SEVEN-DAY MINIMUM	0.00 Jan 1	0.00 Oct 1	0.00 Oct 1 1980
MAXIMUM PEAK FLOW			5800 Jun 20 1982
MAXIMUM PEAK STAGE			14.34 Jun 20 1982
ANNUAL RUNOFF (AC-FT)	0.00	0.00	1050
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

ARKANSAS RIVER BASIN

07233650 PALO DURO CREEK AT RANGE, OK

LOCATION.--Lat 36°32'38", long 101°04'50", SE 1/4 SE 1/4 sec.14, T.1 N., R.18 E., Texas County, Hydrologic Unit 11100104, on downstream side of pier of county road bridge, 3.4 mi upstream from Hackberry Creek, 11.0 mi southeast of Hardesty, and at mile 14.9.

DRAINAGE AREA.--1,513 mi², of which 687 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1991 to current year.

GAGE.--Water-stage recorder. Datum of gage 2,679.77 ft above sea level.

REMARKS.--Records poor. Flow regulated since April 1991 by Palo Duro Reservoir, 18 mi upstream. Natural flow also affected by local irrigation withdrawals. Satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	e0.68	e0.64	e0.62	e0.44	e0.37	e0.29	e0.35	0.00	0.00	0.00
2	0.0	0.0	e0.80	e0.60	e0.64	e0.36	e0.37	e0.30	0.31	0.00	0.00	0.00
3	0.0	0.0	0.90	e0.58	e0.66	e0.38	e0.36	e0.29	0.28	0.00	0.00	0.00
4	0.0	0.02	0.86	e0.62	e0.69	e0.43	e0.36	e0.29	0.24	0.00	0.00	0.00
5	0.0	0.05	0.78	0.76	e0.74	0.47	e0.36	e0.34	1.4	0.00	0.00	0.00
6	0.0	0.06	0.70	0.94	0.78	0.43	e0.35	e0.36	1.2	0.00	0.00	0.00
7	0.0	0.07	0.70	0.94	0.79	0.42	e0.35	e0.32	0.95	0.00	0.00	0.00
8	0.0	0.07	0.71	0.96	0.73	e0.41	e0.38	e0.33	0.70	0.00	0.00	0.00
9	0.0	0.08	0.68	0.85	0.68	e0.41	e0.36	e0.32	0.53	0.00	0.00	0.00
10	0.0	0.09	0.69	0.76	0.64	e0.42	e0.35	e0.31	0.40	0.00	0.00	0.00
11	0.0	0.11	0.69	0.78	0.66	e0.41	e0.34	0.31	0.27	0.00	0.00	0.00
12	0.0	0.14	0.70	0.78	0.65	e0.42	e0.34	0.29	0.14	0.00	0.00	0.00
13	0.0	0.32	0.68	0.76	0.66	0.41	e0.40	0.29	0.19	0.00	0.00	0.00
14	0.0	0.54	0.70	0.71	0.64	0.42	e0.42	0.29	0.37	0.00	0.00	0.30
15	0.0	0.63	0.71	0.75	0.63	0.43	e0.36	0.25	0.36	0.00	0.00	0.88
16	0.0	0.70	0.76	0.77	0.63	0.43	e0.34	0.28	0.25	0.00	0.00	0.07
17	0.0	0.67	0.74	0.72	0.63	0.41	e0.33	e1.6	0.20	0.00	0.00	0.00
18	0.0	0.65	0.75	0.71	0.63	0.40	e0.33	e1.3	0.14	0.00	0.00	0.00
19	0.0	0.61	0.71	0.74	0.63	0.41	e0.32	e1.0	0.05	0.00	0.00	0.00
20	0.0	0.59	0.75	0.75	0.62	0.41	e0.40	e0.70	0.00	0.00	0.00	0.00
21	0.0	0.66	0.76	0.72	0.57	0.38	e0.47	e0.50	0.00	0.00	0.00	0.00
22	0.0	0.64	0.76	0.74	0.59	0.39	e0.40	e0.35	0.00	0.00	0.00	0.00
23	0.0	0.65	0.72	0.71	0.61	0.40	e0.34	e0.28	0.00	0.00	0.00	0.00
24	0.0	0.64	0.72	0.71	0.58	0.40	e0.33	e0.24	0.00	0.00	0.00	0.00
25	0.0	0.59	0.76	0.68	e0.49	0.39	e0.32	0.23	0.00	0.00	0.00	0.00
26	0.0	0.57	0.78	0.64	e0.47	0.39	e0.31	0.25	0.00	0.00	0.00	0.00
27	0.0	0.56	0.78	0.65	e0.48	e0.39	e0.31	0.50	0.00	0.00	0.00	0.00
28	0.0	e0.53	0.76	0.68	e0.49	e0.38	e0.30	0.68	0.00	0.00	0.00	0.00
29	0.0	e0.54	0.74	0.67	---	e0.38	e0.30	0.55	0.00	0.00	0.00	0.00
30	0.0	e0.60	e0.71	e0.65	---	e0.37	e0.30	e0.45	0.00	0.00	0.00	0.00
31	0.0	---	e0.69	e0.63	---	e0.38	---	e0.39	---	0.00	0.00	---
TOTAL	0.0	11.38	22.87	22.60	17.63	12.57	10.57	13.88	8.33	0.00	0.00	1.25
MEAN	0.000	0.379	0.738	0.729	0.630	0.405	0.352	0.448	0.278	0.000	0.000	0.042
MAX	0.00	0.70	0.90	0.96	0.79	0.47	0.47	1.6	1.4	0.00	0.00	0.88
MIN	0.00	0.00	0.68	0.58	0.47	0.36	0.30	0.23	0.00	0.00	0.00	0.00
AC-FT	0.00	23	45	45	35	25	21	28	17	0.00	0.00	2.5

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2002, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	0.399	0.857	1.120	1.173	1.313	1.439	1.529	1.415	0.908	0.460	0.245
MAX	0.97	1.58	2.68	1.73	2.17	1.99	3.43	3.20	2.72	3.12	1.47
(WY)	1997	1997	1997	1997	1997	1998	1999	1999	1999	1999	1996
MIN	0.000	0.28	0.43	0.50	0.63	0.41	0.35	0.45	0.065	0.000	0.000
(WY)	2002	1995	1995	1995	2002	2002	2002	2002	1996	1994	2001

e Estimated

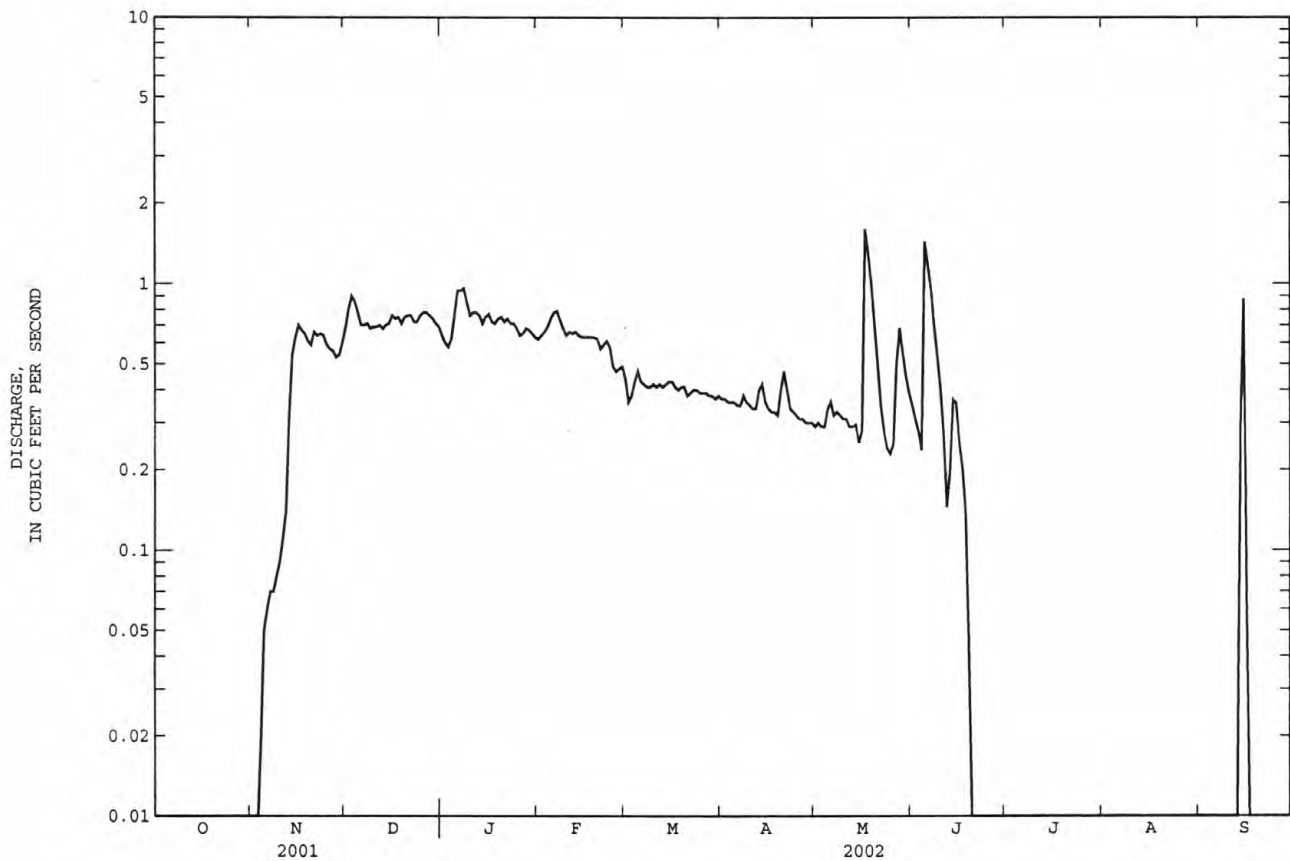
ARKANSAS RIVER BASIN

249

07233650 PALO DURO CREEK AT RANGE, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1992 - 2002
ANNUAL TOTAL	220.14	121.08	
ANNUAL MEAN	0.603	0.332	0.919
HIGHEST ANNUAL MEAN			1.64 1999
LOWEST ANNUAL MEAN			0.33 2002
HIGHEST DAILY MEAN	1.7 Feb 14	1.6 May 17	59 Jul 1 1999
LOWEST DAILY MEAN	0.00 several days	0.00 several days	0.00 at times
ANNUAL SEVEN-DAY MINIMUM	0.00 Jul 8	0.00 Oct 1	0.00 Jun 23 1994
MAXIMUM PEAK FLOW		2.1 Sep 14	105 Jun 30 1999
MAXIMUM PEAK STAGE		^a 9.86 Sep 14	^a 10.53 Jun 30 1999
ANNUAL RUNOFF (AC-FT)	437	240	666
10 PERCENT EXCEEDS	1.4	0.74	1.7
50 PERCENT EXCEEDS	0.65	0.33	0.86
90 PERCENT EXCEEDS	0.00	0.00	0.00

^aBackwater from irrigation dams.



ARKANSAS RIVER BASIN

07234000 BEAVER RIVER AT BEAVER, OK

(Headwater of the North Canadian River)

LOCATION.--Lat 36°49'20", long 100°31'08", SW $\frac{1}{4}$ sec.7, T.4 N., R.24 E., Beaver County, Hydrologic Unit 11100102, near right bank on downstream side of pier of bridge on U.S. Highway 270 at Beaver, 1.1 mi downstream from Home Creek, 5.0 mi upstream from Clear Creek, and at mile 576.0.

DRAINAGE AREA.--7,955 mi², of which 4,270 mi² is probably noncontributing.

PERIOD OF RECORD.--March 1904 to December 1905 (gage heights only), October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as Beaver Creek at Beaver 1904-5, and October 1937 to September 1970 as North Canadian River at Beaver.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,368.16 ft, sea level (levels by U.S. Army Corps of Engineers). Mar. 29, 1904 to Dec. 31, 1905, nonrecording gage at same vicinity at different datum. Mar. 1, 1938 to Sept. 30, 1946, water-stage recorder at present site at datum 3.0 ft higher.

REMARKS.--Records fair except for estimated periods, which are poor. Natural flow affected by irrigation development. Regulation by Optima Lake (station 07233200) 47.0 mi upstream, since Oct. 1978, and regulation by Palo Duro Reservoir since May 1991. U.S. Army Corps of Engineers' satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.0	0.0	0.0	0.0	e0.0	e0.01	0.06	0.12	0.0	0.0	0.0	0.00
2	0.0	0.0	0.0	0.0	0.01	e0.0	0.06	0.11	0.0	0.0	0.0	0.00
3	0.0	0.0	0.0	0.0	0.01	e0.0	0.06	0.11	0.0	0.0	0.0	0.00
4	0.0	0.0	0.0	0.0	0.02	e0.02	0.06	0.09	0.0	0.0	0.0	0.00
5	0.0	0.0	0.0	0.0	0.02	0.04	0.07	0.08	0.0	0.0	0.0	0.00
6	0.0	0.0	0.0	0.0	0.02	0.04	0.06	0.07	0.0	0.0	0.0	0.00
7	0.0	0.0	0.0	0.0	0.03	0.04	0.07	0.05	0.0	0.0	0.0	0.00
8	0.0	0.0	0.0	0.0	0.02	0.04	0.07	0.04	0.0	0.0	0.0	0.00
9	0.0	0.0	0.0	0.0	0.03	0.03	0.07	0.03	0.0	0.0	0.0	0.00
10	0.0	0.0	0.0	0.0	0.03	0.04	0.08	0.03	0.0	0.0	0.0	0.00
11	0.0	0.0	0.0	0.0	0.03	0.04	0.09	0.04	0.0	0.0	0.0	0.00
12	0.0	0.0	0.0	0.0	0.04	0.04	0.09	0.03	0.0	0.0	0.00	0.00
13	0.0	0.0	0.0	0.01	0.04	0.05	0.10	0.03	0.0	0.0	0.00	0.00
14	0.0	0.0	0.0	0.01	0.04	0.04	0.10	0.03	0.0	0.0	0.00	0.00
15	0.0	0.0	0.0	0.01	0.04	0.04	0.10	0.02	0.0	0.0	0.00	0.00
16	0.0	0.0	0.0	0.01	0.04	0.04	0.09	0.02	21	0.0	e0.20	0.00
17	0.0	0.0	0.0	0.01	0.04	0.04	0.09	0.02	0.12	0.0	0.00	0.00
18	0.0	0.0	0.0	0.01	0.04	0.05	0.09	0.02	0.03	0.0	0.00	0.00
19	0.0	0.0	0.0	0.01	0.04	0.05	0.08	0.01	0.01	0.0	0.00	0.00
20	0.0	0.0	0.0	0.01	0.04	0.05	0.12	0.01	0.01	0.0	0.00	0.00
21	0.0	0.0	0.0	0.01	0.04	0.04	0.12	0.0	0.01	0.0	0.00	0.00
22	0.0	0.0	0.0	0.01	0.04	0.05	0.11	0.0	0.01	0.0	0.00	0.00
23	0.0	0.0	0.0	0.01	0.04	0.05	0.12	0.0	0.0	0.0	0.00	0.00
24	0.0	0.0	0.0	0.01	0.04	0.05	0.11	0.0	0.0	0.0	0.00	0.00
25	0.0	0.0	0.0	0.02	0.04	0.05	0.11	0.0	0.0	0.0	0.00	0.00
26	0.0	0.0	0.0	0.02	e0.02	0.05	0.13	0.0	0.0	0.0	0.00	0.00
27	0.0	0.0	0.0	0.02	e0.01	0.05	0.13	0.01	0.0	0.0	0.00	0.00
28	0.0	0.0	0.0	0.02	e0.02	0.05	0.12	0.01	0.0	0.0	0.00	0.00
29	0.0	0.0	0.0	0.02	---	0.06	0.14	0.01	0.0	0.0	0.00	0.00
30	0.0	0.0	0.0	e0.01	---	0.06	0.14	0.01	0.0	0.0	0.00	0.00
31	0.0	---	0.0	e0.0	---	0.05	---	0.0	---	0.0	0.00	---
TOTAL	0.0	0.0	0.0	0.23	0.83	1.26	2.84	1.00	21.19	0.0	0.20	0.00
MEAN	0.000	0.000	0.000	0.007	0.030	0.041	0.095	0.032	0.706	0.000	0.006	0.000
MAX	0.00	0.00	0.00	0.02	0.04	0.06	0.14	0.12	21	0.00	0.20	0.00
MIN	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00
AC-FT	0.00	0.00	0.00	0.5	1.6	2.5	5.6	2.0	42	0.00	0.4	0.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2002, BY WATER YEAR (WY)

	MEAN	MAX	MIN	(WY)
1979	6.887	130	0.000	1980
2000	3.213	28.6	0.000	1981
2001	2.859	13.7	0.000	1982
2002	3.970	17.2	0.007	2002
2003	6.069	21.4	0.030	2002
2004	10.22	27.6	0.041	2002
2005	16.00	83.8	0.029	1981
2006	46.87	295	0.032	2002
2007	53.39	362	0.000	1981
2008	14.03	79.4	0.000	1981
2009	3.842	25.9	0.000	1981
2010	9.645	78.5	0.000	1981

e Estimated

ARKANSAS RIVER BASIN

251

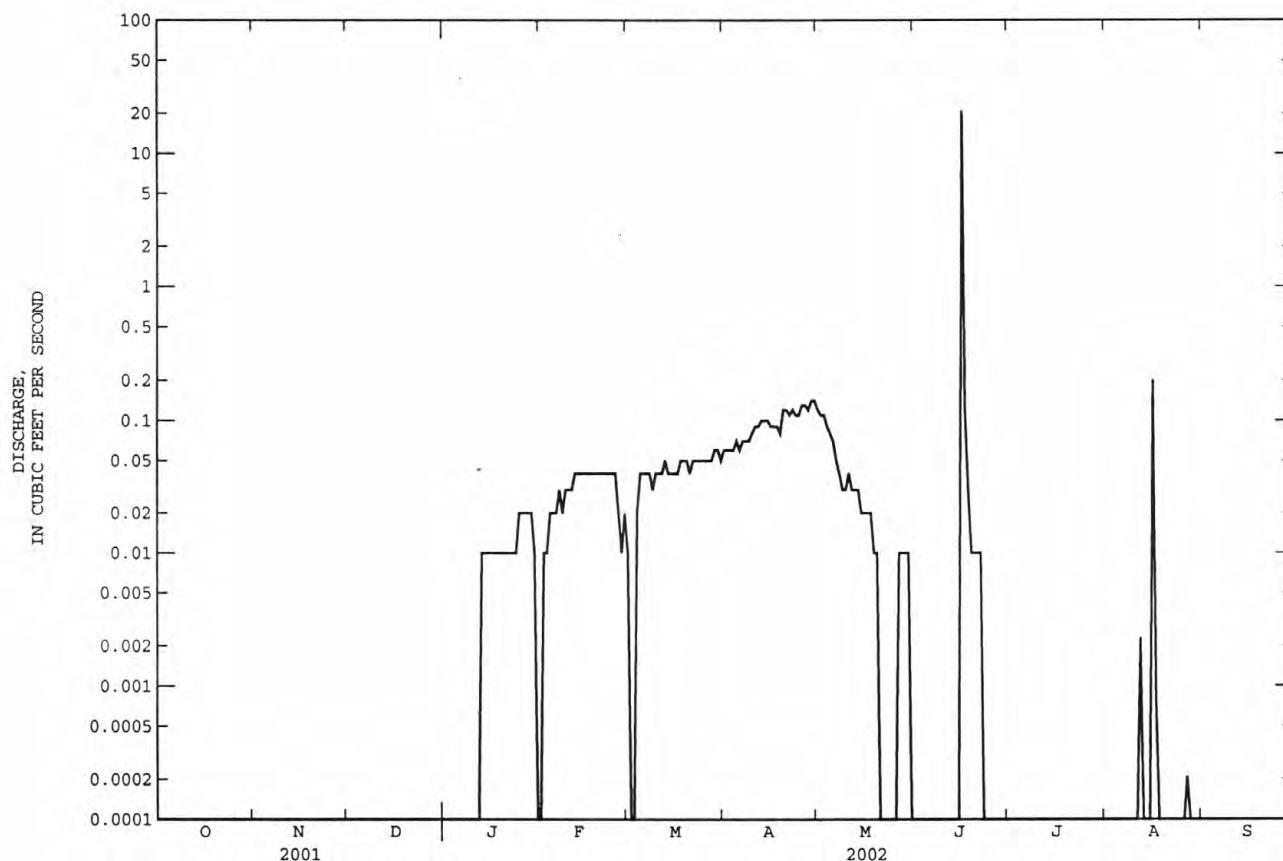
07234000 BEAVER RIVER AT BEAVER, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1979 - 2002
ANNUAL TOTAL	560.81	27.55	
ANNUAL MEAN	1.536	0.075	^a 14.75
HIGHEST ANNUAL MEAN			64.0 1989
LOWEST ANNUAL MEAN			0.075 2002
HIGHEST DAILY MEAN	8.2 May 21	21 Jun 16	3880 May 31 1980
LOWEST DAILY MEAN	0.00 several days	0.00 several days	0.00 at times
ANNUAL SEVEN-DAY MINIMUM	0.00 Jul 21	0.00 Oct 1	0.00 Oct 1 1978
MAXIMUM PEAK FLOW		98 Jun 16	^b 5510 Jun 10 1983
MAXIMUM PEAK STAGE		4.35 Jun 16	^c 10.50 Jun 10 1983
ANNUAL RUNOFF (AC-FT)	1110	55	10690
10 PERCENT EXCEEDS	6.1	0.06	24
50 PERCENT EXCEEDS	0.05	0.00	0.80
90 PERCENT EXCEEDS	0.00	0.00	0.00

^aPrior to regulation, water years 1938-78, 103 ft³/s.

^bMaximum discharge for period of record, 70,000 ft³/s, Oct. 8, 1946, from slope-area measurement of peak flow in overflow section and extension of rating curve for main channel above 42,000 ft³/s.

^cMaximum gage height for period of record, 14.55 ft, Oct. 8, 1946.



ARKANSAS RIVER BASIN

07237500 NORTH CANADIAN RIVER AT WOODWARD, OK

LOCATION.--Lat 36°26'12", long 99°16'41", SW $\frac{1}{4}$ SW $\frac{1}{4}$ sec.30, T.23 N., R.19 W., Woodward County, Hydrologic Unit 11100301, on downstream side of pier of bridge on State Highway 412 (formerly State Highway 15), 275 ft downstream from The Atchison, Topeka and Santa Fe Railway Co. bridge, 6.0 mi east of Woodward, 7.2 mi upstream from Indian Creek, 27.5 mi downstream from Wolf Creek, and at mile 460.2.

DRAINAGE AREA.--11,589 mi², of which 4,812 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1903 to September 1905 (gage heights only), October 1905 to June 1906, October 1938 to current year. Monthly discharge only for some periods, published in WSP 1311. Published as Canadian River (North Fork) near Woodward 1903-06. Gage-height records collected in this vicinity since 1919 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 1341: Drainage area. WSP 1731: 1951(M).

GAGE.--Water-stage recorder. Datum of gage is 1,829.95 ft above sea level. Prior to July 1906, nonrecording gage at railway bridge 275 ft upstream at different datum. Oct. 1, 1938 to Oct. 26, 1943, nonrecording gage and Oct. 27, 1943 to July 12, 1951, water-stage recorder, at site 7.8 mi upstream at datum 37.01 ft higher than present datum.

REMARKS.--Records good. Some regulation since May 1942 by Fort Supply Lake (station 07236500) on Wolf Creek, 33.0 mi upstream. Flow regulated since October 1978 by Optima Lake (station 07233200), 163.0 mi upstream, and by Palo Duro reservoir since May 1991. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 12, 1923, reached a stage of 11.0 ft, site and datum then in use; from reports of National Weather Service.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	16	45	e30	e39	100	59	49	27	33	9.8	15
2	14	16	44	e31	51	e180	52	46	25	30	9.1	13
3	14	17	43	e35	57	e188	48	45	23	28	8.8	12
4	13	17	42	e66	58	217	47	45	24	26	8.2	11
5	13	17	40	129	93	149	47	44	25	34	8.0	9.9
6	13	16	39	119	133	89	45	43	25	29	7.9	9.6
7	13	16	38	120	136	76	56	44	24	24	7.6	9.0
8	13	15	38	123	139	73	50	53	23	23	7.2	8.5
9	13	16	38	124	142	67	48	103	22	21	7.3	8.3
10	13	16	37	123	138	62	47	113	22	19	9.0	19
11	13	16	37	119	136	57	72	97	21	19	12	18
12	13	16	37	96	137	55	154	61	21	19	13	9.8
13	13	16	37	65	138	54	156	51	84	19	11	9.0
14	13	17	38	60	138	51	179	47	210	17	11	8.5
15	12	17	38	58	119	48	78	43	143	16	12	9.0
16	13	18	38	55	73	46	68	42	134	16	16	8.9
17	13	19	38	54	60	45	68	64	108	15	15	8.7
18	13	19	38	54	55	45	99	45	93	14	15	8.1
19	13	18	38	53	54	46	103	40	107	14	13	8.3
20	13	20	37	52	53	44	100	38	161	13	12	8.7
21	13	23	38	51	50	43	73	37	165	12	13	8.4
22	13	66	38	52	50	43	68	35	168	11	15	8.0
23	14	80	37	51	48	44	66	35	169	16	14	7.7
24	13	87	36	51	46	42	63	46	169	12	23	7.6
25	13	89	e33	52	45	43	55	37	134	12	14	7.4
26	13	92	e34	51	e39	75	55	35	77	11	13	7.1
27	13	72	36	51	e38	152	58	35	64	9.9	32	7.2
28	13	50	37	51	45	168	56	47	51	9.8	18	7.1
29	14	47	36	51	---	174	54	38	41	21	19	6.7
30	14	48	e32	e49	---	126	51	34	36	12	19	6.5
31	16	---	e24	e40	---	70	---	31	---	12	16	---
TOTAL	412	992	1161	2116	2310	2672	2175	1523	2396	567.7	408.9	286.0
MEAN	13.29	33.07	37.45	68.26	82.50	86.19	72.50	49.13	79.87	18.31	13.19	9.533
MAX	16	92	45	129	142	217	179	113	210	34	32	19
MIN	12	15	24	30	38	42	45	31	21	9.8	7.2	6.5
AC-FT	817	1970	2300	4200	4580	5300	4310	3020	4750	1130	811	567

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2002, BY WATER YEAR (WY)

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	60.01	71.29	62.75	80.43	99.24	145.7	171.4	240.2	207.1	87.12	45.96	40.23												
MAX	377	281	242	205	246	404	576	900	814	328	254	368												
(WY)	1986	1997	1997	1998	2001	1987	1999	1979	1989	1989	1996	1996												
MIN	2.33	5.75	8.33	11.0	12.6	30.6	32.6	13.3	9.57	4.24	1.73	0.95												
(WY)	1992	1985	1995	1981	1981	1996	1996	1996	1996	1981	1991	1984												

e Estimated

ARKANSAS RIVER BASIN

253

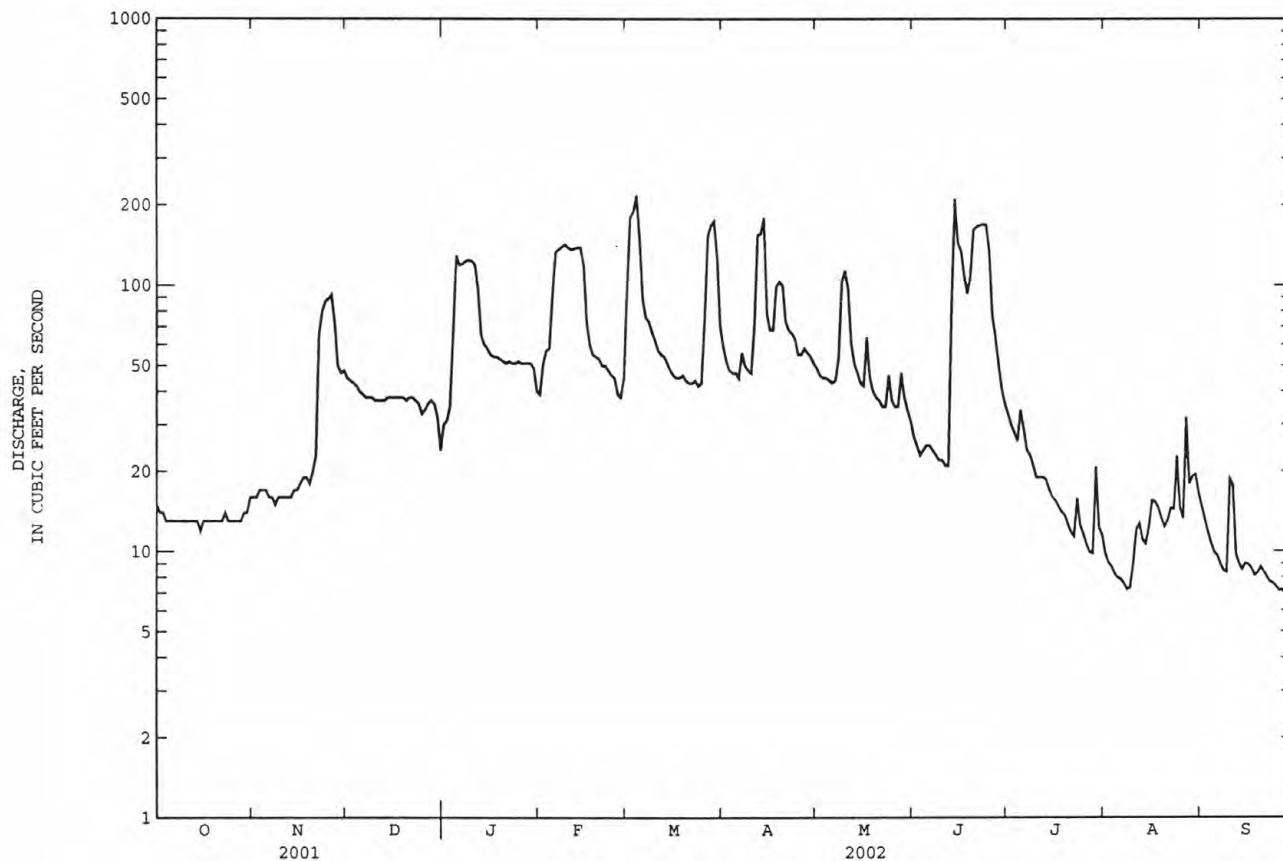
07237500 NORTH CANADIAN RIVER AT WOODWARD, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1979 - 2002
ANNUAL TOTAL	46022.0	17019.6	
ANNUAL MEAN	126.1	46.63	^a 109.2
HIGHEST ANNUAL MEAN			248 1999
LOWEST ANNUAL MEAN			16.9 1981
HIGHEST DAILY MEAN	888 May 5	217 Mar 4	2950 May 23 1989
LOWEST DAILY MEAN	9.1 Sep 12	6.5 Sep 30	0.00 at times
ANNUAL SEVEN-DAY MINIMUM	9.6 Sep 9	7.1 Sep 24	0.13 Sep 9 1984
MAXIMUM PEAK FLOW		497 Apr 14	^b 3090 May 23 1989
MAXIMUM PEAK STAGE		5.86 Apr 14	^c 10.72 May 23 1989
ANNUAL RUNOFF (AC-FT)	91280	33760	79120
10 PERCENT EXCEEDS	287	119	264
50 PERCENT EXCEEDS	78	38	60
90 PERCENT EXCEEDS	13	11	6.9

^aPrior to regulation 1939-78, 194 ft³/s.

^bMaximum discharge for period of record 42,000 ft³/s, Oct. 10, 1946.

^cMaximum gage height for period of record 9.80 ft, Oct. 10, 1946, site and datum then in use.



ARKANSAS RIVER BASIN

07238000 NORTH CANADIAN RIVER NEAR SEILING, OK

LOCATION.--Lat 36°11'00", long 98°55'15", in NW 1/4 sec.28, T.20 N., R.16 W., Major County, Hydrologic Unit 11100301, near center of span on downstream side of pier of bridge on U.S. Highway 60, 2.0 mi upstream from Seiling Creek, 2.2 mi north of Seiling, 2.8 mi downstream from Deep Creek, and at mile 422.6.

DRAINAGE AREA.--12,261 mi², of which 4,847 mi is probably noncontributing.

PERIOD OF RECORD.--July 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,675.53 ft above sea level. July 1, 1946 to Aug. 17, 1964, at site 60 ft downstream and prior to Oct. 1, 1954, at datum 5.00 ft higher.

REMARKS.--Records good. Some regulation since May 1942 by Fort Supply Lake. Minor regulation since October 1978 by Optima Lake. Some regulation since May 1991 by Palo Duro Reservoir. U.S. Army Corps of Engineers' satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	39	81	e64	e101	96	119	99	73	60	22	25
2	47	39	80	e76	e103	e116	104	91	66	58	19	22
3	45	41	79	e65	123	e140	93	88	60	53	17	18
4	42	42	79	e76	128	e185	88	86	97	52	15	15
5	40	43	79	152	143	242	85	85	100	54	14	13
6	37	44	76	172	172	195	84	160	e70	63	13	12
7	36	45	74	163	196	156	86	102	e61	64	13	11
8	35	43	73	165	198	143	98	90	e52	55	12	9.4
9	36	42	72	166	207	129	100	84	e47	50	11	9.6
10	40	43	72	164	204	119	95	110	e43	46	11	11
11	38	45	73	161	188	114	93	136	39	42	10	12
12	35	47	73	160	181	110	102	129	36	41	9.9	34
13	34	48	74	142	178	107	199	96	38	39	33	26
14	34	49	76	115	177	103	243	88	72	39	35	22
15	33	49	77	107	177	97	234	81	166	38	e25	19
16	32	50	78	104	163	94	153	76	221	37	18	15
17	33	54	78	100	129	93	133	329	199	36	16	14
18	35	60	79	99	114	93	240	121	154	34	17	12
19	35	57	78	101	110	94	216	115	128	31	16	12
20	35	54	78	101	106	96	167	102	116	29	15	13
21	35	55	78	101	104	94	167	93	163	28	14	12
22	35	57	80	100	99	90	151	86	168	26	13	10
23	35	81	79	99	97	89	136	80	167	22	12	9.7
24	34	105	76	97	97	91	125	432	166	32	15	9.4
25	33	111	e71	96	94	88	113	278	166	24	57	8.9
26	33	115	e69	97	89	85	107	148	147	16	42	8.7
27	34	118	83	97	88	101	110	117	101	13	61	8.5
28	35	106	85	96	92	168	112	107	88	12	56	8.8
29	36	86	86	96	---	185	107	111	77	31	38	8.3
30	36	83	e71	e100	---	191	103	e96	66	43	33	7.6
31	37	---	e70	e106	---	164	---	81	---	30	29	---
TOTAL	1135	1851	2377	3538	3858	3868	3963	3897	3147	1198	711.9	416.9
MEAN	36.61	61.70	76.68	114.1	137.8	124.8	132.1	125.7	104.9	38.65	22.96	13.90
MAX	50	118	86	172	207	242	243	432	221	64	61	34
MIN	32	39	69	64	88	85	84	76	36	12	9.9	7.6
AC-FT	2250	3670	4710	7020	7650	7670	7860	7730	6240	2380	1410	827

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 2002, BY WATER YEAR (WY)

	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	93.97	123.6	106.6	125.6	152.4	224.7	256.3	368.0	299.1	126.1	69.02	80.26												
MAX	471	540	333	360	360	645	1128	984	982	380	409	698												
(WY)	1997	1999	1997	1998	2001	1998	1999	1979	1989	1989	1996	1996												
MIN	2.73	10.6	24.5	30.5	36.7	61.8	57.3	32.3	18.8	8.13	1.23	0.074												
(WY)	1992	1985	1979	1981	1981	1996	1981	1996	1981	1991	1984	1984												

e Estimated

ARKANSAS RIVER BASIN

255

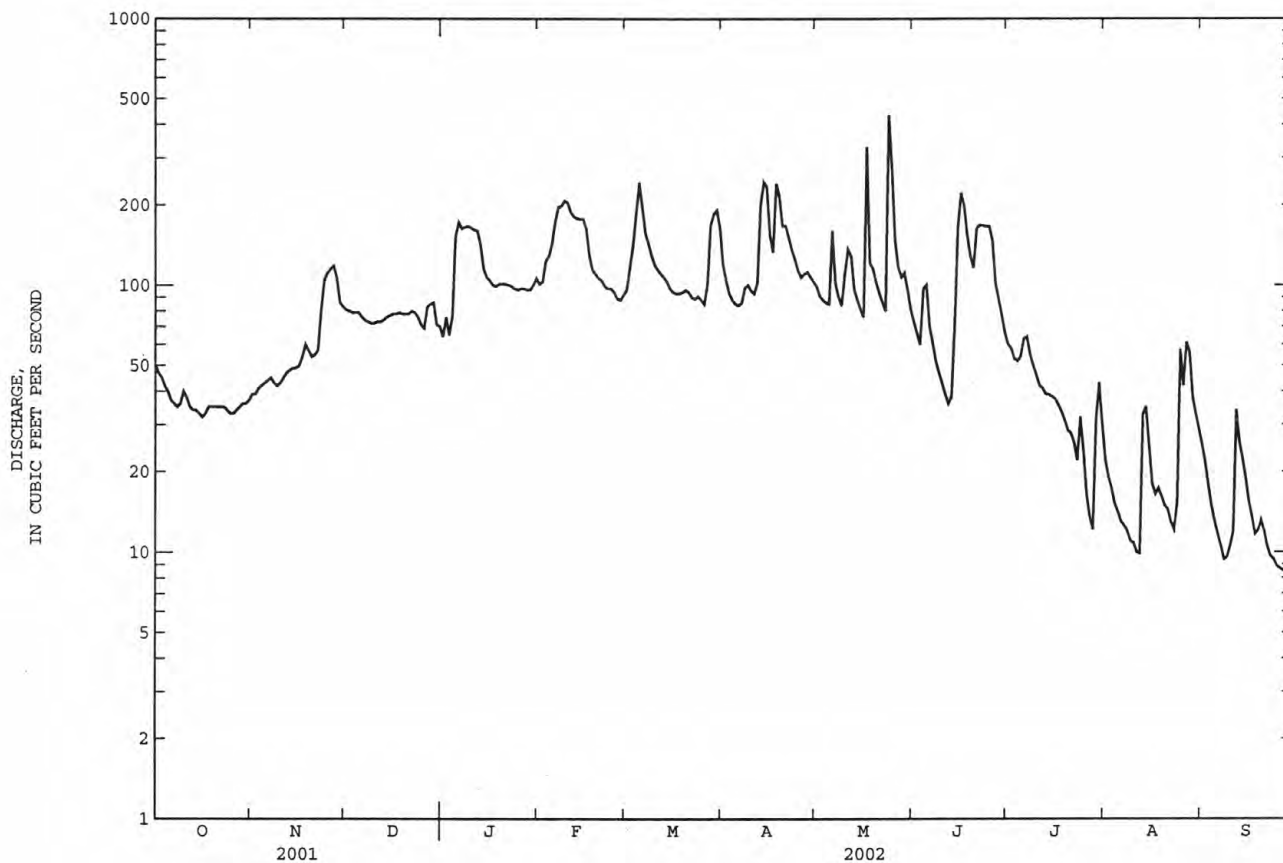
07238000 NORTH CANADIAN RIVER NEAR SEILING, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1979 - 2002	
ANNUAL TOTAL	72411		29960.8		^a 168.7	
ANNUAL MEAN	198.4		82.08		380	
HIGHEST ANNUAL MEAN					29.4	
LOWEST ANNUAL MEAN					5430	
HIGHEST DAILY MEAN	1930	May 6	432	May 24	0.00	Sep 23 1997
LOWEST DAILY MEAN	11	Aug 22	7.6	Sep 30	0.00	at times
ANNUAL SEVEN-DAY MINIMUM	13	Aug 18	8.6	Sep 24	0.00	Sep 16 1980
MAXIMUM PEAK FLOW			863	May 17	^b 7200	Sep 23 1997
MAXIMUM PEAK STAGE			8.26	May 17	^c 14.86	Sep 23 1997
ANNUAL RUNOFF (AC-FT)	143600		59430		122200	
10 PERCENT EXCEEDS	399		164		387	
50 PERCENT EXCEEDS	149		78		92	
90 PERCENT EXCEEDS	22		15		12	

^aPrior to regulation, water years 1947-78, 215 ft³/s.

^bMaximum discharge for period of record, 33,000 ft³/s, May 19, 1951.

^cMaximum gage height for period of record, 16.00 ft, Oct. 11, 1946, present datum.



ARKANSAS RIVER BASIN

07239000 NORTH CANADIAN RIVER AT CANTON, OK

LOCATION.--Lat 36°04'37", long 98°35'47", in NE 1/4 SW 1/4 sec.33, T.19 N., R.13 W., Blaine County, Hydrologic Unit 11100301, on right bank 2,700 ft downstream from Canton Lake, 1.5 mi northwest of Canton, 3.1 mi upstream from Minnehaha Creek, and at mile 393.8

DRAINAGE AREA.--12,484 mi², of which 4,883 mi is probably noncontributing.

PERIOD OF RECORD.--October 1937 to September 1993, July 1, 2000 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage-height records collected in this vicinity since 1914 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,562.50 ft above sea level. Oct. 1, 1937 to Jan. 5, 1955, water-stage recorder at site 2.5 mi downstream at datum 1.91 ft lower prior to Oct. 1, 1950 and at datum 6.91 ft lower thereafter.

REMARKS.--No estimated daily discharge. Records poor. Flow partly regulated by Fort Supply Lake for period May 1942 to April 1948 and completely regulated thereafter by Canton Lake. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.-- Flood of Oct. 13, 1923, reached a stage of 16.8 ft, at site 300 ft upstream from former site at datum 1.91 ft lower than present datum, from reports of National Weather Service.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	9.9	8.5	7.2	5.2	8.1	5.1	5.4	931	9.8	11	11
2	11	11	9.0	14	5.8	11	7.3	7.9	930	10	12	11
3	11	9.9	7.9	18	5.8	5.7	7.6	8.8	927	12	13	11
4	9.4	11	7.7	9.6	5.9	5.2	5.4	8.9	924	11	12	11
5	11	11	6.9	5.8	6.8	5.2	4.7	8.2	926	9.7	11	11
6	9.9	8.6	7.2	7.3	5.4	4.2	3.6	9.3	923	8.7	11	11
7	9.3	8.5	8.0	6.4	4.5	5.0	5.0	9.5	814	8.1	11	9.9
8	9.5	12	7.6	6.4	3.9	7.2	4.7	10	349	8.8	8.9	11
9	10	12	8.1	6.7	4.4	8.6	5.7	12	35	9.5	9.3	11
10	11	10	8.3	6.1	6.2	5.5	4.8	11	18	9.3	9.5	11
11	10	10	8.3	5.7	3.4	4.1	4.7	9.8	18	9.9	9.4	11
12	11	9.3	9.7	6.7	3.4	5.4	8.2	11	13	10	9.2	11
13	9.9	11	10	6.8	3.7	6.9	9.4	12	13	11	12	12
14	9.4	11	9.9	5.8	4.5	5.2	6.6	11	13	10	10	12
15	10	7.0	9.3	5.7	4.4	7.7	6.0	11	12	9.7	10	12
16	10	8.0	8.5	6.2	5.0	7.5	5.5	10	11	9.8	11	10
17	8.1	8.3	9.5	5.5	5.2	5.1	12	23	10	9.9	10	9.9
18	7.3	8.2	11	5.9	4.0	4.5	4.4	27	9.6	9.0	8.4	11
19	8.8	6.3	11	6.6	3.5	4.9	7.4	28	8.9	8.9	9.2	13
20	8.8	5.4	11	7.3	3.4	7.1	6.3	28	9.3	9.0	9.3	13
21	7.9	5.3	9.0	5.5	3.9	6.5	6.2	27	8.7	9.3	8.7	12
22	8.2	5.3	11	5.0	4.5	6.3	8.6	24	9.8	9.6	12	11
23	9.2	5.4	12	5.1	3.6	5.4	6.3	23	9.5	11	9.8	11
24	11	6.4	11	5.0	3.2	5.5	8.0	25	8.4	11	8.9	12
25	11	6.8	10	4.6	7.3	7.0	8.5	28	8.7	9.8	10	12
26	10	7.5	10	4.6	8.7	6.3	7.9	24	11	9.1	10	12
27	8.8	8.1	10	4.7	9.4	5.4	6.5	21	13	8.4	12	13
28	8.9	8.1	8.1	4.5	12	5.0	4.8	22	13	9.7	14	12
29	8.5	8.7	5.8	5.0	---	5.8	4.7	22	11	11	10	12
30	8.5	8.8	4.3	11	---	6.1	5.2	258	9.1	10	9.8	10
31	9.6	---	5.4	8.2	---	6.1	---	700	---	10	10	---
TOTAL	299.0	258.8	274.0	212.9	147.0	189.5	191.1	1435.8	6997.0	303.0	322.4	340.8
MEAN	9.645	8.627	8.839	6.868	5.250	6.113	6.370	46.32	233.2	9.774	10.40	11.36
MAX	12	12	12	18	12	11	12	700	931	12	14	13
MIN	7.3	5.3	4.3	4.5	3.2	4.1	3.6	5.4	8.4	8.1	8.4	9.9
AC-FT	593	513	543	422	292	376	379	2850	13880	601	639	676

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2002, BY WATER YEAR (WY)

	MEAN	86.30	74.22	63.51	62.76	89.99	125.2	163.7	205.1	391.1	258.1	157.3	170.0
MAX	1155	558	566	284	406	513	683	1187	3259	2781	2713	2881	
(WY)	1951	1975	1978	1976	1960	1988	1973	1949	1949	1951	1950	1950	
MIN	0.006	0.27	0.31	0.40	0.73	0.35	0.59	2.52	5.28	2.07	0.34	0.34	
(WY)	1949	1955	1955	1955	1955	1955	1955	1971	1970	1954	1954	1954	

ARKANSAS RIVER BASIN

257

07239000 NORTH CANADIAN RIVER AT CANTON, OK--Continued

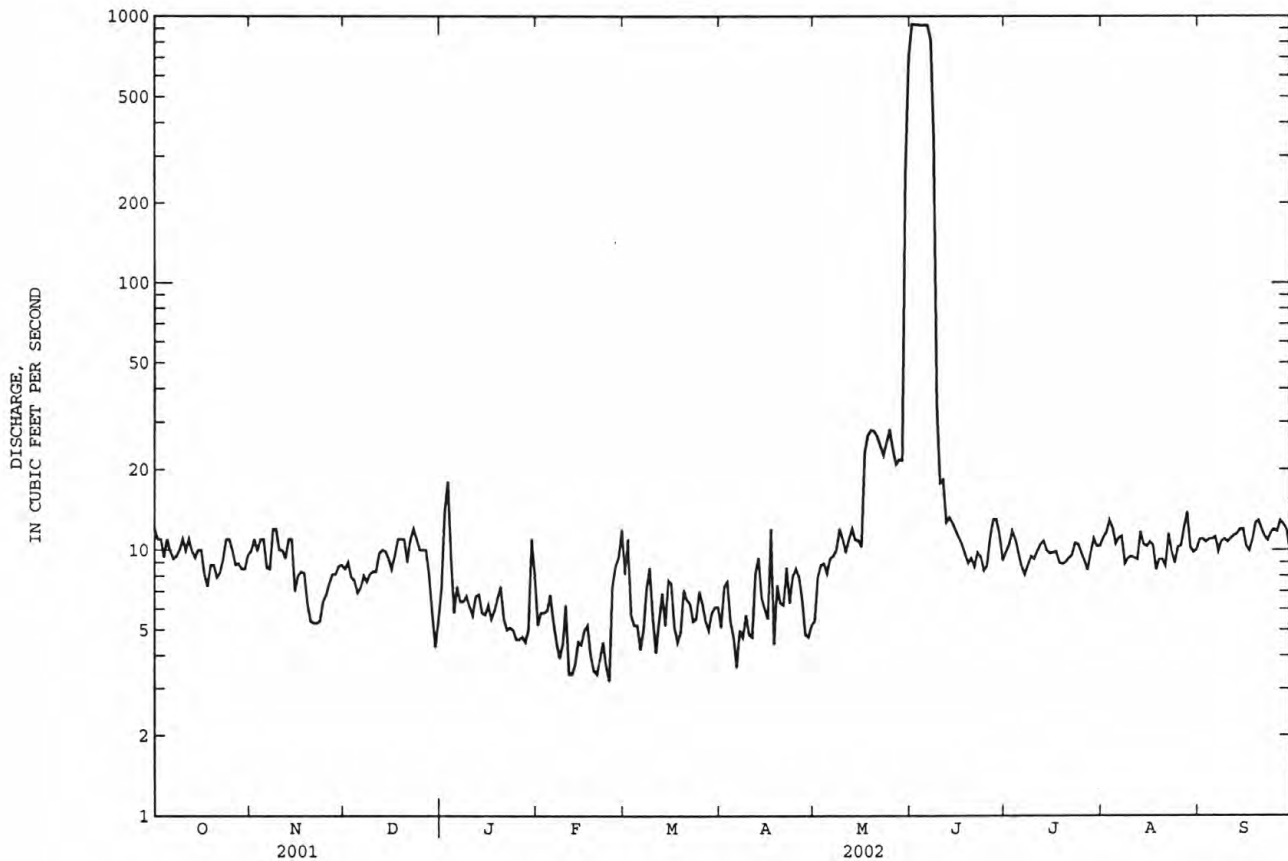
SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1949 - 2002
ANNUAL TOTAL	76249.8	10971.3	
ANNUAL MEAN	208.9	30.06	^a 154.5
HIGHEST ANNUAL MEAN			782 1951
LOWEST ANNUAL MEAN			27.2 1985
HIGHEST DAILY MEAN	966 Sep 6	931 Jun 1	3940 Jun 10 1949
LOWEST DAILY MEAN	4.3 Dec 30	3.2 Feb 24	^b 0.00 Oct 2 1948
ANNUAL SEVEN-DAY MINIMUM	5.8 Nov 19	3.7 Feb 18	0.00 Oct 2 1948
MAXIMUM PEAK FLOW		933 Jun 1	^c 4020 Jun 11 1949
MAXIMUM PEAK STAGE		7.55 Jun 1	^d 9.86 Jun 11 1949
ANNUAL RUNOFF (AC-FT)	151200	21760	111900
10 PERCENT EXCEEDS	520	13	470
50 PERCENT EXCEEDS	140	9.3	13
90 PERCENT EXCEEDS	8.6	5.0	2.8

^aPrior to regulation, water years 1947-78, 256 ft³/s.

^bMinimum daily discharge for period of record, no flow at times in 1938-49, 1954-55.

^cMaximum discharge for period of record, 24,800 ft³/s, Oct. 12, 1946.

^dMaximum gage height for period of record, 12.83 ft, at former site and datum.



ARKANSAS RIVER BASIN

07239300 NORTH CANADIAN RIVER BELOW WEAVERS CREEK NEAR WATONGA, OK

LOCATION.--Lat 35°48'43", long 98°25'14", NE 1/4, NE 1/4, sec.1, T.15 N., R.12 W., Blaine County, Hydrologic Unit 11100301, near right abutment on downstream side of U.S. Highway 281, 2.0 mi south of intersection of U.S. Highway 281 and State Highway 33 and at mile 361.2.

DRAINAGE AREA.--12,736 mi², of which 4,899 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1983 to current year.

REVISED RECORDS.--WRD OK-95-1: 1987 (M)

GAGE.--Water-stage recorder. Datum of gage is 1,453.60 ft above sea level (Oklahoma State Highway Department benchmark).

REMARKS.--Records good. Considerable regulation by Canton Lake (07238500) 33 mi upstream. U.S. Army Corps of Engineers' satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	20	20	e18	e25	18	18	24	709	22	11	13
2	38	19	20	e19	24	e15	17	21	909	23	29	12
3	36	20	20	e16	23	e17	16	21	912	22	35	10
4	35	20	20	e17	21	e19	17	21	927	20	11	7.6
5	33	16	20	e25	23	24	17	20	962	18	8.3	9.6
6	32	18	19	23	27	21	18	22	965	16	8.7	9.3
7	31	20	18	e17	27	19	23	19	954	16	7.6	9.0
8	30	19	18	17	25	19	32	19	784	17	7.0	8.9
9	30	19	18	15	23	17	29	17	364	16	8.9	10
10	29	20	18	17	20	16	22	16	149	16	8.2	11
11	29	20	19	16	19	16	20	18	97	17	7.6	10
12	27	21	20	16	18	15	23	17	82	17	7.3	11
13	26	21	19	16	18	17	38	17	71	16	22	12
14	24	21	20	15	18	16	42	16	64	18	46	39
15	24	21	20	15	18	16	29	15	56	16	21	15
16	23	21	20	15	17	16	23	15	56	15	15	13
17	23	23	20	15	17	16	21	400	51	14	12	11
18	23	27	20	15	18	19	22	113	43	11	11	29
19	23	23	19	15	22	23	27	56	38	11	9.4	72
20	22	20	19	16	20	23	33	41	36	11	7.9	26
21	22	19	19	15	19	20	27	33	34	9.7	6.9	20
22	21	20	19	15	17	18	23	29	32	10	5.6	16
23	19	20	19	15	17	19	22	29	28	17	5.9	15
24	20	20	e17	15	17	20	20	133	26	16	42	14
25	20	19	e17	14	16	18	19	308	27	11	19	14
26	20	18	e19	14	e13	17	23	121	26	11	26	14
27	20	18	23	14	e15	19	60	61	24	8.8	76	14
28	20	15	22	15	19	19	49	51	21	6.6	42	13
29	20	20	19	14	---	19	31	43	21	15	23	13
30	20	21	e15	24	---	18	26	37	21	14	19	12
31	20	---	e16	30	---	18	---	208	---	12	16	---
TOTAL	800	599	592	523	556	567	787	1961	8489	463.1	575.3	483.4
MEAN	25.81	19.97	19.10	16.87	19.86	18.29	26.23	63.26	283.0	14.94	18.56	16.11
MAX	40	27	23	30	27	24	60	400	965	23	76	72
MIN	19	15	15	14	13	15	16	15	21	6.6	5.6	7.6
AC-FT	1590	1190	1170	1040	1100	1120	1560	3890	16840	919	1140	959

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2002, BY WATER YEAR (WY)												
MEAN	124.0	122.2	141.2	155.3	197.6	247.9	333.8	323.8	356.1	180.9	167.1	155.1
MAX	708	532	452	620	532	597	863	1004	944	895	610	666
(WY)	1997	1997	2000	1998	1994	1988	1998	1999	1987	1989	1984	1986
MIN	10.2	9.97	13.4	11.4	14.0	18.3	24.2	10.4	18.8	10.1	18.6	9.48
(WY)	1985	1985	1985	1985	1985	2002	1985	1985	1985	1985	2002	1985

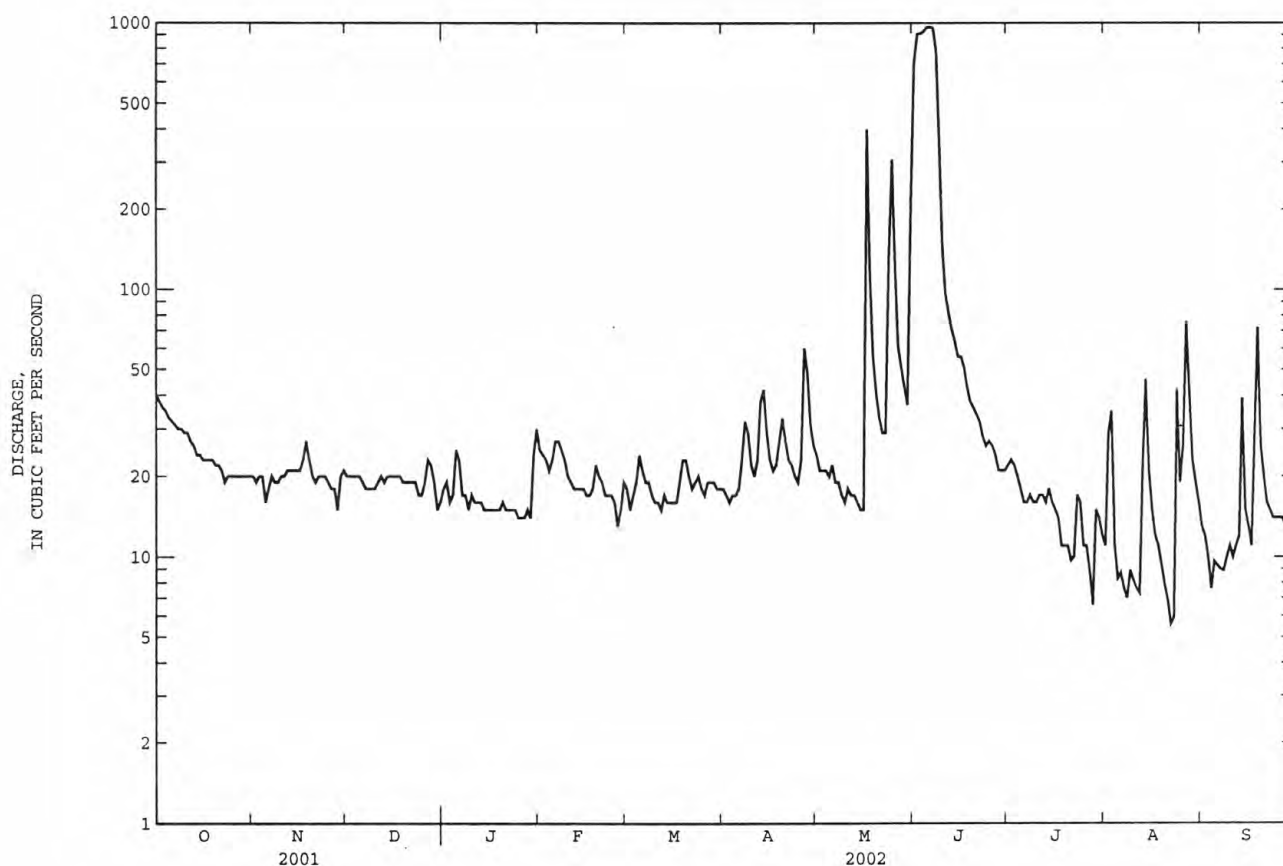
e Estimated

ARKANSAS RIVER BASIN

259

07239300 NORTH CANADIAN RIVER BELOW WEAVERS CREEK NEAR WATONGA, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1984 - 2002	
ANNUAL TOTAL	88527		16395.8		208.5	
ANNUAL MEAN	242.5		44.92		32.1	
HIGHEST ANNUAL MEAN					476	
LOWEST ANNUAL MEAN					32.1	
HIGHEST DAILY MEAN	1120	May 18	965	Jun 6	5170	Oct 3 1986
LOWEST DAILY MEAN	15	Nov 28	5.6	Aug 22	5.0	Sep 26 1985
ANNUAL SEVEN-DAY MINIMUM	18	Dec 19	7.9	Aug 6	5.5	Sep 14 1985
MAXIMUM PEAK FLOW			979	Jun 6	6180	Oct 3 1986
MAXIMUM PEAK STAGE			11.69	Jun 6	19.24	Oct 3 1986
ANNUAL RUNOFF (AC-FT)	175600		32520		151000	
10 PERCENT EXCEEDS	615		41		671	
50 PERCENT EXCEEDS	154		19		56	
90 PERCENT EXCEEDS	20		12		17	



ARKANSAS RIVER BASIN

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK

LOCATION.--Lat 35°37'01", long 98°03'54", in NW 1/4 SW 1/4 of sec.9, T.13 N., R.8 W., Canadian County, Hydrologic Unit 11100301, near left bank on downstream side of county road bridge, 1 mi north and 3 mi east of Calumet, and at mile 320.7.

DRAINAGE AREA.--12,962 mi², of which 4,899 is noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1988 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,326.80 ft above sea level.

REMARKS.--Records fair. Some regulation by Canton Lake (station 07238500). U.S. Geological Survey's satellite telemeter located at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	22	28	e19	54	26	24	47	70	e24	12	24
2	52	22	29	e18	50	e24	24	40	555	e24	9.7	21
3	48	23	28	e17	51	e23	22	36	822	e23	9.9	17
4	46	23	27	25	46	e22	19	33	888	e20	18	14
5	44	24	27	32	46	29	19	32	933	e19	20	12
6	43	24	27	33	48	31	22	31	954	e18	14	11
7	42	21	27	35	48	33	28	31	954	e18	9.9	8.9
8	40	20	26	30	51	30	32	31	954	e18	9.4	8.6
9	39	21	25	26	50	27	35	27	837	e18	9.8	9.5
10	40	22	25	25	46	26	39	25	421	e17	9.1	9.8
11	38	22	25	22	41	24	36	25	195	e17	8.4	10
12	36	24	25	22	38	23	35	23	123	e17	8.6	10
13	36	24	26	22	34	22	44	23	104	e17	13	10
14	34	24	27	22	33	21	124	22	e95	e16	19	27
15	32	24	27	21	33	21	89	20	e85	e16	21	62
16	30	25	27	20	32	21	61	19	e76	e15	29	38
17	29	29	27	20	31	20	45	30	69	e14	24	29
18	28	32	27	20	30	22	39	423	59	e13	20	28
19	27	33	26	21	33	29	37	212	50	e13	14	2370
20	28	31	26	21	33	33	38	93	45	e11	11	1020
21	28	28	26	21	36	35	39	62	43	10	11	325
22	27	26	25	19	33	32	43	47	40	11	8.7	144
23	27	25	25	19	31	30	38	41	38	14	8.5	95
24	26	25	24	19	28	27	34	42	36	11	8.5	73
25	23	26	e22	18	27	27	31	71	34	11	11	62
26	23	25	e20	18	e22	27	33	294	33	13	26	54
27	23	23	23	17	e22	26	40	175	32	9.9	27	49
28	23	23	26	17	25	25	93	92	30	8.1	31	45
29	23	e22	27	17	---	25	89	69	27	12	37	42
30	22	23	26	33	---	25	62	56	e24	12	32	39
31	22	---	e19	53	---	25	---	47	---	11	27	---
TOTAL	1034	736	795	722	1052	811	1314	2219	8626	471.0	517.5	4667.8
MEAN	33.35	24.53	25.65	23.29	37.57	26.16	43.80	71.58	287.5	15.19	16.69	155.6
MAX	55	33	29	53	54	35	124	423	954	24	37	2370
MIN	22	20	19	17	22	20	19	19	24	8.1	8.4	8.6
AC-FT	2050	1460	1580	1430	2090	1610	2610	4400	17110	934	1030	9260

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2002, BY WATER YEAR (WY)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	156.8	171.2	199.3	194.0	256.3	344.2	433.7	542.1	543.4	210.1	191.2	198.5		
MAX	745	603	547	777	600	976	1110	1878	1086	860	556	535		
(WY)	1997	1997	2000	1998	1994	1998	1997	1993	1997	1989	1995	1989		
MIN	18.4	24.5	25.6	23.3	28.8	26.2	32.6	24.7	86.5	15.2	16.7	13.3		
(WY)	1993	2002	2002	2002	1991	2002	1991	1996	1994	2002	2002	1998		

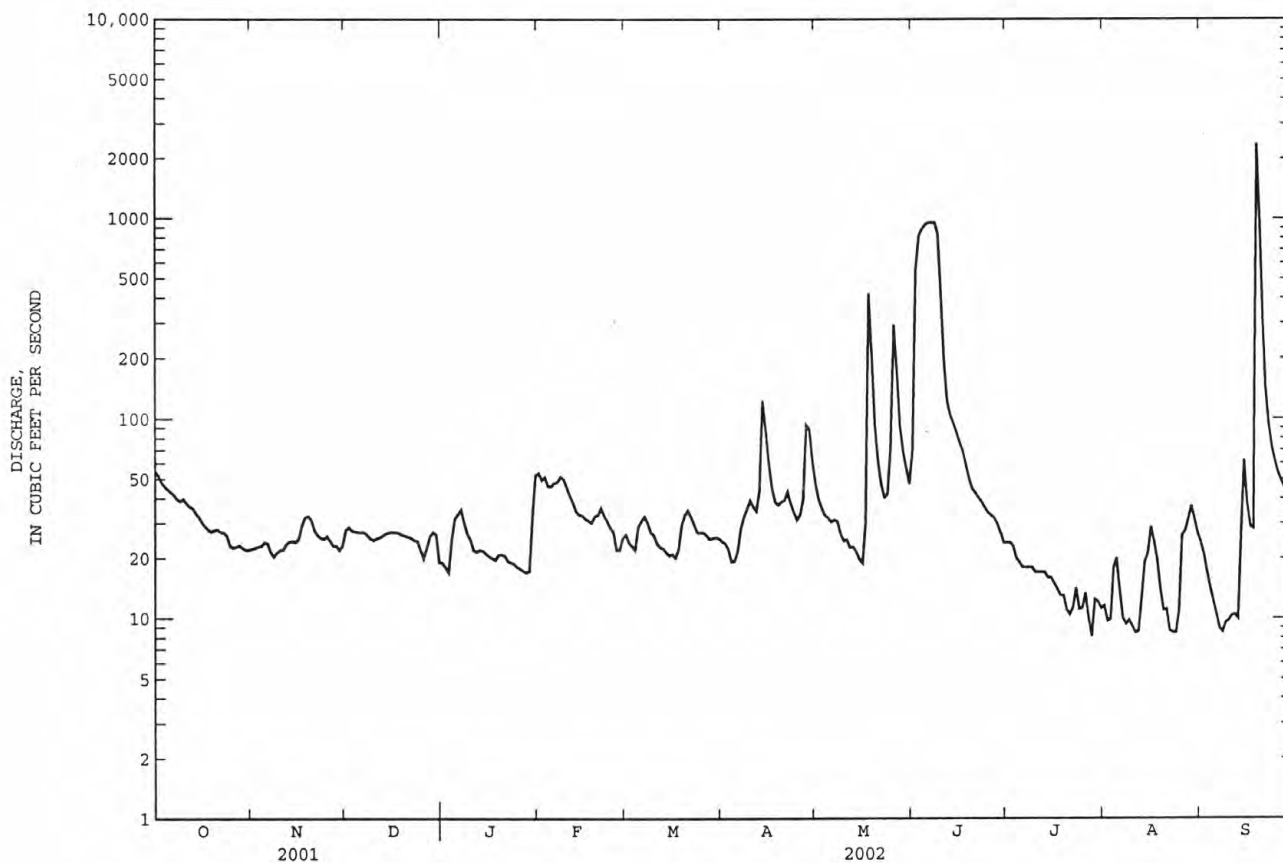
e Estimated

ARKANSAS RIVER BASIN

261

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1989 - 2002	
ANNUAL TOTAL	110004		22965.3		286.4	
ANNUAL MEAN	301.4		62.92		635	
HIGHEST ANNUAL MEAN					62.9	
LOWEST ANNUAL MEAN					8430	
HIGHEST DAILY MEAN	1860	May 30	2370	Sep 19	8430	May 10 1993
LOWEST DAILY MEAN	19	Dec 31	8.1	Jul 28	8.1	Jul 28 2002
ANNUAL SEVEN-DAY MINIMUM	22	Nov 5	9.5	Sep 7	9.5	Sep 7 2002
MAXIMUM PEAK FLOW			3060	Sep 19	9310	May 10 1993
MAXIMUM PEAK STAGE			12.01	Sep 19	14.32	Mar 18 1998
ANNUAL RUNOFF (AC-FT)	218200		45550		207500	
10 PERCENT EXCEEDS	727		62		829	
50 PERCENT EXCEEDS	207		27		98	
90 PERCENT EXCEEDS	25		13		27	



ARKANSAS RIVER BASIN

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--August 1988 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1988 to current year.

pH: October 1988 to current year.

WATER TEMPERATURE: October 1988 to current year.

DISSOLVED OXYGEN: October 1988 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1988.

REMARKS.--Interruptions in record were due to malfunction of the recording instruments. Samples were collected monthly and specific conductance, pH, water temperature, dissolved oxygen, and alkalinity were determined in the field.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 2,040 microsiemens, Oct. 2, 1994; minimum, 85 microsiemens, Aug. 17, 1996.

pH: Maximum, 9.4 units, Sept. 25, 1989; minimum, 6.9 units, Sept. 16, 1995.

WATER TEMPERATURE: Maximum, 39.0°C, July 2, 1990; minimum, -0.1°C, several days during winter period.

DISSOLVED OXYGEN: Maximum, 19.6 mg/L, Jan. 3, 2002; minimum, 2.8 mg/L, Aug. 25, 2002.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,630 microsiemens, June 24; minimum, 139 microsiemens, Sept. 18.

pH: Maximum, 9.1 units, Aug. 29; minimum, 7.5 units, Aug. 10.

WATER TEMPERATURE: Maximum 36.4°C, Aug. 23; minimum, 0.0°C, several days during winter period.

DISSOLVED OXYGEN: Maximum recorded (more than 20% missing record), 19.6 mg/L, Jan. 3; minimum recorded (more than 20% missing record), 2.8 mg/L, Aug. 25.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)		
SEP													
10...	1205	1028	1028	4.52	7.6	738	11.8	8.4	1380	28.1	2.00		
10...	1206	1028	1028	4.52	7.6	738	12.3	8.4	1380	28.3	4.00		
10...	1207	1028	1028	4.52	7.6	738	12.6	8.4	1380	28.5	6.00		
10...	1208	1028	1028	4.52	7.6	738	12.2	8.4	1380	28.6	8.00		
10...	1209	1028	1028	4.52	7.6	738	12.6	8.4	1380	28.7	10.0		
10...	1210	1028	1028	4.52	7.6	738	12.6	8.4	1380	28.8	12.0		
10...	1211	1028	1028	4.52	7.6	738	12.7	8.4	1380	28.9	14.0		
10...	1212	1028	1028	4.52	7.6	738	12.9	8.4	1370	29.1	16.0		
10...	1213	1028	1028	4.52	7.6	738	13.0	8.4	1370	29.1	18.0		
10...	1214	1028	1028	4.52	7.6	738	12.5	8.4	1370	29.1	20.0		
10...	1215	1028	1028	4.52	7.6	738	12.4	8.4	1370	29.1	22.0		
Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
OCT													
09...	1327	80020	1028	5.32	42	729	106	9.5	8.3	1530	19.9	18.3	--
NOV													
07...	1145	80020	1028	5.05	21	738	98	9.4	8.3	1380	22.9	15.7	440
DEC													
04...	1000	80020	1028	5.07	27	734	114	11.2	7.9	1380	18.1	14.4	--
JAN													
08...	1130	80020	1028	5.16	33	736	139	17.7	8.2	1300	11.1	3.5	--
FEB													
12...	1230	80020	1028	5.31	44	740	125	14.7	8.3	1180	9.7	7.0	390
MAR													
05...	1230	80020	1028	5.11	26	735	106	12.5	8.1	1340	13.9	6.7	--
APR													
03...	1230	80020	1028	5.08	23	737	117	12.5	8.4	1340	5.4	10.9	--
MAY													
01...	1100	80020	1028	5.47	53	720	154	12.6	8.4	1030	27.0	22.2	350
JUN													
05...	1200	80020	1028	8.98	1040	729	81	6.6	8.1	1520	28.0	22.7	--
JUL													
10...	1250	80020	1028	4.93	17	727	144	10.5	8.4	1520	37.2	29.1	--
AUG													
06...	1130	80020	1028	4.74	13	729	145	10.7	8.3	1120	35.9	28.6	290
SEP													
04...	1300	80020	1028	4.68	14	735	135	10.2	8.3	974	38.1	27.7	--

ARKANSAS RIVER BASIN

263

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SODIUM AD- SORP- TION RATIO (00931)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
OCT 09...	--	--	--	--	--	--	--	225	224	249	12	--	--
NOV 07...	200	96.8	47.0	5.20	3	139	41	254	235	284	0	159	.8
DEC 04...	--	--	--	--	--	--	--	271	266	321	2	--	--
JAN 08...	--	--	--	--	--	--	--	264	256	310	0	--	--
FEB 12...	140	85.8	42.9	3.73	2	110	38	267	260	313	0	101	.7
MAR 05...	--	--	--	--	--	--	--	291	274	330	0	--	--
APR 03...	--	--	--	--	--	--	--	268	252	301	3	--	--
MAY 01...	120	82.5	34.8	5.66	2	91.6	36	253	233	275	4	84.1	.6
JUN 05...	--	--	--	--	--	--	--	184	170	205	0	--	--
JUL 10...	--	--	--	--	--	--	--	174	165	195	0	--	--
AUG 06...	190	53.4	38.7	6.62	3	124	47	145	102	122	0	127	.7
SEP 04...	--	--	--	--	--	--	--	158	156	188	0	--	--
Date	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)
OCT 09...	--	--	.39	<.04	--	--	--	--	--	<.05	--	<.008	--
NOV 07...	10.2	289	.59	<.04	--	--	--	--	--	<.05	--	<.008	.071
DEC 04...	--	--	.35	<.04	.09	--	--	.45	.390	.10	.026	.008	--
JAN 08...	--	--	.47	.07	.40	.40	.09	.89	1.78	.42	.069	.021	.083
FEB 12...	5.69	215	.39	E.02	--	--	--	--	--	E.04	--	<.008	--
MAR 05...	--	--	.46	.07	--	.39	.08	.59	--	.13	--	E.007	.138
APR 03...	--	--	.42	<.04	--	--	--	--	--	<.05	--	<.008	.245
MAY 01...	7.01	174	.55	<.04	--	--	--	--	--	<.05	--	<.008	.058
JUN 05...	--	--	.48	.05	.10	.43	.07	.60	.460	.11	.033	.010	.083
JUL 10...	--	--	.46	<.04	--	--	--	--	--	<.05	--	<.008	--
AUG 06...	2.80	233	.75	E.03	--	--	--	--	--	<.05	--	E.004	--
SEP 04...	--	--	.76	<.04	--	--	--	--	--	<.05	--	<.008	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

[illegible]

265

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

[illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

[illegible]

267

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

[illegible]

ARKANSAS RIVER BASIN

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	TER- BACIL WATER WHOLE RECOV. (UG/L) (30311)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39403)	TOX- APHENE, TOTAL (UG/L) (39400)	TRI- FLURA- LIN TOTAL RECOVER (UG/L) (39030)	VER- NOLATE WATER WHOLE RECOV. (UG/L) (30324)
OCT 09...	--	--	--	--	--
NOV 07...	<.2	<50	<1	<.1	<.1
DEC 04...	--	--	--	--	--
JAN 08...	--	--	--	--	--
FEB 12...	<.2	<50	<1	<.1	<.1
MAR 05...	--	--	--	--	--
APR 03...	--	--	--	--	--
MAY 01...	<.2	<50	<1	<.1	<.1
JUN 05...	--	--	--	--	--
JUL 10...	--	--	--	--	--
AUG 06...	<.2	<50	<1	<.1	<.1
SEP 04...	--	--	--	--	--

SPECIFIC CONDUCTANCE VIA SATELLITE, in US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	1560	1550	1560	1480	1470	1480	1420	1380	1400	1410	1350	1370
2	1550	1530	1540	1480	1460	1470	1390	1340	1370	1400	1360	1370
3	1540	1540	1540	1460	1430	1440	1370	1350	1360	1500	1340	1410
4	1540	1530	1530	1430	1420	1430	1380	1350	1360	1440	1370	1400
5	1530	1520	1530	1430	1400	1410	1370	1340	1360	1400	1300	1350
6	1530	1520	1520	1410	1370	1390	1360	1330	1350	1360	1300	1330
7	1530	1520	1520	1390	1340	1370	1350	1330	1340	1320	1260	1300
8	1530	1520	1530	1410	1350	1390	1350	1340	1350	1310	1260	1290
9	1530	1500	1520	1420	1400	1410	1370	1350	1360	1290	1230	1260
10	1510	1490	1500	1420	1400	1410	1380	1360	1370	1260	1210	1240
11	1500	1460	1480	1420	1390	1400	1380	1360	1370	1270	1230	1250
12	1480	1460	1470	1410	1390	1400	1360	1360	1360	1260	1220	1240
13	1500	1480	1500	1410	1400	1400	1380	1360	1370	1260	1200	1230
14	1500	1480	1490	1410	1370	1390	1380	1350	1360	1250	1200	1230
15	1510	1490	1500	1400	1370	1390	1370	1350	1360	1250	1210	1230
16	1520	1500	1510	1400	1380	1390	1360	1340	1350	1250	1220	1240
17	1520	1500	1510	1390	1290	1350	1360	1320	1340	1250	1230	1240
18	1530	1520	1520	1320	1290	1310	1350	1310	1330	1260	1250	1260
19	1530	1520	1530	1320	1280	1300	1350	1320	1340	1270	1230	1250
20	1520	1520	1520	1310	1240	1290	1360	1320	1340	1270	1230	1250
21	1520	1510	1520	---	---	---	1340	1320	1330	1280	1230	1250
22	1520	1510	1520	---	---	---	1330	1300	1320	1260	1200	1240
23	1510	1500	1510	---	---	---	1340	1320	1330	1240	1210	1230
24	1510	1500	1500	---	---	---	1360	1330	1350	1260	1180	1230
25	1510	1500	1500	1360	1340	1350	1390	1340	1350	1270	1090	1200
26	1510	1490	1500	1380	1360	1370	---	---	---	---	---	---
27	1500	1490	1500	1410	1380	1400	1400	1360	1380	---	---	---
28	1500	1490	1500	---	---	---	1390	1340	1370	---	---	---
29	1500	1490	1500	---	---	---	1390	1340	1370	---	---	---
30	1500	1480	1490	---	---	---	1390	1340	1360	1230	1010	1090
31	1500	1480	1490	---	---	---	---	---	---	1050	980	1020
MONTH	1560	1460	1510	1480	1240	1390	1420	1300	1360	1500	980	1260

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued

SPECIFIC CONDUCTANCE VIA SATELLITE, in US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	1020	965	991	1360	1340	1350	1300	1270	1290	1090	1010	1030
2	1040	976	1010	1370	1310	1340	1320	1280	1300	1180	1060	1120
3	1070	1010	1050	1450	1340	1390	1350	1320	1340	1180	1150	1170
4	1060	1040	1050	1410	1340	1370	1360	1350	1360	1270	1180	1230
5	1060	1020	1040	1370	1280	1340	1380	1340	1370	1310	1270	1290
6	1070	1030	1050	1340	1290	1310	1380	1310	1340	1320	1290	1310
7	1090	1060	1070	1310	1260	1290	1310	1230	1280	1330	1310	1320
8	1110	1060	1090	1270	1190	1220	1290	1240	1250	1320	1240	1290
9	1120	1090	1100	1240	1190	1220	1300	1280	1290	---	---	---
10	1130	1110	1120	1280	1200	1250	1280	1220	1250	---	---	---
11	1150	1120	1140	1280	1250	1260	1230	1190	1210	---	---	---
12	1190	1140	1170	1280	1250	1260	1210	1150	1180	---	---	---
13	1210	1180	1200	1290	1260	1280	1200	994	1110	---	---	---
14	1220	1210	1220	1300	1240	1290	1240	849	1050	---	---	---
15	1250	1220	1240	1320	1290	1310	1010	861	964	---	---	---
16	1270	1240	1250	1330	1310	1320	1000	940	971	1380	1340	1360
17	1270	1240	1250	1320	1280	1300	1000	960	981	1360	1150	1200
18	1270	1250	1260	1320	1240	1270	1090	1000	1050	1230	341	641
19	1270	1220	1240	1270	1200	1230	1110	1090	1100	537	388	491
20	1260	1240	1250	1260	1210	1230	1220	1110	1180	528	462	484
21	1270	1220	1250	1300	1230	1270	1260	1220	1250	674	528	594
22	1240	1180	1220	1280	1200	1240	1280	1220	1260	846	674	759
23	1220	1180	1200	1220	1160	1200	1300	1150	1230	954	846	907
24	1270	1220	1250	1220	1190	1210	1280	1180	1240	1040	954	989
25	1300	1260	1280	1250	1220	1240	1310	1260	1290	1160	1040	1100
26	1360	1300	1320	1260	1220	1240	1280	1250	1260	1170	354	652
27	1380	1320	1340	1240	1140	1210	1290	1160	1230	442	359	406
28	1370	1340	1350	1260	1240	1250	1330	888	1200	522	442	465
29	---	---	---	1280	1250	1270	888	732	795	765	522	633
30	---	---	---	1300	1260	1280	1010	780	880	910	765	841
31	---	---	---	1300	1260	1290	---	---	---	1030	910	986
MONTH	1380	965	1180	1450	1140	1280	1380	732	1180	1380	341	928
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	1260	1020	1110	1600	1560	1580	1360	925	1110	967	806	876
2	1590	1260	1510	1580	1560	1570	1400	1270	1350	982	812	900
3	1550	1480	1520	1580	1530	1560	1420	1340	1380	900	801	845
4	1580	1490	1540	1550	1540	1540	1480	1390	1440	1040	900	968
5	1560	1520	1530	1540	1540	1540	1450	1100	1320	1180	1040	1120
6	1540	1520	1530	1540	1530	1540	1120	1020	1080	1260	1180	1230
7	1560	1540	1540	1530	1500	1520	1030	970	1010	1310	1260	1290
8	1560	1550	1550	1530	1510	1520	970	896	933	1330	1290	1310
9	1570	1540	1550	1530	1500	1520	1030	886	952	1350	1310	1330
10	1580	1560	1570	1530	1480	1510	1230	1020	1090	1360	1340	1350
11	1590	1560	1580	1480	1450	1460	1360	1200	1290	1400	1340	1370
12	1600	1560	1570	1520	1470	1500	1470	1340	1400	1410	1380	1390
13	---	---	---	1520	1500	1510	1470	1230	1320	1410	1320	1380
14	---	---	---	1520	1480	1500	1410	1260	1340	1340	982	1060
15	---	---	---	1530	1510	1520	1390	1240	1310	1030	400	678
16	---	---	---	1540	1510	1530	1410	1070	1290	610	397	472
17	---	---	---	1530	1500	1520	1190	1010	1110	581	404	478
18	1460	1420	1440	1520	1500	1510	1010	844	935	778	139	657
19	1510	1450	1470	1510	1500	1510	913	835	854	446	193	260
20	1540	1510	1530	1520	1510	1520	1120	913	1010	---	---	---
21	1580	1540	1550	1540	1520	1530	1200	1080	1130	---	---	---
22	1590	1560	1580	1560	1290	1500	1330	1190	1270	---	---	---
23	1610	1580	1600	1500	1270	1370	1340	1280	1310	---	---	---
24	1630	1600	1620	1550	1500	1530	1400	1270	1340	891	766	825
25	1620	1610	1620	1520	1210	1430	1460	1360	1390	1060	891	973
26	1620	1600	1610	1570	1360	1510	1470	1350	1410	1150	1060	1110
27	1610	1590	1600	1590	1540	1580	1350	657	865	1240	1150	1190
28	1600	1580	1590	1580	1540	1570	1070	653	779	1310	1240	1280
29	1600	1580	1590	1580	1080	1360	1080	617	879	1350	1310	1330
30	1600	1580	1590	1290	990	1170	617	501	526	1400	1350	1380
31	---	---	---	1200	866	1040	806	541	665	---	---	---
MONTH	1630	1020	1540	1600	866	1490	1480	501	1130	1410	139	1040

ARKANSAS RIVER BASIN

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued

PH, WH, FIELD VIA SATELLITE, in (STANDARD UNITS), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	8.5	8.3	8.4	8.3	8.2	8.2	8.2	8.1	8.1	8.3	8.1	8.2
2	8.5	8.3	8.4	8.3	8.1	8.2	8.3	8.1	8.1	8.3	8.2	8.2
3	8.5	8.3	8.4	8.3	8.0	8.1	8.5	8.0	8.2	8.2	7.9	8.2
4	8.5	8.3	8.4	8.3	8.0	8.1	8.5	8.2	8.3	8.3	8.1	8.2
5	8.4	8.3	8.4	8.3	8.0	8.1	8.6	8.1	8.3	8.3	8.2	8.3
6	8.4	8.3	8.3	8.4	8.0	8.2	8.6	8.1	8.3	8.4	8.2	8.3
7	8.4	8.3	8.3	8.5	8.1	8.3	8.5	8.1	8.3	8.4	8.3	8.3
8	8.5	8.3	8.4	8.5	8.2	8.3	8.5	8.2	8.3	8.3	7.8	8.0
9	8.4	8.2	8.3	8.4	8.2	8.3	8.5	8.2	8.3	8.0	7.8	7.9
10	8.4	8.2	8.3	8.3	8.1	8.2	8.5	8.2	8.3	8.3	7.8	8.1
11	8.4	8.1	8.2	8.3	8.1	8.2	8.5	8.2	8.3	8.2	7.9	8.1
12	8.3	8.1	8.2	8.3	8.1	8.2	8.5	8.2	8.3	8.3	8.0	8.1
13	8.3	8.1	8.2	8.4	8.1	8.2	8.5	8.2	8.3	8.3	8.0	8.1
14	8.3	8.1	8.2	8.4	8.1	8.2	8.5	8.2	8.4	8.3	8.0	8.1
15	8.2	8.0	8.1	8.4	8.0	8.2	8.4	8.2	8.3	8.3	8.0	8.1
16	8.1	8.0	8.1	8.3	8.0	8.2	8.4	8.1	8.2	8.3	8.0	8.1
17	8.1	8.0	8.0	8.2	8.0	8.1	8.5	8.2	8.3	8.3	8.0	8.1
18	8.1	7.9	8.1	8.3	8.0	8.1	8.5	8.2	8.3	8.1	8.0	8.0
19	8.2	8.0	8.1	8.3	8.1	8.2	8.5	8.2	8.3	8.2	7.9	8.1
20	8.2	8.0	8.1	8.5	8.1	8.2	8.5	8.2	8.3	8.2	8.0	8.2
21	8.2	8.0	8.1	---	---	---	8.5	8.2	8.3	8.2	8.0	8.2
22	8.2	8.0	8.1	---	---	---	8.5	8.2	8.3	8.2	8.0	8.1
23	8.1	8.0	8.0	---	---	---	8.5	8.2	8.3	8.2	7.9	8.0
24	8.2	8.0	8.1	---	---	---	8.4	8.2	8.3	8.2	8.0	8.1
25	8.2	8.0	8.1	8.4	8.2	8.3	8.3	8.2	8.3	8.2	8.0	8.1
26	8.2	8.1	8.1	8.4	8.2	8.3	8.3	8.1	8.2	8.1	8.0	8.0
27	8.2	8.0	8.1	8.4	8.2	8.3	8.4	8.2	8.2	8.1	7.9	8.0
28	8.2	8.1	8.1	---	---	---	8.4	8.2	8.3	8.0	7.8	7.9
29	8.2	8.1	8.1	---	---	---	8.4	8.2	8.3	8.0	7.7	7.8
30	8.2	8.1	8.1	---	---	---	8.4	8.2	8.3	7.8	7.7	7.7
31	8.4	8.1	8.2	---	---	---	8.3	8.2	8.2	7.8	7.7	7.7
MAX	8.5	8.3	8.4	8.5	8.2	8.3	8.6	8.2	8.4	8.4	8.3	8.3
MIN	8.1	7.9	8.0	8.2	8.0	8.1	8.2	8.0	8.1	7.8	7.7	7.7

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

ARKANSAS RIVER BASIN

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued

PH, WH, FIELD VIA SATELLITE, in (STANDARD UNITS), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	----	----	----	8.4	8.1	8.2	8.8	7.9	8.3	9.0	8.2	8.5
2	----	----	----	8.3	8.0	8.1	8.8	7.8	8.3	9.0	8.1	8.5
3	----	----	----	8.2	7.9	8.1	8.8	7.8	8.4	9.0	8.0	8.4
4	----	----	----	8.5	7.9	8.1	8.9	7.9	8.4	8.8	8.1	8.4
5	----	----	----	8.6	8.2	8.4	9.0	8.0	8.5	8.7	7.9	8.2
6	----	----	----	8.6	8.1	8.3	8.8	7.9	8.4	8.7	7.8	8.1
7	----	----	----	8.6	8.1	8.3	8.7	7.7	8.1	8.8	7.7	8.2
8	----	----	----	8.6	8.0	8.3	8.6	7.6	8.1	8.6	7.6	8.1
9	----	----	----	8.6	8.0	8.3	8.7	7.6	8.1	8.6	7.8	8.1
10	----	----	----	8.6	8.0	8.4	8.7	7.5	8.1	8.7	7.7	8.1
11	----	----	----	8.7	8.1	8.4	8.7	7.7	8.1	8.7	7.8	8.2
12	----	----	----	8.7	8.1	8.4	8.7	7.7	8.1	8.8	7.7	8.2
13	----	----	----	8.6	8.1	8.4	8.4	7.6	8.0	8.7	7.8	8.2
14	----	----	----	8.6	8.0	8.3	8.8	7.8	8.3	8.7	7.7	8.1
15	----	----	----	8.6	8.0	8.3	9.0	7.8	8.5	8.0	7.8	7.8
16	----	----	----	8.6	8.0	8.3	9.0	8.1	8.6	7.9	7.8	7.8
17	----	----	----	8.5	8.0	8.3	9.0	8.0	8.4	8.4	7.8	8.0
18	8.4	8.2	8.3	8.5	8.0	8.3	9.0	7.9	8.6	8.8	7.8	8.1
19	8.5	8.2	8.3	8.5	8.0	8.2	8.9	7.9	8.4	----	----	----
20	8.4	8.3	8.4	8.5	7.9	8.2	8.9	7.9	8.3	----	----	----
21	8.4	8.2	8.3	8.5	7.9	8.2	8.8	7.9	8.2	----	----	----
22	8.4	8.2	8.4	8.5	7.9	8.1	8.7	7.8	8.2	----	----	----
23	8.4	8.3	8.4	8.7	7.7	8.3	8.6	7.6	8.1	----	----	----
24	8.4	8.3	8.3	8.6	7.9	8.3	8.8	7.6	8.1	8.3	8.2	8.3
25	8.4	8.2	8.3	8.7	8.0	8.3	8.7	7.6	8.0	8.4	8.3	8.3
26	8.4	8.2	8.3	8.8	7.9	8.4	9.0	7.9	8.4	8.5	8.3	8.3
27	8.4	8.2	8.3	8.8	7.9	8.4	9.0	8.0	8.5	8.5	8.3	8.4
28	8.4	8.2	8.3	8.7	7.9	8.3	9.0	8.0	8.6	8.7	8.3	8.4
29	8.4	8.1	8.3	8.8	7.9	8.3	9.1	8.2	8.5	8.7	8.3	8.5
30	8.4	8.1	8.3	8.8	7.8	8.4	8.6	8.0	8.2	8.6	8.4	8.5
31	----	----	----	8.8	7.9	8.4	9.0	8.1	8.5	----	----	----
MAX	8.5	8.3	8.4	8.8	8.2	8.4	9.1	8.2	8.6	9.0	8.4	8.5
MIN	8.4	8.1	8.3	8.2	7.7	8.1	8.4	7.5	8.0	7.9	7.6	7.8

WATER TEMPERATURE VIA SATELLITE, in (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	24.1	16.9	20.3	21.2	14.9	17.7	8.3	4.3	6.0	2.4	0.1	0.8
2	23.2	17.0	19.8	20.5	15.7	18.3	11.3	4.3	7.8	1.8	0.0	0.5
3	23.7	16.8	20.0	19.9	17.2	18.4	13.9	9.2	11.7	0.3	0.1	0.1
4	25.3	18.6	21.6	20.6	17.0	18.4	17.1	13.1	15.1	0.3	0.1	0.2
5	22.0	15.0	17.8	20.4	15.0	17.5	18.8	13.5	16.6	5.2	0.3	2.6
6	19.0	11.9	15.3	20.0	14.5	17.0	13.6	10.3	12.0	5.8	1.0	3.2
7	19.1	12.5	15.6	19.1	13.8	16.3	11.5	7.7	9.7	4.8	0.1	2.5
8	21.4	13.2	16.9	15.8	12.1	14.1	8.9	5.2	7.1	8.4	1.5	4.7
9	19.6	17.1	18.4	13.5	10.6	11.7	7.9	2.6	5.3	10.7	4.3	7.4
10	19.1	16.9	18.5	15.6	8.4	11.9	8.0	2.5	5.2	8.6	6.1	7.3
11	18.6	14.8	16.4	17.4	10.9	14.2	6.6	3.3	5.3	8.7	3.0	5.8
12	19.0	13.8	16.4	16.8	15.0	15.8	8.8	6.6	7.7	8.5	3.4	5.7
13	19.2	13.1	16.1	17.6	15.4	16.2	8.2	6.1	7.0	9.0	3.2	5.9
14	19.7	13.2	16.3	19.3	14.9	16.7	8.4	3.7	6.1	8.4	3.6	5.9
15	17.1	13.1	15.0	18.2	13.8	16.0	7.7	5.0	6.4	7.9	1.9	5.0
16	17.1	9.5	13.2	16.9	15.1	15.9	8.7	7.5	8.1	7.7	5.2	5.9
17	17.1	10.5	13.6	15.1	13.9	14.6	9.5	4.8	7.2	7.3	3.6	5.0
18	17.9	10.8	14.1	18.5	13.7	15.8	10.1	4.5	7.1	4.0	2.2	2.8
19	19.1	12.0	15.4	15.9	9.2	12.3	7.4	3.3	5.5	6.9	1.6	3.9
20	21.0	13.5	17.1	11.3	6.0	8.7	8.6	2.8	5.6	7.7	1.1	4.3
21	22.7	16.1	19.2	----	----	----	9.4	4.0	6.7	8.1	1.1	4.5
22	22.2	17.4	19.7	----	----	----	9.6	6.0	7.9	11.7	3.4	7.4
23	23.8	17.5	20.3	----	----	----	6.4	2.9	4.6	9.7	5.5	7.8
24	19.8	14.8	17.1	----	----	----	5.0	0.3	2.6	8.5	3.3	5.3
25	16.6	10.6	13.6	13.1	7.5	10.3	3.6	0.1	1.5	8.1	0.8	4.4
26	16.8	9.4	13.0	11.2	7.0	9.9	3.8	0.0	1.6	10.0	1.9	5.8
27	16.0	9.8	12.9	7.0	2.5	3.8	4.7	0.6	2.7	11.1	4.1	7.5
28	17.0	10.1	13.4	----	----	----	6.4	0.8	3.6	11.5	6.6	8.8
29	18.8	11.6	15.0	----	----	----	4.4	0.1	2.1	8.6	4.7	6.8
30	18.7	12.2	15.3	----	----	----	1.3	0.1	0.4	4.7	2.1	2.9
31	18.2	13.0	15.4	----	----	----	1.0	0.1	0.4	3.2	1.0	1.9
MONTH	25.3	9.4	16.5	21.2	2.5	14.4	18.8	0.0	6.3	11.7	0.0	4.6

ARKANSAS RIVER BASIN

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued

WATER TEMPERATURE VIA SATELLITE, in (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	5.9	0.0	2.5	7.3	2.1	5.6	23.0	11.6	16.9	29.0	20.3	24.4
2	4.7	1.0	2.9	3.0	0.0	0.9	17.4	9.9	14.1	24.0	16.2	18.4
3	7.3	3.2	4.8	4.5	0.1	1.4	15.7	5.6	10.4	21.3	13.8	16.8
4	6.8	2.6	4.7	9.8	0.1	4.0	18.4	6.9	12.2	25.1	15.4	19.7
5	5.4	2.5	3.6	12.2	2.6	7.0	19.9	8.7	14.1	24.4	17.7	21.1
6	6.3	1.4	3.8	15.7	5.3	10.1	15.3	10.9	12.8	26.7	20.5	23.4
7	9.1	3.8	6.0	18.0	8.1	12.7	11.9	10.1	11.0	28.4	21.0	24.4
8	11.2	3.9	7.2	19.3	13.1	15.7	14.0	11.1	12.3	29.8	21.2	25.0
9	9.8	5.9	7.6	13.4	4.6	9.1	21.8	10.2	15.4	25.2	17.0	21.2
10	7.6	3.4	5.2	12.7	3.9	7.9	23.6	13.7	18.2	19.9	16.2	17.6
11	8.6	1.2	4.7	12.6	5.7	8.9	22.4	16.0	18.9	22.9	18.4	20.5
12	9.6	2.7	5.9	16.3	5.7	10.7	24.6	16.1	20.0	21.4	15.0	18.5
13	10.4	3.1	6.5	18.9	8.6	13.3	22.6	17.0	19.7	25.1	12.0	18.0
14	8.5	3.3	5.8	20.5	11.4	15.2	25.1	17.7	21.1	26.6	15.5	20.6
15	11.7	5.0	7.8	13.2	6.8	10.1	27.2	20.1	23.3	23.7	16.6	19.8
16	12.8	4.1	8.1	11.0	5.8	8.2	25.7	20.3	22.6	26.1	17.5	21.2
17	12.4	5.4	8.6	13.2	7.3	9.9	29.3	19.8	23.9	23.6	17.2	19.2
18	13.2	6.5	9.9	11.5	9.2	10.4	25.1	21.1	23.0	20.3	16.5	18.4
19	16.4	10.9	12.9	11.9	9.8	11.1	22.6	18.1	20.8	23.8	17.9	20.6
20	16.0	8.1	12.0	17.2	8.1	12.0	18.1	15.7	16.4	25.8	18.9	22.0
21	15.4	9.3	12.1	12.2	5.8	9.4	22.5	14.1	17.9	25.3	19.0	21.9
22	15.2	7.2	11.0	11.8	2.8	6.9	24.4	15.2	19.5	22.0	17.5	19.9
23	14.6	7.4	10.9	15.9	4.6	9.9	23.1	18.1	20.2	20.0	18.0	19.2
24	15.8	8.5	11.4	21.0	10.0	14.1	24.1	18.0	21.0	24.6	18.0	20.6
25	10.0	2.4	6.5	12.1	5.3	7.6	18.0	13.5	15.5	20.6	16.1	18.3
26	5.2	0.0	1.8	14.7	2.6	8.3	14.3	12.4	13.3	23.4	18.8	20.9
27	7.8	0.1	3.0	18.0	6.9	12.0	23.9	12.1	17.4	25.1	20.9	22.7
28	10.5	0.9	5.3	21.7	10.3	15.4	23.1	15.8	19.4	23.1	21.5	22.2
29	---	---	---	20.0	13.2	16.3	24.8	17.8	21.0	29.4	19.5	23.9
30	---	---	---	15.6	12.4	13.6	25.4	20.0	22.5	31.0	22.5	26.3
31	---	---	---	20.5	9.5	14.6	---	---	---	32.9	23.4	27.8
MONTH	16.4	0.0	6.9	21.7	0.0	10.1	29.3	5.6	17.8	32.9	12.0	21.1
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	32.4	23.9	27.9	26.3	22.1	23.8	35.9	25.0	29.5	33.0	23.8	27.8
2	28.0	25.6	26.9	29.0	22.6	25.4	35.8	25.8	30.0	33.4	23.5	27.8
3	26.6	24.2	25.5	28.8	23.5	25.5	35.5	25.4	29.9	34.1	23.8	28.2
4	25.8	24.3	25.0	30.8	22.7	26.3	34.3	25.4	29.4	34.0	23.6	28.1
5	24.3	22.4	23.2	31.0	23.8	27.0	34.7	25.5	29.5	31.5	23.7	27.5
6	24.0	21.1	22.5	32.4	23.6	27.8	34.5	24.9	29.2	32.2	23.2	27.2
7	25.6	22.7	24.1	33.5	24.7	28.7	34.7	25.0	29.8	33.2	23.3	27.2
8	26.2	24.5	25.4	32.1	24.8	28.4	35.2	25.8	29.6	26.9	23.0	24.8
9	27.1	24.6	25.7	33.7	25.1	29.1	34.5	24.6	28.8	28.9	22.4	24.8
10	29.0	25.5	27.1	33.0	26.0	29.4	33.0	24.8	28.3	31.4	22.5	26.2
11	30.6	25.7	28.0	30.9	25.2	27.8	33.6	24.1	28.1	31.7	21.4	25.9
12	31.6	26.0	28.5	32.4	24.8	28.2	33.2	22.6	26.9	31.0	22.4	25.8
13	---	---	---	31.8	23.1	27.1	26.1	21.6	23.4	28.6	22.7	25.2
14	---	---	---	32.2	23.6	27.7	31.8	19.3	24.7	30.5	21.3	24.9
15	---	---	---	34.2	23.8	28.5	33.9	23.0	27.6	26.2	22.8	24.2
16	---	---	---	33.4	24.4	28.3	32.9	24.2	28.1	28.3	19.9	23.7
17	---	---	---	32.1	24.5	27.7	33.0	23.7	28.0	29.7	20.6	24.5
18	28.7	22.7	25.5	33.2	23.9	28.2	33.6	24.2	28.1	30.5	20.1	25.0
19	30.1	22.2	25.7	34.6	24.7	29.0	34.4	23.5	28.0	21.5	18.8	19.6
20	32.0	23.7	27.4	34.7	24.8	29.0	33.0	24.0	27.4	---	---	---
21	30.8	25.0	27.9	34.5	24.1	28.5	33.5	23.8	27.3	---	---	---
22	31.8	24.8	28.0	33.6	24.0	27.4	33.8	23.6	28.0	---	---	---
23	31.9	23.8	27.5	35.3	23.3	28.5	36.4	24.3	29.3	---	---	---
24	32.2	23.4	27.6	34.5	26.6	29.2	34.1	24.9	28.6	24.0	18.4	21.0
25	33.0	24.5	28.3	36.3	23.8	29.2	31.1	23.7	26.7	25.0	18.0	21.3
26	34.5	24.8	29.0	35.5	25.4	29.7	33.7	24.2	28.2	26.5	19.5	22.7
27	34.3	25.3	29.5	35.0	24.0	28.6	31.5	21.8	26.2	25.1	19.1	22.1
28	34.7	25.7	29.7	29.4	24.2	26.8	32.6	23.5	27.7	26.2	19.8	22.7
29	32.8	25.4	28.7	33.0	22.4	27.0	31.7	25.1	28.0	27.0	20.5	23.5
30	28.8	23.5	25.9	33.3	23.7	28.3	31.0	23.7	27.1	26.3	21.1	23.5
31	---	---	---	34.3	24.8	29.0	32.7	23.4	27.6	---	---	---
MONTH	34.7	21.1	26.8	36.3	22.1	27.9	36.4	19.3	28.0	34.1	18.0	24.8

ARKANSAS RIVER BASIN

273

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued

OXYGEN DISSOLVED VIA SATELLITE, in (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	10.0	7.7	8.7	10.7	7.8	9.3	14.9	12.5	13.7	18.7	16.2	17.2
2	10.1	7.8	8.8	10.6	7.7	8.9	14.7	10.8	13.0	19.3	16.2	17.5
3	10.0	7.8	8.8	10.5	7.8	8.8	13.1	9.4	11.3	19.6	15.6	17.7
4	9.8	7.4	8.4	10.5	7.7	8.8	13.3	8.3	10.1	18.4	16.3	17.2
5	10.3	7.4	8.9	10.7	7.8	8.9	14.1	8.0	10.1	18.2	15.8	16.7
6	10.7	9.1	9.9	10.4	7.5	8.8	14.5	9.1	11.2	18.4	15.8	16.8
7	10.7	9.1	9.8	9.5	7.2	8.1	14.7	10.1	11.8	18.9	16.0	17.3
8	10.9	8.3	9.7	9.0	7.1	7.9	14.9	10.8	12.6	17.8	11.8	15.7
9	9.8	8.0	8.8	---	---	---	15.3	12.1	13.5	17.3	10.1	13.8
10	10.9	7.9	9.1	---	---	---	15.3	12.2	13.5	19.4	9.8	14.5
11	10.7	8.7	9.4	---	---	---	15.4	12.1	13.4	19.1	13.3	15.4
12	10.9	8.8	9.7	---	---	---	14.9	11.5	12.6	19.0	13.4	15.6
13	10.8	8.8	9.7	---	---	---	14.8	11.3	12.6	18.8	13.0	15.3
14	11.1	9.0	10	---	---	---	16.7	12.3	13.9	18.8	12.9	15.2
15	11.4	9.1	10.3	---	---	---	16.2	11.8	13.5	18.7	13.5	15.6
16	12.0	9.9	10.9	---	---	---	14.7	11.4	12.6	18.3	13.1	15.2
17	12.1	9.9	11.0	---	---	---	17.4	11.9	13.9	18.7	13.5	15.5
18	12.2	9.9	11.0	---	---	---	16.9	12.2	13.9	17.8	14.4	15.8
19	12.1	9.5	10.7	---	---	---	17.8	12.3	14.7	18.1	14.4	15.8
20	12.1	9.1	10.4	---	---	---	18.0	12.9	14.9	17.4	13.6	15.4
21	11.8	8.7	9.9	---	---	---	17.1	12.2	14.3	17.3	13.2	15.2
22	11.2	8.3	9.6	---	---	---	17.5	11.9	13.9	16.6	11.0	14.0
23	10.7	7.9	9.0	---	---	---	17.9	12.9	15.1	16.9	11.0	13.5
24	11.2	7.8	9.6	---	---	---	18.5	14.7	16.4	17.1	13.1	14.8
25	11.8	9.3	10.6	12.7	9.8	11.1	18.5	15.1	16.5	17.1	13.4	15.2
26	12.5	10.0	11.2	13.1	10.0	11.3	18.3	14.1	16.3	16.4	11.9	14.4
27	12.3	10.3	11.3	15.5	11.4	14.0	18.4	15.1	16.4	15.6	11.0	13.3
28	12.1	9.8	10.9	---	---	---	17.8	14.2	16.0	15.6	10.7	12.5
29	11.7	9.1	10.4	---	---	---	18.9	14.3	16.6	16.0	11.2	13.2
30	11.5	9.1	10.2	---	---	---	19.1	16.3	17.5	15.5	13.0	14.3
31	11.4	8.9	10.0	---	---	---	18.8	15.3	17.1	16.5	14.6	15.5
MONTH	12.5	7.4	9.9	15.5	7.1	9.6	19.1	8.0	14.0	19.6	9.8	15.3
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	16.5	13.6	15.3	14.8	12.5	13.5	---	---	---	---	---	---
2	16.3	13.8	15.0	---	---	---	---	---	---	---	---	---
3	15.9	13.6	14.5	---	---	---	---	---	---	---	---	---
4	16.0	12.9	14.4	---	---	---	11.4	4.9	8.1	---	---	---
5	16.1	12.7	14.3	---	---	---	11.0	3.4	7.1	---	---	---
6	16.0	13.4	14.9	---	---	---	9.0	3.2	5.9	---	---	---
7	15.6	12.9	14.0	---	---	---	9.3	5.4	6.8	---	---	---
8	14.8	11.5	12.9	---	---	---	10.0	4.9	6.8	---	---	---
9	14.0	11.1	12.5	---	---	---	13.1	3.8	8.0	---	---	---
10	15.5	12.3	13.8	---	---	---	---	---	---	---	---	---
11	15.2	12.4	13.9	---	---	---	---	---	---	---	---	---
12	14.7	11.0	12.9	---	---	---	---	---	---	---	---	---
13	14.0	11.0	12.2	---	---	---	---	---	---	---	---	---
14	13.8	10.9	12.2	---	---	---	---	---	---	---	---	---
15	13.8	10.9	12.0	---	---	---	---	---	---	---	---	---
16	14.0	10.4	12.0	---	---	---	---	---	---	11.6	6.9	9.1
17	13.8	10.3	11.7	---	---	---	---	---	---	11.3	6.9	9.0
18	13.4	9.7	11.2	---	---	---	---	---	---	8.3	5.0	5.6
19	12.9	9.4	10.6	---	---	---	11.8	6.2	8.9	7.4	5.5	6.8
20	13.7	9.4	11.1	---	---	---	12.8	7.4	9.9	8.8	7.0	7.8
21	13.8	9.5	11.1	---	---	---	14.2	8.5	10.9	12.7	7.3	9.6
22	14.6	10.1	11.8	---	---	---	14.9	8.0	11.0	11.3	7.6	9.4
23	14.1	10.1	11.7	---	---	---	13.4	7.5	10.1	9.5	7.5	8.5
24	13.8	10.0	11.5	---	---	---	12.8	7.2	9.9	11.8	7.2	9.1
25	14.9	10.1	12.9	---	---	---	12.5	8.4	10.3	11.6	7.3	9.1
26	16.3	13.9	15.3	---	---	---	12.5	9.1	10.5	8.3	6.1	7.0
27	16.2	13.4	15.0	---	---	---	11.4	7.9	10.2	7.5	6.3	7.0
28	16.0	12.5	14.3	---	---	---	11.0	7.7	9.3	8.0	6.8	7.4
29	---	---	---	---	---	---	12.5	7.5	9.8	13.4	7.3	10.5
30	---	---	---	---	---	---	---	---	---	13.7	9.5	11.3
31	---	---	---	---	---	---	---	---	---	13.4	9.0	10.8
MONTH	16.5	9.4	13.0	14.8	12.5	13.5	14.9	3.2	9.0	13.7	5.0	8.6

ARKANSAS RIVER BASIN

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued

OXYGEN DISSOLVED VIA SATELLITE, in (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	12.6	8.2	10.2	8.4	4.5	6.4	14.2	5.1	8.7	11.9	5.5	8.0
2	---	---	---	8.8	5.2	6.8	14.6	5.0	8.9	10.6	4.2	7.2
3	---	---	---	9.8	5.4	7.3	14.6	5.4	9.4	9.6	3.4	6.2
4	---	---	---	12.0	6.1	8.5	14.4	5.7	9.3	10.8	3.1	6.4
5	---	---	---	12.2	7.5	9.4	15.0	6.2	9.7	10.7	4.4	7.4
6	---	---	---	11.7	6.9	9.1	13.7	5.9	9.2	10.9	3.5	7.2
7	---	---	---	12.0	6.6	9.0	13.7	7.4	10.5	11.1	3.3	6.9
8	---	---	---	11.9	6.2	8.8	13.9	6.9	10	11.7	3.0	7.1
9	---	---	---	12.3	5.8	8.7	14.2	6.4	10.0	11.8	3.8	7.6
10	---	---	---	11.2	5.7	8.1	14.7	6.2	10	11.0	3.3	7.0
11	---	---	---	11.5	5.8	8.3	14.1	6.5	10.0	11.3	3.4	7.2
12	---	---	---	10.8	6.0	8.1	14.2	5.9	9.9	11.5	3.2	6.9
13	---	---	---	10.5	6.0	8.0	9.9	3.9	7.0	10.9	3.6	7.0
14	---	---	---	10.6	6.0	8.1	13.2	5.4	8.7	10.0	4.6	7.1
15	---	---	---	10.9	5.7	8.0	12.2	5.0	7.9	6.1	5.2	5.6
16	---	---	---	10.7	5.7	7.8	11.2	4.8	7.3	6.8	5.8	6.3
17	---	---	---	10.2	5.8	7.8	11.3	4.8	7.8	7.8	6.0	6.8
18	10.5	7.7	9.0	9.9	5.6	7.6	10.6	5.0	7.3	10.5	6.1	7.7
19	10.1	7.0	8.5	10.7	5.5	7.6	11.0	4.8	7.3	11.5	6.2	9.1
20	9.3	6.8	7.9	10.7	5.6	7.8	11.3	4.7	7.4	---	---	---
21	9.1	6.8	7.7	10.7	5.6	7.8	11.0	4.9	7.4	---	---	---
22	9.3	6.8	7.8	11.1	5.3	7.4	11.5	4.6	7.5	---	---	---
23	9.2	6.8	7.8	12.1	5.0	8.0	12.2	3.7	7.4	---	---	---
24	9.3	6.7	7.9	11.1	4.9	7.2	12.9	3.6	7.4	8.3	7.8	8.0
25	9.2	5.8	7.7	11.9	5.2	8.1	13.5	2.8	7.4	8.8	7.7	8.3
26	9.0	5.5	7.5	12.1	5.1	8.0	12.4	5.1	7.9	9.2	7.6	8.3
27	9.2	4.8	7.3	11.7	5.6	8.2	11.9	5.4	8.3	10.5	7.6	8.8
28	8.8	4.8	7.0	12.5	5.5	8.6	12.2	5.7	8.2	11.3	7.8	9.2
29	8.5	4.8	6.7	13.9	5.2	9.2	11.9	5.5	8.0	10.9	7.7	9.0
30	7.8	4.5	6.1	13.7	5.4	8.9	8.7	5.9	7.1	10.1	7.6	8.7
31	---	---	---	13.8	5.3	9.0	12.5	5.9	8.5	---	---	---
MONTH	12.6	4.5	7.8	13.9	4.5	8.1	15.0	2.8	8.4	11.9	3.0	7.5

Overholser Dam
June 23, 1958



ARKANSAS RIVER BASIN

07239500 NORTH CANADIAN RIVER NEAR EL RENO, OK

LOCATION.--Lat 35°33'47", long 97°57'26", SW 1/4 NW 1/4 sec.33, T.13 N., R.7 W., Canadian County, Hydrologic Unit 11100301, near left downstream end of bridge on new U.S. Highway 81, 2.0 mi north of courthouse in El Reno, 2.3 mi downstream from Target Creek, and at mile 307.3.

DRAINAGE AREA.--13,042 mi² of which 4,899 mi² is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1902 to April 1908, October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage-height records collected at site 1.1 mi upstream February 1914 to March 1934 and at site 0.1 mi upstream thereafter are contained in reports of National Weather Service. Published as Canadian River (North Fork) near El Reno 1902-4.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,295.00 ft above sea level. October 1902 to April 1908, nonrecording gage at site about 450 ft upstream at different datum. October 1937 to September 1988, gage at site 500 ft upstream and datum 4.02 ft higher.

REMARKS.--Records poor.. Some regulation by Fort Supply Lake (station 07236500) for period May 1942 to April 1948 and by Canton Lake (station 07238500) thereafter. U.S. Geological Survey satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 15, 1923, reached an elevation of 1,326.3 ft above mean sea level at railroad bridge 1.1 mi above station, from reports of National Weather Service.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	32	e27	e23	e80	31	35	69	51	e27	13	23
2	58	32	34	e22	e74	e29	35	60	276	e26	13	20
3	56	32	36	e19	e76	e28	33	55	689	e25	13	17
4	54	32	37	e30	52	e27	32	52	822	e24	15	14
5	53	32	30	e39	44	30	31	51	863	e23	23	12
6	51	32	30	e40	45	33	33	50	909	e22	17	11
7	50	31	30	e42	44	35	38	49	926	e21	13	9.9
8	48	30	30	36	45	35	43	50	929	e20	11	9.8
9	47	30	29	32	46	34	43	46	843	19	11	10
10	47	31	29	28	44	32	45	44	510	20	10	9.8
11	47	32	29	26	41	31	45	45	244	18	9.4	10
12	46	33	29	25	39	30	44	44	162	18	9.2	11
13	44	34	30	25	36	30	93	42	128	18	12	11
14	43	34	30	25	34	29	193	42	113	18	15	25
15	41	34	30	25	34	30	126	41	99	17	16	111
16	40	34	31	24	34	36	87	40	86	17	27	61
17	39	37	30	24	33	34	72	53	74	16	24	35
18	38	40	30	23	33	34	61	226	63	15	18	29
19	37	40	30	24	35	40	58	242	56	15	14	3010
20	37	39	29	24	35	41	59	99	e45	13	11	1270
21	37	38	29	24	38	42	61	69	e42	12	10	419
22	36	35	29	24	37	41	61	57	e40	11	10	182
23	36	35	29	24	36	39	60	51	e38	15	8.8	106
24	35	34	28	23	34	37	56	50	e35	14	9.1	77
25	34	33	28	23	34	36	52	52	e34	12	9.8	62
26	33	33	25	23	31	36	54	169	e33	13	18	54
27	32	33	e24	23	30	36	58	194	31	13	26	49
28	33	33	e26	22	e28	36	80	95	27	11	27	46
29	32	e29	e29	22	---	36	108	72	27	13	42	43
30	32	e28	e30	33	---	35	81	63	e28	15	35	40
31	32	---	e28	42	---	36	---	56	---	12	28	---
TOTAL	1308	1002	915	839	1172	1059	1877	2328	8223	533	518.3	5787.5
MEAN	42.19	33.40	29.52	27.06	41.86	34.16	62.57	75.10	274.1	17.19	16.72	192.9
MAX	60	40	37	42	80	42	193	242	929	27	42	3010
MIN	32	28	24	19	28	27	31	40	27	11	8.8	9.8
AC-FT	2590	1990	1810	1660	2320	2100	3720	4620	16310	1060	1030	11480

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 2002, BY WATER YEAR (WY)

	MEAN	185.4	131.5	113.1	112.8	150.2	226.2	281.2	424.2	512.7	270.3	175.1	210.6
MAX	1904	884	592	826	673	971	1129	2354	3121	2597	2460	2786	
(WY)	1987	1975	2000	1998	1994	1998	1997	1993	1949	1951	1950	1950	
MIN	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8.00	0.17	0.73	0.000	0.000	
(WY)	1953	1955	1955	1955	1955	1955	1955	1953	1953	1952	1954	1952	

e Estimated

ARKANSAS RIVER BASIN

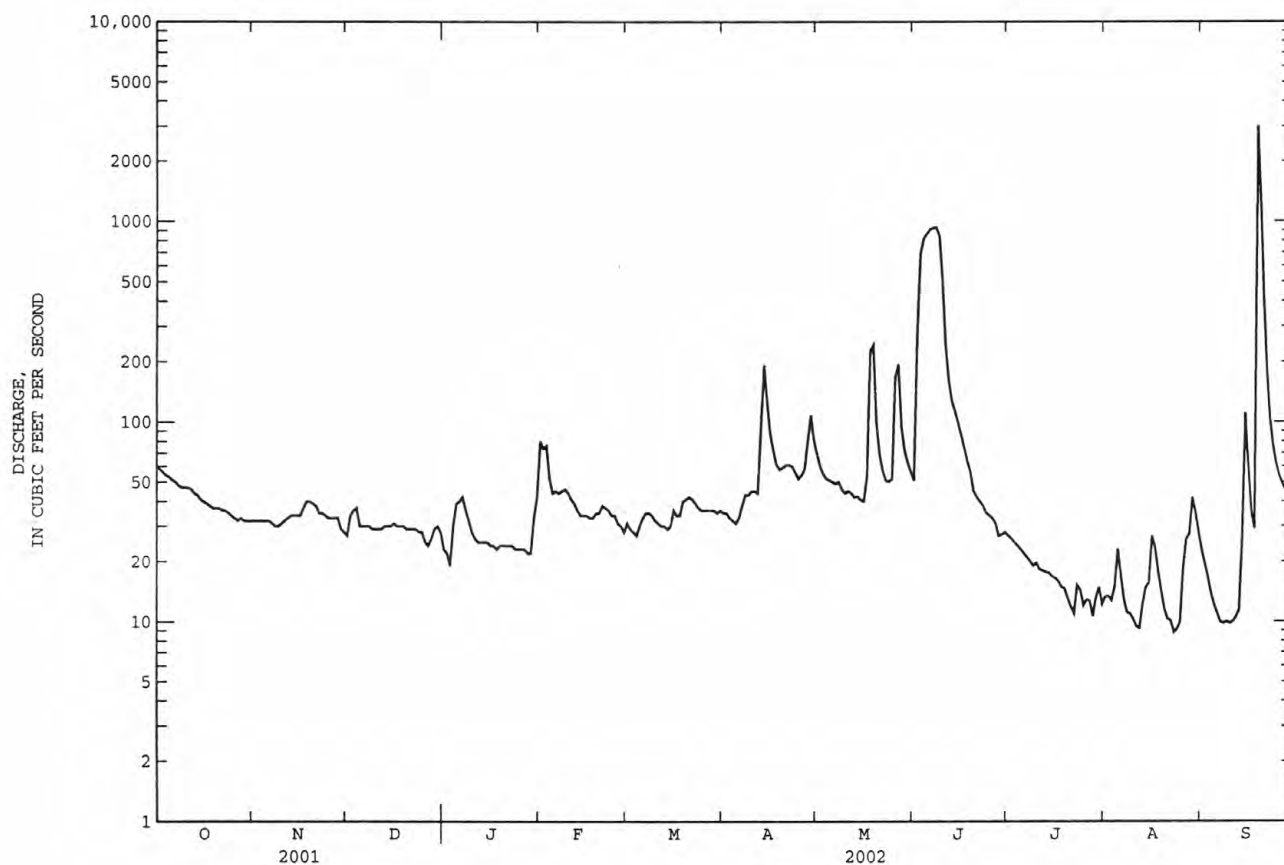
277

07239500 NORTH CANADIAN RIVER NEAR EL RENO, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1949 - 2002	
ANNUAL TOTAL	108931		25561.8		^a 232.8	
ANNUAL MEAN	298.4		70.03		807	
HIGHEST ANNUAL MEAN					31.8	
LOWEST ANNUAL MEAN					13300	
HIGHEST DAILY MEAN	2870	May 30	3010	Sep 19	May 10	1993
LOWEST DAILY MEAN	24	Dec 27	8.8	Aug 23	0.00	Oct 16 1948
ANNUAL SEVEN-DAY MINIMUM	27	Dec 22	10	Sep 6	0.00	Jul 3 1952
MAXIMUM PEAK FLOW			4050	Sep 19	15000	Oct 28 1941
MAXIMUM PEAK STAGE			11.81	Sep 19	^b 22.22	Sep 21 1965
ANNUAL RUNOFF (AC-FT)	216100		50700		168700	
10 PERCENT EXCEEDS	679		76		693	
50 PERCENT EXCEEDS	222		34		58	
90 PERCENT EXCEEDS	30		14		2.7	

^aPrior to regulation, 1903-07, 1938-48, 264 ft³/s.

^bPresent datum.



ARKANSAS RIVER BASIN

07239500 NORTH CANADIAN RIVER NEAR EL RENO, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1944-45, 1950-51, 1953, 1955-57, 1974-79, October 1991 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1954 to September 1957, May 1974 to September 1975, October 1991 to current year.

WATER TEMPERATURE: October 1954 to September 1957, May 1974 to September 1975, October 1991 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1991.

REMARKS.--Interruptions in record were due to extended periods of minimum discharge, which inhibited probe operation.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,200 microsiemens, July 25, 1974, Oct. 11, 1978; minimum, 103 microsiemens, Mar. 17, 1998.

WATER TEMPERATURE: Maximum, 37.3°C, Aug. 23, 2002; minimum, -0.2°C, Dec. 16, 2000, Dec. 26, 2002.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,620 microsiemens, June 25, 26; minimum, 148 microsiemens, Sept. 19.

WATER TEMPERATURE: Maximum, 37.3°C, Aug. 23; minimum, -0.2°C, Dec. 16.

SPECIFIC CONDUCTANCE VIA SATELLITE, in US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	1500	1480	1490	1550	1540	1540	1410	1380	1400	1340	1300	1320
2	1500	1490	1500	1540	1520	1530	1420	1380	1400	1360	1300	1320
3	1500	1490	1490	1530	1510	1520	1390	1340	1370	1430	1340	1390
4	1500	1490	1500	1520	1500	1510	1360	1360	1360	1410	1320	1360
5	1500	1490	1500	1500	1490	1500	1360	1320	1340	1320	1260	1280
6	1510	1500	1500	1510	1480	1490	1340	1320	1330	1300	1260	1290
7	1510	1500	1500	1500	1480	1490	1340	1320	1330	1300	1250	1270
8	1520	1500	1510	1490	1480	1480	1330	1320	1320	1260	1210	1240
9	1530	1500	1510	1490	1480	1480	1340	1320	1330	1250	1210	1230
10	1510	1500	1500	1500	1480	1490	1340	1330	1330	1240	1190	1220
11	1510	1490	1500	1490	1460	1480	1350	1310	1330	1220	1180	1200
12	1500	1220	1430	1480	1460	1470	1320	1310	1320	1220	1190	1210
13	1500	1260	1460	1480	1460	1470	1330	1320	1320	1220	1180	1200
14	1510	1490	1500	1460	1450	1460	1340	1320	1330	1220	1180	1200
15	1510	1490	1500	1460	1430	1440	1330	1310	1320	1220	1180	1200
16	1520	1510	1520	1440	1420	1430	1320	1300	1310	1200	1170	1190
17	1530	1510	1520	1440	1320	1390	1320	1300	1310	1200	1180	1190
18	---	---	---	1360	1330	1340	1310	1280	1300	1230	1190	1200
19	---	---	---	1350	1310	1330	1310	1280	1290	1220	1190	1210
20	---	---	---	1350	1320	1340	1310	1280	1290	1220	1190	1210
21	---	---	---	1340	1320	1330	1310	1270	1290	1220	1190	1210
22	---	---	---	1350	1320	1340	1290	1270	1280	1210	1180	1200
23	---	---	---	1360	1330	1350	1290	1270	1280	1200	1180	1190
24	---	---	---	1360	1340	1350	1310	1290	1300	1200	1170	1190
25	---	---	---	1360	1350	1360	1340	1300	1320	1210	1170	1190
26	---	---	---	1380	1360	1370	1340	1300	1320	1210	1180	1190
27	1560	1540	1550	1400	1380	1390	1330	1300	1310	1210	1170	1190
28	1560	1540	1550	1420	1390	1400	1340	1310	1320	1200	1170	1190
29	1560	1540	1550	1440	1380	1400	1340	1310	1320	1200	1160	1190
30	1550	1540	1540	1400	1380	1390	1330	1300	1320	1210	891	1070
31	1550	1530	1540	---	---	---	1360	1300	1330	998	904	957
MONTH	1560	1220	1510	1550	1310	1430	1420	1270	1320	1430	891	1220

SPECIFIC CONDUCTANCE VIA SATELLITE, in US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	1020	937	983	1310	1280	1300	1310	1280	1300	919	761	876
2	949	926	939	1330	1270	1310	1280	1240	1260	981	916	942
3	980	948	962	1390	1280	1330	---	---	---	1050	981	1030
4	1020	980	1000	1370	1290	1320	---	---	---	1080	1030	1050
5	1030	961	986	1340	1310	1320	---	---	---	1150	1080	1110
6	1030	941	967	1340	1280	1300	---	---	---	1220	1140	1180
7	1020	968	999	1290	1250	1270	---	---	---	1220	1200	1210
8	1030	987	1020	1270	1230	1250	---	---	---	1230	1180	1210
9	1060	1010	1030	1230	1180	1200	---	---	---	1210	1160	1180
10	1070	1040	1060	1230	1190	1210	---	---	---	1180	1140	1160
11	1080	1050	1070	1240	1200	1230	1260	1180	1220	1170	1140	1150
12	1100	1070	1080	1230	1180	1200	1200	1100	1170	1190	1160	1180
13	1120	1050	1100	1220	1180	1200	1160	688	1010	1200	1160	1190
14	1080	1040	1040	1240	1200	1220	1050	641	836	1220	1140	1180
15	1100	1020	1060	1250	1210	1230	1030	860	948	1230	1210	1220
16	1050	932	1010	1250	1240	1250	1010	952	974	1220	1190	1210
17	---	---	---	1270	1250	1260	1010	974	993	1200	1020	1080
18	---	---	---	1260	1150	1210	1080	1010	1050	1100	356	854
19	---	---	---	1170	1110	1140	1120	1080	1100	478	319	398
20	---	---	---	1190	1150	1180	1180	1120	1140	458	430	443
21	1170	1140	1160	1220	1190	1200	1200	1170	1190	523	441	475
22	1180	1140	1160	1260	1220	1240	1220	1190	1210	649	523	586
23	1160	1120	1140	1250	1200	1230	1250	1200	1220	776	649	723
24	1170	1120	1140	1220	1190	1200	1250	1130	1180	821	762	795
25	1220	1170	1190	1230	1200	1210	1230	1180	1200	893	819	862
26	1290	1220	1250	1270	1230	1250	1220	1190	1200	977	448	799
27	1310	1240	1270	1260	1240	1250	1190	1140	1170	448	310	340
28	1290	1260	1270	1280	1250	1260	1210	1120	1150	390	359	376
29	---	---	---	1280	1250	1270	1190	701	908	532	386	447
30	---	---	---	1300	1270	1290	789	723	744	680	532	613
31	---	---	---	1320	1280	1300	---	---	---	750	674	718
MONTH	1310	926	1080	1390	1110	1250	1310	641	1100	1230	310	890
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	817	736	785	---	---	---	1310	829	1210	812	583	695
2	1320	810	1100	---	---	---	---	---	---	959	812	891
3	1350	1270	1330	---	---	---	---	---	---	1020	929	982
4	1370	1260	1330	---	---	---	---	---	---	931	913	922
5	1560	1340	1460	---	---	---	1490	1400	1450	1030	931	982
6	1530	1510	1520	---	---	---	1450	1280	1400	1150	1030	1090
7	1530	1510	1520	---	---	---	---	---	---	1250	1150	1190
8	1540	1530	1530	---	---	---	---	---	---	1290	1200	1250
9	1540	1530	1530	---	---	---	---	---	---	1310	1260	1290
10	1540	1500	1530	1510	1470	1490	---	---	---	1330	1260	1300
11	1550	1530	1540	1510	1400	1460	---	---	---	1350	1310	1320
12	1540	1450	1530	1450	1360	1410	---	---	---	1370	1330	1340
13	1490	1430	1470	1480	1390	1450	---	---	---	1360	1270	1320
14	1480	1240	1430	1500	1430	1480	---	---	---	1330	868	1130
15	1260	1160	1230	1490	1460	1480	1220	1110	1170	886	162	644
16	1170	1130	1150	1520	1470	1500	1320	1220	1270	626	444	532
17	---	---	---	---	---	---	1370	1110	1280	592	474	500
18	---	---	---	---	---	---	---	---	---	622	502	563
19	---	---	---	---	---	---	---	---	---	565	148	214
20	1530	1480	1500	---	---	---	---	---	---	234	189	202
21	1560	1530	1540	---	---	---	---	---	---	---	---	---
22	1580	1550	1570	---	---	---	---	---	---	---	---	---
23	1600	1570	1580	---	---	---	1290	1180	1210	---	---	---
24	1610	1590	1600	---	---	---	1340	1290	1310	858	714	793
25	1620	1610	1610	---	---	---	1340	1140	1260	979	858	915
26	1620	1600	1610	1500	1450	1480	1460	1250	1330	1110	979	1050
27	1610	1590	1600	---	---	---	1470	1160	1300	1180	1110	1140
28	1600	1580	1590	---	---	---	1160	727	864	1260	1180	1220
29	1590	1500	1540	---	---	---	1090	714	906	1320	1260	1290
30	---	---	---	1400	1370	1390	1080	601	830	1360	1320	1340
31	---	---	---	1370	736	1020	601	557	569	---	---	---
MONTH	1620	736	1450	1520	736	1420	1490	557	1160	1370	148	967
YEAR	1620	148	1220									

ARKANSAS RIVER BASIN

07239500 NORTH CANADIAN RIVER NEAR EL RENO, OK--Continued

WATER TEMPERATURE VIA SATELLITE, in (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER				NOVEMBER			DECEMBER			JANUARY		
1	23.9	17.0	20.2	21.1	15.2	17.6	7.9	4.0	5.5	1.8	-0.1	0.2
2	23.3	17.2	20.0	19.8	16.0	18.1	10.5	4.6	7.4	1.2	-0.1	0.1
3	23.8	17.3	20.2	19.2	17.5	18.2	13.3	9.0	11.4	0.3	-0.1	0.0
4	25.4	19.0	21.8	19.8	16.9	18.0	16.5	13.1	14.8	0.4	-0.1	0.1
5	22.3	14.9	18.2	20.4	15.2	17.5	18.4	13.4	16.4	3.9	0.2	1.8
6	18.9	12.1	15.2	19.6	15.1	17.1	13.4	10.4	11.9	5.2	1.1	2.8
7	19.2	13.0	15.7	19.0	14.1	16.2	11.3	7.9	9.5	4.3	0.1	2.1
8	21.2	13.7	17.0	16.1	12.4	14.3	8.8	5.1	6.9	7.7	1.7	4.4
9	19.4	17.5	18.5	14.0	11.1	12.1	7.3	2.7	4.8	9.8	4.5	7.1
10	19.1	16.9	18.5	15.2	9.1	11.9	7.6	2.7	4.9	8.9	6.0	7.1
11	19.2	15.0	16.5	16.5	11.2	14.0	6.3	3.7	5.2	8.5	3.3	5.6
12	19.1	14.1	16.4	17.0	15.3	16.0	8.6	6.3	7.4	8.4	3.3	5.3
13	19.4	13.6	16.2	17.5	15.5	16.2	7.9	6.0	6.8	8.8	3.2	5.5
14	19.9	13.5	16.2	18.1	15.2	16.4	8.1	4.0	5.8	8.3	3.5	5.4
15	17.5	13.1	15.2	17.7	14.0	15.9	7.5	5.1	6.3	7.9	2.2	4.7
16	16.9	10.0	13.1	17.1	15.2	15.9	8.5	7.5	7.9	7.8	5.0	5.7
17	17.4	11.0	13.7	15.4	14.1	14.8	9.0	5.1	6.9	7.2	3.5	4.8
18	17.8	11.5	14.3	17.8	13.8	15.5	9.6	4.8	6.8	3.5	2.1	2.6
19	19.1	12.7	15.5	15.8	9.2	12.4	7.2	3.5	5.2	6.9	1.6	3.7
20	20.9	14.1	17.1	10.8	6.2	8.4	7.9	2.8	5.1	7.4	1.3	3.9
21	22.5	16.5	19.1	10.9	6.4	8.6	8.9	4.2	6.4	7.9	1.3	4.3
22	22.7	17.6	19.9	12.4	7.5	9.9	9.4	5.6	7.6	11.3	3.7	7.1
23	23.5	18.0	20.3	14.6	11.3	12.6	6.1	2.3	4.3	9.2	5.5	7.8
24	19.4	14.5	17.1	13.5	9.7	11.3	4.5	0.3	2.1	8.5	3.5	5.2
25	16.5	10.9	13.5	12.6	7.6	10.1	3.7	-0.1	1.2	8.0	1.1	4.2
26	16.4	9.6	12.7	11.1	7.1	9.9	3.7	-0.2	1.1	9.7	2.2	5.4
27	15.8	10.0	12.6	7.1	2.4	3.9	4.2	0.3	2.2	10.6	4.1	7.0
28	16.9	10.6	13.3	2.4	0.0	0.8	5.8	0.9	3.2	11.5	6.5	8.6
29	18.5	11.9	14.8	4.3	-0.1	1.5	3.6	0.2	1.8	8.2	4.7	6.8
30	18.5	12.6	15.2	6.7	0.9	3.5	1.0	-0.1	0.3	4.7	2.0	3.0
31	18.2	13.1	15.4	---	---	---	2.3	-0.1	0.3	3.5	1.1	1.9
MONTH	25.4	9.6	16.6	21.1	-0.1	12.6	18.4	-0.2	6.0	11.5	-0.1	4.3

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	5.5	-0.1	2.3	7.0	2.6	5.7	21.1	12.9	17.0	28.7	20.7	24.6
2	4.4	1.2	2.9	4.6	0.0	1.3	18.1	12.3	15.3	24.7	16.5	19.2
3	7.4	3.2	4.7	6.3	0.0	1.5	14.4	8.6	11.6	20.7	14.2	16.7
4	6.3	2.6	4.6	7.8	0.0	3.5	16.0	8.8	12.4	25.0	15.9	20.0
5	5.3	2.5	3.7	11.9	2.4	6.9	17.7	10.5	14.2	24.3	18.4	21.4
6	5.3	1.4	3.5	15.5	5.7	10.4	15.7	11.8	13.6	26.8	20.9	23.7
7	9.0	3.9	5.9	17.7	8.9	13.1	11.9	10.9	11.4	28.7	21.5	24.7
8	10.9	3.7	7.0	18.3	13.4	15.7	13.8	11.3	12.4	29.5	21.6	25.2
9	9.2	6.0	7.4	13.6	5.5	9.6	20.2	11.2	15.3	25.4	18.3	22.0
10	7.6	3.7	5.1	12.5	4.4	8.3	23.5	14.6	18.6	20.9	16.8	18.2
11	8.4	1.3	4.6	12.1	6.0	9.1	22.8	16.4	19.3	22.0	18.4	20.3
12	9.5	2.8	5.9	15.6	6.4	11.0	23.7	16.7	20.1	21.2	15.2	18.7
13	10.2	3.4	6.5	18.7	9.2	13.6	21.3	16.9	19.4	24.4	12.4	18.1
14	8.3	3.9	6.0	20.8	11.9	15.6	24.9	17.6	20.9	26.4	16.0	21.0
15	11.4	5.2	7.7	13.7	8.0	10.5	26.9	20.0	23.3	24.3	17.5	20.5
16	11.0	4.7	7.8	10.6	6.5	8.3	25.9	20.7	23.0	25.3	18.0	21.4
17	10.9	6.0	8.3	12.4	7.7	9.9	29.1	20.3	24.3	23.6	18.0	19.6
18	11.7	7.0	9.5	11.3	9.7	10.6	25.1	21.6	23.3	20.8	14.9	18.1
19	15.8	10.8	12.5	11.9	10.2	11.3	22.9	18.6	21.1	23.3	17.8	20.3
20	15.3	8.5	11.9	17.0	8.5	12.3	18.6	16.1	16.8	25.6	18.8	21.9
21	15.2	9.3	12.0	12.7	7.2	10.1	22.4	14.5	18.2	25.5	19.1	22.1
22	14.6	7.3	10.9	10.8	3.8	7.2	24.0	15.2	19.5	22.5	18.0	20.3
23	14.3	7.6	10.8	15.4	5.0	10.0	22.5	18.2	19.9	20.2	18.4	19.4
24	15.7	8.8	11.6	19.2	10.5	14.3	24.3	19.3	21.3	24.6	18.3	20.8
25	10.3	2.7	6.9	13.2	6.2	8.6	19.3	14.4	16.1	21.7	16.6	19.0
26	5.6	0.0	2.0	13.5	3.8	8.5	14.7	12.7	13.6	25.1	18.4	21.5
27	6.9	0.0	2.8	17.0	8.0	12.2	23.0	12.4	17.2	24.0	20.8	22.4
28	9.8	0.7	5.0	19.8	11.0	15.2	24.4	16.1	20.2	23.2	21.4	22.1
29	---	---	---	18.6	14.2	16.3	24.5	18.0	21.2	28.9	19.7	23.8
30	---	---	---	16.2	13.2	14.3	25.5	20.2	22.7	30.8	22.5	26.4
31	---	---	---	18.1	10.7	14.4	---	---	---	32.6	23.7	27.9
MONTH	15.8	-0.1	6.8	20.8	0.0	10.3	29.1	8.6	18.1	32.6	12.4	21.3

ARKANSAS RIVER BASIN

07239700 NORTH CANADIAN RIVER NEAR YUKON, OK

LOCATION.--Lat 35°32'22", long 97°44'32", SW 1/4 SW 1/4 sec.4, T.12 N., R.5 W., Canadian County, Hydrologic Unit 11100301, near left downstream end of bridge on new State Highway 4, 2.2 mi north of State Highway 66, 2.9 mi downstream from Shell Creek, and at mile 292.0.

DRAINAGE AREA.--13,183 mi² of which 4,899 mi² is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1943 to September 1999 (discharge measurements only), October 1999 to current year.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,247.66 ft above sea level.

REMARKS.--Records fair. Some regulation by Fort Supply Lake (station 07236500) for period May 1942 to April 1948 and by Canton Lake (station 07238500) thereafter. U.S. Geological Survey's satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e93	44	40	e32	118	e44	43	75	61	49	23	29
2	e87	43	43	e30	e94	e45	41	65	92	53	23	26
3	e79	44	44	e32	e90	e43	40	62	460	51	23	24
4	e76	44	43	36	e80	e43	40	60	713	48	23	22
5	e72	43	42	46	e75	e42	38	59	825	46	24	21
6	e70	43	42	46	70	e41	39	60	894	43	28	20
7	e68	43	41	45	69	e42	89	57	906	e38	24	19
8	e67	41	41	47	68	e40	238	56	919	34	22	19
9	75	41	41	46	62	e40	98	55	897	e34	21	19
10	419	41	41	44	59	e38	64	52	616	e33	21	18
11	163	42	41	42	57	e37	59	53	296	e32	20	17
12	83	42	42	41	55	e38	60	53	172	32	21	17
13	191	42	41	40	52	e37	410	51	176	31	30	18
14	71	43	42	40	50	e37	862	50	133	31	26	29
15	58	42	42	40	49	e36	208	49	114	30	24	53
16	54	42	45	39	48	e35	118	48	125	29	23	73
17	52	45	43	38	48	e34	90	79	100	29	30	45
18	51	48	42	39	46	e75	77	90	92	28	27	35
19	50	48	41	39	53	e81	71	265	83	27	24	2400
20	50	47	41	40	49	e67	68	133	75	26	22	2200
21	49	46	41	40	48	56	68	90	69	26	20	651
22	49	44	41	40	49	52	66	73	66	24	19	270
23	48	44	41	39	47	50	67	62	62	26	18	144
24	47	43	41	39	46	48	64	60	59	30	18	101
25	45	42	e39	39	45	45	64	59	56	28	23	80
26	45	42	e37	39	e45	45	71	84	55	24	20	68
27	45	40	e35	39	e44	45	70	194	53	24	32	61
28	44	41	e33	39	e42	44	72	124	51	23	31	56
29	44	42	e35	38	---	44	101	136	49	31	31	53
30	44	42	e35	108	---	44	89	84	48	26	39	52
31	43	---	e34	217	---	44	---	69	---	25	34	---
TOTAL	2432	1294	1250	1479	1658	1412	3485	2507	8317	1011	764	6640
MEAN	78.45	43.13	40.32	47.71	59.21	45.55	116.2	80.87	277.2	32.61	24.65	221.3
MAX	419	48	45	217	118	81	862	265	919	53	39	2400
MIN	43	40	33	30	42	34	38	48	48	23	18	17
AC-FT	4820	2570	2480	2930	3290	2800	6910	4970	16500	2010	1520	13170

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2002, BY WATER YEAR (WY)

	2000	2001	2002	2000	2001	2002	2000	2001	2002	2000	2001	2002
MEAN	104.6	93.44	301.0	197.1	308.8	495.7	495.6	580.2	519.9	191.6	58.60	237.0
MAX	193	187	673	455	778	755	947	1090	759	399	82.0	457
(WY)	2001	2001	2000	2001	2001	2000	2000	2001	2000	2000	2001	2001
MIN	42.2	43.1	40.3	47.7	59.2	45.5	116	80.9	277	32.6	24.6	32.7
(WY)	2000	2002	2002	2002	2002	2002	2002	2002	2002	2002	2002	2000

e Estimated

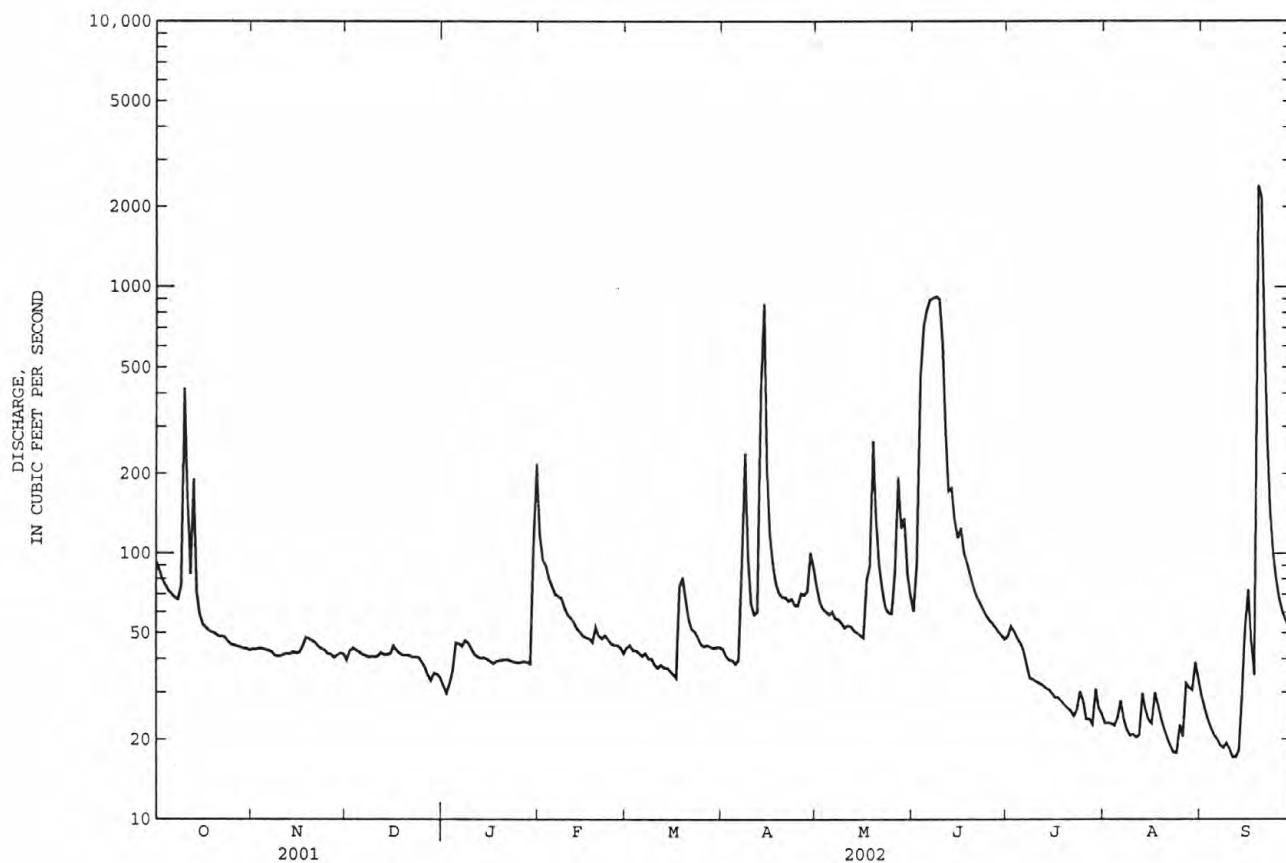
ARKANSAS RIVER BASIN

283

07239700 NORTH CANADIAN RIVER NEAR YUKON, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 2000 - 2002	
ANNUAL TOTAL	145000		32249		298.1	
ANNUAL MEAN	397.3		88.35		431	
HIGHEST ANNUAL MEAN					88.4	
LOWEST ANNUAL MEAN					5000	
HIGHEST DAILY MEAN	5000	May 30	2400	Sep 19	5000	May 30 2001
LOWEST DAILY MEAN	33	Dec 28	17	Sep 11, 12	^a 17	Sep 11 2002
ANNUAL SEVEN-DAY MINIMUM	35	Dec 25	18	Sep 7	18	Sep 7 2002
MAXIMUM PEAK FLOW			4040		5550	
MAXIMUM PEAK STAGE			10.42		12.59	
ANNUAL RUNOFF (AC-FT)	287600		63970		216000	
10 PERCENT EXCEEDS	846		101		787	
50 PERCENT EXCEEDS	260		44		90	
90 PERCENT EXCEEDS	42		25		35	

^aAlso occurred Sept. 12, 2002.



ARKANSAS RIVER BASIN

07239700 NORTH CANADIAN RIVER NEAR YUKON, OK--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1999 to current year.

WATER TEMPERATURE: November 1999 to current year.

INSTRUMENTATION.--Water-quality monitor since November 1999.

REMARKS.--Interruptions in record were due to malfunction of the recording instruments.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,630 microsiemens, June 3, 4, 2002; minimum, 126 microsiemens, Sept. 19, 2002.

WATER TEMPERATURE: Maximum, 36.1°C, July 9, 2002; minimum, 0.0°C, many days during winter period.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,630 microsiemens, June 3, 4; minimum, 126 microsiemens, Sept. 19.

WATER TEMPERATURE: Maximum, 36.1°C, July 9; minimum, 0.0°C, Jan. 4.

SPECIFIC CONDUCTANCE VIA SATELLITE, in US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	1530	1510	1520	1450	1430	1440	1290	1270	1280	1310	1240	1280
2	1540	1520	1530	1450	1430	1440	1320	1280	1300	1350	1230	1290
3	1530	1520	1520	1440	1410	1430	1320	1290	1300	1330	1240	1300
4	1520	1500	1510	1440	1410	1420	1300	1280	1290	1340	1250	1290
5	1510	1490	1500	1420	1390	1410	1290	1270	1280	1320	1260	1280
6	---	---	---	1410	1380	1400	1290	1260	1270	1260	1230	1250
7	---	---	---	1420	1400	1410	1280	1250	1270	1280	1250	1270
8	---	---	---	1420	1400	1410	1290	1270	1280	1300	1240	1270
9	---	---	---	1400	1370	1390	1280	1260	1270	1250	1220	1230
10	1460	205	815	1400	1380	1390	1290	1260	1280	1230	1210	1220
11	1080	305	715	1410	1380	1390	1280	1260	1270	1220	1190	1210
12	1290	858	1170	1390	1370	1380	1270	1250	1260	1210	1190	1200
13	858	450	517	1400	1370	1380	1280	1250	1260	1200	1180	1190
14	1210	682	1020	1390	1360	1370	1280	1240	1260	1210	1180	1200
15	1350	1210	1280	1380	1340	1360	1280	1260	1270	1220	1190	1200
16	1420	1350	1380	1370	1340	1350	1260	1230	1250	1220	1190	1210
17	1450	1390	1420	1360	1290	1340	1250	1220	1240	1220	1200	1210
18	1450	1410	1430	1300	1270	1280	1270	1220	1250	1220	1190	1200
19	1460	1440	1450	1280	1250	1270	1260	1230	1250	1220	1200	1210
20	1450	1430	1440	1280	1250	1260	1260	1240	1250	1230	1190	1210
21	1450	1430	1440	1290	1260	1280	1260	1230	1250	1230	1200	1220
22	1450	1420	1440	1280	1260	1270	1260	1240	1250	1240	1200	1220
23	1450	1430	1440	1280	1260	1260	1270	1240	1250	1220	1200	1210
24	1470	1430	1450	1280	1260	1270	1270	1240	1260	1230	1200	1210
25	1470	1430	1450	1290	1270	1280	1290	1250	1260	1230	1150	1210
26	1460	1430	1440	1300	1270	1290	1310	1260	1280	1220	1180	1210
27	1460	1420	1440	1320	1290	1310	1290	1260	1270	1230	1200	1220
28	1450	1430	1440	1320	1270	1300	1270	1260	1270	1220	1170	1210
29	1450	1430	1440	1310	1260	1290	1310	1270	1300	1220	1170	1200
30	1450	1430	1440	1310	1270	1290	1310	1280	1290	1200	850	1090
31	1450	1430	1440	---	---	---	1330	1250	1280	859	456	638
MONTH	1540	205	1340	1450	1250	1350	1330	1220	1270	1350	456	1210

285

SPECIFIC CONDUCTANCE VIA SATELLITE, in US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	889	508	726	1300	1270	1280	1260	1240	1250	872	828	842
2	954	889	937	1290	1250	1280	1270	1240	1260	998	872	952
3	948	936	942	1340	1220	1280	1280	1250	1270	1050	996	1020
4	1000	948	980	1330	1260	1290	1290	1260	1280	1110	1050	1080
5	1020	990	1010	1300	1240	1270	1320	1250	1280	1120	1080	1100
6	994	961	982	1290	1240	1270	1320	1260	1280	1150	1100	1120
7	1020	936	970	1270	1220	1250	1270	1030	1200	1200	1150	1170
8	1010	962	982	1250	1210	1230	1030	417	565	1200	1190	1200
9	1060	1010	1040	1230	1210	1220	949	531	738	1220	1180	1200
10	1100	1060	1080	1220	1180	1200	1120	949	1040	1220	1170	1200
11	1120	1090	1110	1210	1180	1200	1190	1120	1160	1200	1160	1180
12	1130	1110	1120	1210	1190	1200	1190	1130	1160	1190	1160	1180
13	1140	1120	1130	1210	1180	1200	1130	341	864	1220	1170	1200
14	1170	1140	1150	1210	1200	1210	578	299	451	1240	1210	1230
15	1190	1170	1180	1230	1200	1220	864	535	774	1270	1220	1250
16	1200	1180	1190	1240	1220	1230	912	789	853	1290	1270	1280
17	1210	1190	1200	1250	1220	1240	947	894	907	1280	852	1120
18	1230	1210	1220	1240	1130	1190	988	947	968	1200	820	1050
19	1230	1170	1190	1130	967	1050	1050	988	1020	1180	417	619
20	1210	1180	1200	1030	876	969	1110	1050	1080	561	466	538
21	1220	1200	1210	1160	1030	1100	1170	1100	1120	577	544	557
22	1230	1210	1220	1210	1160	1190	1180	1160	1170	680	577	626
23	1240	1220	1230	1230	1210	1220	1210	1180	1190	832	680	758
24	1220	1200	1210	1230	1190	1210	1230	1180	1200	965	832	897
25	1220	1190	1200	1210	1190	1200	1230	1100	1170	1060	965	1010
26	1260	1220	1240	1220	1200	1210	1170	1100	1130	1190	1060	1110
27	1320	1260	1280	1230	1200	1210	1180	1130	1150	1220	477	757
28	1290	1260	1280	1240	1200	1220	1180	1150	1160	526	476	507
29	---	---	---	1230	1200	1220	1230	1090	1170	749	504	565
30	---	---	---	1240	1220	1230	1090	821	909	770	545	663
31	---	---	---	1250	1230	1240	---	---	---	977	770	886
MONTH	1320	508	1110	1340	876	1210	1320	299	1060	1290	417	963
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	1100	977	1030	---	---	---	1210	809	1130	757	686	711
2	1340	1100	1170	---	---	---	1230	1130	1180	790	692	737
3	1630	1340	1580	1390	1310	1340	1220	894	1140	926	790	863
4	1630	1570	1620	1420	1370	1390	1220	1060	1170	1010	915	959
5	1570	1480	1520	1450	1280	1390	1270	1160	1210	1010	969	990
6	1510	1460	1490	1430	1280	1370	1380	1230	1320	979	938	965
7	1520	1500	1510	1420	1320	1370	1340	1260	1300	997	970	983
8	1520	1510	1520	1390	1300	1370	1290	1150	1240	1030	978	1000
9	1530	1510	1520	1380	1300	1340	1170	1080	1120	1060	1010	1040
10	1540	1520	1530	---	---	---	1140	1080	1100	1130	1040	1080
11	1530	1520	1520	---	---	---	1110	1030	1060	1150	1070	1110
12	1540	1460	1530	---	---	---	1040	977	1000	1150	1080	1110
13	1460	1260	1350	---	---	---	1020	868	925	1210	1110	1170
14	1450	1280	1360	---	---	---	1020	929	968	1180	890	1100
15	1500	1420	1460	---	---	---	1140	939	1070	1160	483	979
16	1420	1220	1340	1350	1290	1330	1190	1090	1130	849	474	667
17	1390	1260	1330	1350	1290	1330	1360	1180	1280	687	514	586
18	1430	1380	1410	1360	1300	1330	1360	1230	1300	687	532	633
19	1430	1370	1400	1340	1280	1320	1270	1150	1190	533	126	306
20	1450	1410	1430	1340	1260	1300	1190	1110	1150	262	230	242
21	1480	1430	1460	1330	1280	1310	1110	1050	1080	336	233	282
22	1500	1460	1480	1360	1280	1310	1100	1010	1050	433	336	382
23	1520	1480	1500	1350	1190	1250	1070	1010	1040	559	433	492
24	1520	1490	1500	1370	1180	1280	1110	1020	1060	697	559	626
25	1530	1490	1510	1280	982	1170	1070	990	1030	806	697	756
26	1530	1490	1510	1240	1110	1160	1120	1020	1060	893	806	847
27	1520	1480	1510	1310	1200	1250	1170	963	1080	1010	893	953
28	1520	1460	1490	1300	1230	1260	1220	1050	1120	1070	1010	1050
29	---	---	---	1250	1120	1180	1140	822	997	1140	1070	1110
30	---	---	---	1240	1150	1190	1050	794	935	1200	1140	1170
31	---	---	---	1270	1170	1220	1070	757	938	---	---	---
MONTH	1630	977	1450	1450	982	1290	1380	757	1110	1210	126	830
YEAR	1630	126	1180									

ARKANSAS RIVER BASIN

07239700 NORTH CANADIAN RIVER NEAR YUKON, OK--Continued

WATER TEMPERATURE VIA SATELLITE, in (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	24.0	17.6	20.5	21.2	15.6	18.0	9.1	4.8	6.9	3.9	0.7	2.0
2	23.5	17.6	20.3	21.0	16.6	18.9	12.1	5.8	8.9	3.1	0.4	1.5
3	23.9	17.5	20.4	19.1	17.7	18.4	14.7	10.5	12.6	3.5	0.3	0.9
4	25.6	19.4	22.1	20.6	16.9	18.3	17.7	13.9	15.8	3.5	0.0	1.4
5	---	---	---	21.1	16.2	18.3	19.0	14.3	17.2	5.9	1.7	3.6
6	---	---	---	20.0	15.6	17.7	14.3	11.2	12.8	6.5	2.4	4.3
7	---	---	---	19.1	14.5	16.6	12.6	9.2	10.8	5.5	1.2	3.3
8	---	---	---	16.2	12.9	14.8	10.0	6.8	8.3	8.8	2.6	5.3
9	---	---	---	14.9	11.5	12.9	8.9	4.0	6.4	10.9	5.6	8.1
10	20.0	18.1	19.1	16.4	9.9	13.0	9.0	4.2	6.4	9.6	7.1	8.2
11	19.7	16.5	17.8	17.7	12.2	14.9	7.3	4.7	6.2	9.4	4.4	6.8
12	19.7	15.3	17.4	17.8	15.7	16.6	9.4	7.2	8.4	9.0	4.6	6.6
13	18.8	15.8	17.0	18.1	15.9	16.7	9.0	7.1	8.1	9.7	4.5	6.8
14	20.6	14.6	17.1	19.7	15.6	17.3	9.9	5.6	7.6	9.2	4.7	6.8
15	18.1	14.6	16.3	18.3	14.7	16.5	8.7	6.6	7.5	8.8	3.5	6.1
16	18.5	11.7	14.8	17.7	15.6	16.5	9.5	8.7	9.1	8.9	6.4	7.2
17	18.3	12.4	15.0	16.6	15.1	15.7	10.5	6.5	8.4	7.5	4.6	5.8
18	18.3	12.8	15.3	18.6	14.4	16.2	11.3	6.0	8.3	4.6	2.6	3.5
19	19.7	13.3	16.2	16.8	9.8	13.0	8.5	4.5	6.5	7.6	2.9	4.9
20	21.4	14.5	17.6	11.8	7.0	9.3	9.4	4.1	6.5	8.2	2.8	5.3
21	22.8	16.8	19.5	11.6	7.0	9.3	10.3	5.4	7.7	9.1	2.5	5.7
22	22.5	17.8	20.0	13.5	8.2	10.8	10.2	7.0	8.9	12.6	5.0	8.5
23	23.6	18.7	20.7	15.7	12.3	13.6	7.0	3.9	5.5	10.8	6.8	9.2
24	19.9	15.5	17.5	14.0	10.5	12.1	5.5	1.5	3.4	9.1	4.5	6.5
25	16.8	11.8	14.3	13.6	8.4	11.0	4.5	0.6	2.7	8.8	2.0	5.5
26	17.5	10.5	13.7	11.9	8.4	11.0	4.6	0.3	2.5	10.5	3.3	6.7
27	16.5	10.8	13.6	8.4	3.8	5.3	6.1	2.0	3.9	11.3	5.5	8.3
28	17.2	11.2	14.0	3.9	1.1	2.2	7.4	2.4	4.8	12.6	7.8	10.0
29	18.7	12.4	15.3	6.3	1.2	3.3	5.3	1.1	3.0	9.7	6.0	8.1
30	18.8	13.0	15.7	8.7	2.5	5.2	2.7	1.0	1.7	6.0	3.1	4.4
31	18.3	13.4	15.7	---	---	---	3.5	0.3	1.6	3.4	1.4	2.3
MONTH	25.6	10.5	17.2	21.2	1.1	13.4	19.0	0.3	7.4	12.6	0.0	5.6

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	5.6	0.4	2.5	9.0	4.7	7.0	23.0	12.7	17.5	29.1	21.2	24.9
2	5.2	1.8	3.5	4.7	0.5	2.2	17.9	11.0	14.7	25.1	17.0	19.7
3	7.8	3.9	5.4	6.2	0.4	2.6	16.5	7.1	11.5	19.8	14.7	16.8
4	7.2	3.4	5.3	10.1	0.5	4.6	18.9	8.4	13.2	24.7	16.3	20.0
5	5.9	3.5	4.6	12.7	3.5	7.7	20.5	10.3	15.2	24.1	18.5	21.3
6	6.2	2.7	4.5	16.3	6.4	10.8	16.1	12.1	13.9	26.6	21.2	23.8
7	10.2	4.8	6.8	18.7	9.2	13.6	12.8	11.2	11.9	27.8	21.8	24.6
8	11.4	4.5	7.6	19.3	13.7	16.0	12.9	11.7	12.2	28.0	21.9	24.7
9	9.5	6.4	7.9	14.2	5.9	10.0	20.5	11.0	15.1	25.2	18.4	21.8
10	7.8	4.4	5.8	13.4	5.3	9.0	23.3	14.3	18.3	20.8	17.1	18.5
11	9.2	2.1	5.3	13.3	6.9	9.9	22.8	16.2	19.1	23.2	18.9	21.1
12	10.3	3.7	6.6	17.1	7.1	11.7	23.4	16.7	19.8	21.9	15.9	19.2
13	11.1	4.3	7.3	19.2	9.7	14.0	21.0	17.1	18.6	24.4	13.4	18.4
14	9.3	4.4	6.9	20.8	12.3	15.8	23.0	17.5	19.9	26.5	16.7	21.1
15	12.3	6.1	8.7	13.7	8.6	11.1	26.1	20.1	22.8	23.6	17.9	20.5
16	13.5	5.1	8.9	10.9	7.0	9.0	25.0	20.8	22.7	25.0	18.1	21.1
17	12.8	6.5	9.5	13.1	8.4	10.5	28.7	20.8	24.2	23.3	17.8	19.4
18	13.3	7.7	10.6	11.8	10.2	11.1	25.3	21.6	23.1	24.4	15.3	19.5
19	16.7	11.6	13.5	12.3	10.7	11.6	22.8	19.1	21.4	22.3	17.9	20.1
20	16.5	9.1	12.6	17.3	9.1	12.6	19.1	17.0	17.6	25.2	18.7	21.7
21	15.6	10.1	12.5	12.7	6.9	10.2	22.7	15.7	18.8	25.7	19.1	22.1
22	15.6	7.7	11.4	12.3	4.0	7.8	24.2	15.7	19.8	21.7	18.2	20.3
23	15.0	8.2	11.5	16.3	5.7	10.6	22.3	18.5	20.0	20.3	18.5	19.6
24	16.5	9.5	12.3	20.5	10.9	14.7	23.4	19.0	21.0	24.8	18.6	21.2
25	11.1	4.0	7.7	13.2	6.3	8.8	19.0	14.7	16.3	21.5	16.6	18.9
26	6.5	0.5	3.3	15.7	4.1	9.4	14.8	13.1	13.9	26.8	18.2	22.2
27	8.6	0.5	4.0	18.6	8.1	12.9	23.2	12.8	17.5	24.8	21.7	22.8
28	11.3	2.1	6.2	21.9	11.3	16.0	24.5	16.2	20.2	22.5	21.0	21.6
29	---	---	---	20.0	14.2	16.9	24.2	18.3	21.2	26.9	19.5	22.8
30	---	---	---	16.0	13.3	14.3	25.7	20.3	22.8	30.3	22.1	25.9
31	---	---	---	20.9	10.5	15.3	---	---	---	32.2	23.6	27.7
MONTH	16.7	0.4	7.6	21.9	0.4	10.9	28.7	7.1	18.1	32.2	13.4	21.4

ARKANSAS RIVER BASIN

07240000 LAKE HEFNER CANAL NEAR OKLAHOMA CITY, OK

LOCATION.--Lat 35°33'11", long 97°37'11", in SW 1/4 SW 1/4 sec.34, T.13 N., R.4 W., Oklahoma County, Hydrologic Unit 11050002, attached to left wing wall just downstream from outlet of inverted siphon, 2,600 ft upstream from Lake Hefner, 3.0 mi northeast of Bethany, and 7.6 mi northwest of the State Capitol in Oklahoma City.

PERIOD OF RECORD.--March 1944 to current year.

REVISED RECORDS.--WDR OK-80-1: 1968-80 (Datum).

GAGE.--Water stage recorder and concrete control. Datum of gage is 1,196.06 ft above sea level. Prior to Apr. 8, 1947, nonrecording gage at site 2.7 mi upstream at different datum. Apr. 8, 1947, to Apr. 30, 1950, water-stage recorder at site 3.0 mi upstream at different datum. May 1, 1950 to May 19, 1954, Apr. 26, 1957 to Feb. 19, 1968, at present site and datum 4.90 ft higher. May 20, 1954, to Apr. 25, 1957, water-stage recorder and concrete control at site 2,500 ft downstream at datum 2.10 ft higher than present datum.

REMARKS.--Records poor. Use of canal began in March 1944. Canal diverts water from North Canadian River just upstream from Lake Overholser (station 07240500) and delivers water to Lake Hefner, capacity, 80,600 acre-ft, for municipal water supply of Oklahoma City. Subsequent to April 1950, small ground-water seepage, when head gates are closed, included in records. U.S. Geological Survey satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,630 ft³/s, Dec. 17, 1999; no flow at times in each year.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

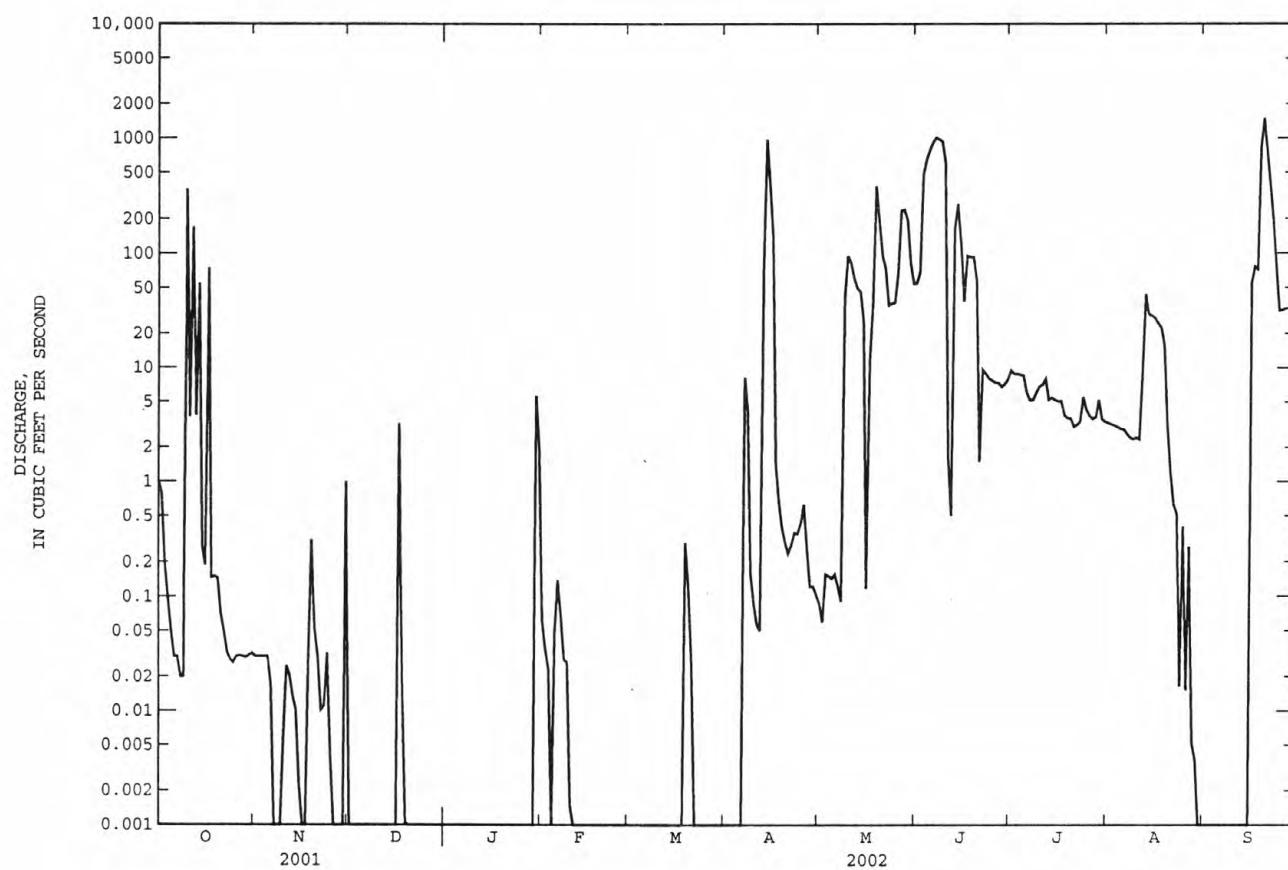
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.0	0.03	e0.00	0.00	0.06	e0.00	0.00	0.09	55	9.5	3.3	0.00
2	e0.80	0.03	e0.00	0.00	0.03	e0.0	0.00	0.06	68	8.9	3.2	0.00
3	e0.20	0.03	e0.00	0.00	0.02	e0.0	0.00	0.16	481	8.8	3.1	0.00
4	e0.10	0.03	e0.00	0.00	0.00	e0.0	0.00	0.15	643	8.7	3.0	0.00
5	e0.05	0.03	e0.00	0.00	0.05	0.0	0.00	0.14	783	8.5	2.9	0.00
6	e0.03	0.02	e0.00	0.00	0.14	0.00	0.00	0.15	913	6.1	2.9	0.00
7	e0.03	0.00	e0.00	0.00	0.07	0.00	8.2	0.12	1000	5.2	2.6	0.00
8	e0.02	0.00	0.00	0.00	0.03	0.00	4.2	0.09	975	5.2	2.4	0.00
9	e0.02	0.00	0.00	0.00	0.03	0.00	0.16	41	930	6.0	2.4	0.00
10	e360	0.0	0.00	0.00	0.00	0.00	0.09	95	615	6.8	2.4	0.0
11	3.7	0.02	0.00	0.00	0.00	0.00	0.06	83	1.6	7.1	2.4	e0.0
12	e170	0.02	0.00	0.00	0.00	0.00	0.05	60	0.51	8.0	9.3	0.0
13	3.8	0.01	0.00	0.00	0.00	0.00	72	50	165	5.3	44	0.00
14	e55	0.01	0.00	0.00	0.00	0.00	973	46	267	5.5	29	0.00
15	0.27	0.00	0.00	0.00	0.00	0.00	404	26	121	5.2	29	0.00
16	0.19	0.00	0.00	0.00	0.00	0.00	141	0.12	38	5.1	27	55
17	e75	0.00	3.2	0.00	0.00	0.00	1.4	11	95	5.1	24	76
18	0.15	0.03	0.02	0.00	0.00	0.00	0.68	38	93	3.8	23	72
19	0.15	0.31	0.00	0.00	0.00	0.29	0.40	380	92	3.6	16	832
20	0.14	0.05	0.00	0.00	0.00	0.13	0.29	190	59	3.6	3.1	1490
21	0.07	0.03	0.00	0.00	0.00	0.03	0.24	96	1.5	3.1	1.2	757
22	0.05	0.01	0.00	0.00	0.00	0.00	0.28	74	9.6	3.2	0.63	387
23	0.03	0.01	0.00	0.00	0.00	0.00	0.36	35	8.9	3.4	0.53	190
24	0.03	0.03	0.00	0.00	0.00	0.00	0.35	37	8.1	5.6	0.02	75
25	0.03	0.00	0.00	0.00	0.00	0.00	0.43	37	7.8	4.3	0.40	32
26	0.03	0.00	0.00	0.00	0.00	0.00	0.63	68	7.4	3.8	0.02	32
27	0.03	0.00	0.00	0.00	0.00	0.00	0.27	235	7.4	3.6	0.27	33
28	0.03	0.00	0.00	0.00	e0.00	0.00	0.12	237	6.8	3.7	0.0	33
29	0.03	0.00	0.00	0.00	---	0.00	0.12	194	7.2	5.2	0.00	33
30	0.03	e1.0	0.00	5.6	---	0.00	0.10	81	8.0	3.5	0.00	33
31	0.03	---	0.00	2.1	---	0.00	---	55	---	3.4	0.00	---
TOTAL	671.04	1.70	3.22	7.70	0.43	0.45	1608.43	2170.08	7467.81	168.8	238.07	4130.00
MEAN	21.65	0.057	0.104	0.248	0.015	0.015	53.61	70.00	248.9	5.445	7.680	137.7
MAX	360	1.0	3.2	5.6	0.14	0.29	973	380	1000	9.5	44	1490
MIN	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.51	3.1	0.00	0.00
AC-FT	1330	3.4	6.4	15	0.9	0.9	3190	4300	14810	335	472	8190
CAL YR 2001	TOTAL 25096.18		MEAN 68.76		MAX 1330		MIN 0.00		AC-FT 49780			
WTR YR 2002	TOTAL 16467.73		MEAN 45.12		MAX 1490		MIN 0.00		AC-FT 32660			

e Estimated

ARKANSAS RIVER BASIN

289

07240000 LAKE HEFNER CANAL NEAR OKLAHOMA CITY, OK--Continued



ARKANSAS RIVER BASIN

07240200 NORTH CANADIAN RIVER AT HIGHWAY 66 AT OKLAHOMA CITY, OK

LOCATION.--Lat 35°30'52", long 97°39'48", in NE 1/4 SW 1/4 sec.18, T.12 N., R.4 W., Oklahoma County, Hydrologic Unit 11100301, on downstream left bank of old Highway 66 bridge, 2 mi upstream from Overholser dam and at mile 283.5.

DRAINAGE AREA.--13,217 mi², of which 4,899 mi² is probably non-contributing.

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

GAGE.--Water stage recorder. Datum of gage is sea level.

REMARKS.--Records good. U.S. Geological Survey satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 1,243.74 ft, Apr. 19, 20, 2002, minimum elevation observed, 1237.42 ft, Feb. 6, 2000.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 1,243.74 ft, Apr. 19, 20, minimum elevation observed, 1238.32, at times.

GAGE HEIGHT VIA SATELLITE, in FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	1241.87	1241.70	1241.78	1241.46	1241.38	1241.42	1241.64	1241.59	1241.62	1241.27	1241.24	1241.25
2	1241.97	1241.87	1241.92	1241.52	1241.46	1241.49	1241.73	1241.64	1241.68	1241.29	1241.26	1241.27
3	1242.00	1241.88	1241.96	1241.60	1241.52	1241.56	1241.83	1241.72	1241.78	1241.28	1241.13	1241.19
4	1241.88	1241.71	1241.80	1241.68	1241.60	1241.64	1241.93	1241.82	1241.88	1241.18	1241.06	1241.11
5	1241.73	1241.53	1241.64	1241.74	1241.67	1241.71	1242.00	1241.91	1241.97	1241.31	1241.12	1241.22
6	1241.53	1241.32	1241.43	1241.80	1241.74	1241.77	1242.06	1242.00	1242.03	1241.44	1241.31	1241.39
7	1241.32	1241.06	1241.19	1241.84	1241.80	1241.82	1242.12	1242.06	1242.09	1241.53	1241.44	1241.49
8	1241.07	1240.73	1240.91	1241.88	1241.84	1241.86	1242.14	1242.11	1242.13	1241.65	1241.53	1241.59
9	1240.75	1240.46	1240.58	1241.88	1241.71	1241.82	1242.17	1242.14	1242.16	1241.69	1241.62	1241.66
10	1242.82	1240.38	1241.73	1241.71	1241.46	1241.59	1242.21	1242.17	1242.19	1241.62	1241.48	1241.55
11	1242.63	1238.91	1240.49	1241.46	1241.23	1241.35	1242.22	1242.14	1242.19	1241.48	1241.30	1241.39
12	1239.96	1238.70	1239.14	1241.23	1240.98	1241.11	1242.15	1242.04	1242.09	1241.30	1241.09	1241.20
13	1241.69	1239.96	1240.84	1240.98	1240.68	1240.85	1242.04	1241.93	1241.99	1241.09	1240.83	1240.96
14	1240.87	1240.71	1240.82	1240.69	1240.58	1240.61	1241.93	1241.80	1241.87	1240.83	1240.67	1240.72
15	1240.71	1240.36	1240.52	1240.93	1240.59	1240.70	1241.80	1241.68	1241.74	1240.67	1240.60	1240.64
16	1240.96	1240.56	1240.77	1241.29	1240.93	1241.13	1241.72	1241.51	1241.66	1240.63	1240.54	1240.58
17	1241.15	1240.96	1241.07	1241.61	1241.29	1241.44	1241.51	1240.92	1241.13	1240.55	1240.45	1240.50
18	1241.27	1241.14	1241.21	1242.08	1241.61	1241.79	1240.92	1240.69	1240.81	1240.45	1240.39	1240.42
19	1241.34	1241.17	1241.28	1242.26	1242.08	1242.19	1240.71	1240.45	1240.57	1240.39	1240.34	1240.37
20	1241.17	1240.77	1240.98	1242.15	1242.00	1242.07	1240.45	1240.35	1240.40	1240.40	1240.29	1240.33
21	1240.77	1240.29	1240.53	1242.00	1241.86	1241.93	1240.64	1240.45	1240.53	1240.29	1240.23	1240.26
22	1240.29	1239.99	1240.11	1241.86	1241.73	1241.80	1240.72	1240.61	1240.68	1240.28	1240.19	1240.22
23	1240.50	1240.13	1240.32	1241.73	1241.63	1241.68	1240.85	1240.72	1240.78	1240.21	1240.17	1240.19
24	1240.76	1240.50	1240.63	1241.63	1241.49	1241.57	1240.93	1240.85	1240.89	1240.18	1240.15	1240.17
25	1240.95	1240.76	1240.86	1241.49	1241.30	1241.40	1240.98	1240.93	1240.96	1240.16	1240.12	1240.14
26	1241.07	1240.95	1241.02	1241.31	1241.21	1241.26	1241.02	1240.98	1241.00	1240.13	1240.04	1240.08
27	1241.14	1241.07	1241.10	1241.34	1241.26	1241.30	1241.06	1241.01	1241.04	1240.05	1239.98	1240.02
28	1241.20	1241.13	1241.17	1241.43	1241.32	1241.38	1241.11	1241.06	1241.08	1239.99	1239.91	1239.95
29	1241.27	1241.19	1241.23	1241.52	1241.43	1241.47	1241.14	1241.10	1241.12	1239.92	1239.83	1239.88
30	1241.33	1241.26	1241.30	1241.60	1241.52	1241.56	1241.21	1241.14	1241.17	1242.47	1239.83	1240.72
31	1241.41	1241.32	1241.36	---	---	---	1241.25	1241.19	1241.22	1242.70	1242.47	1242.63
MONTH	1242.82	1238.70	1241.02	1242.26	1240.58	1241.51	1242.22	1240.35	1241.43	1242.70	1239.83	1240.81

ARKANSAS RIVER BASIN

291

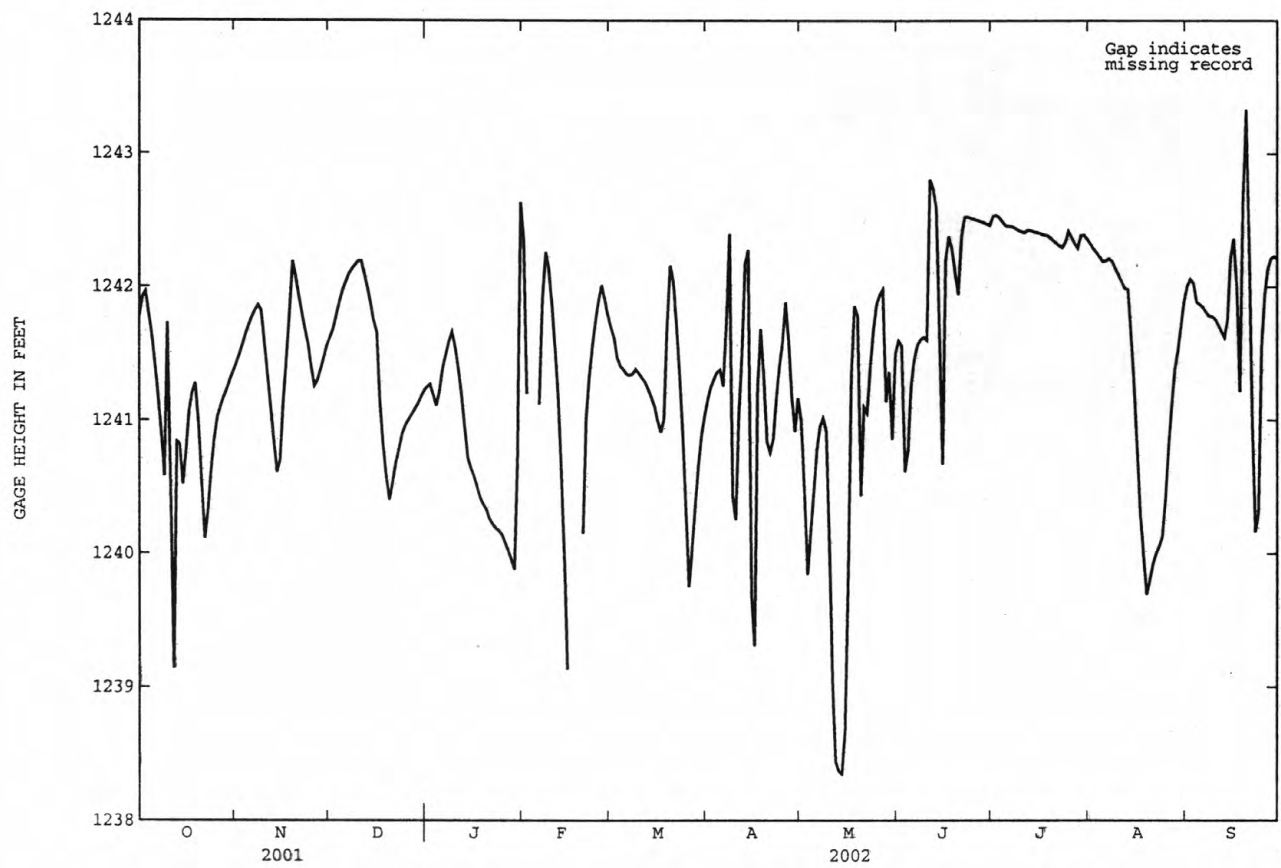
07240200 NORTH CANADIAN RIVER AT HIGHWAY 66 AT OKLAHOMA CITY, OK--Continued

GAGE HEIGHT VIA SATELLITE, in FEET, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	1242.57	1241.96	1242.34	1241.73	1241.67	1241.70	1241.19	1241.09	1241.15	1241.14	1240.80	1241.00
2	1241.96	1240.17	1241.20	1241.71	1241.57	1241.62	1241.30	1241.17	1241.25	1240.80	1240.08	1240.47
3	---	---	---	1241.57	1241.42	1241.47	1241.33	1241.28	1241.31	1240.08	1239.67	1239.84
4	---	---	---	1241.42	1241.39	1241.41	1241.39	1241.33	1241.36	1240.34	1239.95	1240.15
5	---	---	---	1241.41	1241.35	1241.38	1241.41	1241.32	1241.38	1240.59	1240.34	1240.46
6	1241.62	1240.37	1241.12	1241.38	1241.33	1241.35	1241.32	1241.21	1241.26	1240.90	1240.59	1240.78
7	1242.12	1241.62	1241.91	1241.36	1241.31	1241.34	1242.61	1241.22	1241.73	1241.00	1240.90	1240.95
8	1242.36	1242.12	1242.26	1241.39	1241.32	1241.35	1242.63	1241.77	1242.39	1241.07	1240.98	1241.02
9	1242.24	1242.02	1242.14	1241.42	1241.35	1241.38	1241.77	1239.86	1240.43	1241.08	1240.53	1240.92
10	1242.03	1241.72	1241.88	1241.38	1241.32	1241.35	1240.74	1239.95	1240.25	1240.53	1239.49	1240.02
11	1241.72	1241.39	1241.56	1241.35	1241.30	1241.32	1241.27	1240.74	1241.04	1239.49	1238.66	1239.05
12	1241.39	1240.96	1241.19	1241.30	1241.26	1241.29	1241.71	1241.27	1241.48	1238.68	1238.34	1238.44
13	1240.96	1240.34	1240.66	1241.27	1241.18	1241.23	1242.67	1241.71	1242.17	1238.40	1238.34	1238.37
14	1240.34	1239.57	1239.98	1241.21	1241.14	1241.17	1242.67	1241.06	1242.27	1238.36	1238.32	1238.35
15	1239.57	1238.71	1239.13	1241.16	1241.05	1241.11	1241.06	1239.17	1239.68	1239.29	1238.33	1238.67
16	---	---	---	1241.05	1240.95	1241.00	1240.36	1238.96	1239.31	1240.43	1239.29	1239.90
17	---	---	---	1240.95	1240.87	1240.91	1241.64	1240.36	1241.23	1241.70	1240.43	1241.34
18	---	---	---	1241.33	1240.85	1241.00	1241.77	1241.55	1241.68	1242.03	1241.70	1241.85
19	---	---	---	1242.06	1241.33	1241.70	1241.55	1241.07	1241.33	1242.62	1240.42	1241.78
20	1240.65	1239.58	1240.15	1242.20	1242.05	1242.16	1241.07	1240.76	1240.84	1241.00	1239.76	1240.43
21	1241.20	1240.65	1241.01	1242.14	1241.90	1242.04	1240.77	1240.75	1240.76	1241.13	1241.00	1241.10
22	1241.44	1241.20	1241.32	1241.90	1241.55	1241.73	1241.03	1240.73	1240.86	1241.23	1240.92	1241.06
23	1241.64	1241.44	1241.54	1241.55	1241.13	1241.36	1241.29	1241.03	1241.16	1241.54	1241.22	1241.40
24	1241.82	1241.64	1241.73	1241.15	1240.67	1240.92	1241.48	1241.28	1241.39	1241.80	1241.54	1241.67
25	1241.97	1241.81	1241.89	1240.67	1239.96	1240.34	1241.74	1241.48	1241.57	1241.94	1241.79	1241.87
26	1242.05	1241.96	1242.01	1239.97	1239.65	1239.75	1241.99	1241.74	1241.88	1242.00	1241.88	1241.94
27	1241.97	1241.85	1241.90	1240.21	1239.83	1240.04	1241.79	1241.42	1241.61	1242.18	1241.71	1241.98
28	1241.85	1241.73	1241.78	1240.52	1240.20	1240.35	1241.42	1240.96	1241.18	1241.71	1240.66	1241.14
29	---	---	---	1240.78	1240.52	1240.65	1241.13	1240.80	1240.92	1241.87	1240.12	1241.36
30	---	---	---	1240.96	1240.78	1240.88	1241.19	1241.13	1241.17	1241.39	1239.75	1240.86
31	---	---	---	1241.09	1240.96	1241.03	---	---	---	1241.58	1241.39	1241.50
MONTH	1242.57	1238.71	1241.09	1242.20	1239.65	1241.17	1242.67	1238.96	1241.20	1242.62	1238.32	1240.63
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	1241.61	1241.58	1241.60	1242.63	1242.45	1242.53	1242.34	1242.30	1242.32	1242.04	1241.96	1242.01
2	1241.66	1241.46	1241.56	1242.57	1242.50	1242.54	1242.30	1242.27	1242.29	1242.07	1242.03	1242.06
3	1241.91	1240.01	1240.62	1242.56	1242.49	1242.52	1242.27	1242.23	1242.26	1242.08	1241.94	1242.03
4	1241.11	1240.30	1240.78	1242.51	1242.47	1242.49	1242.24	1242.20	1242.22	1241.94	1241.87	1241.89
5	1241.34	1241.10	1241.27	1242.48	1242.44	1242.46	1242.20	1242.17	1242.19	1241.88	1241.86	1241.87
6	1241.54	1241.34	1241.46	1242.46	1242.44	1242.46	1242.21	1242.18	1242.20	1241.86	1241.83	1241.85
7	1241.59	1241.54	1241.57	1242.46	1242.44	1242.45	1242.22	1242.20	1242.21	1241.83	1241.78	1241.81
8	1241.63	1241.58	1241.61	1242.45	1242.43	1242.44	1242.21	1242.16	1242.19	1241.79	1241.76	1241.78
9	1241.64	1241.59	1241.62	1242.43	1242.41	1242.42	1242.17	1242.11	1242.14	1241.79	1241.77	1241.78
10	1242.72	1240.90	1241.60	1242.42	1242.40	1242.41	1242.11	1242.06	1242.09	1241.77	1241.74	1241.76
11	1242.85	1242.71	1242.80	1242.42	1242.40	1242.41	1242.07	1242.00	1242.04	1241.74	1241.69	1241.71
12	1242.89	1242.69	1242.74	1242.47	1242.40	1242.42	1242.05	1241.93	1241.99	1241.69	1241.63	1241.66
13	1242.84	1242.25	1242.59	1242.44	1242.41	1242.42	1242.20	1241.81	1241.98	1241.64	1241.59	1241.62
14	1242.25	1240.89	1241.68	1242.42	1242.40	1242.41	1241.81	1241.47	1241.65	1242.10	1241.58	1241.75
15	1241.66	1240.00	1240.67	1242.42	1242.40	1242.41	1241.47	1241.03	1241.26	1242.33	1242.10	1242.22
16	1242.46	1241.66	1242.21	1242.41	1242.38	1242.40	1241.03	1240.48	1240.77	1242.43	1242.26	1242.36
17	1242.42	1242.34	1242.38	1242.40	1242.38	1242.39	1240.48	1240.14	1240.29	1242.26	1241.65	1241.99
18	1242.35	1242.20	1242.28	1242.40	1242.38	1242.39	1240.14	1239.79	1239.99	1241.65	1240.70	1241.22
19	1242.21	1241.98	1242.10	1242.39	1242.35	1242.37	1239.79	1239.63	1239.69	1243.74	1241.20	1242.64
20	1242.15	1241.82	1241.94	1242.37	1242.33	1242.35	1239.86	1239.72	1239.80	1243.74	1242.82	1243.33
21	1242.50	1242.15	1242.37	1242.34	1242.31	1242.33	1239.97	1239.86	1239.92	1242.82	1241.64	1242.32
22	1242.53	1242.50	1242.52	1242.33	1242.29	1242.31	1240.03	1239.96	1240.00	1241.64	1240.49	1241.00
23	1242.54	1242.52	1242.53	1242.30	1242.29	1242.30	1240.09	1240.01	1240.06	1240.49	1239.90	1240.16
24	1242.53	1242.51	1242.52	1242.44	1242.27	1242.33	1240.16	1240.07	1240.13	1241.16	1239.76	1240.31
25	1242.52	1242.50	1242.51	1242.43	1242.39	1242.42	1240.71	1240.15	1240.40	1241.79	1241.16	1241.55
26	1242.51	1242.49	1242.50	1242.40	1242.34	1242.37	1240.84	1240.71	1240.79	1242.07	1241.79	1241.94
27	1242.50	1242.48	1242.49	1242.34	1242.30	1242.32	1241.29	1240.83	1241.10	1242.19	1242.07	1242.13
28	1242.50	1242.47	1242.48	1242.31	1242.27	1242.29	1241.46	1241.29	1241.38	1242.23	1242.19	1242.21
29	1242.48	1242.45	1242.47	1242.43	1242.27	1242.38	1241.58	1241.46	1241.52	1242.24	1242.22	1242.23
30	1242.48	1242.45	1242.46	1242.41	1242.37	1242.39	1241.81	1241.58	1241.70	1242.23	1242.19	1242.21
31	---	---	---	1242.37	1242.33	1242.36	1241.96	1241.81	1241.89	---	---	---
MONTH	1242.89	1240.00	1242.00	1242.63	1242.27	1242.40	1242.34	1239.63	1241.31	1243.74	1239.76	1241.85

ARKANSAS RIVER BASIN

07240200 NORTH CANADIAN RIVER AT HIGHWAY 66 AT OKLAHOMA CITY, OK--Continued





Canadian River at Calvin May 5, 1941

ARKANSAS RIVER BASIN

07240500 LAKE OVERHOLSER NEAR OKLAHOMA CITY ,OK

LOCATION.--Lat 35°29'11", long 97°39'58", in SE 1/4 NW 1/4 sec.30, T.12 N., R.4 W., Oklahoma County, Hydrologic Unit 11100301, in a concrete block building 200 ft north of dam on dike between lake and bypass channel and at mile 281.5

DRAINAGE AREA.--13,221 mi², of which 4,899 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1937 to September 1991, October 1999 to current year.

GAGE.--Water-stage recorder. Datum of gage is sea level. Prior to Oct. 1, 1955, nonrecording gage at datum 1,065.77 ft.

REMARKS.--Reservoir is formed by Ambursan-type dam flanked by long earth-fill sections. Outlet facilities are 23 taintor gates and one uncontrolled spillway. Storage began in 1917. Dam was partly washed out in 1923 and rebuilt in 1924. Capacity, 17,100 acre-ft below elevation 1,242.27 ft, top of spillway gates. Dead storage, 1,400 acre-ft below elevation 1,229.77 ft, sill of outlet works. Figures given herein represent total contents. Water diverted for municipal water supply by Oklahoma City. Revise: capacity table used since Oct. 1, 1950. U.S. Geological Survey satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.-- Maximum contents, 20,900 acre-ft, June 14, 1944, elevation, 1,242.67 ft from capacity table then in use; maximum elevation, 1242.70 ft, Apr. 18, 1990; minimum observed, 1,870 acre-ft, May 14, 1955, elevation, 1,230.62 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 10,390 acre-ft, July 3, elevation 1,237.85 ft; minimum, 5,480 acre-ft, Sept. 13, elevation, 1,234.44 ft.

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

1230.0	1,530	1237.5	9,860
1232.0	3,370	1240.0	13,640
1235.0	6,320	1242.5	17,460

RESERVOIR STORAGE VIA SATELLITE, in (ACRE-FEET), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY OBSERVATION AT 0800 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8930	8700	8620	8480	8940	8710	8670	9010	8800	10040	8680	e6370
2	8880	8750	8610	8470	8940	9100	9010	8980	8720	10220	8640	e6290
3	8870	8720	8640	8450	8930	9030	8620	8980	8650	10340	8570	e6140
4	8840	8720	8580	8440	8930	9000	8620	8940	8650	10360	8480	e6100
5	8750	8740	8610	8480	8940	8870	8610	8910	8700	10310	8410	e6000
6	8800	8720	8640	8500	8980	8700	8580	8850	8710	10280	8370	e5930
7	8750	8710	8620	8420	8950	8650	e8560	8870	8680	10270	8290	e5870
8	8680	8770	8650	8480	8930	8740	e8600	8830	8620	10220	8220	e5800
9	8680	8640	8610	8470	8950	8870	e8580	8900	8640	10160	8170	e5750
10	8930	8650	8580	8550	9070	8770	8610	8780	8640	10100	8080	e5700
11	9160	8640	8550	8470	8950	8710	8610	8720	8810	10060	8050	e5630
12	9110	8640	8610	8450	8940	8780	8650	8780	9360	9990	8040	e5580
13	9050	8620	8700	8440	8930	8670	8750	8810	9960	9970	7970	e5480
14	9140	8640	8620	8410	8900	8680	9040	8740	10070	9930	7990	e7140
15	9030	8640	8570	8450	8900	8620	9040	8680	10020	9840	7920	e7090
16	9080	8620	8620	8400	8880	8700	9030	8610	10070	9730	7880	e6930
17	9050	8610	8680	8480	8880	8640	9040	9070	10060	9690	7790	e6880
18	8980	8610	8650	8420	8830	8610	8950	8900	10000	9610	7750	e7880
19	9010	8700	8520	8450	8880	8810	8970	8880	9960	9540	7440	e7790
20	9000	8700	8440	8400	8880	8950	9030	8880	9930	9470	e7350	e7730
21	8980	8650	8450	8420	8910	8980	9110	8840	9900	9360	e7280	e7640
22	8970	8620	8480	8400	8840	8800	8980	8750	9910	9270	e7100	e7590
23	8970	8640	8570	8440	8830	8770	8950	8710	9970	9200	e7020	e7430
24	8970	8720	8520	8440	8750	8710	8970	8800	10020	9140	e6940	e7360
25	8930	8640	8500	8400	8800	8870	9010	8770	10040	9140	e6860	e7280
26	8880	8640	8510	8350	8800	8710	9050	8780	10070	9050	e6790	e7140
27	8850	8740	8500	8310	8750	8740	8940	8780	10070	8940	e6850	e7100
28	8770	8720	8480	8350	8710	8740	9080	8810	10090	8850	e6660	e7040
29	8770	8610	8540	8350	---	8850	9030	8830	10100	8840	e6580	e6980
30	8750	8610	8470	8470	---	8710	9010	8810	10070	8840	e6510	e6900
31	8700	---	8480	8740	---	8720	---	8810	---	8750	e6450	---
MAX	9160	8770	8700	8740	9070	9100	9110	9070	10100	10360	8680	7880
MIN	8680	8610	8440	8310	8710	8610	8560	8610	8620	8750	6450	5480
(+)	1236.70	1236.64	1236.55	1236.73	1236.71	1236.72	1236.93	1236.78	1237.64	1236.74	---	---
(++)	-240	-90	-130	+260	-30	+10	+290	-200	+1260	-1320	-2300	+450
CAL YR 2001	MAX 10390	MIN 3790	(++)	-40								
WTR YR 2002	MAX 10760	MIN 5480	(++)	-2040								

e Estimated

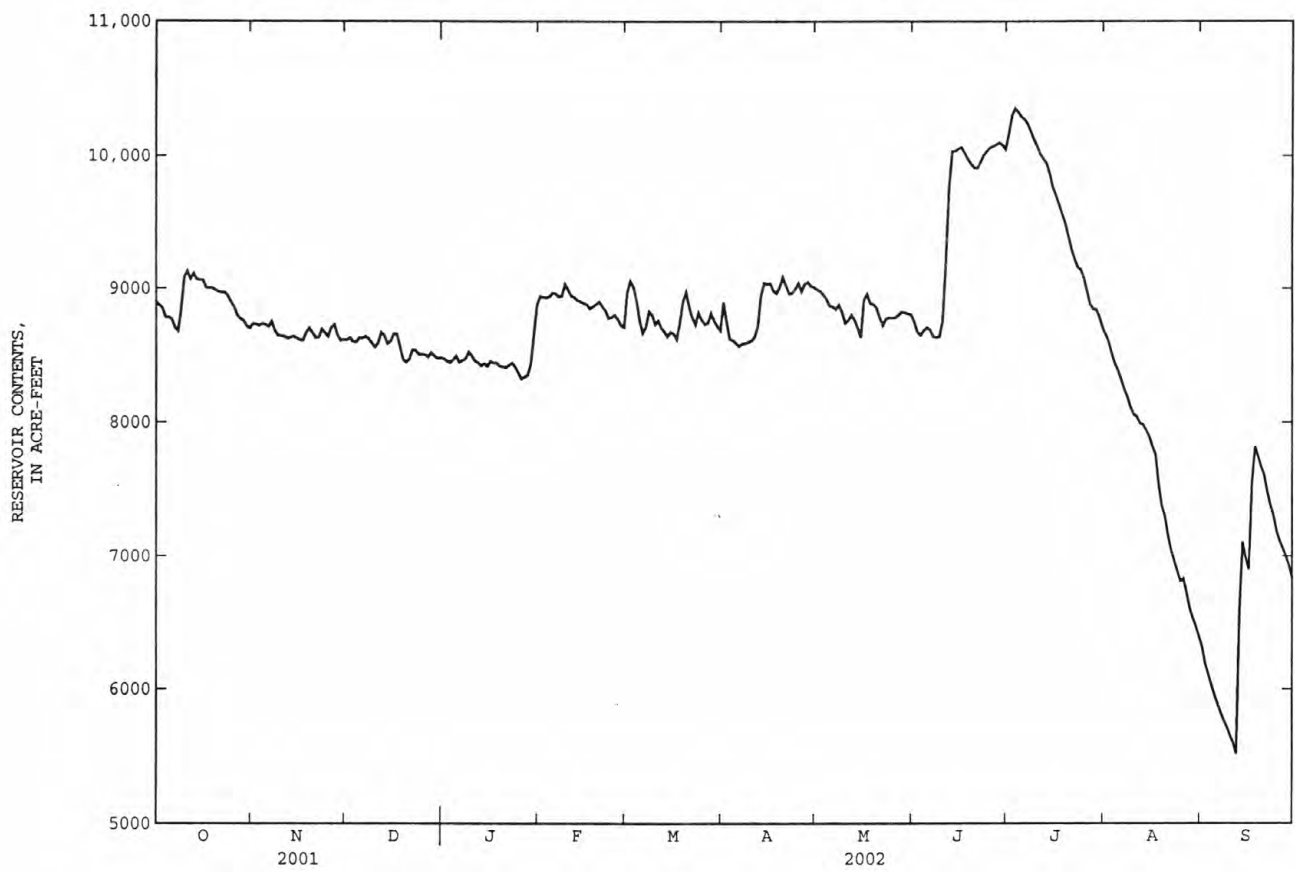
(+) ELEVATION, IN FEET, AT END OF MONTH

(++) CHANGE IN CONTENTS, IN ACRE-FEET

ARKANSAS RIVER BASIN

295

07240500 LAKE OVERHOLSER NEAR OKLAHOMA CITY ,OK--Continued



ARKANSAS RIVER BASIN

07241000 NORTH CANADIAN RIVER BELOW LAKE OVERHOLSER NEAR OKLAHOMA CITY, OK

LOCATION.--Lat 35°28'43", long 97°39'47", in NE 1/4 of NW 1/4 of sec.31, T. 12N., R. 4W, Oklahoma County, Hydrologic Unit 11100301, on left downstream side of bridge on NW 10th Street, 0.5 mi downstream from Lake Overholser, 2.4 mi upstream from Mustang Creek, 9.1 mi southwest of State Capitol of Oklahoma, and at river mile 281.0.

DRAINAGE AREA.--13,222 mi², of which 4,899 mi² is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1952 to September 1968, October 1969 to September 1972, October 1973 to September 1987, October 1988 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,194.66 ft above sea level. Prior to Oct. 1, 1961, at datum 10.00 ft higher. Prior to March 24, 1971, gage located at current site. March 25, 1971, to Sept. 30, 1987, gage located 200 ft upstream.

REMARKS.--Records poor. Flow regulated by Canton Lake (station 07238500) and Lake Overholser (station 07240500). Diversions upstream from station into Lake Overholser and Lake Hefner Canal (station 07240000). U.S. Geological Survey's satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	45	e29	32	138	39	35	30	0.97	3.4	1.5	6.3
2	54	e44	e29	32	168	38	34	29	0.85	5.8	1.3	4.7
3	70	e46	e28	32	146	38	34	20	0.74	6.0	1.2	4.6
4	78	e46	e28	32	57	38	34	13	0.83	4.2	1.1	7.7
5	80	e45	e28	32	34	39	36	13	2.2	3.2	1.0	6.3
6	82	e45	e29	32	34	38	39	12	2.0	2.7	0.96	4.7
7	80	e44	e29	33	34	38	104	12	1.6	2.8	0.99	3.8
8	77	e44	e28	33	47	39	290	12	1.3	2.4	0.99	3.5
9	76	e50	e28	38	71	36	213	11	1.3	2.1	0.98	3.6
10	194	e60	e29	42	69	37	61	7.9	1.1	1.8	1.1	3.2
11	48	e60	e41	42	69	38	43	6.0	1.00	1.7	1.1	2.9
12	41	e59	e50	42	68	37	43	4.3	1.1	1.8	1.4	2.7
13	71	e59	e52	42	68	38	183	3.1	7.2	1.9	4.2	2.6
14	66	e58	e50	39	67	38	13	2.4	7.3	1.6	4.2	3.4
15	77	e45	e49	35	64	37	11	1.9	5.1	1.4	3.2	4.1
16	44	e38	e55	35	62	37	9.1	1.6	7.0	1.2	2.5	3.6
17	43	e35	e70	34	58	37	7.8	1.6	5.3	1.1	2.1	3.2
18	42	e36	e45	34	42	39	22	e1.6	3.7	0.96	1.8	3.2
19	54	e45	e43	34	34	47	32	e1.6	2.9	0.87	1.5	143
20	72	e50	36	35	33	55	23	2.1	2.3	0.78	1.4	589
21	69	e52	e30	35	33	67	15	1.6	2.2	0.74	1.2	233
22	59	e52	e30	35	35	68	13	1.3	e2.0	0.73	1.1	11
23	35	e51	e30	35	34	68	12	1.2	e1.9	0.73	1.1	9.4
24	37	e50	e30	36	34	67	12	1.4	1.8	0.78	1.2	8.0
25	43	e50	e33	36	34	64	12	1.6	1.9	0.83	1.8	5.9
26	44	e41	e34	36	36	47	21	1.4	1.9	0.76	2.1	4.8
27	47	e33	33	36	41	34	33	1.3	e1.8	0.67	3.1	4.1
28	48	e31	32	36	41	34	30	1.6	1.8	0.74	2.8	3.6
29	47	e30	32	36	---	34	29	2.0	1.6	2.3	2.3	3.2
30	49	e29	32	86	---	35	30	1.5	1.3	2.2	9.7	2.9
31	49	---	32	94	---	34	---	1.2	---	1.8	9.6	---
TOTAL	1928	1373	1124	1211	1651	1335	1473.9	202.2	73.99	59.99	70.52	1092.0
MEAN	62.19	45.77	36.26	39.06	58.96	43.06	49.13	6.523	2.466	1.935	2.275	36.40
MAX	194	60	70	94	168	68	290	30	7.3	6.0	9.7	589
MIN	35	29	28	32	33	34	7.8	1.2	0.74	0.67	0.96	2.6
AC-FT	3820	2720	2230	2400	3270	2650	2920	401	147	119	140	2170

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 2002, BY WATER YEAR (WY)

	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
MEAN	178.2	128.6	108.5	110.7	139.3	193.8	190.4	347.8	431.6	166.1	100.7	103.9
MAX	2426	1489	563	922	708	1487	1149	2922	2774	1749	884	826
(WY)	1987	1975	1993	1998	1997	1990	1997	1993	1995	1957	1957	1989
MIN	0.000	0.000	0.016	0.045	0.061	0.000	0.027	0.45	0.013	0.039	0.000	0.000
(WY)	1953	1955	1957	1955	1955	1954	1954	1956	1953	1954	1953	1954

e Estimated

ARKANSAS RIVER BASIN

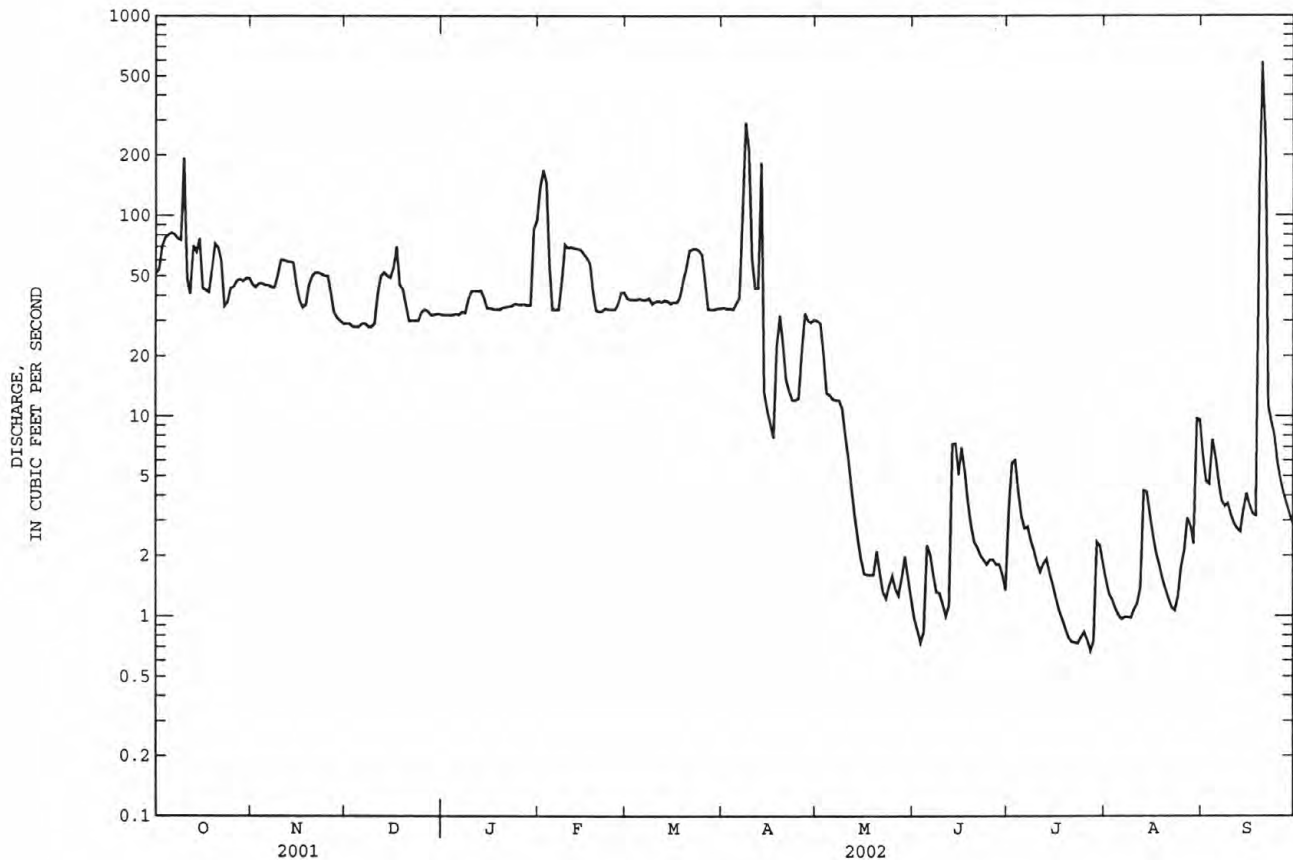
297

07241000 NORTH CANADIAN RIVER BELOW LAKE OVERHOLSER NEAR OKLAHOMA CITY, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1953 - 2002	
ANNUAL TOTAL	78242.7		11594.60		183.3	
ANNUAL MEAN	214.4		31.77		749	1987
HIGHEST ANNUAL MEAN					0.42	1954
LOWEST ANNUAL MEAN					13300	May 10 1993
HIGHEST DAILY MEAN	4000	May 31	589	Sep 20	^a 0.00	Oct 1 1952
LOWEST DAILY MEAN	6.8	Jul 22	0.67	Jul 27	0.00	Oct 1 1952
ANNUAL SEVEN-DAY MINIMUM	7.0	Jul 21	0.75	Jul 21	19500	Jun 11 1995
MAXIMUM PEAK FLOW			939	Sep 19	^b 29.85	May 28 1987
MAXIMUM PEAK STAGE			8.57	Sep 19	132800	
ANNUAL RUNOFF (AC-FT)	155200		23000		508	
10 PERCENT EXCEEDS	503		65		24	
50 PERCENT EXCEEDS	103		32		0.82	
90 PERCENT EXCEEDS	10		1.3			

^aNo flow at times in 1952-57.

^bFrom high-water mark.



ARKANSAS RIVER BASIN

07241000 NORTH CANADIAN RIVER BELOW LAKE OVERHOLSER NEAR OKLAHOMA CITY, OK --Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--August 1988 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1988 to current year.

pH: October 1988 to June 1991.

WATER TEMPERATURE: October 1988 to current year.

DISSOLVED OXYGEN: October 1988 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1988.

REMARKS.--Interruptions in record were due to malfunction of the recording instrument and insufficient flow for probes to function properly. Samples were collected monthly and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 2,050 microsiemens, Nov. 19, 1991; minimum, 81 microsiemens, Oct. 25, 2000.

pH: Maximum, 8.9 units, Oct. 27, 1989, Nov. 27, 1989, Sept. 15, 17, 1990; minimum, 6.2 units, Aug. 8, 1989.

WATER TEMPERATURE: Maximum, 37.1°C, Aug. 2, 2002; minimum, -0.5°C, Dec. 22, 23, 24, 1998.

DISSOLVED OXYGEN: Maximum, 21.5 mg/l, Dec. 3, 2000; minimum, 0.1 mg/l, Aug. 2, 2002.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,430 microsiemens, Oct. 1; minimum, 157 microsiemens, Sept. 19.

WATER TEMPERATURE: Maximum, 37.1°C, Aug. 2; minimum, 0.3°C, Mar. 3.

DISSOLVED OXYGEN: Maximum, 18.6 mg/l, Dec. 9, 10; minimum, 0.1 mg/l, Aug. 2.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)		
SEP													
11...	1232	1028	1028	4.17	2.9	736	12.6	8.4	1070	27.7	2.00		
11...	1234	1028	1028	4.17	2.9	736	12.5	8.4	1070	27.7	3.00		
11...	1236	1028	1028	4.17	2.9	736	12.3	8.4	1070	27.7	4.00		
11...	1238	1028	1028	4.17	2.9	736	12.4	8.4	1070	27.7	5.00		
11...	1240	1028	1028	4.17	2.9	736	12.4	8.4	1080	27.7	6.00		
11...	1242	1028	1028	4.17	2.9	736	12.4	8.4	1080	27.7	7.00		
11...	1244	1028	1028	4.17	2.9	736	12.5	8.4	1070	27.8	8.00		
11...	1246	1028	1028	4.17	2.9	736	12.5	8.4	1070	27.9	9.00		
11...	1248	1028	1028	4.17	2.9	736	12.3	8.4	1070	27.7	10.0		
11...	1250	1028	1028	4.17	2.9	736	12.3	8.4	1080	27.7	11.0		
11...	1252	1028	1028	4.17	2.9	736	12.4	8.4	1070	27.8	12.0		
11...	1254	1028	1028	4.17	2.9	736	12.4	8.4	1070	27.8	13.0		
11...	1256	1028	1028	4.17	2.9	736	12.4	8.4	1070	27.8	14.0		
11...	1258	1028	1028	4.17	2.9	736	12.4	8.4	1070	27.8	15.0		
11...	1300	1028	1028	4.17	2.9	736	12.5	8.4	1070	27.8	16.0		
Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
OCT													
10...	1330	80020	1028	5.30	48	732	103	9.3	8.1	651	17.3	18.1	--
NOV													
07...	0940	80020	1028	4.50	44	742	103	9.8	7.8	1330	18.5	16.3	420
DEC													
04...	1130	80020	1028	4.34	28	736	144	14.9	8.2	1280	22.5	12.0	--
JAN													
08...	1015	80020	1028	4.34	33	734	126	15.7	8.2	1290	10.5	4.3	--
FEB													
12...	1100	80020	1028	4.75	68	741	111	13.7	8.1	1090	11.2	5.0	340
MAR													
05...	0945	80020	1028	4.42	39	739	108	13.7	8.4	1270	6.0	3.8	--
APR													
03...	0923	80020	1028	5.40	34	742	111	11.4	8.4	1180	5.0	12.8	--
MAY													
01...	0915	80020	1028	4.92	30	719	126	10.3	8.2	1230	24.5	22.1	390
JUN													
05...	1300	80020	1028	4.24	2.2	733	115	8.8	8.2	1060	30.8	26.3	--
JUL													
10...	1050	80020	1028	3.95	1.8	728	88	6.7	8.0	1130	34.5	26.7	--
AUG													
06...	1445	80020	1028	3.90	.07	741	279	19.0	8.8	1150	37.1	34.4	320
SEP													
04...	0930	80020	1028	4.40	7.7	741	99	7.7	8.2	1070	29.5	26.6	--

ARKANSAS RIVER BASIN

299

07241000 NORTH CANADIAN RIVER BELOW LAKE OVERHOLSER NEAR OKLAHOMA CITY, OK --Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SODIUM AD- SORP- TION RATIO (00931)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
OCT 10...	--	--	--	--	--	--	--	112	102	125	0	--	--
NOV 07...	160	93.8	45.1	5.41	3	136	41	282	263	314	0	145	.7
DEC 04...	--	--	--	--	--	--	--	280	273	326	3	--	--
JAN 08...	--	--	--	--	--	--	--	293	277	334	0	--	--
FEB 12...	110	76.6	35.4	4.36	2	99.5	39	243	234	283	0	85.7	.6
MAR 05...	--	--	--	--	--	--	--	301	281	336	32	--	--
APR 03...	--	--	--	--	--	--	--	287	266	316	4	--	--
MAY 01...	160	88.6	39.5	5.04	3	117	40	254	229	271	4	106	.5
JUN 05...	--	--	--	--	--	--	--	260	240	289	0	--	--
JUL 10...	--	--	--	--	--	--	--	194	185	223	1	--	--
AUG 06...	170	69.1	34.7	6.06	3	135	48	198	148	168	6	144	.8
SEP 04...	--	--	--	--	--	--	--	188	189	227	2	--	--
Date	SILICA, DIS- SOLVED AS SIO2) (00955)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)
OCT 10...	--	--	.69	.16	.41	.53	.20	1.1	1.83	.43	.056	.017	.561
NOV 07...	9.83	261	.83	.23	.39	.60	.30	1.3	1.74	.42	.095	.029	.291
DEC 04...	--	--	.45	.06	.95	.38	.08	1.4	4.23	.97	.036	.011	.212
JAN 08...	--	--	.46	.06	1.38	.40	.07	1.8	6.10	1.39	.036	.011	.534
FEB 12...	5.24	177	.44	.05	.69	.39	.06	1.1	3.05	.70	.033	.010	.209
MAR 05...	--	--	.65	E.04	.69	--	--	1.4	3.06	.70	.036	.011	.518
APR 03...	--	--	.45	E.03	.09	--	--	.55	.390	.10	.026	.008	.524
MAY 01...	1.48	237	.49	<.04	--	--	--	--	--	<.05	--	<.008	.199
JUN 05...	--	--	.63	.12	.10	.50	.16	.75	.460	.13	.076	.023	.472
JUL 10...	--	--	.80	.14	.31	.66	.18	1.1	1.38	.33	.066	.020	.748
AUG 06...	9.14	202	1.2	.05	.04	1.1	.06	1.2	.164	.05	.033	.010	.506
SEP 04...	--	--	.72	.09	.03	.63	.11	.77	.146	.05	.046	.014	.613

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

[illegible]

ARKANSAS RIVER BASIN

301

07241000 NORTH CANADIAN RIVER BELOW LAKE OVERHOLSER NEAR OKLAHOMA CITY, OK --Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)
OCT						
10...	--	--	--	--	--	--
NOV						
07...	<30	.6	<9	1100	17	E15
DEC						
04...	--	--	--	--	--	--
JAN						
08...	--	--	--	--	--	--
FEB						
12...	<30	.9	<9	747	9	<24
MAR						
05...	--	--	--	--	--	--
APR						
03...	--	--	--	--	--	--
MAY						
01...	<30	.8	<9	913	10	<24
JUN						
05...	--	--	--	--	--	--
JUL						
10...	--	--	--	--	--	--
AUG						
06...	<30	.4	<9	818	10	25
SEP						
04...	--	--	--	--	--	--

SPECIFIC CONDUCTANCE VIA SATELLITE, in US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	1430	1400	1410	1340	1310	1330	1290	1280	1280	---	---	---
2	1400	1370	1390	1340	1240	1320	1290	1280	1290	---	---	---
3	1370	1360	1360	1340	1250	1320	1290	1280	1290	---	---	---
4	1360	1350	1360	1320	1290	1310	1280	1270	1280	---	---	---
5	1350	1330	1340	1330	1310	1320	1280	1250	1270	---	---	---
6	1330	1310	1320	1330	1320	1330	1270	1250	1260	---	---	---
7	1310	1270	1290	1390	1310	1330	1260	1240	1250	---	---	---
8	1280	1270	1280	1340	1330	1340	1250	1240	1250	1280	1260	1270
9	1290	1260	1280	1350	1340	1340	1250	1230	1250	1270	1250	1260
10	1270	621	987	1340	1330	1330	1250	1230	1240	1250	1210	1230
11	---	---	---	1330	1320	1330	1240	1220	1240	1220	1200	1210
12	877	747	834	1330	1320	1320	1230	1210	1220	1230	1220	1220
13	889	807	860	1320	1320	1320	1210	1200	1200	1230	1220	1230
14	974	812	908	1320	1320	1320	1200	1180	1190	1230	1210	1220
15	961	688	791	1320	1310	1320	1180	1170	1180	1220	1210	1210
16	817	691	723	1320	1310	1320	---	---	---	1210	1200	1210
17	1060	817	982	1320	1230	1300	---	---	---	1210	1200	1210
18	1100	968	1020	1320	512	1280	---	---	---	1220	1210	1210
19	1250	1100	1140	1250	512	988	1220	1200	1210	1220	1200	1210
20	1350	1230	1300	1260	1170	1220	1210	1200	1210	1220	1210	1220
21	1340	1320	1330	1260	1220	1240	1220	1210	1210	1230	1210	1220
22	1360	1340	1350	1220	1140	1180	1230	1220	1230	1230	1210	1220
23	1370	1350	1360	1180	1140	1160	1240	1230	1230	1220	1210	1210
24	1370	1340	1350	1200	1180	1190	1240	1230	1240	1220	1210	1210
25	1350	1320	1340	1240	1200	1220	1240	1240	1240	1240	1220	1220
26	1360	1320	1340	1250	1240	1240	---	---	---	1240	1230	1240
27	1360	1330	1340	1250	1250	1250	---	---	---	1250	1230	1240
28	1360	1290	1330	1260	1240	1250	---	---	---	1250	1230	1240
29	1370	1340	1360	1270	1250	1260	---	---	---	1250	1240	1240
30	1370	1340	1360	1280	1270	1280	---	---	---	1250	362	900
31	1360	1320	1340	---	---	---	---	---	---	827	465	699
MONTH	1430	621	1210	1390	512	1280	1290	1170	1240	1280	362	1190

ARKANSAS RIVER BASIN

07241000 NORTH CANADIAN RIVER BELOW LAKE OVERHOLSER NEAR OKLAHOMA CITY, OK --Continued

SPECIFIC CONDUCTANCE VIA SATELLITE, in US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	688	604	635	1240	1230	1230	1180	1160	1170	1240	1070	1190
2	725	542	594	1260	1240	1250	1180	1170	1180	1070	934	982
3	978	725	878	1270	1240	1260	1190	1160	1180	960	921	926
4	1030	978	1010	1260	1240	1250	1200	1190	1190	1040	960	1000
5	1030	419	783	1270	1230	1250	1220	1200	1210	1050	1020	1030
6	1120	809	958	1260	1230	1250	1220	1200	1220	1100	1050	1070
7	1000	840	947	1240	1220	1230	1210	413	922	1140	1100	1120
8	1000	992	995	1240	1230	1240	921	505	666	1160	1140	1150
9	1010	1000	1000	1250	1230	1240	615	506	575	---	---	---
10	1030	1010	1020	1250	1240	1250	743	577	631	---	---	---
11	1080	1030	1050	1250	1240	1250	727	651	685	---	---	---
12	1110	1080	1090	1250	1220	1240	834	727	763	---	---	---
13	1120	1110	1120	1230	1200	1220	920	236	670	---	---	---
14	1160	1120	1140	1210	1190	1200	642	332	499	---	---	---
15	1180	1160	1170	1200	1190	1200	907	642	777	---	---	---
16	1230	1180	1200	1200	1190	1190	1000	907	959	1190	1140	1180
17	1240	1220	1230	1190	1180	1190	1040	883	975	---	---	---
18	1240	1230	1240	1190	1110	1160	894	774	853	---	---	---
19	1240	926	1190	1180	753	963	926	844	891	---	---	---
20	1230	1180	1210	1050	974	1020	982	926	958	---	---	---
21	1230	1180	1210	978	863	905	1030	981	1000	1030	991	1010
22	1220	1200	1220	896	866	874	1070	1030	1050	1060	1020	1040
23	1220	1190	1210	977	896	929	1100	1070	1090	1070	1050	1060
24	1200	1180	1190	1070	977	1020	1150	1100	1120	1080	680	1040
25	1220	1200	1200	1130	1040	1080	1160	1120	1150	1060	1030	1040
26	1230	1170	1220	1160	1130	1140	1170	1120	1150	1080	997	1050
27	1240	1220	1230	1160	1150	1160	1200	1130	1170	1060	1030	1050
28	1240	1230	1240	1170	1150	1160	1130	1110	1120	1080	601	1010
29	---	---	---	1170	1150	1160	1160	1130	1140	1060	1020	1040
30	---	---	---	1170	1160	1160	1220	1160	1190	1050	999	1040
31	---	---	---	1170	1160	1160	---	---	---	1060	1010	1040
MONTH	1240	419	1080	1270	753	1160	1220	236	972	1240	601	1050
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	1070	1010	1050	1110	384	915	1270	1150	1250	1100	1080	1090
2	1080	1020	1050	897	401	796	1200	1100	1160	1110	1100	1100
3	1070	1020	1050	896	765	855	1180	1110	1150	1120	1070	1090
4	1080	484	997	1020	762	835	1190	1090	1150	1100	1070	1080
5	1060	802	906	1110	1020	1070	1160	1100	1130	1110	1090	1100
6	874	798	840	1110	1040	1100	1170	1110	1150	1110	1090	1100
7	880	850	869	1160	1090	1120	1180	1120	1160	1100	1090	1100
8	890	846	876	1170	1090	1140	1170	1120	1150	1100	977	1080
9	924	867	901	1170	1120	1150	1170	1130	1160	1090	1080	1090
10	950	901	928	1160	1120	1130	1180	1130	1160	1090	1070	1080
11	957	884	939	1160	1130	1150	1180	1120	1150	1080	1060	1070
12	973	257	932	1170	1000	1120	1160	672	1090	1080	1060	1070
13	795	283	446	1170	1120	1150	1140	481	782	1080	1060	1070
14	1060	795	939	1190	995	1160	1080	988	1050	1080	541	994
15	1120	633	1010	1190	1130	1160	1090	1060	1070	1020	943	993
16	971	387	648	1190	1130	1160	1100	1040	1080	1050	1010	1030
17	1040	920	1000	1190	1140	1170	1100	1070	1090	1040	966	999
18	1090	1040	1070	1190	1090	1150	1110	1070	1090	966	314	933
19	1140	1010	1080	1200	1130	1170	1100	1060	1090	1310	157	453
20	1130	1090	1110	1220	1100	1180	1100	1060	1090	1260	750	915
21	---	---	---	1220	1150	1200	1100	1060	1080	871	760	807
22	---	---	---	1240	1190	1230	1090	1030	1070	804	774	792
23	---	---	---	1250	1200	1230	1120	1070	1090	849	804	832
24	---	---	---	1260	1180	1240	1120	815	1080	867	844	854
25	---	---	---	1260	1210	1240	1130	223	984	853	832	843
26	---	---	---	1270	1200	1230	1100	1010	1070	854	827	844
27	---	---	---	1290	1240	1270	1110	370	885	878	854	869
28	---	---	---	1320	1290	1310	1090	981	1030	880	867	876
29	1080	1050	1060	1320	485	1010	1110	1060	1080	882	868	878
30	1100	1050	1070	1240	1060	1180	1110	1050	1090	894	872	886
31	---	---	---	1260	1220	1240	1090	1080	1090	---	---	---
MONTH	1140	257	944	1320	384	1130	1270	223	1090	1310	157	964

ARKANSAS RIVER BASIN

303

07241000 NORTH CANADIAN RIVER BELOW LAKE OVERHOLSER NEAR OKLAHOMA CITY, OK --Continued

WATER TEMPERATURE VIA SATELLITE, in (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	22.4	19.8	20.7	17.8	14.8	15.8	6.4	4.7	5.3	---	---	---
2	21.5	19.2	20.1	17.8	15.5	16.4	8.7	5.2	6.6	---	---	---
3	21.3	19.6	20.3	17.5	16.2	16.7	9.9	7.1	8.6	---	---	---
4	21.6	19.9	20.7	18.8	16.7	17.5	12.4	9.9	11.2	---	---	---
5	21.1	18.3	19.5	19.3	16.6	17.6	14.6	12.3	13.1	---	---	---
6	18.8	17.1	17.8	18.6	16.2	17.1	13.5	11.9	12.6	---	---	---
7	18.3	16.7	17.3	18.5	16.0	16.8	13.4	11.5	12.3	---	---	---
8	17.5	15.6	16.7	16.9	14.5	15.7	12.2	10.1	11.0	6.0	3.3	4.1
9	17.9	16.9	17.4	15.3	14.1	14.5	11.9	9.4	10.1	6.3	4.0	5.0
10	18.5	17.9	18.2	15.2	13.4	13.9	11.1	8.7	9.5	6.1	5.1	5.5
11	---	---	---	15.3	13.4	14.1	9.0	8.2	8.6	6.9	4.7	5.5
12	20.2	14.2	17.2	15.6	14.5	15.0	8.8	8.4	8.5	7.2	4.9	5.9
13	20.8	16.5	17.9	15.7	15.0	15.2	8.4	7.2	7.8	7.4	5.5	6.3
14	18.6	13.5	16.4	17.0	15.2	15.8	8.1	6.7	7.2	7.2	5.6	6.2
15	16.9	14.6	16.1	18.3	15.2	16.1	7.5	6.9	7.2	7.4	5.3	6.0
16	17.0	13.9	14.9	17.2	15.2	15.9	---	---	---	7.1	5.7	6.2
17	16.2	13.5	14.4	16.7	15.0	15.5	---	---	---	6.8	5.1	5.7
18	16.6	13.6	14.6	18.3	14.9	16.2	---	---	---	5.2	4.7	4.9
19	16.8	13.9	14.9	16.0	11.9	14.0	8.0	6.3	7.0	5.9	3.6	4.6
20	16.8	14.4	15.6	14.0	12.3	13.0	8.5	6.2	6.9	5.9	3.6	4.5
21	19.1	16.5	17.9	12.8	11.5	12.0	8.5	6.1	7.0	6.2	3.5	4.5
22	20.1	18.2	19.0	12.5	11.0	11.7	8.8	7.0	7.7	7.7	4.4	5.8
23	21.4	18.7	19.5	12.9	11.7	12.1	7.5	5.4	6.4	7.6	6.1	6.8
24	19.5	16.9	18.1	12.9	11.3	11.8	6.9	4.8	5.5	7.6	5.5	6.1
25	18.7	15.7	16.9	12.6	11.0	11.7	4.8	3.5	4.1	7.6	5.0	5.9
26	18.5	14.9	16.1	11.9	9.4	11.4	---	---	---	7.8	5.1	6.1
27	17.2	14.4	15.2	9.4	6.9	8.0	---	---	---	8.0	5.5	6.6
28	16.6	13.8	14.7	6.9	4.5	5.4	---	---	---	9.5	6.7	7.8
29	16.7	13.5	14.6	6.3	3.9	4.8	---	---	---	8.1	6.3	7.5
30	16.5	13.2	14.3	6.9	4.2	5.1	---	---	---	6.3	1.6	4.3
31	16.3	13.5	14.5	---	---	---	---	---	---	3.7	2.2	2.9
MONTH	22.4	13.2	17.1	19.3	3.9	13.6	14.6	3.5	8.4	9.5	1.6	5.6

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	2.9	1.5	2.2	5.9	3.4	5.3	18.6	14.3	16.0	23.9	22.0	22.8
2	3.0	1.7	2.2	3.5	1.2	2.4	15.7	12.7	14.8	23.8	19.6	21.5
3	5.4	2.8	3.8	3.3	0.3	1.6	14.9	11.2	12.7	20.2	18.0	19.1
4	7.8	3.1	5.2	5.0	1.4	2.9	15.0	11.1	12.4	19.8	17.3	18.2
5	5.8	3.9	4.6	6.3	3.3	4.6	14.0	10.8	12.2	21.2	18.0	19.4
6	5.7	2.3	4.0	8.6	4.9	6.5	13.5	12.5	12.8	22.7	20.2	21.3
7	7.5	3.7	4.8	10.6	6.8	8.6	12.6	11.5	11.9	24.1	21.5	22.6
8	8.1	4.0	5.5	13.0	9.8	11.5	12.4	11.5	12.0	24.6	22.4	23.3
9	7.1	5.6	6.2	11.5	8.4	9.8	15.2	11.8	13.1	---	---	---
10	5.9	4.7	5.3	11.0	8.5	9.5	23.6	13.2	16.4	---	---	---
11	5.9	4.2	5.0	11.1	8.6	9.3	19.8	15.8	17.1	---	---	---
12	6.0	4.3	5.0	12.4	8.3	9.7	20.3	17.1	18.1	---	---	---
13	6.6	4.2	5.3	12.5	8.5	10.3	19.6	15.5	17.9	---	---	---
14	6.7	5.0	5.8	14.5	11.0	12.3	25.8	16.2	20.4	---	---	---
15	7.8	5.8	6.6	12.2	10.4	11.1	27.6	18.4	22.4	---	---	---
16	9.3	6.3	7.7	11.0	9.9	10.3	25.4	19.4	21.5	26.9	17.1	21.1
17	9.7	8.0	8.8	11.3	9.8	10.3	29.2	19.5	22.1	---	---	---
18	12.8	7.2	9.5	10.8	10.0	10.4	23.1	21.9	22.5	---	---	---
19	16.2	9.5	11.9	11.2	10.3	10.8	23.0	21.5	22.4	---	---	---
20	16.3	8.1	11.2	12.3	9.6	10.9	21.5	19.7	20.5	---	---	---
21	14.5	8.6	10.8	11.0	8.9	10.2	20.1	18.1	19.1	27.6	17.2	21.4
22	14.2	9.6	11.1	10.3	8.0	8.7	20.5	17.5	18.6	21.7	16.2	19.0
23	13.0	9.4	10.8	10.7	8.0	9.3	20.1	18.2	18.9	21.1	17.7	19.4
24	14.0	9.7	11.2	12.2	9.8	10.9	21.1	18.5	19.7	27.0	18.6	21.5
25	9.7	5.1	8.2	10.9	8.5	9.6	19.6	17.1	18.0	23.6	14.8	18.4
26	6.7	2.7	4.6	11.3	7.2	8.8	17.3	15.9	16.7	30.6	18.1	23.0
27	6.2	3.8	4.8	12.3	7.3	9.5	17.2	15.5	16.2	26.1	20.8	22.7
28	6.7	4.1	5.2	14.1	10.0	11.5	19.4	15.7	17.5	22.7	20.0	21.2
29	---	---	---	15.1	11.2	13.0	21.4	18.1	19.6	31.8	19.1	23.9
30	---	---	---	14.9	13.6	14.1	22.0	19.7	20.8	31.9	20.6	25.6
31	---	---	---	17.4	12.9	14.9	---	---	---	32.2	21.9	26.5
MONTH	16.3	1.5	6.7	17.4	0.3	9.3	29.2	10.8	17.5	32.2	14.8	21.6

ARKANSAS RIVER BASIN

07241000 NORTH CANADIAN RIVER BELOW LAKE OVERHOLSER NEAR OKLAHOMA CITY, OK --Continued

WATER TEMPERATURE VIA SATELLITE, in (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	32.9	22.5	27.1	26.3	22.5	23.8	36.0	24.9	29.3	32.1	23.9	27.1
2	32.3	22.1	26.5	26.8	23.0	24.4	37.1	26.0	30.4	32.2	24.3	27.3
3	32.0	21.6	26.1	31.7	23.2	26.1	36.2	26.0	30.2	29.6	24.5	26.7
4	31.0	22.7	25.2	33.3	23.5	27.4	35.6	25.9	29.9	33.0	26.2	28.3
5	26.4	22.1	23.6	33.6	24.2	28.1	35.9	25.5	29.7	32.0	24.7	27.4
6	30.7	19.2	24.1	34.3	24.5	28.3	35.1	25.5	29.5	31.8	24.5	27.5
7	32.3	21.1	25.6	35.0	25.1	29.2	35.8	25.5	30.0	32.3	24.3	27.4
8	31.0	22.2	25.5	37.0	25.5	30.2	35.4	25.7	29.8	27.5	24.2	25.5
9	31.0	22.7	26.0	37.0	26.4	30.8	34.9	24.8	29.0	30.1	23.9	26.1
10	31.1	23.4	26.4	36.2	26.3	30.4	33.7	25.4	28.7	31.7	23.7	26.8
11	33.2	23.3	27.3	34.7	25.6	29.0	33.0	24.8	28.0	31.6	22.8	26.4
12	33.6	23.3	27.5	32.0	25.1	27.9	32.5	23.4	27.1	29.8	23.8	26.4
13	25.7	21.8	23.8	32.9	23.2	27.3	26.6	22.3	24.2	29.5	23.9	26.1
14	29.8	22.2	25.3	35.6	24.2	29.0	32.8	21.8	25.9	29.0	23.1	25.3
15	29.8	21.4	24.8	35.4	24.5	29.1	33.3	23.5	27.1	27.6	22.4	24.3
16	28.5	21.0	23.9	33.6	24.4	28.2	33.6	23.5	27.5	28.9	21.0	24.1
17	31.6	21.1	25.4	31.6	24.5	27.2	33.1	23.8	27.4	29.0	21.5	24.5
18	29.2	21.1	24.4	34.7	23.7	28.0	33.7	24.3	27.8	29.9	21.3	25.0
19	31.8	21.1	25.2	34.7	24.7	28.8	34.4	24.2	28.0	23.3	20.7	21.4
20	30.5	22.5	25.3	34.2	24.8	28.7	32.9	24.6	27.8	22.6	19.3	20.9
21	---	---	---	34.3	24.2	28.3	33.2	24.4	27.6	26.7	20.8	22.9
22	---	---	---	35.2	24.3	28.1	33.9	24.2	28.0	25.0	18.1	21.0
23	---	---	---	34.8	23.9	28.5	34.8	24.9	28.7	26.2	17.9	21.2
24	---	---	---	34.5	26.1	28.6	33.9	25.8	29.0	25.7	17.8	21.0
25	---	---	---	35.5	23.7	28.4	30.0	23.3	26.8	25.6	17.7	21.1
26	---	---	---	34.7	25.0	29.0	34.1	23.6	27.9	27.3	18.9	22.3
27	---	---	---	34.5	24.0	28.1	32.5	22.7	26.7	26.1	18.4	21.8
28	---	---	---	29.5	24.4	26.8	33.0	23.3	27.4	27.1	20.0	22.8
29	34.0	24.5	28.3	32.3	23.1	27.1	32.2	23.9	27.4	27.4	20.2	23.2
30	30.7	22.8	25.9	34.2	23.5	28.0	31.6	23.2	27.0	27.3	20.7	23.4
31	---	---	---	34.6	24.7	28.8	32.1	23.5	26.8	---	---	---
MONTH	34.0	19.2	25.6	37.0	22.5	28.1	37.1	21.8	28.1	33.0	17.7	24.5

OXYGEN DISSOLVED VIA SATELLITE, in (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	9.9	8.3	9.0	18.1	11.4	13.7	16.6	14.5	15.3	---	---	---
2	9.5	7.7	8.6	17.8	10.9	13.2	16.8	13.8	15.0	---	---	---
3	8.3	6.3	7.5	16.4	10.1	12.0	16.1	12.8	14.0	---	---	---
4	7.1	5.2	6.1	16.2	8.2	11.2	18.5	12.3	14.3	---	---	---
5	6.7	3.4	4.7	14.2	8.0	9.8	17.2	13.4	14.6	---	---	---
6	7.5	4.6	5.8	13.7	8.0	9.9	17.4	13.3	14.6	---	---	---
7	8.6	5.1	6.5	13.3	8.0	9.7	17.7	12.9	14.6	---	---	---
8	8.9	5.7	7.1	13.5	8.4	10.1	18.5	13.5	15.2	16.8	13.1	14.3
9	7.1	5.3	6.3	12.0	9.1	10.2	18.6	14.0	15.3	15.6	12.6	13.6
10	11.3	5.6	8.4	12.4	9.9	10.8	18.6	14.1	15.4	15.1	12.6	13.4
11	---	---	---	12.9	10.0	10.9	16.9	14.2	15.1	15.5	12.8	13.6
12	12.7	7.9	10.1	12.2	9.7	10.3	16.1	14.8	15.2	15.3	12.4	13.4
13	12.9	8.6	10.6	11.1	9.7	10.1	16.1	14.9	15.4	14.9	12.2	13.1
14	11.5	8.5	10.1	11.8	9.4	10.2	17.4	15.3	16.0	15.2	12.3	13.2
15	11.1	10.3	10.7	12.7	8.0	10.1	16.6	15.1	15.6	15.7	12.4	13.4
16	11.7	10.7	11.1	12.5	7.7	9.2	---	---	---	15.5	12.4	13.3
17	11.9	10.1	10.9	12.6	7.7	9.0	---	---	---	16.1	12.5	13.5
18	17.6	10.3	12.5	13.1	7.6	9.5	---	---	---	15.1	12.7	13.4
19	17.2	13.7	14.7	11.5	9.1	10.2	16.0	13.6	14.8	16.7	12.8	14.1
20	15.9	12.9	14.3	12.1	10.2	10.9	16.6	14.4	15.2	16.4	12.9	14.0
21	15.8	12.1	13.6	12.6	10.3	11.2	16.4	13.9	14.9	16.5	12.9	14.1
22	15.1	11.1	13.0	12.9	10.8	11.5	16.2	13.7	14.4	16.3	12.1	13.7
23	16.1	11.0	12.6	13.0	10.6	11.4	16.8	13.9	15.0	14.9	11.8	12.7
24	16.8	10.8	13.4	13.3	10.6	11.6	17.4	14.6	15.5	16.1	12.1	13.3
25	17.2	11.6	13.5	13.4	10.9	11.7	15.6	14.9	15.4	16.1	12.5	13.5
26	17.0	11.6	13.5	12.8	10.8	11.5	---	---	---	15.8	12.3	13.4
27	16.8	11.6	13.4	14.0	11.7	12.9	---	---	---	15.9	12.1	13.3
28	17.1	11.7	13.7	15.9	13.1	14.4	---	---	---	15.4	11.5	12.8
29	17.5	12.5	14.2	16.7	14.3	15.2	---	---	---	13.8	11.5	12.3
30	18.1	12.3	14.3	16.7	14.5	15.3	---	---	---	14.9	12.1	13.3
31	17.9	12.2	14.1	---	---	---	---	---	---	14.6	13.9	14.2
MONTH	18.1	3.4	10.8	18.1	7.6	11.3	18.6	12.3	15.0	16.8	11.5	13.5

ARKANSAS RIVER BASIN

305

07241000 NORTH CANADIAN RIVER BELOW LAKE OVERHOLSER NEAR OKLAHOMA CITY, OK --Continued

OXYGEN DISSOLVED VIA SATELLITE, in (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	15.0	14.5	14.7	14.2	11.9	12.6	11.2	7.7	9.1	11.0	8.5	9.8
2	14.9	14.1	14.6	14.9	12.6	13.9	10.7	7.0	8.9	10.6	8.3	9.3
3	14.4	13.3	13.9	15.2	13.5	14.3	14.6	8.4	11.5	10.3	7.8	9.2
4	---	---	---	14.9	12.9	14.0	14.2	11.3	12.6	10.4	7.3	8.8
5	---	---	---	---	---	---	14.0	11.4	12.6	11.6	6.6	8.8
6	---	---	---	---	---	---	13.3	11.6	12.2	10.4	5.1	8.0
7	13.8	10.2	12.2	---	---	---	14.2	11.6	12.5	10.0	5.2	7.4
8	13.7	12.7	13.1	11.6	8.8	10	12.7	12.4	12.6	8.5	4.8	7.0
9	13.1	12.5	12.8	12.2	9.3	10.5	12.8	11.8	12.4	---	---	---
10	13.7	12.8	13.3	12.8	9.7	10.7	12.1	8.7	10.9	---	---	---
11	13.9	13.0	13.5	12.8	9.6	10.6	11.4	9.4	10.3	---	---	---
12	14.5	12.5	13.1	13.3	9.4	10.9	12.0	8.7	10	---	---	---
13	13.5	12.3	12.9	13.1	9.1	10.8	10.2	6.8	9.2	---	---	---
14	13.1	11.9	12.4	12.6	8.7	10.2	7.7	4.9	6.5	---	---	---
15	12.9	11.8	12.2	12.5	8.8	10.3	10.1	5.5	7.8	---	---	---
16	12.7	11.2	12.0	12.5	9.1	10.5	11.4	8.6	9.8	15.2	6.1	9.9
17	12.5	10.6	11.4	13.1	9.5	10.8	13.2	8.9	10.2	---	---	---
18	12.8	9.2	11.1	11.7	9.5	10.2	---	---	---	---	---	---
19	14.9	7.7	10.5	10.5	9.4	9.9	---	---	---	---	---	---
20	16.0	7.9	10.7	12.1	9.4	10.7	---	---	---	---	---	---
21	15.6	7.9	10.5	12.1	10.0	10.9	---	---	---	13.1	5.1	8.4
22	13.8	9.5	11.0	12.3	10.7	11.4	---	---	---	11.0	6.2	8.5
23	13.8	9.1	11.0	12.1	10.2	11.2	---	---	---	11.8	6.0	8.3
24	14.0	9.2	11.0	11.8	9.5	10.6	---	---	---	13.3	5.0	8.2
25	14.4	9.3	11.5	11.4	9.9	10.6	---	---	---	15.6	6.0	9.9
26	15.1	11.6	13.2	13.1	10.3	11.6	10.6	8.9	9.6	14.7	3.4	8.4
27	14.1	12.3	13.0	13.6	9.7	11.5	11.0	9.4	10.1	15.6	2.3	7.1
28	14.2	12.0	12.9	13.4	8.8	10.9	11.4	8.6	10.1	11.0	2.9	6.5
29	---	---	---	12.6	7.7	10.1	10.8	8.1	9.4	13.6	2.4	7.2
30	---	---	---	11.5	7.5	9.1	9.9	8.2	8.8	13.9	1.9	6.5
31	---	---	---	12.0	7.6	9.5	---	---	---	13.3	1.6	5.9
MONTH	16.0	7.7	12.3	15.2	7.5	11.0	14.6	4.9	10.3	15.6	1.6	8.2
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	13.2	0.8	5.7	7.2	2.8	4.4	12.6	0.7	4.9	12.1	2.9	6.1
2	11.1	1.4	5.2	7.5	1.8	3.6	12.4	0.1	4.5	12.9	2.8	6.1
3	11.8	1.8	6.1	9.4	0.8	4.6	13.1	0.2	4.8	---	---	---
4	12.6	1.9	5.7	11.8	0.8	5.3	13.1	0.3	4.8	---	---	---
5	7.8	3.8	6.4	12.6	1.8	5.9	13.7	0.3	5.5	12.6	4.4	7.2
6	10.8	3.7	6.3	11.2	1.4	5.0	12.9	0.4	5.9	13.7	4.3	7.6
7	12.3	3.0	6.5	8.9	0.7	3.6	15.2	2.0	7.4	14.7	4.0	7.8
8	12.1	2.7	5.6	12.7	0.3	4.9	14.4	1.8	7.0	13.6	4.6	7.7
9	12.0	3.3	6.5	9.4	0.5	4.3	15.1	1.8	7.0	15.6	5.0	8.2
10	11.5	3.1	6.5	11.2	2.4	7.5	14.9	1.8	6.6	17.2	4.5	9.6
11	12.1	3.0	6.7	12.0	1.5	5.6	14.7	2.0	7.0	12.2	3.8	8.7
12	---	---	---	11.1	1.3	5.2	14.3	2.7	7.0	12.0	3.0	6.1
13	---	---	---	13.1	1.6	6.3	7.5	2.7	5.1	11.2	2.9	5.8
14	---	---	---	13.8	1.5	6.2	13.1	3.9	7.2	10.1	3.0	5.4
15	---	---	---	14.0	1.0	6.0	13.2	3.7	7.2	10.8	3.1	5.8
16	---	---	---	13.5	1.1	6.3	13.8	3.4	7.3	12.3	3.3	6.5
17	---	---	---	13.9	1.6	6.3	13.8	3.5	7.4	11.1	2.8	5.9
18	---	---	---	15.2	1.8	6.7	14.1	3.3	7.2	11.0	3.6	6.1
19	---	---	---	15.7	1.1	6.6	14.8	3.0	7.2	9.4	5.5	7.2
20	---	---	---	15.0	0.6	5.9	14.8	2.9	7.2	9.9	9.4	9.7
21	---	---	---	13.6	0.9	5.7	15.0	3.2	7.5	9.6	6.0	8.1
22	---	---	---	13.2	0.8	4.7	13.2	3.2	7.0	9.0	6.4	7.6
23	---	---	---	13.7	0.2	5.2	13.0	2.3	6.3	9.5	6.6	7.4
24	---	---	---	14.0	0.2	3.5	13.2	1.5	6.0	9.8	6.3	7.4
25	---	---	---	15.8	0.8	6.5	10.8	1.9	4.7	10.5	6.4	7.8
26	---	---	---	15.3	1.0	6.4	14.4	2.0	6.3	11.7	6.3	8.1
27	---	---	---	14.9	2.2	6.8	13.3	2.2	6.9	11.9	5.1	8.2
28	---	---	---	12.3	2.1	6.4	14.6	1.8	6.5	11.1	4.7	7.1
29	10.7	0.9	4.8	9.6	1.7	5.5	15.4	1.7	6.7	10.7	4.9	7.1
30	12.4	2.0	6.2	12.0	1.5	5.5	8.2	1.8	4.1	11.1	4.2	7.1
31	---	---	---	12.7	0.8	5.5	10.3	3.0	5.5	---	---	---
MONTH	13.2	0.8	6.0	15.8	0.2	5.5	15.4	0.1	6.3	17.2	2.8	7.3

ARKANSAS RIVER BASIN

07241520 NORTH CANADIAN RIVER AT BRITTON ROAD AT OKLAHOMA CITY, OK

LOCATION.--Lat 35°33'56", long 97°22'01", in SW 1/4 SW 1/4 sec.25, T.13 N., R.2 W., Oklahoma County, Hydrologic Unit 11100302, on right downstream abutment of county road bridge, 3.8 mi downstream from Crutcho Creek, 4.0 mi west of Jones, and at mile 252.7.

DRAINAGE AREA.--13,413 mi², of which 4,899 mi² is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1988 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,109.40 ft above sea level.

REMARKS.--Records fair. Flow regulated by Canton Lake (station 07238500) and Lake Overholser (station 07240500) where diversions are made into Lake Hefner Canal (station 07240000), and by several small dams in Oklahoma City. Low flow sustained in part by sewage effluent from Oklahoma City. U.S. Geological Survey telemeter located at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	180	100	106	e71	314	27	57	104	26	392	48	23
2	155	72	92	e79	118	29	43	102	24	536	44	23
3	145	133	87	74	264	40	42	87	22	307	41	22
4	153	114	85	72	222	89	28	27	23	224	39	23
5	179	101	79	83	74	44	23	44	293	91	37	23
6	161	96	68	95	205	40	125	487	76	74	36	23
7	117	97	74	74	167	56	1040	109	32	80	37	22
8	202	103	77	69	205	81	2110	35	26	65	35	24
9	164	103	75	65	120	148	561	137	148	60	34	144
10	1310	110	92	73	122	75	197	47	44	57	34	56
11	542	121	78	87	122	59	136	63	26	56	32	31
12	199	120	98	83	118	31	73	41	23	76	102	27
13	556	119	119	84	118	28	847	51	1140	156	159	26
14	208	116	139	83	117	48	895	134	306	59	281	86
15	166	96	107	81	40	58	195	77	86	50	68	453
16	173	98	314	80	35	52	117	109	606	47	43	74
17	136	87	336	91	56	56	101	751	127	64	36	43
18	95	83	155	80	50	168	86	201	68	85	33	34
19	82	192	105	78	39	669	152	89	43	45	32	1020
20	100	162	59	75	109	318	242	69	65	43	24	314
21	111	131	70	72	262	132	127	49	48	42	25	452
22	266	117	79	69	39	110	97	38	45	39	27	220
23	158	112	74	68	32	82	48	37	43	38	30	82
24	120	122	71	61	30	106	78	44	43	42	25	62
25	108	115	70	46	29	260	76	77	43	162	51	57
26	110	109	70	71	28	108	246	104	43	53	132	53
27	113	106	e91	60	29	75	132	62	47	38	156	51
28	108	101	e94	60	28	54	121	40	42	35	53	49
29	110	97	e70	47	---	52	110	106	38	339	25	47
30	101	138	e66	713	---	45	106	41	37	163	22	64
31	105	---	e63	1470	---	79	---	29	---	61	23	---
TOTAL	6433	3371	3163	4314	3092	3219	8211	3391	3633	3579	1764	3628
MEAN	207.5	112.4	102.0	139.2	110.4	103.8	273.7	109.4	121.1	115.5	56.90	120.9
MAX	1310	192	336	1470	314	669	2110	751	1140	536	281	1020
MIN	82	72	59	46	28	27	23	27	22	35	22	22
AC-FT	12760	6690	6270	8560	6130	6380	16290	6730	7210	7100	3500	7200

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2002, BY WATER YEAR (WY)

	MEAN	287.3	318.0	375.7	342.7	387.8	614.1	628.2	952.9	1058	412.4	309.2	365.5
MAX	860	928	968	1162	879	2011	1415	4095	3662	1044	966	1350	
(WY)	1997	1997	1992	1998	1997	1998	1999	1993	1995	1989	1989	1989	
MIN	92.3	74.6	102	102	95.5	104	121	109	121	90.9	56.9	70.2	
(WY)	1993	2000	2002	1994	1991	2002	1991	2002	2002	1998	2002	2000	

e Estimated

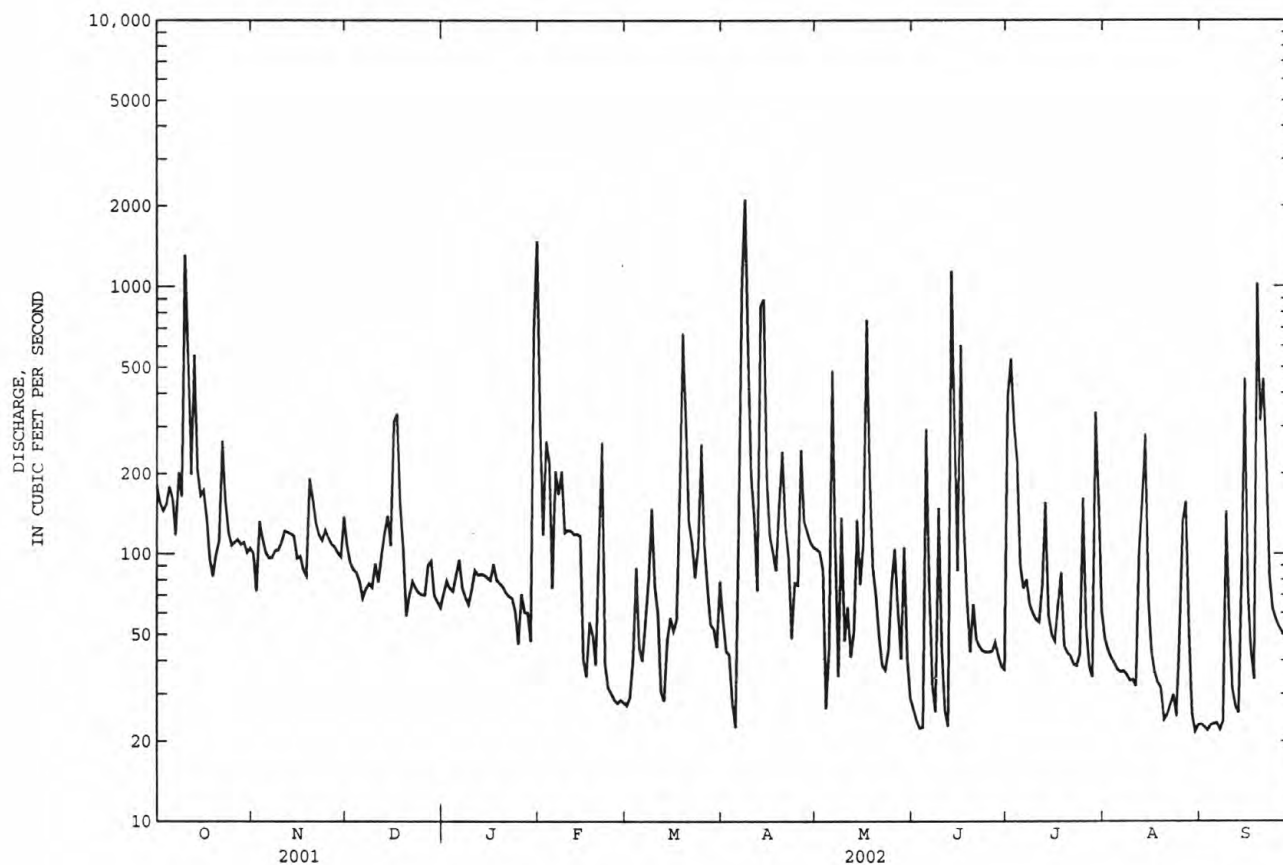
ARKANSAS RIVER BASIN

307

07241520 NORTH CANADIAN RIVER AT BRITTON ROAD AT OKLAHOMA CITY, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1989 - 2002	
ANNUAL TOTAL	137893		47798		504.3	
ANNUAL MEAN	377.8		131.0		131	
HIGHEST ANNUAL MEAN					835	
LOWEST ANNUAL MEAN					131	
HIGHEST DAILY MEAN	3650	May 30	2110	Apr 8	22700	May 9 1993
LOWEST DAILY MEAN	45	Aug 31	^a 22	Jun 3	^a 22	Jun 3 2002
ANNUAL SEVEN-DAY MINIMUM	56	Aug 30	23	Aug 30	23	Aug 30 2002
MAXIMUM PEAK FLOW			4750	Apr 8	38100	May 9 1993
MAXIMUM PEAK STAGE			15.57	Apr 8	24.80	May 9 1993
INSTANTANEOUS LOW FLOW					28	Jul 28 1991
ANNUAL RUNOFF (AC-FT)	273500		94810		365300	
10 PERCENT EXCEEDS	725		231		1020	
50 PERCENT EXCEEDS	278		79		235	
90 PERCENT EXCEEDS	68		30		66	

^aAlso occurred Aug. 30, Sept. 3, 7, 2002.



ARKANSAS RIVER BASIN

07241520 NORTH CANADIAN RIVER AT BRITTON ROAD AT OKLAHOMA CITY, OK--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--August 1988 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1988 to current year

pH: October 1988 to June 1991.

WATER TEMPERATURE: October 1988 to current year.

DISSOLVED OXYGEN: October 1988 to current year.

INSTRUMENTATION.--Water quality monitor since October 1988.

REMARKS.--Interruptions in record were due to malfunction of the recording instrument, and the sensors being impeded by shallow depths and excessive sand movement. Samples were collected monthly and specific conductance, pH, water temperature, dissolved oxygen, and alkalinity were determined in the field.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum 2,710 microsiemens, Sept. 6, 2001; minimum 22 microsiemens, May 26, 2001.

pH: Maximum 9.1 units, June 27, 1991; minimum 6.3 units, Aug. 8, 1989.

WATER TEMPERATURE: Maximum 36.5°C, July 2, 1996; minimum recorded, 0.0°C, several days during winter period.

DISSOLVED OXYGEN: Maximum 25.0 mg/L, Dec. 20, 2000; minimum 0.2 mg/L, June 25,26,27,29, 2002.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 2,120 microsiemens, Aug. 21; minimum, 148 microsiemens, June 13.

WATER TEMPERATURE: Maximum, 35.9°C, Aug. 2; minimum, 0.0°C, Jan. 3.

DISSOLVED OXYGEN: Maximum recorded (greater than 20 percent missing record), 22.1 mg/L, Oct. 21; minimum recorded, 0.2 mg/L, June 25,26,27,29.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)		
SEP													
10...	0951	1028	1028	8.25	59	742	7.8	6.2	398	23.9	2.00		
10...	0952	1028	1028	8.25	59	742	8.2	6.9	404	23.4	6.00		
10...	0953	1028	1028	8.25	59	742	7.4	7.2	405	23.4	9.00		
10...	0954	1028	1028	8.25	59	742	6.8	7.3	406	23.4	12.0		
10...	0955	1028	1028	8.25	59	742	6.7	7.4	406	23.4	15.0		
10...	0956	1028	1028	8.25	59	742	6.7	7.4	407	23.4	18.0		
10...	0957	1028	1028	8.25	59	742	6.7	7.5	407	23.4	20.0		
10...	0958	1028	1028	8.25	59	742	6.7	7.5	407	23.4	24.0		
10...	0959	1028	1028	8.25	59	742	6.7	7.5	408	23.4	27.0		
10...	1000	1028	1028	8.25	59	742	6.7	7.6	408	23.4	34.0		
10...	1001	1028	1028	8.25	59	742	6.7	7.6	408	23.4	34.0		
10...	1002	1028	1028	8.25	59	742	6.7	7.6	408	23.4	37.0		
10...	1003	1028	1028	8.25	59	742	6.7	7.6	409	23.5	40.0		
10...	1004	1028	1028	8.25	59	742	6.7	7.6	409	23.4	44.0		
10...	1005	1028	1028	8.25	59	742	6.7	7.6	409	23.4	47.0		
10...	1006	1028	1028	8.25	59	742	6.7	7.6	409	23.4	50.0		
10...	1007	1028	1028	8.25	59	742	6.7	7.6	408	23.4	54.0		
10...	1008	1028	1028	8.25	59	742	6.7	7.6	408	23.4	57.0		
10...	1009	1028	1028	8.25	59	742	6.6	7.6	408	23.4	60.0		
10...	1010	1028	1028	8.25	59	742	6.6	7.6	408	23.5	63.0		
Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00301)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CaCO3) (00900)	
OCT													
10...	1130	80020	1028	11.86	1460	732	86	7.6	7.2	171	17.9	19.3	--
NOV													
14...	1030	80020	1028	8.59	114	735	120	11.2	8.3	1380	23.6	16.7	390
DEC													
05...	0947	80020	1028	8.39	80	734	100	9.3	8.3	1340	21.7	17.0	--
JAN													
16...	1015	80020	1028	8.31	70	734	88	10.3	8.2	1080	6.9	7.0	--
FEB													
13...	1330	80020	1028	8.64	118	746	128	15.0	8.3	1050	11.5	7.5	320
MAR													
06...	1025	80020	1028	8.03	35	732	118	13.2	7.9	1520	17.8	8.5	--
APR													
03...	1035	80020	1028	8.06	37	742	101	11.4	8.3	948	6.8	8.6	--
MAY													
01...	1445	80020	1028	8.81	111	720	159	12.3	8.3	991	39.5	25.3	310
JUN													
04...	0945	80020	1028	8.09	21	731	102	8.0	8.1	1330	31.4	25.3	--
JUL													
09...	1030	80020	1028	8.24	57	730	123	9.1	8.1	1060	35.1	28.4	--
AUG													
07...	0900	80020	1028	8.05	37	730	81	6.0	8.3	1220	31.7	28.5	250
SEP													
03...	1230	80020	1028	7.86	22	735	138	10.1	8.6	989	40.5	29.5	--

ARKANSAS RIVER BASIN

309

07241520 NORTH CANADIAN RIVER AT BRITTON ROAD AT OKLAHOMA CITY, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L) AS CA (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L) AS MG (00925)	POTAS- SIUM, DIS- SOLVED (MG/L) AS K (00935)	SODIUM AD- SORP- TION RATIO (00931)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L) AS CACO3 (90410)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL (00940)	FLUO- RIDE, DIS- SOLVED (MG/L) AS F (00950)
OCT 10...	--	--	--	--	--	--	--	57	40	49	0	--	--
NOV 14...	110	88.6	40.2	6.11	3	129	42	302	278	312	11	157	.7
DEC 05...	--	--	--	--	--	--	--	270	263	320	0	--	--
JAN 16...	--	--	--	--	--	--	--	245	233	284	0	--	--
FEB 13...	93	75.8	32.1	5.32	2	99.4	40	241	232	279	0	107	.6
MAR 06...	--	--	--	--	--	--	--	253	248	303	0	--	--
APR 03...	--	--	--	--	--	--	--	224	218	266	0	--	--
MAY 01...	84	72.8	30.5	5.59	2	91.7	39	242	224	266	4	97.6	.5
JUN 04...	--	--	--	--	--	--	--	244	225	272	0	--	--
JUL 09...	--	--	--	--	--	--	--	207	195	229	4	--	--
AUG 07...	79	52.8	28.7	8.65	4	155	56	184	173	206	2	227	.6
SEP 03...	--	--	--	--	--	--	--	172	171	202	3	--	--
Date	SILICA, DIS- SOLVED (MG/L) AS SiO2) (00955)	SULFATE DIS- SOLVED (MG/L) AS SO4) (00945)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L) AS N) (00623)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS N) (00608)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L) AS N) (00618)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L) AS N) (00607)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS NH4) (71846)	NITRO- GEN DIS- SOLVED (MG/L) AS N) (00602)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L) AS NO3) (71851)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) AS NO2) (71856)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) AS N) (00613)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L) AS PO4) (00660)
OCT 10...	--	--	.76	.19	.39	.57	.25	1.2	1.73	.41	.082	.025	.488
NOV 14...	9.59	184	.47	<.04	1.18	--	--	1.8	5.21	1.37	.624	.190	1.05
DEC 05...	--	--	.50	<.04	1.42	--	--	2.0	6.27	1.47	.184	.056	1.47
JAN 16...	--	--	.52	.05	1.33	.47	.06	1.9	5.90	1.39	.197	.060	1.17
FEB 13...	8.55	142	.54	.07	1.26	.47	.09	1.8	5.60	1.30	.131	.040	.717
MAR 06...	--	--	1.1	.36	2.39	.73	.47	3.6	10.6	2.51	.398	.121	1.87
APR 03...	--	--	.62	.06	1.46	.56	.08	2.1	6.44	1.51	.174	.053	1.90
MAY 01...	4.88	125	.52	<.04	.44	--	--	.99	1.96	.47	.095	.029	.638
JUN 04...	--	--	.91	E.03	1.69	--	--	2.7	7.47	1.75	.214	.065	2.26
JUL 09...	--	--	.58	<.04	1.11	--	--	1.7	4.91	1.16	.158	.048	1.86
AUG 07...	6.54	76.1	1.4	.23	2.13	1.2	.30	3.8	9.44	2.36	.736	.224	3.38
SEP 03...	--	--	1.7	.19	2.97	1.5	.25	4.9	13.1	3.18	.693	.211	4.71

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

[illegible]

ARKANSAS RIVER BASIN

311

07241520 NORTH CANADIAN RIVER AT BRITTON ROAD AT OKLAHOMA CITY, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	2,4-DP TOTAL (UG/L) (82183)	2,4,5-T TOTAL (UG/L) (39740)	2,4-D, TOTAL (UG/L) (39730)	2,4-DB SUR SCD 1304 WTR, UNFLTRD PERCENT (90593)	ALA- CHLOR TOTAL RECOVER (UG/L) (77825)	ALDRIN, TOTAL (UG/L) (39330)	ALPHA- HCH-D6 SUR SCD 1398 WATER UNFLTRD PERCENT (99777)
OCT 10...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV 14...	<30	.3	<9	1080	9	E17	<.02	<.01	<.02	87.0	<.1	<.001	71.0
DEC 05...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN 16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB 13...	<30	1.1	<9	777	E5	<24	<.02	<.01	.16	80.5	<.1	<.001	105
MAR 06...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR 03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY 01...	<30	.7	<9	768	E8	<24	E.13	<.01	.42	79.3	<.1	<.001	49.4
JUN 04...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL 09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG 07...	<30	1.1	<9	817	E7	E13	<.02	<.01	.09	80.1	<.1	<.001	88.9
SEP 03...	--	--	--	--	--	--	--	--	--	--	--	--	--
Date	AME- TRYNE TOTAL (UG/L) (82184)	ATRA- ZINE WATER UNFLTRD REC (UG/L) (39630)	BROM- ACIL WATER WHLREC (UG/L) (30234)	BUTA- CHLOR WATER WHLREC (UG/L) (30235)	BUTYL- ATE WATER WHLREC (UG/L) (30236)	CARBO- PHENO- THION WATER UNFLTRD (UG/L) (39786)	CARBOX- IN WATER WHOLE RECOV- ERABLE (UG/L) (30245)	CHLOR- DANE, TECH- NICAL TOTAL RECOVER (UG/L) (39350)	CHLOR- PYRIFOS TOTAL RECOVER (UG/L) (38932)	CYAN- AZINE TOTAL (UG/L) (81757)	CYCLO- ATE WATER WHOLE RECOV- ERABLE (UG/L) (30254)	DEETHYL ATRA- ZINE, WATER, WHOLE, TOTAL (UG/L) (75981)	DEF TOTAL (UG/L) (39040)
OCT 10...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV 14...	<.1	<.1	<.2	<.1	<.1	<.02	<.2	<.1	<.01	<.2	<.1	<.2	<.02
DEC 05...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN 16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB 13...	<.1	.1	E.1	<.1	<.1	<.02	<.2	<.1	<.01	<.2	<.1	<.2	<.02
MAR 06...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR 03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY 01...	<.1	<.1	<.2	<.1	<.1	<.02	<.2	<.1	<.01	<.2	<.1	<.2	<.02
JUN 04...	--	--	--	--	--	<.02	--	--	<.01	--	--	--	<.02
JUL 09...	--	--	--	--	--	<.02	--	--	<.01	--	--	--	<.02
AUG 07...	<.1	<.1	E.3	<.1	<.1	<.02	--	<.1	<.01	<.2	<.1	<.2	<.02
SEP 03...	--	--	--	--	--	<.02	--	--	<.01	--	--	--	<.02

ARKANSAS RIVER BASIN

313

07241520 NORTH CANADIAN RIVER AT BRITTON ROAD AT OKLAHOMA CITY, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	PCB, TOTAL (UG/L) (39516)	PHORATE TOTAL (UG/L) (39023)	PROME- TONE TOTAL (UG/L) (39056)	PROME- TRYNE TOTAL (UG/L) (39057)	PROPA- CHLOR WATER WHOLE RECOV. (UG/L) (30295)	PRO- PAZINE TOTAL (UG/L) (39024)	SILVEX, TOTAL (UG/L) (39760)	SIMA- ZINE TOTAL (UG/L) (39055)	SIME- TRYNE TOTAL (UG/L) (39054)	TER- BACIL WATER WHOLE RECOV. (UG/L) (30311)	TOX- APHENE, TOTAL (UG/L) (39400)	TRI- FLURA- LIN TOTAL RECOVER (UG/L) (39030)	VER- NOLATE WATER WHOLE RECOV. (UG/L) (30324)
OCT 10...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV 14...	<.1	<.02	<.2	<.1	<.1	<.1	<.01	.1	<.1	<.2	<1	<.1	<.1
DEC 05...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN 16...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB 13...	<.1	<.04	<.2	<.1	<.1	<.1	<.02	.3	<.1	<.2	<1	<.1	<.1
MAR 06...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR 03...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY 01...	<.1	<.02	<.2	<.1	<.1	<.1	<.02	.1	<.1	<.2	<1	<.1	<.1
JUN 04...	--	<.02	--	--	--	--	--	--	--	--	--	--	--
JUL 09...	--	<.02	--	--	--	--	--	--	--	--	--	--	--
AUG 07...	<.1	<.02	<.2	<.1	<.1	<.1	<.02	<.1	<.1	<.2	<1	E.1	<.1
SEP 03...	--	<.02	--	--	--	--	--	--	--	--	--	--	--

SPECIFIC CONDUCTANCE VIA SATELLITE, in US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	1320	1170	1230	1430	1380	1410	2030	1590	1850	1880	1220	1450
2	1350	1150	1230	1450	1340	1410	1590	1450	1530	1220	1190	1200
3	1410	1170	1270	1620	1260	1410	1450	1390	1410	1250	1130	1200
4	1400	1180	1280	1390	1320	1360	1400	1360	1380	1230	1160	1210
5	1370	1180	1290	1580	1160	1340	1420	1360	1390	1220	1160	1190
6	1340	1270	1310	1540	1280	1380	1400	1280	1340	1300	1190	1240
7	1340	1230	1290	1390	1360	1380	1380	1320	1360	1210	1170	1190
8	1390	1290	1320	1430	1390	1410	1390	1310	1350	1170	1130	1150
9	1390	1190	1280	1490	1420	1460	1390	1350	1370	1130	1080	1110
10	1270	171	440	1520	1440	1470	1460	1320	1370	1140	1070	1110
11	617	332	405	1510	1480	1500	1420	1320	1350	1120	1090	1110
12	873	617	726	1480	1450	1470	1390	1340	1360	1140	1080	1110
13	834	216	387	1460	1430	1450	1390	1310	1360	1140	1090	1120
14	735	391	604	1460	1420	1440	1370	1100	1240	1140	1080	1110
15	1040	734	871	1440	1330	1400	1120	1070	1100	1130	1090	1110
16	1050	1020	1040	1480	1320	1410	1120	444	949	1180	1080	1120
17	1360	917	1050	1460	1370	1400	665	347	446	1180	1140	1160
18	1080	948	993	1500	1390	1430	984	665	849	1170	1130	1150
19	1120	939	976	1480	817	1220	1080	984	1030	1180	1140	1160
20	1520	1120	1370	1140	595	799	1070	945	1000	1190	1140	1170
21	1250	1100	1140	861	637	711	1170	1070	1120	1170	1140	1160
22	1220	1090	1140	1190	861	1090	1130	1100	1110	1150	1130	1140
23	1270	1200	1240	1300	1180	1240	1130	1090	1100	1150	1120	1130
24	1330	1230	1270	1290	1220	1260	1150	1110	1120	1150	889	988
25	1420	1330	1370	1220	1140	1190	1160	1120	1130	1710	850	1210
26	1420	1380	1400	1220	1130	1180	1170	1120	1130	1360	1010	1100
27	1480	1380	1420	1280	1200	1250	1230	1100	1150	1020	982	999
28	1440	1390	1410	1320	1250	1280	1180	1110	1130	1050	986	1020
29	1550	1330	1440	1370	1300	1320	1160	975	1050	1040	1010	1020
30	1640	1320	1400	1910	1350	1530	979	909	940	1120	266	886
31	1640	1350	1440	---	---	---	1250	713	1010	295	214	258
MONTH	1640	171	1130	1910	595	1320	2030	347	1190	1880	214	1110

ARKANSAS RIVER BASIN

07241520 NORTH CANADIAN RIVER AT BRITTON ROAD AT OKLAHOMA CITY, OK--Continued

SPECIFIC CONDUCTANCE VIA SATELLITE, in US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	505	295	381	1360	1230	1280	969	948	958	989	946	967
2	633	505	560	1300	1150	1240	1100	954	976	1020	970	1000
3	903	633	697	---	---	---	1160	974	1040	1030	997	1020
4	675	615	645	---	---	---	---	---	---	1000	943	965
5	648	616	627	1190	1040	1120	---	---	---	1940	959	1220
6	1200	648	786	1590	1190	1430	---	---	---	1160	791	901
7	894	731	757	1500	1260	1350	1050	187	867	856	814	838
8	896	818	838	1280	1190	1230	192	149	168	872	829	851
9	854	844	849	1350	1200	1240	265	192	238	1280	816	899
10	896	853	877	1290	1260	1270	281	265	274	965	848	868
11	929	896	911	1300	1270	1280	305	280	296	1190	936	998
12	956	929	948	---	---	---	329	305	316	1030	937	977
13	954	929	944	---	---	---	449	302	355	1110	1020	1040
14	950	931	940	1820	1200	1480	336	242	289	1110	868	919
15	945	839	888	1380	1290	1330	467	336	402	1110	889	950
16	906	831	845	1360	1290	1310	590	467	541	1070	947	983
17	1870	906	1130	1350	1320	1340	---	---	---	985	309	623
18	1280	936	1020	1330	1080	1270	---	---	---	491	365	404
19	1000	855	907	1100	437	847	741	510	608	795	491	637
20	1720	992	1100	781	735	756	579	461	539	889	715	775
21	1040	976	995	741	669	697	654	576	618	1030	889	965
22	995	901	943	748	659	689	734	654	704	1150	1030	1080
23	978	900	916	739	641	676	1290	734	805	1240	1120	1170
24	1150	978	1040	726	654	685	1290	867	948	1240	1160	1190
25	1240	1090	1160	656	543	598	890	864	879	1300	926	1140
26	---	---	---	750	605	669	887	756	829	1110	726	910
27	---	---	---	881	750	786	902	773	838	726	472	569
28	1420	1060	1250	996	846	880	920	902	911	1030	678	858
29	---	---	---	1020	874	917	927	897	917	1030	653	833
30	---	---	---	1020	885	921	946	899	927	924	767	829
31	---	---	---	1040	926	988	---	---	---	1090	924	1010
MONTH	1870	295	883	1820	437	1050	1290	149	650	1940	309	916

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	1180	1080	1130	1380	212	1110	935	808	865	1960	1110	1390
2	1160	1040	1120	394	200	309	1030	935	977	1120	1000	1040
3	---	---	---	436	332	371	1080	980	1020	1080	984	1020
4	---	---	---	475	331	392	1080	993	1040	1080	1010	1040
5	1290	379	737	726	432	591	1150	1030	1070	1070	970	999
6	703	428	573	955	726	860	1250	1100	1140	1040	1010	1020
7	896	703	817	---	---	---	1280	1170	1220	1050	995	1010
8	1080	887	1010	---	---	---	1310	1190	1230	1050	956	1000
9	1130	524	749	---	---	---	1310	1190	1240	1040	314	642
10	821	532	652	1220	1120	1160	1400	1240	1290	638	314	466
11	1130	821	955	1260	1180	1210	1400	1190	1260	852	638	758
12	1260	1090	1170	1290	1000	1230	---	---	---	936	829	870
13	1190	148	402	1250	623	786	874	589	687	981	910	931
14	359	222	289	882	746	792	638	380	458	964	441	730
15	522	359	444	1100	882	986	660	420	530	631	251	528
16	546	273	349	1230	1100	1150	914	660	799	653	631	640
17	516	364	430	1270	1100	1220	---	---	---	790	653	713
18	790	516	654	1100	765	877	1700	1140	1360	909	790	842
19	839	788	812	1100	864	977	1820	1610	1680	813	318	420
20	1570	785	1090	1220	1060	1110	1850	1550	1720	376	318	351
21	1070	975	1020	1260	1200	1220	2120	1480	1660	386	349	362
22	1200	1070	1110	1320	1190	1230	2110	1640	1860	683	386	561
23	1240	1140	1170	1380	1270	1300	1640	1490	1560	808	683	735
24	1260	1170	1200	1390	1270	1340	1870	1090	1430	912	808	843
25	1290	1210	1250	1270	532	726	1290	980	1060	985	910	930
26	1340	1260	1290	899	584	742	1290	465	707	1010	941	978
27	1340	1290	1310	1030	899	972	750	492	570	1030	969	1000
28	1300	1240	1270	1220	1010	1110	559	482	515	1040	978	1010
29	1360	1270	1300	1220	372	807	891	559	703	1070	1000	1020
30	1390	1280	1320	741	402	645	1100	891	966	1190	1020	1050
31	---	---	---	808	643	740	1750	1100	1220	---	---	---
MONTH	1570	148	915	1390	200	927	2120	380	1100	1960	251	830

07241520 NORTH CANADIAN RIVER AT BRITTON ROAD AT OKLAHOMA CITY, OK--Continued

WATER TEMPERATURE VIA SATELLITE, in (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	22.6	18.7	20.9	20.7	15.7	17.9	7.9	5.2	6.5	4.0	1.3	2.5
2	22.9	18.7	20.7	20.3	17.8	19.1	12.0	6.6	9.1	3.1	0.5	1.9
3	22.7	17.6	20.2	19.4	17.9	18.4	13.6	11.1	12.4	2.8	0.0	0.8
4	23.9	19.2	21.6	19.9	17.6	18.5	17.6	13.6	15.7	2.7	0.0	1.2
5	22.4	15.3	18.8	21.1	16.2	18.6	18.6	15.1	17.1	6.1	2.7	4.5
6	18.2	12.5	15.4	19.9	16.6	18.2	15.1	11.5	12.9	5.8	3.2	4.5
7	19.0	14.7	16.6	19.0	15.5	17.1	12.2	9.7	10.9	5.5	1.8	3.6
8	19.3	14.7	17.1	16.7	13.8	15.6	10.3	7.1	8.8	8.2	3.3	5.5
9	19.0	17.5	18.4	13.8	12.1	13.0	9.0	4.9	6.8	11.1	6.6	8.6
10	19.5	18.0	19.1	15.8	10.9	13.2	9.1	5.4	6.9	9.3	7.1	8.5
11	18.8	16.4	17.5	17.2	13.0	15.2	7.0	5.7	6.5	8.5	4.7	6.7
12	18.8	15.8	17.5	18.2	16.6	17.3	9.2	7.0	8.4	8.9	5.6	7.1
13	18.8	16.5	17.6	17.2	16.2	16.7	8.9	7.7	8.4	9.0	4.9	6.9
14	19.5	14.8	17.2	18.8	15.7	17.0	9.9	6.8	8.2	8.6	5.6	7.1
15	17.6	14.5	16.1	18.3	15.4	16.8	8.4	7.1	7.7	8.1	4.2	6.2
16	16.6	11.1	14.0	17.0	15.5	16.3	10.0	8.4	9.1	8.3	6.7	7.2
17	17.5	12.7	14.7	16.6	15.0	15.7	10.1	7.9	9.1	6.8	4.6	5.6
18	17.8	12.0	14.9	18.7	14.7	16.6	10.5	6.7	8.6	4.8	3.0	3.4
19	19.8	14.4	17.3	17.4	11.1	13.7	8.4	5.5	7.0	7.5	3.2	4.9
20	21.7	15.6	18.7	11.6	7.8	10.0	9.7	4.8	7.1	7.6	3.5	5.5
21	22.8	17.6	20.0	10.8	8.2	9.8	10.2	6.4	8.2	8.2	3.5	5.8
22	21.0	18.5	20.0	13.1	8.9	11.0	10.8	8.1	9.6	11.8	5.8	8.6
23	23.1	19.2	20.9	15.7	12.9	14.1	8.1	4.4	6.3	11.0	7.2	9.8
24	20.8	16.1	18.2	13.7	11.1	12.5	5.9	2.5	4.1	8.8	5.3	6.9
25	17.0	13.0	15.0	13.1	9.4	11.4	5.1	1.9	3.5	9.3	2.9	6.0
26	16.8	11.7	14.1	11.8	8.5	10.9	5.2	1.4	3.2	9.7	4.3	7.0
27	16.5	12.4	14.3	8.5	3.4	5.3	5.0	2.0	3.6	10.6	6.0	8.3
28	16.5	12.1	14.1	3.4	0.9	1.7	6.8	2.7	4.6	12.9	8.2	10.2
29	17.4	12.2	14.6	5.2	0.9	2.7	4.9	1.6	3.4	10.9	6.7	9.3
30	18.3	13.4	15.7	7.5	3.3	5.3	3.2	1.5	2.0	6.7	3.0	4.8
31	17.3	13.4	15.4	---	---	---	4.6	0.1	2.0	3.0	1.8	2.4
MONTH	23.9	11.1	17.3	21.1	0.9	13.7	18.6	0.1	7.7	12.9	0.0	5.8
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	4.2	0.3	2.3	7.2	5.1	6.5	20.6	13.6	17.1	27.7	20.6	24.2
2	5.6	2.6	4.2	5.1	0.0	1.5	17.8	10.9	14.6	25.8	17.2	19.6
3	6.7	4.3	5.4	4.4	0.0	1.5	14.4	6.8	10.6	18.4	14.9	16.5
4	6.1	3.1	4.8	6.5	0.0	2.9	16.4	8.7	12.4	24.9	16.5	20.2
5	6.1	4.6	5.3	11.0	3.4	6.9	17.6	9.7	13.9	24.0	18.4	21.3
6	5.3	3.6	4.5	14.1	6.4	10.2	15.9	12.2	13.6	24.7	20.2	22.7
7	8.4	4.7	6.3	17.5	10.8	13.9	12.5	11.3	11.9	26.6	21.3	23.8
8	9.3	4.0	6.8	17.8	13.8	15.6	13.0	11.6	12.2	26.5	21.7	24.2
9	9.0	6.8	7.9	14.5	5.2	9.0	18.0	12.0	14.5	24.1	18.0	21.1
10	7.0	4.1	5.1	10.9	5.8	8.4	20.7	13.9	17.1	20.9	17.5	18.7
11	7.0	2.3	4.8	11.9	7.5	9.5	20.2	16.3	18.4	23.9	18.9	21.3
12	8.2	4.2	6.4	15.7	8.4	11.9	21.4	17.5	19.1	22.6	16.1	19.8
13	8.5	4.7	6.9	17.2	10.2	13.9	19.2	16.8	17.7	22.9	13.4	17.8
14	7.6	4.7	6.5	19.1	12.7	15.7	23.1	16.6	19.4	25.6	16.5	20.8
15	10.6	6.2	8.2	15.0	9.8	11.5	24.7	18.9	21.8	23.0	18.1	20.8
16	11.9	5.4	8.8	9.8	7.8	8.5	22.7	19.9	21.3	24.5	18.5	21.4
17	11.8	6.8	9.3	11.5	8.1	9.7	---	---	---	23.9	18.1	19.9
18	12.5	8.1	10.6	11.9	10.7	11.2	---	---	---	24.1	15.5	19.3
19	15.5	11.7	13.4	11.7	11.1	11.4	22.1	20.3	21.4	24.9	17.4	21.2
20	15.0	9.7	12.5	15.7	9.9	12.5	20.3	18.2	19.0	26.1	19.1	22.6
21	12.8	9.1	11.0	13.8	7.9	10.2	22.2	17.5	19.8	25.8	19.7	22.7
22	13.6	7.5	10.7	11.1	4.7	8.0	22.5	16.9	19.9	21.9	18.4	20.3
23	13.5	7.9	11.0	14.3	7.2	10.8	20.9	18.1	19.4	20.4	18.3	19.5
24	14.3	9.1	11.5	17.4	11.3	14.2	22.3	19.0	20.5	26.4	19.1	22.0
25	10.8	3.3	7.2	14.5	6.7	9.1	19.0	14.7	16.2	22.4	17.4	20.0
26	3.8	0.0	1.8	13.4	4.5	8.8	15.2	13.7	14.5	27.3	19.1	22.5
27	6.7	0.9	3.1	16.1	9.2	12.8	21.9	13.6	17.3	23.9	20.9	22.3
28	9.4	2.4	6.0	19.8	11.5	15.5	22.9	15.6	19.5	22.3	20.7	21.4
29	---	---	---	18.5	15.1	16.9	23.2	17.2	20.6	28.2	19.7	23.2
30	---	---	---	16.4	13.1	14.4	24.6	19.0	22.1	30.9	22.3	26.4
31	---	---	---	18.4	11.0	14.7	---	---	---	32.3	23.5	27.7
MONTH	15.5	0.0	7.2	19.8	0.0	10.6	24.7	6.8	17.4	32.3	13.4	21.5

ARKANSAS RIVER BASIN

07241520 NORTH CANADIAN RIVER AT BRITTON ROAD AT OKLAHOMA CITY, OK--Continued

WATER TEMPERATURE VIA SATELLITE, in (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	31.8	24.5	28.0	26.8	23.3	24.1	34.5	25.9	29.8	32.0	23.8	27.9
2	31.2	24.0	27.4	25.4	23.1	24.0	35.9	27.6	31.5	32.6	24.1	28.2
3	31.2	22.9	26.9	28.1	23.6	25.4	35.7	27.7	31.6	33.6	24.6	28.9
4	30.5	23.8	26.5	30.4	23.7	26.8	35.4	27.6	31.2	32.5	25.0	28.8
5	24.8	22.2	23.5	32.3	25.1	28.5	35.2	27.0	30.9	33.8	25.0	28.9
6	30.3	21.6	25.6	32.7	25.9	29.2	34.5	26.7	30.6	34.4	25.3	29.2
7	31.4	23.3	27.1	34.2	26.1	29.9	34.4	26.8	30.4	32.8	24.7	28.7
8	30.0	24.0	26.7	35.4	27.3	31.1	34.9	26.9	30.6	28.2	24.1	25.8
9	29.5	23.4	26.3	35.6	28.0	31.6	34.3	25.8	29.9	26.2	23.1	24.7
10	29.5	24.4	26.9	35.4	28.0	31.6	33.5	26.2	29.7	31.4	22.8	26.5
11	32.3	24.4	28.1	32.7	27.1	29.7	32.3	25.9	29.2	32.0	23.2	27.3
12	32.9	25.6	29.0	30.6	26.4	28.5	---	---	---	30.9	23.7	27.1
13	28.0	22.2	24.0	30.8	24.7	27.6	28.0	23.2	24.5	30.2	23.8	26.7
14	28.7	22.3	25.1	33.2	25.1	28.8	28.8	22.1	24.8	27.0	22.7	25.0
15	29.0	22.5	25.6	34.2	25.5	29.5	32.1	23.9	27.7	26.4	22.6	24.3
16	26.2	21.9	23.8	33.5	26.3	29.7	33.2	24.8	28.5	27.8	20.7	24.1
17	29.8	22.1	25.8	31.6	26.1	28.4	32.4	24.6	28.4	28.7	21.8	24.9
18	28.1	22.4	25.2	33.7	25.3	29.2	33.1	24.9	28.7	30.1	22.1	25.4
19	30.8	22.2	26.3	33.7	26.1	29.8	33.9	24.7	28.9	24.6	21.5	23.1
20	32.7	24.3	28.2	34.2	26.3	30.1	33.2	25.3	29.1	26.4	19.3	22.6
21	33.5	26.1	29.5	33.9	25.9	29.8	32.4	25.0	28.4	26.2	20.2	23.2
22	33.1	26.0	29.4	34.4	25.7	29.7	33.2	24.6	28.7	23.9	18.6	21.2
23	32.6	24.8	28.6	34.2	26.0	29.7	35.0	25.6	29.9	25.0	17.8	21.0
24	33.2	25.0	29.0	34.9	27.5	30.1	34.3	26.5	30.0	25.7	18.2	21.6
25	33.6	26.1	29.6	33.5	25.4	29.0	30.0	25.1	27.0	26.6	18.1	22.2
26	34.0	25.9	29.9	34.1	26.5	30.1	31.5	23.5	27.2	28.1	19.7	23.6
27	34.7	26.8	30.5	33.8	25.2	29.4	29.3	23.7	26.9	27.2	19.8	23.4
28	34.8	27.0	30.7	31.1	25.3	28.3	32.6	24.2	28.1	28.1	20.7	24.1
29	34.2	27.0	30.3	28.3	24.2	26.2	32.4	24.5	28.1	28.6	21.0	24.6
30	29.9	24.9	27.5	32.2	24.8	28.2	32.2	23.5	27.7	28.0	21.6	24.6
31	---	---	---	32.9	26.1	29.3	32.2	23.3	27.7	---	---	---
MONTH	34.8	21.6	27.4	35.6	23.1	28.8	35.9	22.1	28.9	34.4	17.8	25.3

OXYGEN DISSOLVED VIA SATELLITE, in (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	20.7	10.3	14.7	10.0	7.8	8.8	11.8	9.7	10.7
2	---	---	---	18.8	4.7	11.9	10.2	7.9	8.8	12.2	10.0	11.1
3	---	---	---	14.8	6.0	9.5	9.3	6.4	7.6	11.6	10.6	11.2
4	---	---	---	14.9	4.9	9.4	8.9	5.4	6.9	11.9	10.5	11.2
5	---	---	---	16.6	4.6	9.9	10.0	5.1	6.8	---	---	---
6	---	---	---	15.9	6.1	10.9	10.7	4.6	7.1	---	---	---
7	---	---	---	19.3	9.1	13.5	11.2	5.8	8.0	---	---	---
8	---	---	---	20.4	7.3	13.8	11.7	7.1	9.0	---	---	---
9	---	---	---	19.1	10.7	14.4	12.0	7.1	9.3	---	---	---
10	10.2	9.0	9.7	18.4	11.2	14.3	12.0	7.8	9.6	---	---	---
11	11.3	10.1	10.9	15.2	9.8	12.1	10.6	7.0	9.0	---	---	---
12	13.2	11.1	11.7	16.1	9.2	12.1	9.0	6.0	7.7	---	---	---
13	11.5	10.6	11.1	15.6	9.2	11.8	8.0	6.5	7.1	---	---	---
14	12.2	10.9	11.8	14.4	9.2	11.5	10.7	6.8	8.7	---	---	---
15	14.4	11.4	12.8	13.7	7.0	9.6	10.2	8.5	9.4	---	---	---
16	15.9	13.1	14.4	13.6	6.1	8.9	9.4	7.8	8.4	---	---	---
17	15.1	12.4	13.8	13.3	6.6	9.1	8.7	7.8	8.3	---	---	---
18	15.7	12.0	14.2	12.0	6.8	9.1	9.6	7.4	9.0	---	---	---
19	12.3	10.5	11.5	8.3	6.9	7.6	10.2	8.7	9.5	---	---	---
20	20.3	11.5	14.8	8.1	7.0	7.4	9.8	9.0	9.4	---	---	---
21	22.1	12.1	15.9	9.2	7.3	8.2	9.9	8.7	9.2	---	---	---
22	17.5	10.7	13.1	9.5	7.7	8.5	9.7	8.6	9.1	---	---	---
23	19.1	9.6	13.6	9.3	7.1	8.0	10.8	8.6	9.7	---	---	---
24	19.4	8.9	14.1	10.3	6.7	8.3	11.4	9.6	10.4	---	---	---
25	18.6	10.2	14.3	10.8	7.1	8.8	11.4	9.7	10.6	---	---	---
26	21.3	11.8	15.8	11.1	7.2	8.9	11.7	10.1	10.8	---	---	---
27	22.0	11.0	16.2	11.6	8.6	10.0	11.1	10.0	10.7	---	---	---
28	20.5	13.1	16.5	12.1	10.1	11.0	10.9	9.6	10.2	---	---	---
29	21.1	12.4	16.2	11.5	10.2	10.9	11.0	9.7	10.3	---	---	---
30	21.2	11.4	15.5	11.0	9.0	10.1	10.9	9.5	10.1	---	---	---
31	19.4	11.3	14.7	---	---	---	11.2	9.7	10.2	14.7	13.6	14.3
MONTH	22.1	8.9	13.8	20.7	4.6	10.5	12.0	4.6	9.0	14.7	9.7	11.7

ARKANSAS RIVER BASIN

317

07241520 NORTH CANADIAN RIVER AT BRITTON ROAD AT OKLAHOMA CITY, OK--Continued

OXYGEN DISSOLVED VIA SATELLITE, in (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	15.4	13.4	14.7	---	---	---	11.0	7.9	9.4	13.5	7.8	10.3
2	13.4	11.1	12.3	---	---	---	11.9	7.1	9.7	12.8	8.2	10.5
3	13.4	12.2	13.0	---	---	---	12.7	9.8	11.2	13.6	10.1	11.6
4	13.6	12.3	13.0	---	---	---	13.1	7.5	9.9	12.0	9.2	10.6
5	12.4	11.1	11.6	---	---	---	14.3	5.2	9.5	12.9	8.4	10.2
6	12.6	11.2	12.2	---	---	---	13.7	2.5	8.7	9.7	5.4	8.0
7	11.6	9.4	10.9	---	---	---	9.7	7.8	9.1	9.5	7.0	8.2
8	11.7	8.3	10.3	---	---	---	9.8	8.9	9.5	9.9	7.1	8.5
9	8.3	7.2	7.7	---	---	---	10.2	9.0	9.9	10.0	7.5	8.5
10	11.3	7.8	10.1	---	---	---	9.5	7.9	8.8	10.4	7.8	9.1
11	11.6	10.3	11.0	---	---	---	9.8	7.6	8.7	10.9	8.6	9.6
12	12.3	9.9	11.1	---	---	---	8.6	6.9	7.6	10.1	7.5	8.8
13	---	---	---	---	---	---	8.7	6.6	7.7	10.7	8.2	9.9
14	---	---	---	---	---	---	8.9	7.2	8.4	9.6	8.1	8.9
15	---	---	---	---	---	---	8.1	7.2	7.6	9.6	7.5	8.5
16	---	---	---	---	---	---	8.3	7.4	7.9	9.6	7.5	8.4
17	---	---	---	---	---	---	---	---	---	7.5	5.7	6.4
18	---	---	---	---	---	---	---	---	---	6.9	6.1	6.6
19	---	---	---	---	---	---	7.9	7.1	7.5	8.2	6.4	7.2
20	---	---	---	---	---	---	8.2	7.3	7.8	12.3	6.4	9.0
21	---	---	---	---	---	---	8.8	7.7	8.2	15.7	6.0	10.7
22	---	---	---	---	---	---	9.8	7.6	8.7	13.8	6.9	10.5
23	---	---	---	---	---	---	9.9	7.8	8.7	13.5	7.3	10.2
24	---	---	---	---	---	---	12.2	8.0	10	14.8	6.5	10.1
25	---	---	---	---	---	---	13.9	8.8	11.1	11.4	5.7	8.4
26	---	---	---	---	---	---	12.1	9.4	10.5	11.4	6.0	8.0
27	---	---	---	---	---	---	12.5	9.7	11.1	7.1	5.2	6.1
28	---	---	---	---	---	---	14.3	8.7	11.4	8.4	5.9	7.1
29	---	---	---	12.6	7.9	10.1	14.1	8.8	11.4	8.6	6.4	7.4
30	---	---	---	12.7	7.8	10.1	12.9	8.3	10.4	9.3	6.0	7.4
31	---	---	---	11.4	8.7	9.9	---	---	---	11.3	5.7	7.9
MONTH	15.4	7.2	11.5	12.7	7.8	10.0	14.3	2.5	9.3	15.7	5.2	8.8
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	11.4	4.5	7.5	---	---	---	15.0	4.1	8.4	13.5	4.3	8.4
2	10.4	3.5	6.7	---	---	---	17.4	3.2	9.1	12.8	4.6	8.2
3	10.5	2.6	6.3	---	---	---	17.6	2.1	9.0	13.5	2.9	7.2
4	12.1	4.0	7.8	---	---	---	15.8	1.9	8.3	12.3	2.1	6.4
5	6.3	3.3	4.9	---	---	---	---	---	---	13.6	3.7	7.5
6	8.6	5.3	6.6	---	---	---	---	---	---	14.2	3.6	7.8
7	10.5	4.9	7.2	---	---	---	---	---	---	14.6	3.9	8.4
8	11.9	5.1	7.8	---	---	---	---	---	---	---	---	---
9	6.3	3.2	4.3	---	---	---	15.6	1.6	7.9	---	---	---
10	6.2	2.7	4.3	19.0	7.4	13.8	14.6	0.9	6.5	---	---	---
11	8.2	3.8	5.6	18.9	7.3	12.9	13.4	1.5	8.2	---	---	---
12	10.7	2.0	6.1	20.6	5.8	13.1	---	---	---	12.9	5.5	8.4
13	---	---	---	12.5	4.6	8.3	5.9	2.6	4.6	13.3	5.5	8.6
14	---	---	---	14.7	4.6	9.4	5.6	4.2	5.0	7.8	5.0	6.1
15	---	---	---	20.8	4.8	12.5	6.5	3.5	5.0	6.3	3.9	5.2
16	---	---	---	19.1	4.0	11.1	9.2	3.8	5.8	7.7	4.5	6.3
17	---	---	---	16.9	4.1	9.8	12.7	3.4	6.8	9.1	5.7	7.3
18	---	---	---	12.4	3.3	7.2	11.9	2.8	6.8	11.2	6.4	8.4
19	---	---	---	14.3	4.0	8.5	---	---	---	7.5	4.2	6.0
20	16.6	5.8	10.8	14.6	3.7	8.2	---	---	---	7.5	6.3	7.0
21	19.2	4.7	11.2	18.4	3.9	9.5	---	---	---	7.9	6.5	7.1
22	17.7	3.7	9.9	18.0	3.7	8.3	---	---	---	9.0	6.7	7.8
23	15.5	1.7	8.3	17.8	2.6	7.8	11.9	3.2	7.0	7.9	6.2	6.9
24	15.7	0.6	6.8	14.0	2.3	5.8	8.9	2.1	5.0	8.8	5.4	7.1
25	14.1	0.2	5.8	7.8	3.6	4.9	7.3	1.4	3.7	9.3	5.5	7.6
26	11.8	0.2	5.1	12.6	3.1	7.0	6.5	2.7	4.1	12.2	8.2	10.1
27	12.8	0.2	5.6	15.5	4.7	9.0	6.6	1.9	3.5	15.5	7.8	11.2
28	12.5	0.3	5.7	17.3	4.5	10	---	---	---	17.8	9.2	13.1
29	15.8	0.2	6.8	8.8	3.1	5.0	---	---	---	17.1	9.8	13.1
30	10.4	1.0	5.1	8.3	4.6	5.9	12.9	3.2	7.7	15.3	8.0	11.6
31	---	---	---	10.0	4.2	6.6	15.7	4.1	9.3	---	---	---
MONTH	19.2	0.2	6.8	20.8	2.3	8.8	17.6	0.9	6.6	17.8	2.1	8.2

ARKANSAS RIVER BASIN

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK

LOCATION.--Lat 35°30'01", long 97°11'37", in SW 1/4 NW 1/4 sec.22, T.12 N., R.1 E., Oklahoma County, Hydrologic Unit 11100302, on left bank downstream side county road bridge, 2.2 mi northwest of Harrah, 3.8 mi downstream from Choctaw Creek, and at mile 230.0.

DRAINAGE AREA.--13,501 mi², of which 4,899 mi² is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,055.69 ft above sea level. June 19, 1981 to May 31, 1987, gage 0.8 mi downstream at same datum.

REMARKS.--Records poor. Flow regulated by Canton Lake (station 07238500) and by Lake Overholser (station 07240500) where diversions are made into Lake Hefner Canal (station 07240000). Low flow sustained in part by sewage effluent from Oklahoma City. U.S. Geological Survey's satellite telemeter located at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	184	136	190	123	796	131	195	246	e126	e105	141	e86
2	219	135	152	147	492	139	174	239	e114	740	e119	e82
3	195	130	140	149	375	134	161	230	e107	462	e108	96
4	184	170	137	153	433	155	154	204	119	e325	e100	99
5	194	140	136	164	356	188	142	152	e252	e229	e94	e94
6	214	142	127	177	307	147	138	457	e370	e182	e84	e90
7	178	132	126	169	371	141	494	501	e151	e165	88	e83
8	158	135	122	162	362	163	2680	220	e119	e156	79	e90
9	229	140	124	158	291	180	1110	170	e202	153	e73	126
10	875	135	125	150	255	234	647	249	e220	e146	e77	239
11	1050	144	143	159	251	170	403	175	e128	e142	e73	128
12	438	150	138	168	251	153	317	177	e118	e137	e102	108
13	594	152	164	166	245	127	439	167	735	e186	e186	102
14	434	151	181	164	237	128	1770	195	985	e179	e313	109
15	254	148	192	166	224	145	643	223	305	137	e262	430
16	240	139	206	166	161	153	376	197	e626	e108	e135	350
17	206	128	555	170	149	149	320	700	e573	e107	e115	168
18	193	123	325	177	173	167	286	e633	e343	e160	e104	129
19	148	173	231	170	158	531	271	e342	251	e163	e95	700
20	138	238	188	163	152	789	400	e244	e205	e130	e89	488
21	145	191	154	160	289	369	335	e182	e181	e120	e84	e454
22	159	171	159	158	260	270	270	e156	e163	e111	81	e493
23	303	153	160	160	141	242	235	e147	e150	108	e79	e271
24	181	156	152	160	129	222	209	e144	e142	e113	e77	e191
25	154	159	151	e145	129	345	219	e143	136	e152	e87	157
26	145	145	146	e137	130	322	264	e179	e131	e193	e144	e149
27	146	151	180	e152	147	242	406	210	149	e128	e178	e145
28	144	156	196	e141	130	200	272	150	e120	e109	e226	e139
29	141	151	153	140	---	188	258	e200	e114	e141	131	e138
30	141	155	127	311	---	178	249	e165	e107	e406	e95	e135
31	138	---	119	1180	---	175	---	e142	---	e197	e90	---
TOTAL	8122	4529	5399	6065	7394	6877	13837	7539	7442	5890	3709	6069
MEAN	262.0	151.0	174.2	195.6	264.1	221.8	461.2	243.2	248.1	190.0	119.6	202.3
MAX	1050	238	555	1180	796	789	2680	700	985	740	313	700
MIN	138	123	119	123	129	127	138	142	107	105	73	82
AC-FT	16110	8980	10710	12030	14670	13640	27450	14950	14760	11680	7360	12040

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 2002, BY WATER YEAR (WY)

	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
MEAN	434.1	389.4	334.4	329.2	391.3	601.5	601.2	946.9	912.3	394.0	272.4	320.7																						
MAX	3634	1627	1209	1351	1293	2596	2312	4265	4041	1154	1228	1699																						
(WY)	1987	1975	1992	1998	1987	1990	1988	1993	1989	1989	1989	1989																						
MIN	71.3	56.7	68.1	58.3	61.1	76.1	76.6	79.5	75.5	87.7	54.5	64.0																						
(WY)	1970	1970	1977	1970	1970	1971	1971	1971	1972	1970	1972	1972																						

e Estimated

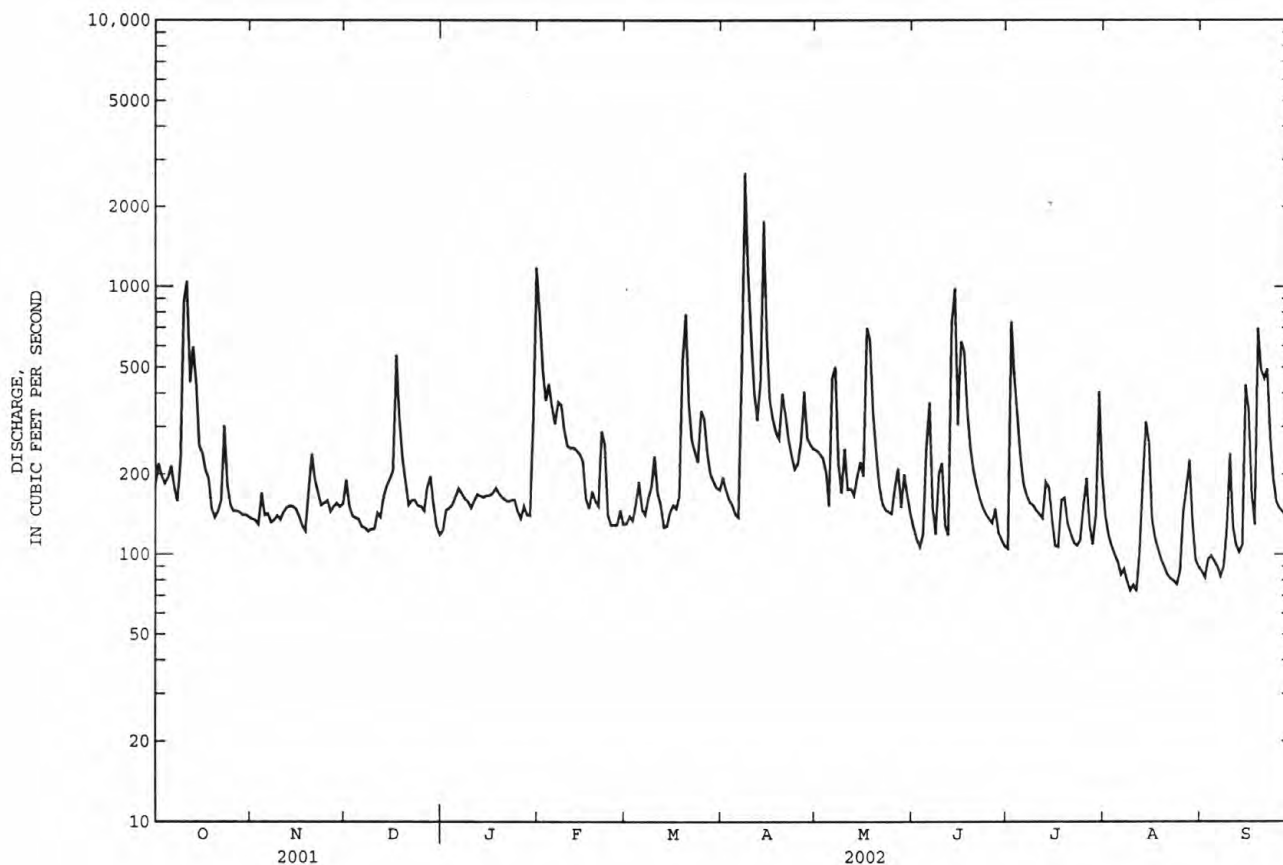
ARKANSAS RIVER BASIN

319

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1969 - 2002	
ANNUAL TOTAL	182544		82872		494.0	
ANNUAL MEAN	500.1		227.0		1322	
HIGHEST ANNUAL MEAN					93.0	
LOWEST ANNUAL MEAN					20000	
HIGHEST DAILY MEAN	3650	May 30	2680	Apr 8	28	May 29 1987
LOWEST DAILY MEAN	103	Aug 22	73	Aug 9	31	Aug 8 1972
ANNUAL SEVEN-DAY MINIMUM	117	Jul 22	81	Aug 5	27200	Jul 30 1972
MAXIMUM PEAK FLOW			3540	Apr 8	^a 22.64	May 29 1987
MAXIMUM PEAK STAGE			10.92	Apr 8	357900	
ANNUAL RUNOFF (AC-FT)	362100		164400		1050	
10 PERCENT EXCEEDS	998		404		226	
50 PERCENT EXCEEDS	402		160		73	
90 PERCENT EXCEEDS	129		109			

^aAt present site.



ARKANSAS RIVER BASIN

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1968 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1968 to current year.

pH: October 1988 to current year.

WATER TEMPERATURE: October 1968 to current year.

DISSOLVED OXYGEN: October 1988 to current year.

INSTRUMENTATION.--Water-quality monitor since July 1988.

REMARKS.--Interruptions in record were due to malfunctions of the recording instrument and extended periods of excessive movement of sand impeding streamflow from passing by the sensors. Samples were collected monthly and specific conductance, pH, water temperature, dissolved oxygen, and alkalinity were determined in the field.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily (observed), 4,700 microsiemens, Sept. 25, 1980; minimum, 125 microsiemens, Apr. 21, 1990.

pH: Maximum, 9.9 units, July 25, 2002; minimum, 6.7 units, Sept. 22, 2001.

WATER TEMPERATURE: Maximum daily (observed), 36.0°C, July 11, 1982; minimum, 0.0°C on several days during winter periods.

DISSOLVED OXYGEN: Maximum, 22.9 mg/L, Sept. 24, 1999; minimum, 0.4 mg/L, Aug. 3, 2002.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,400 microsiemens, Mar. 5; minimum, 246 microsiemens, Oct. 10.

pH: Maximum, 9.9 units, July 25; minimum, 7.0 units, July 21,22, Sept. 15,19.

WATER TEMPERATURE: Maximum, 35.1°C, July 1; minimum, 0.5°C Mar. 3.

DISSOLVED OXYGEN: Maximum recorded (more that 20% missing record), 21.2 mg/L, July 10; minimum recorded, 0.4 mg/L, Aug. 3.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)		
SEP													
11...	1355	1028	1028	5.74	130	741	9.47	8.2	603	30.1	2		
11...	1356	1028	1028	5.74	130	741	9.6	8.1	604	30.1	6		
11...	1357	1028	1028	5.74	130	741	9.57	8.15	604	30.07	10		
11...	1358	1028	1028	5.74	130	741	9.49	8.13	605	30.00	14		
11...	1359	1028	1028	5.74	130	741	9.46	8.10	605	29.97	18		
11...	1400	1028	1028	5.74	130	741	9.42	8.11	605	29.95	22		
11...	1401	1028	1028	5.74	130	741	9.40	8.10	606	29.94	26		
11...	1402	1028	1028	5.74	130	741	9.38	8.10	605	29.93	30		
11...	1403	1028	1028	5.74	130	741	9.50	8.10	606	29.9	34		
11...	1404	1028	1028	5.74	130	741	9.39	8.10	606	29.9	38		
11...	1405	1028	1028	5.74	130	741	9.39	8.11	606	29.9	42		
11...	1406	1028	1028	5.74	130	741	9.38	8.11	605	29.9	46		
Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CaCO3) (00900)
OCT													
09...	1330	80020	1028	6.40	255	732	106	9.3	8.3	1100	19.0	19.4	--
NOV													
06...	1145	80020	1028	5.99	180	745	171	15.6	8.7	944	27.5	18.4	250
DEC													
04...	1430	80020	1028	5.88	146	736	130	11.7	8.2	1040	26.1	18.5	--
JAN													
08...	1330	80020	1028	5.91	173	736	123	13.7	8.0	997	12.4	9.1	--
FEB													
13...	0800	80020	1028	6.20	253	747	102	12.0	8.1	954	.2	7.5	270
MAR													
06...	0930	80020	1028	5.70	145	735	103	11.6	7.7	988	17.1	8.4	--
APR													
02...	1100	80020	1028	5.85	184	726	106	10.0	7.9	887	8.4	15.7	--
MAY													
01...	1330	80020	1028	6.22	248	721	179	13.9	8.4	897	32.9	25.1	270
JUN													
04...	1130	80020	1028	5.67	185	730	135	10.5	8.7	990	30.9	25.6	--
JUL													
09...	1300	80020	1028	5.83	214	731	291	21.0	8.6	860	34.5	30.1	--
AUG													
07...	1000	80020	1028	5.86	147	730	123	9.3	8.3	1010	32.3	27.2	240
SEP													
03...	1545	80020	1028	5.54	93	740	162	11.7	8.7	948	37.0	30.5	--

ARKANSAS RIVER BASIN

321

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L) AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L) AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L) AS K) (00935)	SODIUM AD- SORP- TION RATIO (00931)	SODIUM, DIS- SOLVED (MG/L) AS NA) (00930)	SODIUM PERCENT (00932)	ANC UNFLTRD TIT 4.5 LAB (MG/L) AS CACO3) (90410)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3) (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CHLO- RIDE, DIS- SOLVED (MG/L) AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L) AS F) (00950)
OCT 09...	--	--	--	--	--	--	--	205	198	0	0	--	--
NOV 06...	79	59.8	24.2	8.34	3	95.0	44	189	171	201	3	125	.8
DEC 04...	--	--	--	--	--	--	--	199	193	272	1	--	--
JAN 08...	--	--	--	--	--	--	--	200	193	233	0	--	--
FEB 13...	67	66.6	25.1	6.96	2	93.6	42	210	205	248	0	103	.8
MAR 06...	--	--	--	--	--	--	--	189	193	234	0	--	--
APR 02...	--	--	--	--	--	--	--	191	180	218	0	--	--
MAY 01...	69	66.7	25.0	6.81	2	85.2	40	224	201	238	4	87.2	.6
JUN 04...	--	--	--	--	--	--	--	186	173	202	4	--	--
JUL 09...	--	--	--	--	--	--	--	161	149	166	7	--	--
AUG 07...	60	58.1	22.7	10.2	3	118	50	189	180	213	3	148	1.1
SEP 03...	--	--	--	--	--	--	--	115	114	136	2	--	--
Date	SILICA, DIS- SOLVED (MG/L) AS SiO2) (00955)	SULFATE DIS- SOLVED (MG/L) AS SO4) (00945)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L) AS N) (00623)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS N) (00608)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L) AS N) (00618)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L) AS N) (00607)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS NH4) (71846)	NITRO- GEN DIS- SOLVED (MG/L) AS N) (00602)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L) AS NO3) (71851)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) AS NO2) (71856)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) AS N) (00613)	PHOS- PHATE, ORTHO. DIS- SOLVED (MG/L) AS PO4) (00660)
OCT 09...	--	--	.54	<.04	1.61	--	--	2.2	7.14	1.64	.069	.021	1.12
NOV 06...	7.75	104	.72	<.04	4.56	--	--	5.3	20.2	4.59	.112	.034	1.23
DEC 04...	--	--	.71	.08	3.94	.63	.10	4.7	17.4	4.01	.223	.068	2.62
JAN 08...	--	--	.90	.26	4.35	.65	.33	5.4	19.3	4.47	.411	.125	2.72
FEB 13...	10.7	110	1.5	.85	2.25	.63	1.09	3.8	9.96	2.33	.246	.075	2.47
MAR 06...	--	--	2.5	2.17	1.25	.38	2.79	3.9	5.53	1.34	.302	.092	3.63
APR 02...	--	--	.57	<.04	4.47	--	--	5.1	19.8	4.49	.069	.021	2.67
MAY 01...	6.65	101	.54	<.04	1.81	--	--	2.4	8.01	1.85	.128	.039	1.78
JUN 04...	--	--	.70	E.02	14.0	--	--	15	61.8	14.0	.184	.056	2.51
JUL 09...	--	--	.65	<.04	3.42	--	--	4.1	15.1	3.47	.158	.048	3.33
AUG 07...	8.19	82.2	1.1	.18	4.02	.89	.23	5.3	17.8	4.21	.615	.187	4.93
SEP 03...	--	--	.83	<.04	9.63	--	--	11	42.6	9.72	.286	.087	5.20

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

[illegible]

ARKANSAS RIVER BASIN

323

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	2,4-DP TOTAL (UG/L) (82183)	2,4,5-T TOTAL (UG/L) (39740)	2,4-D, TOTAL (UG/L) (39730)	2,4-DB SUR SCD 1304 WTR, UNFLTRD PERCENT (90593)	ALA- CHLOR TOTAL RECOVER (UG/L) (77825)	ALDRIN, TOTAL (UG/L) (39330)	ALPHA- HCH-D6 SUR SCD 1398 WATER UNFLTRD PERCENT (99777)
OCT 09...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV 06...	<30	.6	<9	725	E7	E17	<.02	<.01	.02	83.2	.1	<.001	73.9
DEC 04...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN 08...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB 13...	<30	.9	<9	733	<8	E13	<.02	<.01	.16	60.0	<.1	<.001	82.6
MAR 06...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR 02...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY 01...	<30	1.0	<9	752	E6	E16	<.02	<.01	.33	82.2	<.1	<.001	80.9
JUN 04...	--	--	--	--	--	--	--	--	--	--	--	--	--
JUL 09...	--	--	--	--	--	--	--	--	--	--	--	--	--
AUG 07...	<30	.7	<9	650	E7	E17	<.02	<.01	.03	86.5	.1	<.001	117
SEP 03...	--	--	--	--	--	--	--	--	--	--	--	--	--
Date	AME- TRYNE TOTAL (UG/L) (82184)	ATRA- ZINE WATER UNFLTRD REC (UG/L) (39630)	BROM- ACIL WATER WHLREC (UG/L) (30234)	BUTA- CHLOR WATER WHLREC (UG/L) (30235)	BUTYL- ATE WATER WHLREC (UG/L) (30236)	CARBO- PHENO- THION WATER UNFLTRD (UG/L) (39786)	CARBOX- IN WATER WHOLE RECOV- ERABLE (UG/L) (30245)	CHLOR- DANE, TECH- NICAL TOTAL (UG/L) (39350)	CHLOR- PYRIFOS TOTAL RECOVER (UG/L) (38932)	CYAN- AZINE TOTAL (UG/L) (81757)	CYCLO- ATE WATER WHOLE RECOV- ERABLE (UG/L) (30254)	DEETHYL ATRA- ZINE, WATER, WHOLE, TOTAL (UG/L) (75981)	DEF TOTAL (UG/L) (39040)
OCT 09...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV 06...	<.1	<.1	<.2	<.1	<.1	<.02	<.2	<.1	<.01	<.2	<.1	<.2	<.02
DEC 04...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN 08...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB 13...	<.1	.2	E.2	<.1	<.1	<.02	<.2	<.1	<.01	<.2	<.1	<.2	<.02
MAR 06...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR 02...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY 01...	<.1	.2	<.2	<.1	<.1	<.02	<.2	<.1	<.01	<.2	<.1	<.2	<.02
JUN 04...	--	--	--	--	--	<.02	--	--	<.01	--	--	--	<.02
JUL 09...	--	--	--	--	--	<.02	--	--	<.01	--	--	--	<.02
AUG 07...	<.1	.1	E.3	<.1	<.1	<.02	<.2	<.1	<.01	<.2	<.1	<.2	<.02
SEP 03...	--	--	--	--	--	<.02	--	--	<.01	--	--	--	<.02

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

[illegible]

ARKANSAS RIVER BASIN

325

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	PCB, TOTAL (UG/L) (39516)	PHORATE TOTAL (UG/L) (39023)	PROME- TONE TOTAL (UG/L) (39056)	PROME- TRYNE TOTAL (UG/L) (39057)	PROPA- CHLOR WATER WHOLE RECOV. (UG/L) (30295)	PRO- PAZINE TOTAL (UG/L) (39024)	SILVEX, TOTAL (UG/L) (39760)	SIMA- ZINE TOTAL (UG/L) (39055)	SIME- TRYNE TOTAL (UG/L) (39054)	TER- BACIL WATER WHOLE RECOV. (UG/L) (30311)	TOX- APHENE, TOTAL (UG/L) (39400)	TRI- FLURA- LIN TOTAL RECOVER (UG/L) (39030)	VER- NOLATE WATER WHOLE RECOV. (UG/L) (30324)
OCT 09...	--	--	--	--	--	--	--	--	--	--	--	--	--
NOV 06...	<.1	<.02	<.2	<.1	<.1	<.1	<.01	.3	<.1	<.2	<1	<.1	<.1
DEC 04...	--	--	--	--	--	--	--	--	--	--	--	--	--
JAN 08...	--	--	--	--	--	--	--	--	--	--	--	--	--
FEB 13...	<.1	<.04	<.2	<.1	<.1	<.1	<.02	.4	<.1	<.2	<1	<.1	<.1
MAR 06...	--	--	--	--	--	--	--	--	--	--	--	--	--
APR 02...	--	--	--	--	--	--	--	--	--	--	--	--	--
MAY 01...	<.1	<.02	<.2	<.1	<.1	<.1	<.02	.2	.1	<.2	<1	.8	<.1
JUN 04...	--	<.02	--	--	--	--	--	--	--	--	--	--	--
JUL 09...	--	<.02	--	--	--	--	--	--	--	--	--	--	--
AUG 07...	<.1	<.02	<.2	<.1	<.1	<.1	<.02	<.1	<.1	<.2	<1	.2	<.1
SEP 03...	--	<.02	--	--	--	--	--	--	--	--	--	--	--

SPECIFIC CONDUCTANCE VIA SATELLITE, in US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	980	916	943	1140	1030	1060	1340	1040	1150	856	804	819
2	1060	957	1000	1110	974	1030	1390	1200	1310	1210	856	1040
3	1040	964	1000	1080	879	977	1200	1070	1130	1060	964	1000
4	1060	1000	1030	1220	915	1080	1130	1030	1060	1040	952	981
5	1080	994	1040	1050	975	1010	1100	1020	1050	1020	969	989
6	1110	1020	1060	1060	922	975	1090	1000	1030	1050	979	1000
7	1080	1020	1050	1180	974	1060	1060	942	991	1080	1020	1050
8	1030	941	983	1040	975	1010	1050	998	1020	1060	992	1020
9	1110	925	1040	1060	1000	1020	1060	998	1020	1030	968	991
10	986	246	622	1100	1040	1070	1050	998	1010	1010	953	976
11	430	271	365	1120	1050	1080	1050	1010	1030	1010	969	988
12	473	383	417	1180	1100	1130	1070	967	1010	1050	997	1020
13	715	333	525	1160	1060	1100	1060	978	1020	1040	992	1010
14	438	331	384	1140	1050	1080	1080	1040	1050	1050	993	1020
15	640	438	548	1130	1040	1070	1100	1020	1060	1050	974	1010
16	798	640	688	1080	996	1040	1020	743	894	1050	988	1010
17	810	778	799	1080	990	1040	1020	487	680	1040	979	1010
18	879	757	788	1050	957	997	707	486	563	1090	1000	1030
19	898	748	810	960	786	849	871	707	810	1040	976	1000
20	750	727	741	1100	774	955	922	870	907	1030	984	1010
21	869	743	778	957	655	782	920	859	893	1040	986	1010
22	938	798	866	747	657	691	946	856	906	1040	965	997
23	963	803	904	964	747	860	982	940	956	1020	932	974
24	904	872	889	988	951	964	982	916	943	988	942	965
25	895	856	878	1020	985	998	972	919	936	1020	861	935
26	922	876	910	992	931	962	985	927	950	1170	858	943
27	967	922	943	956	908	931	1050	935	978	1290	963	1070
28	1070	936	999	979	929	951	1100	976	1030	977	911	940
29	1160	1020	1080	1020	949	982	1040	927	983	952	899	923
30	1130	1020	1050	1070	1000	1030	940	859	901	961	357	741
31	1100	979	1050	---	---	---	879	821	849	740	282	388
MONTH	1160	246	845	1220	655	993	1390	486	972	1290	282	963

ARKANSAS RIVER BASIN

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

SPECIFIC CONDUCTANCE VIA SATELLITE, in US/CM @ 25C, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	441	339	394	940	902	924	910	859	889	907	893	898
2	578	441	510	966	921	937	899	869	878	940	907	924
3	714	578	653	982	924	951	887	876	881	957	927	949
4	804	705	729	979	925	947	939	887	915	966	941	956
5	720	674	700	1400	955	1110	910	884	896	941	901	917
6	756	674	713	989	905	958	905	849	882	1180	671	825
7	978	706	803	1030	902	935	1170	601	841	819	802	807
8	883	761	808	1080	1030	1050	747	273	392	833	805	819
9	879	851	860	1040	988	1020	477	315	378	845	829	835
10	894	877	890	1140	1000	1070	685	477	603	1100	844	900
11	913	893	901	1050	1000	1020	734	660	695	872	848	860
12	933	911	919	1010	978	993	756	710	733	973	849	897
13	957	933	952	983	876	959	757	471	669	870	857	863
14	970	945	958	943	882	921	612	316	400	965	860	906
15	961	935	946	1130	916	1000	513	366	437	948	864	885
16	935	889	905	1100	1020	1050	661	513	592	962	868	897
17	891	875	884	1040	993	1020	754	661	715	---	---	---
18	993	872	895	1010	896	977	753	724	738	---	---	---
19	1260	891	1040	1020	871	926	767	736	743	---	---	---
20	912	880	898	954	758	808	772	538	676	---	---	---
21	1340	877	995	804	775	789	662	537	616	---	---	---
22	1030	970	1000	779	730	756	723	659	690	849	799	825
23	971	927	950	791	731	767	770	717	740	901	848	876
24	937	897	919	775	752	766	801	770	791	949	898	922
25	915	895	905	764	595	712	976	799	879	998	917	958
26	944	909	923	701	595	654	837	786	808	1040	916	997
27	977	917	953	788	701	739	829	737	778	1020	775	907
28	972	896	930	846	788	812	861	752	815	775	671	707
29	---	---	---	864	842	852	866	858	862	917	722	800
30	---	---	---	901	853	873	902	862	876	916	728	830
31	---	---	---	897	849	871	---	---	---	835	787	797
MONTH	1340	339	855	1400	595	909	1170	273	727	1180	671	875

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	866	835	845	1070	913	978	1150	562	800	954	859	917
2	923	866	898	1060	298	561	887	813	843	1070	895	995
3	957	551	819	467	427	443	979	887	928	1070	912	991
4	993	541	871	532	406	460	1110	979	1060	953	912	937
5	1100	880	954	538	476	495	1110	881	969	945	867	929
6	880	400	505	712	538	627	946	903	924	961	920	942
7	476	423	454	800	712	753	988	877	942	942	877	923
8	493	473	483	847	796	830	906	808	867	922	745	837
9	554	488	510	872	846	860	922	898	909	799	735	766
10	555	430	479	915	867	892	938	866	921	809	474	592
11	483	431	457	981	915	952	950	863	918	672	505	576
12	901	481	616	1030	950	993	962	753	870	759	672	719
13	994	271	688	1080	971	1020	903	746	833	794	744	776
14	413	286	362	1040	781	838	746	529	661	802	729	766
15	549	410	502	844	795	819	603	496	542	820	365	617
16	665	351	517	858	826	841	749	576	666	640	488	594
17	518	345	408	909	834	872	850	749	804	700	606	662
18	699	518	621	996	858	923	912	850	884	742	691	714
19	795	699	745	963	762	805	965	910	933	731	388	543
20	844	795	822	819	789	808	1130	800	1030	420	380	394
21	1020	818	917	958	807	870	1100	1060	1090	455	400	431
22	914	819	862	998	901	949	1190	954	1070	472	400	429
23	903	852	877	1020	968	988	1210	1050	1160	702	472	605
24	934	887	913	1070	918	1020	1250	607	1090	773	702	734
25	946	889	915	1080	868	950	682	592	647	807	766	794
26	991	919	959	975	695	772	1280	633	1010	844	807	831
27	999	923	963	878	743	804	896	661	787	875	801	850
28	1030	974	994	984	878	934	771	502	573	878	823	862
29	1020	935	972	1010	912	956	790	599	703	884	850	871
30	1040	941	995	1180	498	696	858	755	809	884	839	870
31	---	---	---	1090	404	682	912	769	871	---	---	---
MONTH	1100	271	731	1180	298	819	1280	496	875	1070	365	749

ARKANSAS RIVER BASIN

327

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

PH, WH, FIELD VIA SATELLITE, in (STANDARD UNITS), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	9.0	8.5	8.6	9.2	8.4	8.8	8.1	8.0	8.0	7.9	7.9	7.9
2	8.8	7.9	8.6	9.2	8.6	8.9	8.0	7.8	7.9	8.0	7.9	8.0
3	8.5	7.9	8.2	8.8	8.1	8.5	8.0	7.8	7.9	8.0	8.0	8.0
4	8.4	7.8	8.1	8.9	8.1	8.5	8.2	7.9	8.0	8.1	8.0	8.0
5	8.3	7.8	8.2	9.0	8.2	8.7	8.2	7.8	8.0	8.0	7.8	7.9
6	8.2	7.8	8.0	9.4	8.3	8.7	8.3	7.9	8.1	7.9	7.8	7.9
7	8.2	7.9	8.1	9.2	8.5	8.9	8.3	8.0	8.1	8.2	7.9	8.0
8	8.3	7.9	8.0	9.3	8.5	8.9	8.3	8.0	8.2	8.1	7.9	8.0
9	8.4	8.0	8.3	9.2	8.5	8.9	8.3	8.1	8.2	8.0	7.9	7.9
10	8.2	7.7	8.0	9.1	8.4	8.8	8.3	8.0	8.1	8.1	7.9	8.0
11	8.0	7.8	7.9	9.0	8.3	8.7	8.3	8.1	8.1	8.1	7.9	8.0
12	8.0	7.9	7.9	8.6	8.2	8.3	8.3	8.1	8.2	8.2	8.0	8.1
13	8.0	7.8	7.9	8.7	8.2	8.4	8.3	8.0	8.1	8.3	8.1	8.1
14	7.9	7.8	7.9	9.0	8.4	8.8	8.4	8.1	8.3	8.3	8.2	8.2
15	8.0	7.8	8.0	9.1	8.6	8.8	8.3	8.1	8.3	8.3	8.1	8.2
16	8.2	8.0	8.0	9.0	8.4	8.7	8.1	8.0	8.1	8.3	8.1	8.2
17	8.5	8.2	8.2	8.9	8.2	8.5	8.1	7.9	8.0	8.3	8.1	8.2
18	8.7	8.1	8.3	8.9	8.2	8.5	8.1	7.9	8.0	8.2	8.1	8.2
19	8.5	8.0	8.2	8.4	8.0	8.2	8.3	8.1	8.2	8.2	8.1	8.1
20	8.4	7.9	8.1	8.1	7.8	7.9	8.4	8.3	8.3	8.2	8.1	8.1
21	8.4	7.6	7.9	7.8	7.6	7.7	8.3	8.2	8.3	8.3	8.1	8.2
22	9.2	8.3	8.5	7.8	7.6	7.6	8.2	8.2	8.2	8.4	8.2	8.2
23	9.0	8.1	8.7	7.9	7.6	7.9	8.2	8.2	8.2	8.2	8.1	8.1
24	9.1	8.4	8.9	8.1	7.9	8.0	8.2	8.1	8.2	8.3	8.1	8.1
25	9.0	8.4	8.7	8.1	7.9	7.9	8.2	8.1	8.2	8.2	8.1	8.1
26	8.9	8.1	8.5	8.0	7.8	7.9	8.2	8.1	8.2	8.2	8.0	8.1
27	8.8	8.1	8.4	8.1	7.9	8.0	8.1	8.1	8.1	8.2	8.1	8.1
28	8.9	8.2	8.5	8.1	7.8	7.9	8.2	8.1	8.2	8.2	8.0	8.1
29	9.0	8.4	8.7	8.1	8.0	8.0	8.2	8.1	8.1	8.2	8.0	8.1
30	9.0	8.5	8.7	8.0	7.9	8.0	8.1	8.0	8.1	8.2	8.0	8.1
31	9.0	8.4	8.7	---	---	---	8.1	7.9	8.0	8.3	8.0	8.2
MAX	9.2	8.5	8.9	9.4	8.6	8.9	8.4	8.3	8.3	8.4	8.2	8.2
MIN	7.9	7.6	7.9	7.8	7.6	7.6	8.0	7.8	7.9	7.9	7.8	7.9

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
FEBRUARY			MARCH			APRIL			MAY			
1	8.2	8.1	8.1	7.9	7.8	7.9	8.2	7.9	8.0	9.0	8.6	8.8
2	8.1	8.0	8.0	8.0	7.9	8.0	8.4	7.8	8.2	8.9	8.3	8.6
3	8.1	8.0	8.0	7.9	7.9	7.9	8.3	8.0	8.2	8.4	8.1	8.2
4	8.1	8.1	8.1	7.9	7.7	7.9	8.2	7.9	8.1	8.1	7.9	8.1
5	8.1	8.0	8.1	7.8	7.7	7.8	8.1	7.9	8.0	8.4	7.9	7.9
6	8.1	8.0	8.0	7.9	7.7	7.8	8.0	7.7	7.9	8.5	8.0	8.2
7	8.1	8.0	8.0	8.0	7.6	7.8	7.8	7.6	7.7	8.3	7.9	8.0
8	8.1	7.9	8.0	8.3	7.7	7.9	7.7	7.5	7.7	8.4	8.0	8.3
9	8.1	8.0	8.1	8.3	7.9	8.1	7.7	7.6	7.6	8.4	8.0	8.2
10	8.1	8.1	8.1	8.1	7.8	8.0	7.8	7.6	7.7	8.1	7.9	8.0
11	8.1	8.0	8.1	8.2	7.9	8.0	7.8	7.7	7.7	8.1	7.9	8.0
12	8.1	8.1	8.1	8.2	7.8	7.9	7.9	7.7	7.7	8.0	7.9	7.9
13	8.4	8.1	8.3	8.1	7.6	7.8	7.7	7.5	7.7	8.1	8.0	8.0
14	8.5	8.3	8.4	8.1	7.6	7.8	7.5	7.4	7.4	8.1	7.9	8.0
15	8.4	8.3	8.4	8.1	7.6	7.8	7.6	7.4	7.5	8.2	8.0	8.0
16	8.3	8.2	8.3	8.1	7.6	7.8	7.6	7.5	7.6	8.0	7.6	7.9
17	8.3	8.2	8.2	8.0	7.6	7.8	7.8	7.5	7.7	---	---	---
18	8.3	8.1	8.2	7.8	7.6	7.7	7.8	7.3	7.5	---	---	---
19	8.6	8.1	8.3	8.0	7.5	7.6	7.5	7.4	7.5	---	---	---
20	8.6	8.1	8.3	8.1	8.0	8.1	7.5	7.4	7.4	---	---	---
21	8.5	8.1	8.3	8.2	8.1	8.1	7.6	7.5	7.5	---	---	---
22	8.6	8.3	8.5	8.1	8.0	8.0	7.7	7.5	7.6	8.7	8.4	8.5
23	8.3	8.2	8.3	8.1	7.9	8.0	7.9	7.7	7.7	8.6	8.3	8.5
24	8.3	8.1	8.2	8.1	8.0	8.1	8.1	7.6	7.7	9.4	8.1	8.4
25	8.3	8.0	8.1	8.1	7.9	8.0	8.2	7.9	8.0	9.3	8.3	8.6
26	8.1	8.0	8.1	7.9	7.8	7.9	8.1	7.9	7.9	9.2	8.4	8.8
27	8.0	7.9	8.0	8.1	7.8	7.9	8.4	7.8	8.0	9.1	8.2	8.6
28	8.0	7.8	7.9	8.3	7.9	8.0	8.1	8.0	8.0	8.5	7.7	7.9
29	---	---	---	8.3	7.9	8.1	8.7	8.1	8.4	8.1	7.8	7.9
30	---	---	---	8.4	7.9	8.1	8.6	8.1	8.3	8.2	7.7	7.9
31	---	---	---	8.3	7.8	8.1	---	---	---	8.3	7.6	7.9
MAX	8.6	8.3	8.5	8.4	8.1	8.1	8.7	8.1	8.4	9.4	8.6	8.8
MIN	8.0	7.8	7.9	7.8	7.5	7.6	7.5	7.3	7.4	8.0	7.6	7.9

ARKANSAS RIVER BASIN

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

PH, WH, FIELD VIA SATELLITE, in (STANDARD UNITS), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	8.5	7.5	7.9	8.1	7.3	8.0	---	---	---	8.8	7.9	8.2
2	8.4	7.8	8.0	8.6	7.4	7.5	9.3	7.9	8.6	8.9	8.2	8.5
3	9.0	7.9	8.1	7.6	7.3	7.4	9.3	8.4	8.6	9.0	8.1	8.5
4	9.0	7.9	8.7	7.9	7.5	7.6	8.5	7.3	7.4	8.9	8.1	8.5
5	8.6	7.8	8.2	---	---	---	9.1	7.3	8.6	8.9	8.1	8.4
6	8.1	7.6	7.9	---	---	---	8.9	8.4	8.6	8.9	8.1	8.4
7	7.6	7.3	7.5	---	---	---	8.7	8.2	8.3	9.0	8.1	8.5
8	7.7	7.3	7.4	---	---	---	9.1	8.0	8.6	8.7	8.2	8.5
9	7.7	7.3	7.6	---	---	---	9.1	8.3	8.8	8.7	8.2	8.4
10	---	---	---	---	---	---	9.1	8.1	8.8	8.4	7.8	8.0
11	---	---	---	9.0	8.0	8.3	9.0	8.0	8.6	8.1	7.4	7.8
12	---	---	---	---	---	---	8.8	8.2	8.5	7.6	7.3	7.4
13	---	---	---	---	---	---	8.3	7.9	8.1	7.7	7.3	7.4
14	---	---	---	---	---	---	8.1	7.8	7.9	7.9	7.3	7.5
15	---	---	---	---	---	---	8.2	7.8	7.9	7.5	7.0	7.2
16	---	---	---	9.4	8.6	8.9	8.5	7.8	8.0	7.6	7.1	7.3
17	---	---	---	9.4	8.3	8.9	8.7	7.9	8.0	7.8	7.4	7.5
18	---	---	---	9.3	8.3	8.8	8.7	7.9	8.2	7.9	7.4	7.6
19	---	---	---	9.2	7.9	8.4	9.2	8.2	8.7	7.6	7.0	7.2
20	---	---	---	8.4	7.9	8.0	9.1	8.2	8.8	7.2	7.1	7.1
21	9.4	8.3	8.9	7.9	7.0	7.4	8.9	7.9	8.4	7.4	7.1	7.3
22	9.5	8.5	9.0	7.7	7.0	7.2	9.1	8.0	8.5	7.5	7.2	7.3
23	9.2	8.5	9.0	8.0	7.2	7.4	9.0	8.2	8.6	7.6	7.3	7.4
24	9.0	8.2	8.7	9.6	8.0	8.1	8.9	8.1	8.5	7.6	7.3	7.4
25	9.0	8.4	8.7	9.9	8.7	9.3	8.7	8.0	8.3	8.0	7.4	7.5
26	8.9	8.3	8.5	8.8	8.4	8.6	8.4	7.8	8.0	8.0	7.7	7.8
27	9.2	8.3	8.6	9.0	8.3	8.4	8.5	7.7	8.0	8.2	7.7	8.0
28	8.8	8.4	8.6	8.4	7.9	8.1	8.3	7.5	7.8	8.4	7.8	8.0
29	8.8	8.2	8.6	9.1	7.9	8.4	8.5	7.5	7.8	8.5	7.9	8.2
30	8.7	7.6	8.1	---	---	---	8.5	7.8	8.0	8.5	7.7	8.2
31	---	---	---	---	---	---	8.5	7.9	8.1	---	---	---
MAX	9.5	8.5	9.0	9.9	8.7	9.3	9.3	8.4	8.8	9.0	8.2	8.5
MIN	7.6	7.3	7.4	7.6	7.0	7.2	8.1	7.3	7.4	7.2	7.0	7.1

WATER TEMPERATURE VIA SATELLITE, in (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	24.6	19.0	21.6	21.7	16.3	18.7	10.3	7.6	9.0	7.3	4.3	5.6
2	24.0	19.2	21.4	21.1	18.0	19.6	13.6	7.7	10.7	5.9	3.3	4.6
3	24.0	18.7	21.2	19.8	18.5	19.0	14.5	12.2	13.4	5.6	1.0	3.2
4	25.2	20.0	22.4	20.9	18.4	19.4	18.2	14.5	16.4	5.3	2.8	4.0
5	23.1	16.7	19.8	20.9	16.9	19.0	19.3	15.6	17.6	8.3	5.2	6.6
6	20.5	14.8	17.3	20.2	16.8	18.5	15.6	12.8	14.0	8.5	5.2	6.7
7	20.3	15.3	17.7	19.7	16.1	17.8	14.0	10.9	12.5	7.7	3.8	5.8
8	21.5	15.2	18.1	17.8	15.1	16.5	12.0	8.8	10.1	10.5	5.0	7.6
9	19.7	18.4	19.1	15.6	13.5	14.4	11.1	6.6	8.7	12.8	8.0	10.3
10	19.9	19.1	19.5	17.4	11.9	14.5	10.8	6.7	8.7	11.3	8.9	10.1
11	19.3	17.9	18.6	18.5	13.8	16.2	9.0	7.2	8.1	11.3	6.6	8.8
12	19.5	16.8	18.2	19.2	16.8	17.7	11.0	8.5	9.8	10.8	7.0	8.7
13	19.5	17.0	18.1	17.8	16.7	17.2	10.5	9.5	10.2	10.9	6.3	8.4
14	20.3	16.3	18.1	19.8	16.2	17.7	11.7	8.6	9.9	10.5	6.8	8.6
15	18.4	15.3	17.0	19.4	15.9	17.6	9.7	8.4	9.1	10.3	5.6	7.9
16	18.7	13.2	15.7	18.2	16.7	17.4	10.6	9.6	10.2	9.9	7.9	8.6
17	18.2	13.8	15.9	18.1	16.2	17.0	10.5	8.9	9.8	9.3	6.6	7.7
18	18.6	13.2	15.8	19.3	15.6	17.5	11.3	8.1	9.5	7.0	5.3	5.8
19	19.9	15.6	17.6	18.4	11.9	14.8	9.4	6.5	8.0	9.5	5.3	7.0
20	22.6	16.9	19.4	13.4	10.1	11.8	10.4	6.0	8.1	9.8	5.2	7.3
21	23.0	18.5	20.6	12.5	9.5	11.1	11.5	7.9	9.4	10.6	5.2	7.8
22	22.4	19.1	20.7	14.7	10.0	12.3	11.7	8.8	10.3	13.3	7.2	10
23	23.3	20.1	21.5	16.8	13.6	14.9	8.8	6.0	7.5	12.1	9.3	11.3
24	21.1	17.0	19.0	14.7	12.0	13.3	7.8	3.9	5.7	10.5	7.1	8.6
25	18.4	14.0	16.1	14.5	10.4	12.4	7.2	3.7	5.5	10.7	5.1	7.8
26	18.6	13.0	15.6	12.6	9.8	11.9	6.9	2.9	4.9	11.9	6.2	8.8
27	17.8	13.4	15.6	9.8	5.9	7.2	8.2	4.2	6.0	12.4	7.4	9.8
28	17.8	13.0	15.2	5.9	3.7	4.4	8.7	4.4	6.5	14.9	9.5	11.9
29	18.7	13.2	15.8	7.9	3.6	5.5	7.0	3.5	5.3	12.7	8.8	11.0
30	19.4	14.4	16.7	10.1	4.9	7.5	4.7	3.8	4.2	8.8	4.5	6.6
31	18.2	14.4	16.2	---	---	---	7.1	2.3	4.7	5.9	3.2	4.0
MONTH	25.2	13.0	18.2	21.7	3.6	14.8	19.3	2.3	9.2	14.9	1.0	7.8

ARKANSAS RIVER BASIN

329

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

WATER TEMPERATURE VIA SATELLITE, in (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	5.9	2.5	4.1	9.3	6.6	8.6	21.3	14.2	17.6	27.6	21.4	24.4
2	6.7	4.3	5.6	6.6	1.1	3.5	18.0	12.1	15.6	25.1	18.3	20.7
3	9.9	6.7	7.9	7.6	0.5	3.8	15.9	8.9	12.3	18.3	16.3	17.2
4	8.1	6.1	7.3	10.4	3.4	6.6	18.4	10.6	14.2	23.7	16.4	19.5
5	7.6	6.1	6.9	12.0	5.9	8.9	19.8	12.0	15.8	24.3	18.7	21.4
6	8.7	5.9	7.1	14.7	8.2	11.1	17.2	13.4	15.3	25.6	21.1	23.0
7	10.2	6.7	8.2	18.1	11.7	14.5	13.4	12.4	12.7	25.9	21.9	23.7
8	11.4	7.2	9.2	17.9	14.8	16.2	13.3	12.3	12.7	25.8	22.1	24.0
9	11.2	8.3	9.6	16.0	8.5	11.3	17.2	12.5	14.6	24.2	18.7	21.6
10	9.1	6.5	7.4	12.1	7.3	9.8	20.8	15.4	17.7	20.9	18.2	19.4
11	10.0	5.0	7.3	12.8	8.5	10.5	20.9	17.2	19.0	24.3	19.1	21.5
12	11.1	6.5	8.6	17.1	10.6	13.4	21.2	18.1	19.4	22.5	16.9	20.2
13	12.0	7.5	9.6	18.3	12.0	14.8	19.9	17.6	18.8	23.5	14.4	18.6
14	10.3	7.5	9.0	20.0	13.3	16.3	21.2	17.8	19.3	24.4	17.4	20.8
15	12.3	8.5	10.0	16.2	11.5	13.0	24.9	20.1	22.1	23.4	18.7	20.9
16	14.0	8.0	10.8	11.5	9.5	10.2	23.1	20.9	21.9	24.4	19.0	21.5
17	13.5	9.5	11.4	13.0	9.8	11.2	26.2	20.5	22.9	---	---	---
18	13.8	10.2	12.1	12.5	11.2	11.9	24.0	21.3	22.2	---	---	---
19	17.1	13.2	14.7	12.8	11.9	12.2	22.3	20.4	21.3	---	---	---
20	16.4	11.4	13.9	14.7	11.0	12.7	20.4	18.6	19.3	---	---	---
21	14.8	12.3	13.5	13.2	9.2	11.6	22.0	17.7	19.7	---	---	---
22	14.8	9.8	12.2	12.4	6.8	9.5	22.9	17.1	19.9	22.1	18.7	20.6
23	15.4	10.5	12.8	14.7	8.0	11.2	20.5	18.1	19.3	20.5	18.7	19.8
24	15.4	10.9	12.9	18.0	11.8	14.5	22.6	19.1	20.6	24.7	19.2	21.3
25	12.3	5.9	9.4	14.4	8.2	10.8	19.5	15.8	17.4	23.1	17.7	20.5
26	6.4	1.8	4.3	13.3	6.4	9.7	16.4	13.9	14.8	27.8	19.7	23.2
27	9.7	2.3	5.7	16.5	9.7	12.9	20.8	13.4	16.6	25.3	22.2	23.3
28	11.8	5.6	8.4	19.8	12.2	15.7	23.4	16.7	19.9	22.8	21.1	21.8
29	---	---	---	19.6	15.5	17.4	24.2	18.4	21.2	28.1	20.4	23.6
30	---	---	---	16.6	13.8	14.9	29.1	20.4	23.0	30.4	22.2	26.0
31	---	---	---	20.2	12.1	15.9	---	---	---	31.7	23.5	27.4
MONTH	17.1	1.8	9.3	20.2	0.5	11.8	29.1	8.9	18.2	31.7	14.4	21.8
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	31.5	24.3	27.7	26.3	23.2	24.3	34.6	26.6	30.0	32.2	24.6	28.1
2	31.1	24.1	27.3	24.4	23.2	23.7	34.8	27.7	31.0	32.3	24.9	28.3
3	31.1	23.5	26.9	26.4	23.5	24.8	35.0	27.8	31.1	32.7	25.2	28.6
4	30.4	24.0	26.5	29.4	24.0	26.3	34.5	27.8	30.9	31.5	25.4	28.5
5	26.0	22.4	24.2	31.7	25.2	28.1	34.2	27.1	30.4	32.1	25.5	28.5
6	29.1	22.5	25.4	31.5	25.8	28.6	33.6	26.7	30.0	32.3	25.5	28.5
7	30.6	23.4	26.8	33.3	26.1	29.5	33.8	26.9	30.0	31.7	24.9	28.1
8	29.8	24.3	26.8	34.8	27.1	30.6	33.5	27.0	30.0	27.4	23.9	25.2
9	30.9	23.9	27.0	35.1	27.8	31.1	32.6	25.6	29.0	28.8	23.5	25.8
10	30.4	25.2	27.5	34.7	27.9	31.0	33.2	25.9	29.2	30.6	24.6	27.3
11	32.0	24.9	28.2	33.1	26.9	29.7	32.7	26.1	28.9	31.5	24.1	27.6
12	33.0	25.8	28.9	30.4	26.6	28.4	30.8	23.7	27.1	30.7	24.4	27.5
13	27.8	23.5	24.7	30.4	24.8	27.4	28.0	23.6	25.4	30.1	24.3	26.9
14	27.4	22.9	24.8	32.7	25.5	28.8	28.1	22.7	24.9	29.7	23.3	26.1
15	29.0	23.1	25.8	32.8	25.6	29.0	31.2	24.8	27.4	25.9	24.0	24.8
16	25.3	22.5	24.1	32.2	25.9	28.7	32.4	25.3	28.4	27.1	22.0	24.4
17	29.2	22.9	25.7	31.1	25.7	27.8	31.8	25.3	28.5	28.8	22.3	25.3
18	28.0	23.2	25.5	32.8	25.1	28.6	33.2	25.5	28.9	29.7	22.6	25.7
19	30.5	22.6	26.2	34.1	26.4	30.0	33.9	25.3	29.1	25.4	22.4	23.2
20	32.4	24.7	28.2	34.0	26.7	30.1	32.7	26.0	29.0	25.1	20.8	22.8
21	33.0	25.9	29.1	33.7	26.1	29.6	32.0	25.4	28.3	26.2	20.9	23.4
22	32.6	26.1	29.0	34.1	26.2	29.7	33.1	25.0	28.6	24.4	21.1	22.7
23	32.2	24.5	28.1	33.4	26.1	29.6	34.1	26.2	29.6	25.1	18.8	21.7
24	32.0	24.9	28.3	33.6	27.5	29.8	32.6	26.4	29.2	25.5	18.9	22.0
25	32.0	25.6	28.6	33.1	24.9	28.8	28.9	25.5	26.9	26.1	18.9	22.4
26	33.6	25.4	29.1	33.8	27.1	30.2	30.9	24.1	27.3	27.6	20.3	23.8
27	33.7	26.3	29.7	33.6	25.7	29.3	31.2	24.5	27.6	27.1	20.7	23.8
28	33.5	26.5	29.9	31.4	25.7	28.4	31.3	26.0	28.4	28.0	21.3	24.3
29	32.5	26.7	29.3	31.0	24.1	27.4	31.5	25.4	28.2	28.6	22.0	25.0
30	29.7	25.0	27.2	31.0	25.4	28.1	30.7	24.0	27.3	27.9	22.1	24.8
31	---	---	---	33.1	26.5	29.6	31.5	24.0	27.5	---	---	---
MONTH	33.7	22.4	27.2	35.1	23.2	28.6	35.0	22.7	28.6	32.7	18.8	25.5

ARKANSAS RIVER BASIN

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

OXYGEN DISSOLVED VIA SATELLITE, in (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	---	---	---	18.6	7.7	12.5	11.4	9.7	10.6	13.9	12.8	13.2
2	---	---	---	17.9	7.2	12.1	10.8	8.9	10.0	14.4	12.9	13.9
3	---	---	---	13.8	6.9	9.8	11.8	8.5	9.7	15.8	13.8	14.8
4	---	---	---	16.6	7.3	11.3	11.4	9.2	10.3	14.9	13.1	14.1
5	---	---	---	17.0	7.7	11.8	11.3	8.3	9.6	13.1	11.9	12.5
6	---	---	---	17.4	7.8	12.1	12.3	8.6	10.3	12.9	12.0	12.4
7	---	---	---	16.0	7.9	11.7	12.1	9.3	10.5	13.8	12.4	13.2
8	---	---	---	18.3	7.6	12.4	12.3	9.7	11.0	13.3	11.7	12.7
9	---	---	---	18.1	8.5	12.8	13.0	10.9	11.7	12.5	11.0	11.8
10	7.5	4.8	6.4	17.5	9.7	12.9	12.5	10.8	11.5	13.3	10.8	11.9
11	7.3	6.1	6.7	16.3	9.2	11.9	12.5	10.8	11.5	13.9	12.0	12.9
12	8.0	7.3	7.7	10.4	8.6	9.3	11.5	10.2	10.9	14.3	12.3	13.3
13	8.4	7.2	7.8	12.3	8.6	9.9	11.4	9.9	10.6	14.5	12.5	13.5
14	8.1	7.4	7.8	15.4	8.6	11.2	12.4	10.3	11.3	15.1	12.5	13.8
15	8.9	7.7	8.4	16.2	7.9	11.3	12.5	10.9	11.5	15.4	13.4	14.3
16	10.4	8.8	9.4	15.7	7.0	10.5	11.3	10.5	10.9	15.6	12.7	14.1
17	11.9	8.6	10	14.9	6.6	9.8	10.8	9.2	9.8	15.9	13.7	14.7
18	13.3	8.1	10.2	14.0	6.6	9.3	11.0	10.1	10.7	16.3	14.6	15.4
19	12.0	6.5	9.2	12.1	6.4	9.3	13.8	10.8	12.2	16.3	14.3	15.3
20	10.9	5.4	7.8	11.2	9.3	10.0	13.6	11.8	12.8	16.0	13.4	14.8
21	7.6	4.6	6.4	10.4	9.3	9.7	12.4	11.2	11.8	15.9	12.8	14.7
22	16.3	5.1	9.2	10.2	8.7	9.5	11.4	10.7	11.1	15.2	11.4	13.7
23	12.0	5.1	8.1	9.9	8.3	8.9	13.3	11.3	12.6	13.4	10.2	11.9
24	15.9	7.2	10.6	10.5	8.5	9.5	14.5	13.2	13.7	15.0	11.7	13.5
25	15.1	5.2	9.6	11.5	9.0	9.9	14.5	13.3	13.8	15.0	13.0	14.0
26	13.7	5.8	9.1	10.1	8.7	9.4	15.1	13.5	14.1	14.3	12.5	13.4
27	14.0	4.1	8.5	12.8	9.6	11.3	14.3	12.6	13.5	14.1	11.5	13.0
28	16.2	2.3	9.4	13.0	11.1	12.0	14.0	12.4	13.2	13.7	10.8	12.0
29	17.9	9.5	12.7	12.3	11.0	11.9	14.6	12.4	13.7	13.0	10.4	11.9
30	17.5	9.1	13.1	11.7	10.2	11.1	14.4	13.7	14.1	15.0	11.9	13.3
31	16.6	9.0	12.2	---	---	---	14.9	12.9	13.9	15.3	13.0	14.4
MONTH	17.9	2.3	9.1	18.6	6.4	10.8	15.1	8.3	11.7	16.3	10.2	13.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	---	---	---	---	---	---	11.9	9.3	10.5	16.0	8.9	11.9
2	---	---	---	---	---	---	13.2	8.6	11.0	12.9	9.0	10.8
3	---	---	---	---	---	---	13.6	11.0	12.3	11.9	9.9	10.8
4	---	---	---	---	---	---	12.9	10.7	11.8	11.2	9.0	10.4
5	---	---	---	---	---	---	12.1	10.0	11.1	10.5	8.3	9.3
6	---	---	---	---	---	---	12.2	9.5	10.7	9.6	5.4	7.8
7	---	---	---	12.0	8.8	10.4	10.7	9.8	10.3	8.3	6.1	7.2
8	---	---	---	12.4	9.2	10.5	10.0	8.2	8.8	9.7	6.7	8.1
9	---	---	---	14.0	9.5	11.8	10.1	9.6	9.9	10.2	6.3	8.9
10	---	---	---	13.6	11.1	12.2	9.9	8.9	9.6	9.8	7.9	8.8
11	---	---	---	13.6	10.8	12.1	9.5	8.8	9.1	9.9	8.0	9.1
12	---	---	---	13.6	10.0	11.6	10.2	8.7	9.3	9.8	7.8	8.6
13	---	---	---	12.0	8.7	10.5	9.5	8.4	8.9	10.6	8.7	9.8
14	16.9	15.4	16.2	12.0	8.3	9.9	8.4	6.7	7.7	10.3	8.4	9.3
15	16.4	15.0	15.8	12.5	8.4	10.2	8.3	7.2	7.8	10.4	7.7	8.9
16	16.1	13.9	15.2	12.7	8.0	10.3	8.8	7.7	8.2	10.3	6.3	8.5
17	15.9	13.8	14.7	12.6	9.6	10.9	8.3	6.9	7.8	---	---	---
18	15.1	13.3	14.2	11.2	9.5	10.1	8.5	6.8	7.7	---	---	---
19	16.8	12.8	14.5	9.6	8.2	8.8	8.5	7.8	8.1	---	---	---
20	18.4	12.1	14.8	9.3	8.1	8.9	7.8	7.1	7.5	---	---	---
21	16.2	12.3	14.4	10.2	9.2	9.7	7.5	6.9	7.2	---	---	---
22	18.8	14.1	16.1	11.2	10.2	10.7	8.0	6.8	7.4	12.7	7.0	9.9
23	16.7	13.4	14.9	11.0	9.7	10.5	9.0	6.9	7.6	12.6	7.4	9.9
24	16.5	13.3	14.7	10.4	8.8	9.8	9.4	6.2	7.5	15.0	7.2	10.4
25	17.6	13.3	15.5	11.3	9.0	10.2	10.0	6.7	8.0	13.9	6.7	10.1
26	19.5	16.5	17.9	11.9	10.3	11.2	8.5	6.3	7.2	16.1	7.4	10.9
27	18.4	14.8	17.1	11.9	9.9	10.7	---	---	---	---	---	---
28	---	---	---	12.7	9.0	10.8	---	---	---	---	---	---
29	---	---	---	12.3	8.4	10.3	---	---	---	---	---	---
30	---	---	---	13.8	8.4	10.9	---	---	---	7.6	3.7	5.8
31	---	---	---	14.0	9.8	11.8	---	---	---	---	---	---
MONTH	19.5	12.1	15.4	14.0	8.0	10.6	13.6	6.2	9.0	16.1	3.7	9.3

ARKANSAS RIVER BASIN

331

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

OXYGEN DISSOLVED VIA SATELLITE, in (MG/L), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

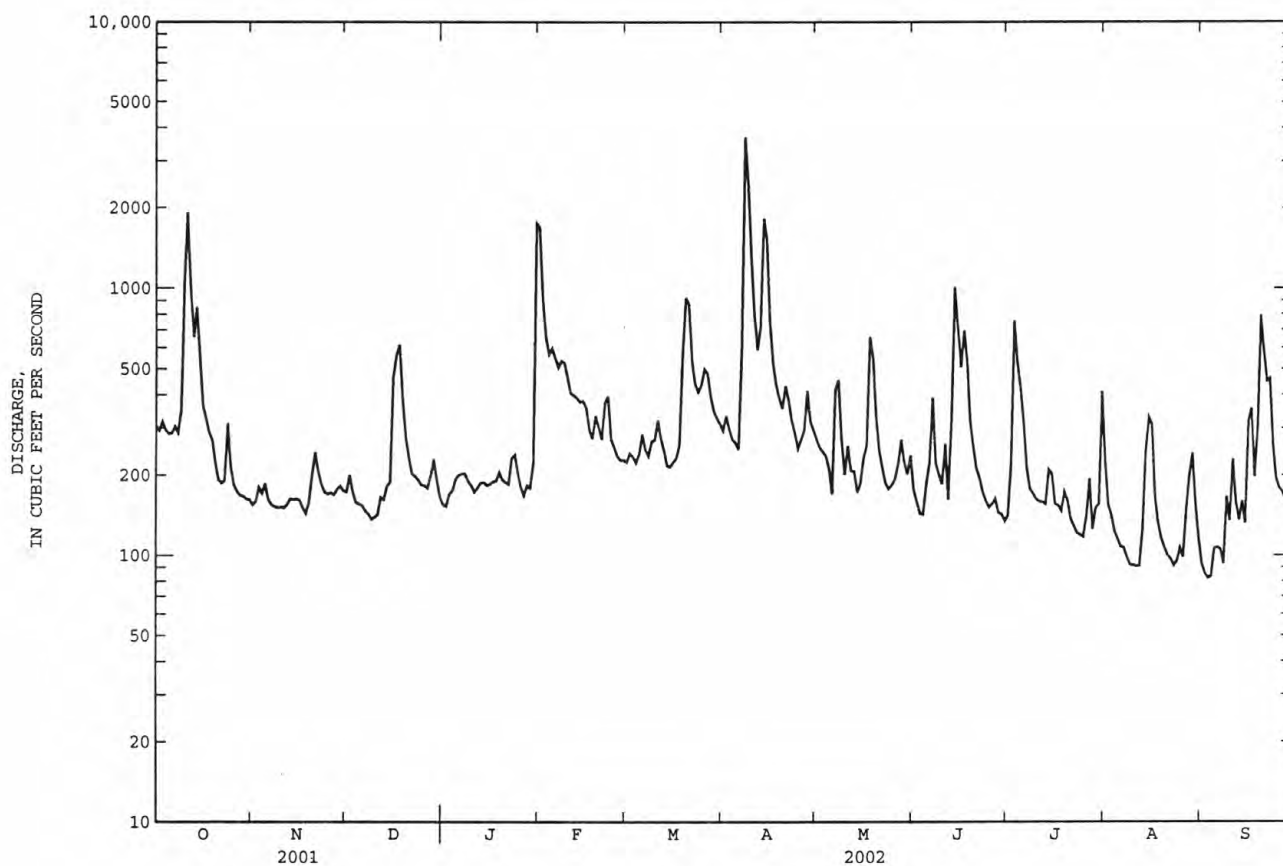
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	11.9	4.2	8.6	---	---	---	10.9	5.7	8.2
2	---	---	---	---	---	---	14.2	0.6	8.1	11.1	6.9	8.5
3	---	---	---	---	---	---	16.2	0.4	6.9	11.4	5.8	8.7
4	14.1	0.9	7.6	9.0	6.6	7.6	5.3	0.6	2.4	10.8	6.8	8.6
5	---	---	---	7.6	2.8	4.0	15.2	2.4	9.6	11.4	6.7	8.7
6	---	---	---	8.5	4.2	6.2	19.5	10.5	14.2	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	21.2	12.3	15.8	---	---	---	---	---	---
11	---	---	---	12.3	8.0	10.8	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	8.4	5.9	7.0
13	---	---	---	---	---	---	---	---	---	9.3	5.9	7.6
14	---	---	---	---	---	---	---	---	---	9.9	7.1	8.3
15	---	---	---	---	---	---	---	---	---	7.7	4.7	6.4
16	---	---	---	15.9	7.1	11.9	---	---	---	8.9	5.0	7.4
17	---	---	---	12.7	2.5	7.1	---	---	---	9.9	7.2	8.3
18	---	---	---	10.7	0.5	3.5	---	---	---	9.5	7.1	8.0
19	---	---	---	---	---	---	---	---	---	7.8	3.9	6.0
20	---	---	---	---	---	---	---	---	---	7.3	5.5	6.7
21	17.0	4.9	10.8	---	---	---	---	---	---	8.4	6.9	7.6
22	15.8	5.2	10.6	---	---	---	---	---	---	8.9	7.3	8.1
23	15.3	2.1	8.3	---	---	---	10.1	5.5	7.2	9.4	7.9	8.6
24	6.8	0.9	3.1	---	---	---	10.6	5.0	7.6	9.5	7.7	8.6
25	9.0	1.0	3.6	20.2	9.5	14.2	8.9	5.5	6.9	9.3	7.3	8.4
26	10.3	1.1	4.8	---	---	---	11.7	5.9	8.2	8.6	7.1	7.7
27	14.1	1.3	6.2	---	---	---	10.7	6.4	8.1	9.8	7.2	8.2
28	9.3	1.3	3.0	---	---	---	10.4	5.3	7.4	10.1	7.4	8.4
29	4.2	1.5	1.9	---	---	---	9.6	6.3	7.8	10.8	7.3	8.6
30	7.9	1.6	3.2	---	---	---	9.5	6.4	7.7	10.6	7.0	8.4
31	---	---	---	---	---	---	9.8	6.7	7.8	---	---	---
MONTH	17.0	0.9	5.7	21.2	0.5	9.0	19.5	0.4	7.8	11.4	3.9	8.0

ARKANSAS RIVER BASIN

333

07241800 NORTH CANADIAN RIVER AT SHAWNEE, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 2001 - 2002	
ANNUAL TOTAL			110689			
ANNUAL MEAN			303.3		303.3	
HIGHEST ANNUAL MEAN					303	2002
LOWEST ANNUAL MEAN					303	2002
HIGHEST DAILY MEAN	6740	May 31	3690	Apr 8	6740	May 31 2001
LOWEST DAILY MEAN	112	Aug 25	82	Sep 3	82	Sep 3 2002
ANNUAL SEVEN-DAY MINIMUM	133	Aug 19	95	Sep 1	95	Sep 1 2002
MAXIMUM PEAK FLOW			4880	Apr 8	8130	May 30 2001
MAXIMUM PEAK STAGE			15.48	Apr 8	17.66	May 30 2001
INSTANTANEOUS LOW FLOW			87	Sep 3	87	Sep 3 2002
ANNUAL RUNOFF (AC-FT)			219600		219700	
10 PERCENT EXCEEDS			540		540	
50 PERCENT EXCEEDS			203		203	
90 PERCENT EXCEEDS			136		136	



ARKANSAS RIVER BASIN

07242000 NORTH CANADIAN RIVER NEAR WETUMKA, OK

LOCATION.--Lat 35°15'56", long 96°12'21", in NE 1/4 SW 1/4 sec.12, T.9 N., R.10 E., Hughes County, Hydrologic Unit 11100302, on left downstream side of bridge on U.S. Highway 75, 2.3 mi upstream from Wewoka Creek, 2.5 mi northeast of Wetumka, and at mile 84.4.

DRAINAGE AREA.--14,290 mi² of which 4,899 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 977: 1942. WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 678.28 ft above sea level. Prior to Jan. 19, 1939, nonrecording gage at site 500 ft upstream and at datum 5.00 ft higher. Jan. 20, 1939, to Feb. 23, 1985, recording gage 500 ft upstream at datum 5.00 ft higher. Prior to Aug. 8, 1991, at same site and at datum 5.00 ft higher.

REMARKS.--Records poor. Some regulation by Lake Overholser (station 07240500) and other dams upstream. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in October 1923 reached a stage of 26.9 ft, from information provided by U.S. Army Corps of Engineers.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	637	e254	e264	e319	e2770	291	382	487	494	e209	e199	e211
2	578	e256	e269	e256	e1970	313	343	415	401	e202	e191	e200
3	531	e248	e279	e242	e1250	310	306	379	362	e196	350	e193
4	476	360	288	e237	e830	297	286	352	296	250	e270	e186
5	381	333	e287	e229	749	305	294	330	309	426	e230	e178
6	e323	e307	e285	e229	715	310	275	321	417	604	e190	e170
7	e320	e291	e277	e249	700	300	1380	309	369	660	163	e164
8	e318	e277	e270	e265	696	297	9540	281	321	601	160	e160
9	e670	e268	e256	e267	613	326	6280	254	314	472	e155	e155
10	1000	e267	e249	e264	564	295	4230	483	440	375	e150	e152
11	4570	e265	e242	e260	517	290	2390	452	317	e345	e145	e288
12	3500	e264	e270	e252	500	290	1700	338	263	e325	e142	e221
13	2430	e263	e285	e247	427	292	1270	542	945	e305	e139	e197
14	1790	e270	e299	e251	383	314	1520	665	3200	e340	e136	e173
15	1260	e290	e299	e257	377	292	1970	387	1360	e298	e135	e166
16	1170	e316	370	e259	367	288	2700	292	1250	e269	e336	e355
17	1040	e325	2260	e261	361	293	1650	384	1690	e250	e295	e370
18	783	e314	1720	e265	353	290	1190	1160	1120	243	e268	e239
19	669	305	1020	e276	363	966	939	678	809	646	e254	e350
20	606	e287	599	e281	430	2440	826	482	884	380	e245	e430
21	563	e282	e430	e284	800	1680	732	783	588	e350	e236	360
22	528	e276	e313	e292	583	1230	631	528	442	e335	e225	407
23	476	e283	260	e301	392	1110	569	384	364	e320	e211	761
24	415	287	e240	e313	342	831	612	319	308	e300	e200	640
25	360	e284	e229	e320	417	1070	515	299	277	e283	e250	516
26	e290	e274	e222	e320	382	969	475	293	250	e270	e221	490
27	345	e273	e216	e313	307	663	448	261	e240	e319	e210	345
28	e269	e266	e213	e299	294	555	434	390	e228	e269	e204	e306
29	e262	e268	e214	e283	---	583	408	2820	e221	e227	e277	e276
30	e257	e265	e298	e266	---	511	440	1520	e215	e215	e241	e251
31	e255	---	e339	e353	---	434	---	806	---	e207	e225	---
TOTAL	27072	8518	13062	8510	18452	18435	44735	17394	18694	10491	6653	8910
MEAN	873.3	283.9	421.4	274.5	659.0	594.7	1491	561.1	623.1	338.4	214.6	297.0
MAX	4570	360	2260	353	2770	2440	9540	2820	3200	660	350	761
MIN	255	248	213	229	294	288	275	254	215	196	135	152
AC-FT	53700	16900	25910	16880	36600	36570	88730	34500	37080	20810	13200	17670

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2002, BY WATER YEAR (WY)

	MEAN	702.0	664.5	505.1	470.7	642.9	897.1	1183	1736	1576	680.6	378.5	478.6
MAX	4914	4580	3225	2825	3037	5684	6643	6989	6081	3230	2667	3894	
(WY)	1987	1942	1993	1998	1985	1990	1945	1993	1957	1951	1950	1950	
MIN	4.25	16.7	43.8	44.3	56.6	43.5	72.8	85.3	73.4	42.5	8.71	0.000	
(WY)	1957	1955	1955	1940	1957	1940	1955	1940	1953	1954	1956	1954	

e Estimated

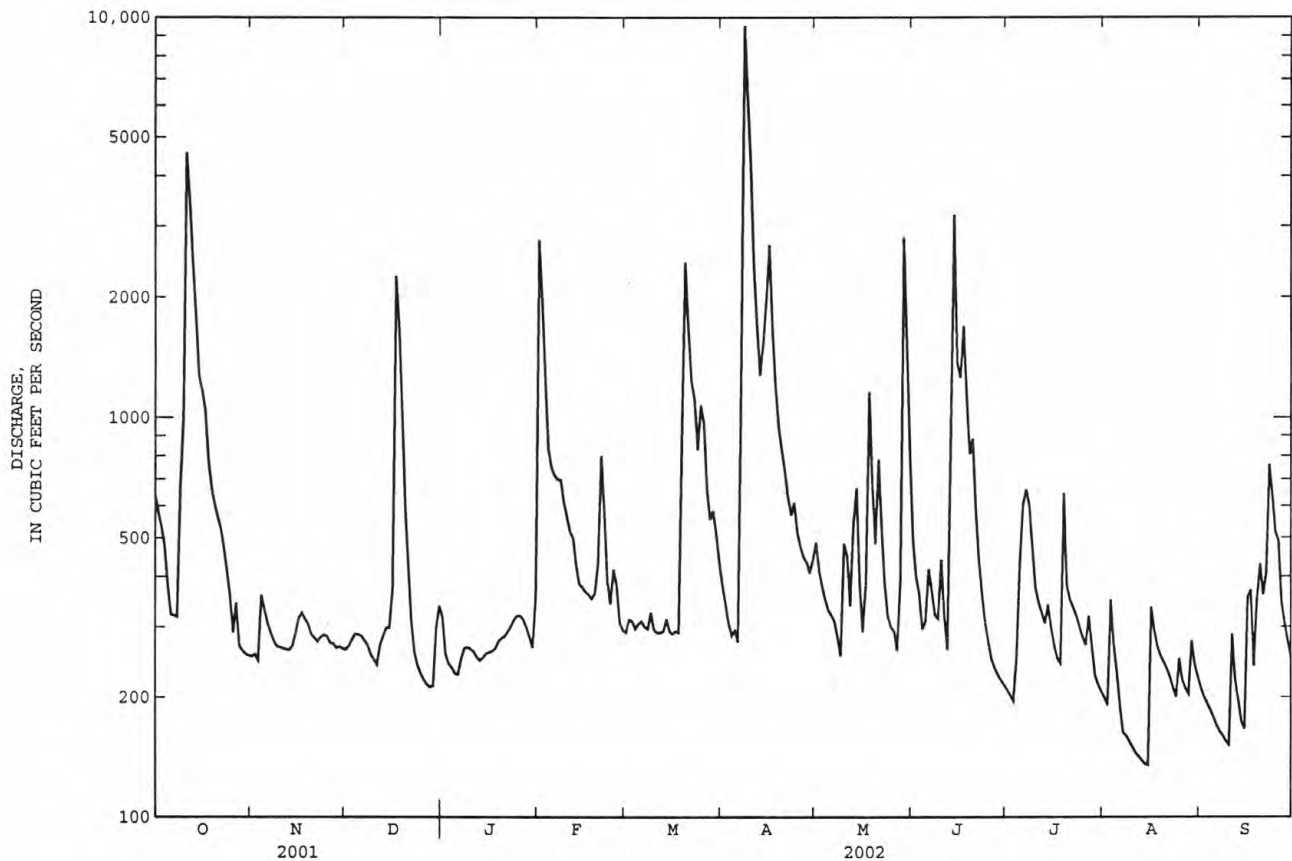
ARKANSAS RIVER BASIN

335

07242000 NORTH CANADIAN RIVER NEAR WETUMKA, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1938 - 2002	
ANNUAL TOTAL	402864		200926		825.9	
ANNUAL MEAN	1104		550.5		2229	
HIGHEST ANNUAL MEAN					156	
LOWEST ANNUAL MEAN					55800	
HIGHEST DAILY MEAN	13100	Feb 24	9540	Apr 8	1993	1956
LOWEST DAILY MEAN	151	Aug 28	135	Aug 15	0.00	Aug 27 1954
ANNUAL SEVEN-DAY MINIMUM	165	Aug 22	143	Aug 9	0.00	Aug 27 1954
MAXIMUM PEAK FLOW			10800	Apr 8	66000	Apr 15 1945
MAXIMUM PEAK STAGE			12.95	Apr 8	26.40	Apr 15 1945
ANNUAL RUNOFF (AC-FT)	799100		398500		598400	
10 PERCENT EXCEEDS	1760		1050		1860	
50 PERCENT EXCEEDS	763		313		318	
90 PERCENT EXCEEDS	238		215		71	

^aNo flow Aug. 27 to Oct. 11, 1954, Aug. 25 to Oct. 22, 1956.



ARKANSAS RIVER BASIN

07242380 DEEP FORK NEAR WARWICK, OK

LOCATION.--Lat 35°40'51", long 97°00'29", NW 1/4 NE 1/4 sec. 20, T.14 N., R.3 E., Lincoln County, Hydrologic Unit 11100303, on left downstream abutment on U.S. Highway 66, 0.5 mi southwest of Warwick, and at mile 190.9.

DRAINAGE AREA.--532 mi².

PERIOD OF RECORD.--October 1983 to current year.

GAGE.--Water-stage recorder. Datum of gage is 823.05 ft above sea level.

REMARKS.--Records fair. Considerable regulation by Arcadia Lake (station 07242340), 22.9 miles upstream, since November 1986. U.S. Army Corps of Engineers' satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	32	34	e39	502	42	41	77	72	50	27	25
2	40	32	32	42	479	e41	39	70	63	233	26	24
3	38	36	33	e41	413	e41	38	67	56	186	25	23
4	37	59	34	e40	356	e43	36	69	54	113	25	22
5	36	38	33	e40	342	e42	35	66	92	97	24	23
6	35	34	31	e39	375	45	35	88	86	e81	23	23
7	35	33	31	41	349	45	374	68	241	68	24	22
8	34	31	31	41	327	43	1740	60	73	56	23	21
9	39	31	30	43	309	42	466	69	113	264	22	35
10	218	31	30	41	287	37	290	59	61	284	22	58
11	137	31	31	40	243	36	445	60	54	151	22	27
12	183	31	35	39	69	36	404	58	51	55	47	24
13	320	32	37	39	59	36	1280	55	911	49	505	22
14	189	32	38	39	57	34	1460	49	366	43	308	29
15	91	30	36	38	56	31	888	46	140	39	286	46
16	40	30	63	37	54	31	611	45	1420	38	288	31
17	39	30	101	37	54	32	509	1970	383	37	91	26
18	38	32	62	37	53	43	457	1190	466	39	37	221
19	37	39	174	41	58	262	419	741	411	35	31	334
20	36	33	163	40	61	231	419	389	363	33	28	160
21	36	30	55	39	49	99	384	746	306	31	27	136
22	35	31	46	39	46	69	350	599	e116	29	27	130
23	34	32	43	40	45	60	304	240	68	29	26	130
24	33	31	41	45	46	58	191	132	58	29	157	130
25	31	30	41	39	42	68	102	133	56	29	32	126
26	31	29	41	38	43	169	131	120	55	28	29	38
27	32	28	42	38	39	167	132	95	54	26	32	25
28	32	30	42	38	41	166	101	204	50	25	32	24
29	32	33	42	37	---	152	84	168	46	34	27	23
30	32	34	40	970	---	51	83	111	46	43	27	79
31	32	---	e39	2170	---	45	---	86	---	29	26	---
TOTAL	2024	985	1531	4287	4854	2297	11848	7930	6331	2283	2326	2037
MEAN	65.29	32.83	49.39	138.3	173.4	74.10	394.9	255.8	211.0	73.65	75.03	67.90
MAX	320	59	174	2170	502	262	1740	1970	1420	284	505	334
MIN	31	28	30	37	39	31	35	45	46	25	22	21
AC-FT	4010	1950	3040	8500	9630	4560	23500	15730	12560	4530	4610	4040

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2002, BY WATER YEAR (WY)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	150.2	203.0	184.4	169.0	186.6	370.8	443.5	605.7	545.6	194.3	139.9	236.8			
MAX	591	539	683	699	516	1249	1435	2494	2978	738	630	1527			
(WY)	1998	1997	1993	1998	1993	1998	1990	1993	1995	1995	1989	1989			
MIN	25.8	31.6	49.4	36.7	47.0	59.3	88.4	56.3	70.5	31.2	16.6	11.7			
(WY)	2000	2000	2002	2000	1996	1991	2000	1996	1988	1990	2000	2000			

e Estimated

ARKANSAS RIVER BASIN

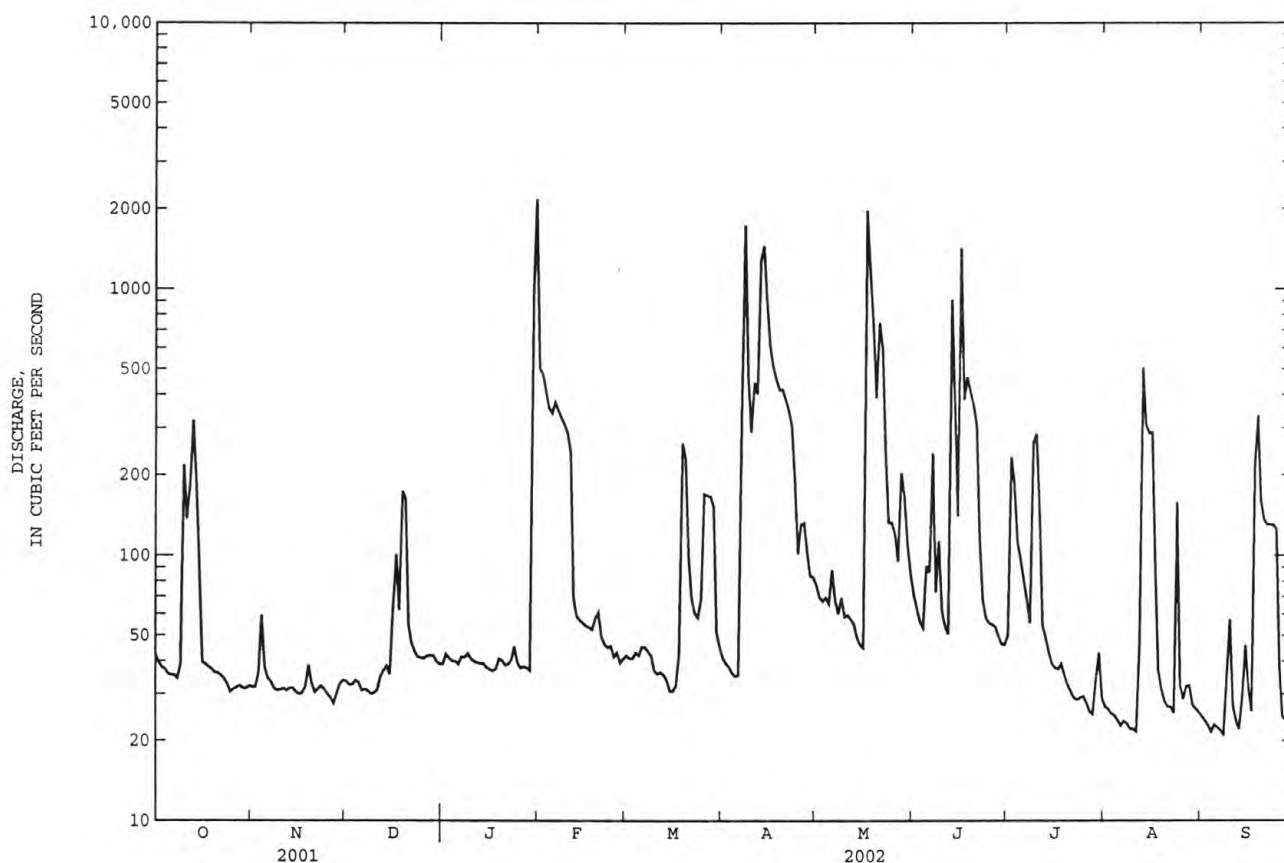
337

07242380 DEEP FORK NEAR WARWICK, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1988 - 2002	
ANNUAL TOTAL	70126		48733		285.8	
ANNUAL MEAN	192.1		133.5		574	
HIGHEST ANNUAL MEAN					77.0	
LOWEST ANNUAL MEAN					19000	
HIGHEST DAILY MEAN	4510	May 30	2170	Jan 31	19000	May 9 1993
LOWEST DAILY MEAN	17	Aug 10	21	Sep 8	^a 3.9	Dec 13 1987
ANNUAL SEVEN-DAY MINIMUM	19	Aug 5	23	Sep 2	8.2	Sep 15 1997
MAXIMUM PEAK FLOW			5370	May 17	34600	Jun 9 1995
MAXIMUM PEAK STAGE			9.64	May 17	^b 21.28	Jun 9 1995
ANNUAL RUNOFF (AC-FT)	139100		96660		207000	
10 PERCENT EXCEEDS	415		349		641	
50 PERCENT EXCEEDS	77		42		82	
90 PERCENT EXCEEDS	26		28		26	

^aMinimum daily discharge for period of record, .05 ft³/s Aug. 23, 1987.

^bMaximum gage height for period of record, 22.05 ft, Oct. 21, 1983.



LOCATION.--Lat 35°40'26", long 96°04'06", NW 1/4 SW 1/4 sec.20, T.14 N., R.12 E., Okmulgee County, Hydrologic Unit 11100303, near right downstream abutment of county road bridge, 3.0 mi upstream from Adams Creek, 4.0 mi south of Beggs, 8.0 mi downstream from Flat Rock (Checkerboard) Creek, and at mile 85.0.

PERIOD OF RECORD.--September 1938 to current year.

GAGE.--Water-stage recorder. Datum of gage is 632.55 ft above sea level. Prior to Aug. 29, 1939, nonrecording gage at site 450 ft downstream at same datum. Aug. 29, 1939, to June 22, 1953, nonrecording gage at present site and datum. June 23, 1953, to July 15, 1981, recording gage at present site and datum. July 16, 1981, to May 3, 1989, recording gage at site 1,000 ft downstream and at same datum.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2002, BY WATER YEAR (WY)e Estimated

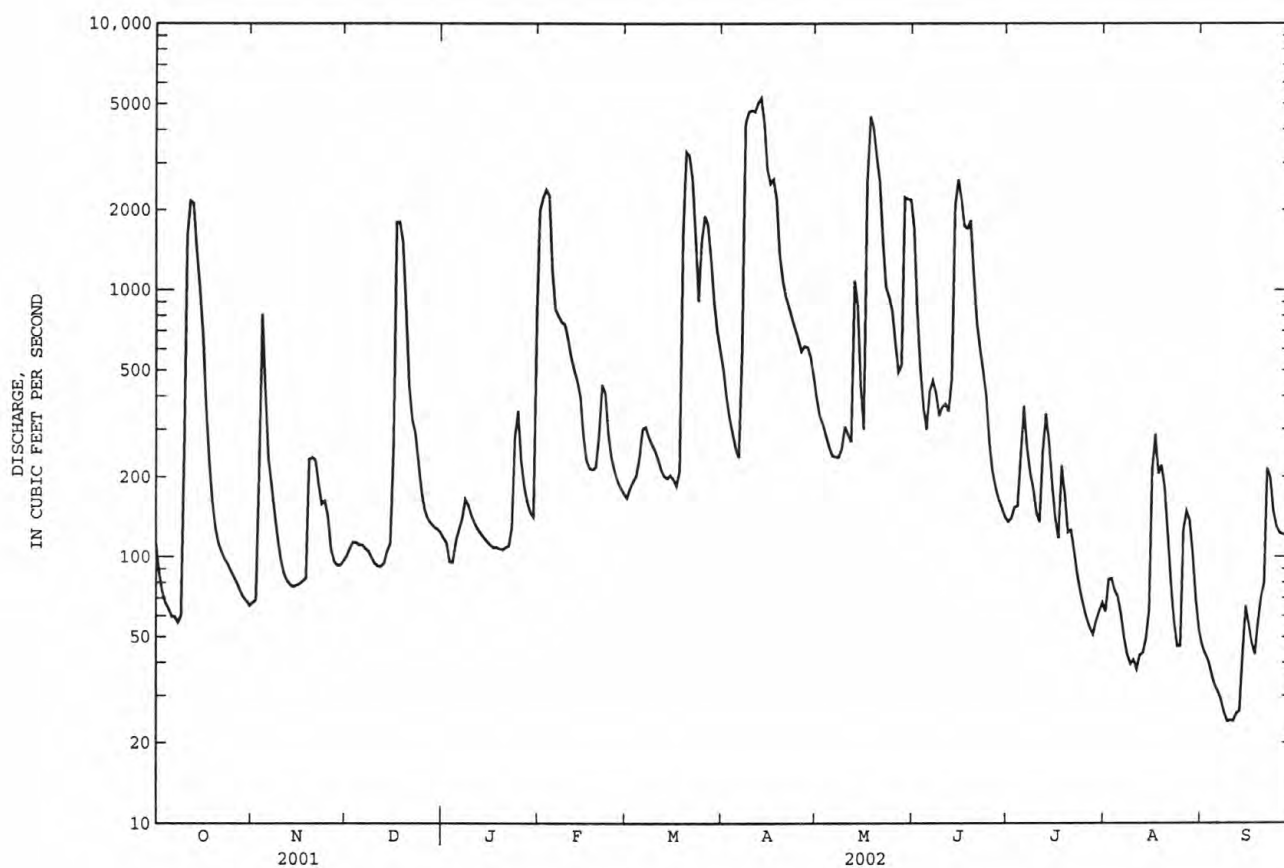
ARKANSAS RIVER BASIN

339

07243500 DEEP FORK NEAR BEGGS, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR			FOR 2002 WATER YEAR			WATER YEARS 1939 - 2002		
ANNUAL TOTAL	380502			200376			958.1		
ANNUAL MEAN	1042			549.0			2645		
HIGHEST ANNUAL MEAN							114		
LOWEST ANNUAL MEAN							55600		
HIGHEST DAILY MEAN	9980	Jun	3	5250	Apr	13	May 11 1943		
LOWEST DAILY MEAN	28	Sep	5	24	Sep	9-11	a0.00 Sep 20 1939		
ANNUAL SEVEN-DAY MINIMUM	35	Sep	2	26	Sep	7	0.00 Sep 29 1939		
MAXIMUM PEAK FLOW				5340	Apr	13	66800 May 11 1943		
MAXIMUM PEAK STAGE				16.53	Apr	13	34.55 May 11 1943		
ANNUAL RUNOFF (AC-FT)	754700			397400			694100		
10 PERCENT EXCEEDS	2530			1740			2670		
50 PERCENT EXCEEDS	384			192			177		
90 PERCENT EXCEEDS	61			60			21		

^aAt times in 1939, 1954, 1956.



ARKANSAS RIVER BASIN

07244100 COAL CREEK NEAR HENRYETTA, OK

LOCATION.--Lat 35°27'10", long 95°57'20", in NE 1/4 SW 1/4 sec.5, T.11 N., R.13 E., Okmulgee County, Hydrologic Unit 11100303, at downstream right abutment of abandoned railroad bridge at edge of Dewar, .4 mi downstream from an unnamed tributary, 2 mi northeast of Henryetta, and at mile 12.1.

WATER-DISCHARGE RECORDS

DRAINAGE AREA.--22.3 mi².

PERIOD OF RECORD.--March 1996 to current year.

GAGE.--Water-stage recorder. Datum of gage is 621.01 ft above sea level.

REMARKS.--Records poor. Low flows regulated by releases of effluent from the City of Henryetta treatment plant .5 mi upstream. U.S. Geological Survey satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e3.6	e3.5	e4.6	e3.8	25	3.8	12	5.5	2.2	2.9	1.1	1.6
2	e3.5	e3.4	e4.4	e3.50	17	6.4	11	4.9	1.8	3.8	1.0	1.5
3	e3.6	86	4.3	e3.0	14	8.1	7.9	4.1	2.4	3.0	0.98	1.5
4	e3.4	18	3.9	e86	11	10	6.2	4.0	2.6	1.6	0.74	e1.4
5	e3.4	e12	3.9	e50	11	18	5.6	4.0	6.0	e1.4	0.80	e1.5
6	e3.4	e8.0	3.7	e22	15	16	5.2	4.7	5.3	e1.3	0.96	e1.6
7	e3.2	e5.5	3.6	e12	16	13	659	4.7	3.2	e1.5	0.64	e1.4
8	e3.2	e4.9	e3.5	e8.0	14	11	574	4.3	2.7	e1.3	0.83	e1.2
9	15	e4.4	e3.4	5.3	12	11	75	4.8	2.3	e1.3	1.5	e1.1
10	244	e4.1	e3.3	4.9	9.7	8.5	41	4.1	2.4	e1.2	1.9	e1.0
11	155	e3.8	e3.2	3.8	7.9	7.2	28	3.8	2.1	e1.2	1.0	e0.97
12	69	e3.4	e3.1	3.6	7.1	7.0	23	5.1	1.9	e1.1	1.1	e0.94
13	71	e3.2	e3.1	3.2	6.5	6.3	24	9.8	34	e1.1	0.84	e0.85
14	28	e2.9	e3.0	3.1	5.6	5.7	31	6.2	27	e1.0	1.2	e0.77
15	17	e2.8	e2.9	2.5	5.5	4.9	22	4.8	8.5	e0.95	0.61	e0.68
16	11	2.7	268	2.7	6.3	3.9	19	4.2	11	e0.90	0.62	e0.62
17	8.7	e2.6	150	2.5	5.3	3.5	17	36	6.2	e0.80	1.0	e0.58
18	8.0	4.4	43	3.0	5.1	74	15	15	3.1	e0.75	1.6	e0.50
19	e7.0	4.8	26	7.6	31	373	15	4.7	1.9	e0.65	1.9	6.7
20	e6.5	e3.5	19	6.3	24	183	16	2.2	1.0	e0.60	1.7	6.3
21	e6.1	e2.9	16	4.9	14	45	14	1.3	e0.87	e0.60	1.6	e6.0
22	e5.8	e2.8	e11	4.1	11	25	11	0.65	e0.82	e0.59	1.6	e3.7
23	e5.6	e2.8	e9.0	200	8.8	20	9.3	0.71	e0.76	e0.58	1.3	e3.1
24	e5.4	e2.8	e7.7	107	7.6	18	8.2	1.5	0.71	e0.57	1.6	e2.5
25	e5.1	e2.7	e6.8	30	6.4	54	7.1	1.9	e0.69	e0.57	4.0	e2.0
26	e4.7	e2.7	e5.9	20	5.0	25	8.6	4.1	e0.68	e0.55	2.8	e1.8
27	e4.4	e2.7	5.2	16	4.0	18	9.5	5.4	e0.67	e0.52	2.0	e1.7
28	e4.1	e2.6	e4.8	13	3.8	15	8.2	6.2	e0.65	e0.50	1.6	e1.6
29	e3.9	e2.5	e4.4	11	---	13	6.8	14	e0.65	3.2	e1.6	e1.5
30	e3.7	e5.5	e4.1	13	---	13	6.1	6.1	e0.64	4.4	e1.5	e1.4
31	e3.6	---	e3.9	42	---	15	---	3.8	---	1.8	1.5	---
TOTAL	719.9	213.9	638.7	697.80	309.6	1035.3	1695.7	182.56	134.74	42.23	43.12	58.01
MEAN	23.22	7.130	20.60	22.51	11.06	33.40	56.52	5.889	4.491	1.362	1.391	1.934
MAX	244	86	268	200	31	373	659	36	34	4.4	4.0	6.7
MIN	3.2	2.5	2.9	2.5	3.8	3.5	5.2	0.65	0.64	0.50	0.61	0.50
AC-FT	1430	424	1270	1380	614	2050	3360	362	267	84	86	115

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 2002, BY WATER YEAR (WY)

	1996	1997	1998	1999	2000	2001	2002
MEAN	17.89	23.27	25.22	39.05	44.11	32.61	30.58
MAX	50.0	56.1	64.7	105	137	65.1	91.0
(WY)	1999	2001	1998	1998	2001	1998	1999
MIN	0.97	2.28	7.28	2.86	11.1	12.7	10.0
(WY)	2000	2000	1997	1997	2002	1997	2000

e Estimated

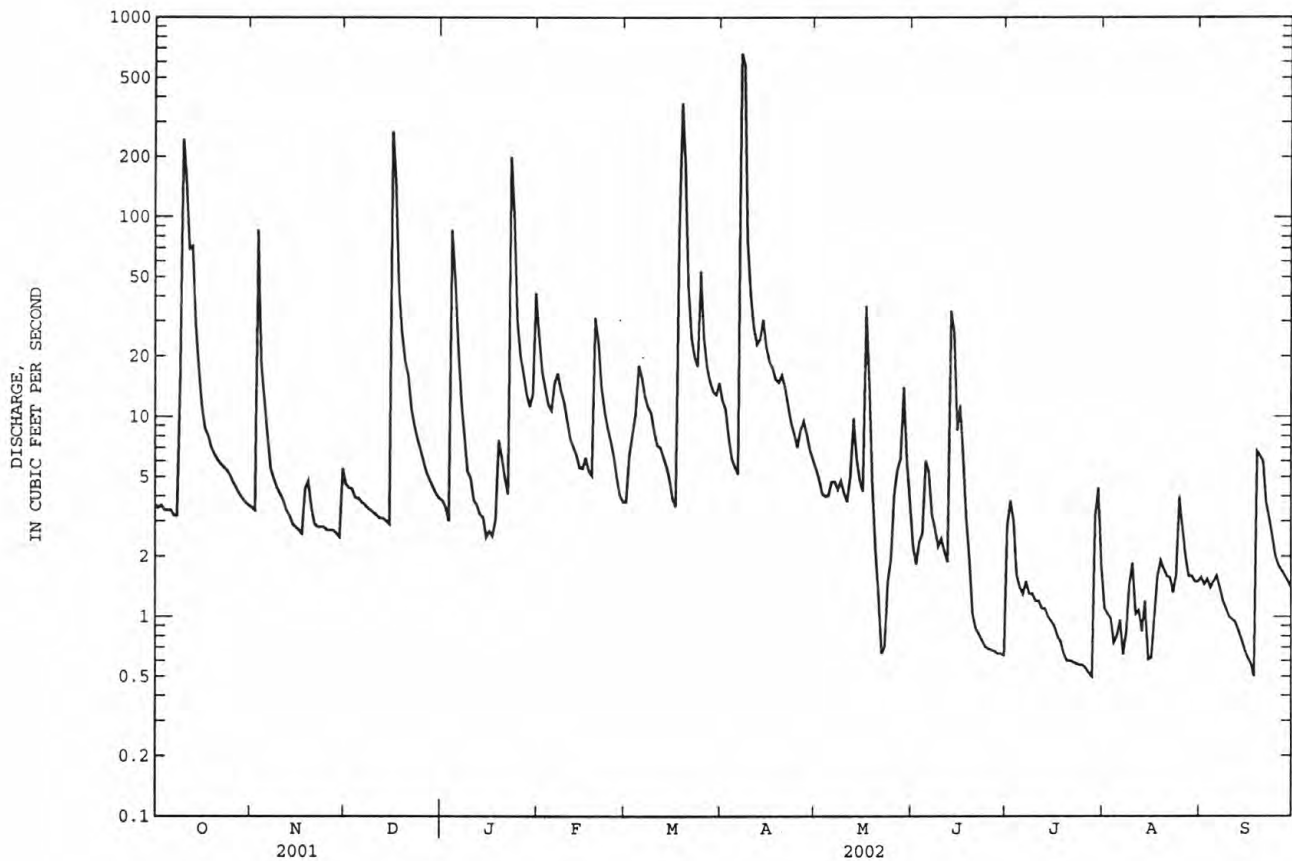
ARKANSAS RIVER BASIN

341

07244100 COAL CREEK NEAR HENRYETTA, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1996 - 2002
ANNUAL TOTAL	12544.2	5771.56	
ANNUAL MEAN	34.37	15.81	23.62
HIGHEST ANNUAL MEAN			37.3 2001
LOWEST ANNUAL MEAN			13.5 2000
HIGHEST DAILY MEAN	2010 May 30	659 Apr 7	2010 May 30 2001
LOWEST DAILY MEAN	2.2 Sep 4	0.50 Jul 28, Sep 18	^a 0.18 Jul 17 2000
ANNUAL SEVEN-DAY MINIMUM	2.4 Aug 29	0.55 Jul 22	0.19 Jul 14 2000
MAXIMUM PEAK FLOW		1940 Apr 7	6000 May 30 2001
MAXIMUM PEAK STAGE		18.91 Apr 7	23.45 May 30 2001
ANNUAL RUNOFF (AC-FT)	24880	11450	17110
10 PERCENT EXCEEDS	52	23	37
50 PERCENT EXCEEDS	7.3	4.1	5.5
90 PERCENT EXCEEDS	3.2	0.86	1.1

^aAlso occurred July 18, 19, 2000.



ARKANSAS RIVER BASIN

07244100 COAL CREEK NEAR HENRYETTA, OK --Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--March 1996 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: March 1996 to current year.

INSTRUMENTATION.--Water temperature recorder provides continuous readings.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 33.5°C, July 18,19, 2001; minimum, -0.5°C, Jan. 3, 4, 9, 1999.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum, 32.1°C, July 26; minimum, 0.1°C, Mar. 4.

WATER TEMPERATURE VIA SATELLITE, in (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	19.9	17.5	18.8	18.1	15.9	16.9	10.0	7.4	8.8	---	---	---
2	20.2	17.6	18.9	19.1	17.7	18.4	11.3	8.9	10	---	---	---
3	21.1	18.6	19.8	18.8	16.9	17.9	12.8	11.2	11.8	---	---	---
4	22.3	19.6	20.7	18.6	16.9	17.6	15.5	12.7	14.1	---	---	---
5	22.0	18.4	20.6	19.6	16.6	18.0	16.0	15.1	15.5	---	---	---
6	18.4	15.5	16.6	18.5	16.0	17.3	15.6	12.9	14.2	---	---	---
7	16.2	14.4	15.4	18.0	16.1	17.2	13.0	11.3	12.3	---	---	---
8	17.7	15.1	16.1	17.6	16.0	16.8	12.7	10.1	11.8	---	---	---
9	18.9	17.4	17.9	16.4	14.7	15.2	10.1	7.7	8.6	---	---	---
10	20.2	18.0	19.0	16.3	14.5	15.4	8.3	6.8	7.6	5.2	3.0	4.5
11	18.4	17.5	17.9	15.9	14.0	15.1	8.6	7.0	7.8	4.5	2.7	3.7
12	19.2	17.3	18.0	16.6	14.9	15.7	11.4	8.6	10.2	5.1	3.0	4.0
13	18.7	17.3	18.0	17.5	15.7	16.6	11.3	10.5	10.8	5.0	3.3	4.4
14	19.1	16.6	17.6	18.0	16.5	17.1	10.8	10.0	10.4	5.4	2.8	4.2
15	18.4	15.8	17.2	17.0	15.6	16.4	10.2	9.0	9.6	5.0	2.5	4.0
16	17.8	14.3	15.9	16.2	15.2	15.7	10.6	9.3	10.1	5.8	4.0	5.0
17	17.4	13.9	15.5	16.9	15.7	16.3	10.3	9.2	9.8	4.1	2.4	3.4
18	18.1	14.7	16.2	17.8	16.3	17.0	10.2	8.3	9.2	3.7	2.1	2.8
19	17.1	15.7	16.4	17.7	13.3	15.9	9.5	7.5	8.5	4.5	1.9	3.6
20	18.6	15.6	17.1	13.4	11.5	12.6	9.1	6.7	7.8	4.5	1.8	3.2
21	19.7	17.4	18.7	12.7	10.6	11.8	---	---	---	4.7	1.8	3.5
22	20.4	18.3	19.4	13.7	11.4	12.5	---	---	---	7.2	3.2	6.0
23	21.8	19.8	20.7	16.0	13.7	14.9	---	---	---	8.7	5.2	6.9
24	20.9	18.8	20.1	15.7	13.6	14.5	---	---	---	5.8	3.1	4.6
25	18.8	15.5	16.6	13.6	11.7	12.6	---	---	---	5.4	2.8	4.0
26	15.6	13.1	14.4	13.8	12.6	13.1	---	---	---	6.1	2.9	4.4
27	14.6	12.8	13.8	13.0	8.4	10.7	---	---	---	6.6	3.8	5.5
28	14.6	12.6	13.7	8.4	6.1	6.8	---	---	---	---	---	---
29	15.5	13.3	14.4	7.6	6.4	7.2	---	---	---	10.3	7.1	8.9
30	15.7	13.7	14.9	9.1	7.0	7.9	---	---	---	7.3	4.1	6.4
31	16.0	14.4	15.2	---	---	---	---	---	---	5.9	3.0	4.5
MONTH	22.3	12.6	17.3	19.6	6.1	14.7	16.0	6.7	10.4	10.3	1.8	4.6

ARKANSAS RIVER BASIN

343

07244100 COAL CREEK NEAR HENRYETTA, OK --Continued

WATER TEMPERATURE VIA SATELLITE, in (DEGREES C), WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	5.9	2.9	4.2	6.2	3.0	5.5	---	---	---	26.2	20.6	23.1
2	5.5	2.9	4.5	3.9	0.2	2.1	---	---	---	25.4	19.5	21.6
3	6.4	3.4	5.0	5.1	0.1	2.3	---	---	---	19.5	18.3	18.6
4	5.8	3.4	4.9	6.5	0.1	3.0	---	---	---	22.5	17.8	19.7
5	5.1	3.4	4.3	6.6	1.5	4.6	---	---	---	22.6	19.4	21.1
6	4.7	3.1	3.9	8.2	4.0	6.5	15.3	13.3	14.0	24.2	21.6	23.0
7	5.9	3.0	4.1	10.5	6.4	9.2	13.3	10.9	11.7	24.6	22.2	23.6
8	6.9	2.9	5.0	11.9	8.2	10.9	12.7	10.8	11.5	24.4	22.8	23.3
9	8.3	4.6	6.2	11.3	6.3	8.6	15.8	12.5	13.8	23.5	21.1	22.3
10	5.6	3.1	4.7	10.8	6.0	8.5	18.1	14.0	15.9	21.7	19.5	20.1
11	6.8	3.0	4.9	8.5	7.6	8.0	19.0	15.9	17.5	22.6	19.5	20.9
12	7.6	3.6	5.7	11.9	7.5	9.6	19.7	17.1	18.4	22.5	20.1	22.0
13	7.5	3.4	5.6	13.0	8.1	10.9	18.7	17.5	18.0	23.0	18.3	20.2
14	7.5	3.4	5.7	16.1	10.4	13.6	21.3	16.7	18.7	23.0	18.1	20.4
15	7.7	4.4	6.0	11.8	8.8	10.7	22.4	18.9	20.5	22.2	19.3	20.8
16	8.5	4.3	6.5	10.8	8.8	10.1	21.1	20.0	20.5	22.3	20.0	21.2
17	9.0	5.0	7.1	11.7	9.9	11.0	24.5	19.4	21.6	22.1	19.2	20.2
18	9.1	6.2	8.2	11.0	10.2	10.5	24.2	21.6	22.7	22.2	18.0	19.6
19	10.2	8.4	9.5	10.5	9.6	10.2	23.1	21.6	22.3	22.8	17.3	19.6
20	11.0	8.4	9.8	11.5	9.5	10.6	22.5	20.9	21.6	22.1	19.0	20.4
21	11.5	7.7	9.4	11.1	6.9	9.1	23.1	20.3	21.5	22.7	18.5	20.8
22	11.0	7.4	8.9	9.9	6.4	8.0	24.1	18.3	20.7	23.2	19.6	21.6
23	10.9	7.5	9.3	10.9	6.4	9.2	20.8	19.3	19.8	22.6	20.9	21.7
24	11.8	8.1	9.9	11.6	9.3	10.5	24.3	19.3	21.1	21.8	21.0	21.5
25	8.3	3.6	6.9	10.1	7.0	8.6	20.7	17.0	19.0	21.6	19.9	20.7
26	6.1	2.3	4.2	10.0	6.6	8.0	19.2	16.3	17.1	24.0	19.7	21.4
27	6.6	2.1	4.5	11.5	6.7	9.7	20.2	16.0	17.6	23.1	21.5	21.9
28	7.6	2.8	5.7	14.4	9.4	12.5	22.2	17.1	19.2	21.8	20.5	20.9
29	---	---	---	---	---	---	20.9	17.4	19.1	23.7	20.6	21.8
30	---	---	---	---	---	---	22.6	19.1	20.7	26.9	21.2	23.3
31	---	---	---	---	---	---	---	---	---	27.7	22.0	24.6
MONTH	11.8	2.1	6.2	16.1	0.1	8.6	24.5	10.8	18.6	27.7	17.3	21.4
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	27.9	23.1	25.6	27.1	24.7	25.6	31.4	28.2	29.7	27.6	25.9	26.8
2	28.4	24.3	26.3	26.7	24.4	25.4	31.5	28.5	29.9	28.2	25.9	26.9
3	28.6	24.9	26.8	28.5	25.1	26.6	31.0	28.5	29.7	28.4	26.3	27.3
4	28.6	25.7	27.1	29.4	25.5	27.3	30.7	28.4	29.4	28.5	26.6	27.6
5	26.9	23.7	25.2	30.1	26.1	28.1	30.8	28.0	29.3	28.5	26.6	27.6
6	27.7	22.9	25.1	30.4	27.3	28.8	30.6	27.9	29.2	28.6	26.6	27.7
7	27.4	23.6	25.6	29.9	26.5	28.3	30.7	28.3	29.4	28.1	26.1	27.1
8	27.8	24.5	26.3	31.1	27.4	29.2	29.9	27.7	28.8	27.6	26.2	26.6
9	29.4	25.6	27.2	31.2	28.0	29.6	28.9	26.2	27.5	26.9	25.5	26.1
10	28.9	26.2	27.3	31.2	28.1	29.7	29.1	26.6	27.7	26.8	24.7	25.8
11	29.4	26.4	27.7	30.2	27.6	28.8	29.1	26.7	27.9	26.8	24.7	25.7
12	30.1	26.8	28.3	29.0	26.8	27.6	28.6	26.7	27.4	26.8	24.9	25.9
13	28.7	23.9	25.6	27.9	25.4	26.7	27.4	25.6	26.4	26.6	25.0	25.8
14	27.1	23.9	25.1	28.8	25.9	27.3	26.2	24.4	25.2	26.3	25.2	25.7
15	28.1	22.7	25.1	28.7	25.9	27.3	26.3	25.1	25.6	25.6	24.1	24.7
16	27.3	23.4	25.1	28.8	26.3	27.5	28.1	26.0	26.9	24.3	22.7	23.6
17	28.4	23.0	25.4	28.1	26.5	27.3	28.8	26.7	27.7	25.1	23.2	23.9
18	27.0	23.9	25.4	29.2	26.0	27.4	30.0	27.1	28.4	26.7	24.5	25.2
19	28.3	23.6	25.9	30.3	27.2	28.6	30.4	27.9	28.9	26.6	24.6	25.5
20	29.4	25.2	27.2	31.1	27.8	29.3	30.1	27.9	29.0	24.6	22.4	23.4
21	28.4	26.3	27.5	31.3	27.9	29.4	30.1	28.2	29.1	23.7	21.2	22.5
22	29.7	25.3	27.4	31.5	27.9	29.7	30.1	28.0	28.9	23.3	21.5	22.3
23	29.4	25.4	27.5	31.1	28.4	29.7	30.5	28.2	29.2	22.1	19.7	20.8
24	29.0	25.6	27.3	31.4	28.2	29.7	30.1	28.0	28.8	21.1	19.0	20.1
25	29.3	25.4	27.2	31.1	27.5	29.3	28.9	26.1	27.3	21.7	19.0	20.1
26	29.1	25.5	27.3	32.1	28.2	30.0	29.0	25.8	27.2	22.6	20.2	21.2
27	29.5	25.8	27.6	32.0	28.5	30.1	28.5	26.0	27.3	22.5	20.3	21.2
28	30.2	26.1	28.1	30.5	28.3	29.4	28.1	25.6	27.0	23.1	20.7	21.6
29	30.3	26.9	28.5	29.3	25.9	27.3	27.9	25.6	26.8	24.1	22.1	22.8
30	28.6	26.5	27.4	30.1	26.0	27.8	27.5	25.0	26.2	24.4	22.9	23.5
31	---	---	---	30.9	27.6	29.2	27.6	25.2	26.3	---	---	---
MONTH	30.3	22.7	26.6	32.1	24.4	28.3	31.5	24.4	28.0	28.6	19.0	24.5

ARKANSAS RIVER BASIN

07245000 CANADIAN RIVER NEAR WHITEFIELD, OK

LOCATION.--Lat 35°15'50", long 95°14'21", in SE 1/4 SE 1/4 sec.12, T.9 N., R.19 E., Haskell County, Hydrologic Unit 11090204, on right downstream bank at end of bridge on State Highway 2, 0.8 mi north of Whitefield, 5.5 mi upstream from Taloka (Snake) Creek, 8.2 mi downstream from Eufaula Dam, and at mile 18.8.

DRAINAGE AREA.--47,576 mi², of which 9,700 mi² is probably noncontributing.

PERIOD OF RECORD.--July 1938 to current year. Monthly discharge only for some periods, published in WSP 1311.

REVISED RECORDS.--WSP 1177: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 473.16 ft above sea level. Prior to Jan. 11, 1939, nonrecording gage and Jan. 11, 1939 to Dec. 10, 1941, June 12, 1947 to Sept. 30, 1948, water-stage recorder, all at site 2.1 mi downstream at datum 2.20 ft higher. Dec. 11, 1941 to June 1, 1947, and Oct. 1, 1948 to Sept. 30, 1978, water-stage recorder at site 400 ft upstream and at datum 5.00 ft higher. Oct. 1, 1978 to July 26, 1983, water-stage recorder at site 400 ft upstream at same datum.

REMARKS.--Records fair. Prior to February 1964, occasional slight regulation by Conchas Lake in New Mexico and, except for 54 mi² of intervening area, completely regulated thereafter by Eufaula Lake (station 07244800). U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1898, that of May 10, 1943, from information by local resident.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1580	2010	480	2750	6180	1300	14600	3940	2160	1730	3750	250
2	2120	1900	83	2230	7060	398	24400	6880	278	1960	4000	512
3	5230	e1380	1550	1630	5410	1900	24000	4500	6560	2780	2350	2070
4	4400	e2100	1310	2090	5050	3900	18500	1120	3800	2240	1690	2270
5	1490	e2100	1100	515	5450	2820	7470	68	6210	2390	2860	3240
6	1030	2600	1080	227	689	1900	771	4290	12000	2510	3050	2970
7	211	2150	1070	749	3660	47	2280	5120	11900	2480	3920	519
8	3630	3030	589	1340	2330	29	1850	5330	11900	3470	2470	59
9	3500	2440	273	1620	4170	1430	8450	4690	11900	4420	1180	1160
10	1350	2380	2290	968	2970	1040	22300	4020	9020	2600	1690	2140
11	628	1400	1880	642	4280	1630	23900	2550	5420	2230	360	545
12	127	2080	1900	433	2340	1880	24400	1100	3420	1950	902	135
13	234	2760	2280	52	3420	1190	24500	4940	2010	2150	1470	40
14	104	2210	2310	1330	1900	286	24600	7250	481	2260	1130	e39
15	480	2230	790	2290	2690	147	24400	4190	775	3760	1100	e38
16	2480	1560	1300	1900	1760	28	24800	3270	2450	3690	1480	e37
17	3530	519	1360	1170	53	25	25400	433	4490	2210	337	e36
18	4510	93	647	2650	2440	811	25400	1710	7730	2740	39	170
19	4620	756	952	478	3250	4320	25300	1590	4940	3520	36	172
20	1310	1830	1630	33	10400	1130	25200	6820	4080	3990	35	53
21	1020	1820	1270	991	6990	6970	25100	4840	3940	3950	366	e41
22	7480	442	733	1130	7430	12600	24900	6450	3730	3400	1740	e37
23	5050	76	57	1110	729	12100	24800	6900	3500	3680	2490	e36
24	6630	63	43	527	37	12100	19100	6630	3130	3870	449	e35
25	5720	54	39	2510	2020	12000	12400	2720	4250	4310	50	e34
26	5840	1170	1060	2230	2750	12200	7960	1790	2990	4290	40	e134
27	4000	1340	559	76	3860	12100	3490	77	2370	2070	938	e129
28	3760	2460	486	1100	2830	12400	2500	2850	1380	2820	756	e108
29	3820	2550	293	4600	---	12100	3330	5210	1850	3520	1900	e103
30	4400	2250	204	3810	---	10800	4100	5960	1850	2490	742	e99
31	3630	---	1420	5910	---	10800	---	5550	---	3630	227	---
TOTAL	93914	49753	31038	49091	102148	152381	500201	122788	140514	93110	43547	17211
MEAN	3029	1658	1001	1584	3648	4916	16670	3961	4684	3004	1405	573.7
MAX	7480	3030	2310	5910	10400	12600	25400	7250	12000	4420	4000	3240
MIN	104	54	39	33	37	25	771	68	278	1730	35	34
AC-FT	186300	98690	61560	97370	202600	302200	992100	243600	278700	184700	86380	34140

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 2002, BY WATER YEAR (WY)

	MEAN	2838	5543	6626	6295	6455	9610	9473	12910	10960	5164	3567	2505
MAX	13100	21930	29600	32030	19480	30340	37980	64970	35550	15630	20050	13910	
(WY)	1987	1975	1993	1998	1993	1985	1990	1990	1982	1999	1992	1992	
MIN	241	248	247	119	127	129	81.5	148	600	259	692	558	
(WY)	1979	1983	1981	1981	1981	1981	1981	1981	1988	1988	1985	1985	

e Estimated

ARKANSAS RIVER BASIN

345

07245000 CANADIAN RIVER NEAR WHITEFIELD, OK--Continued

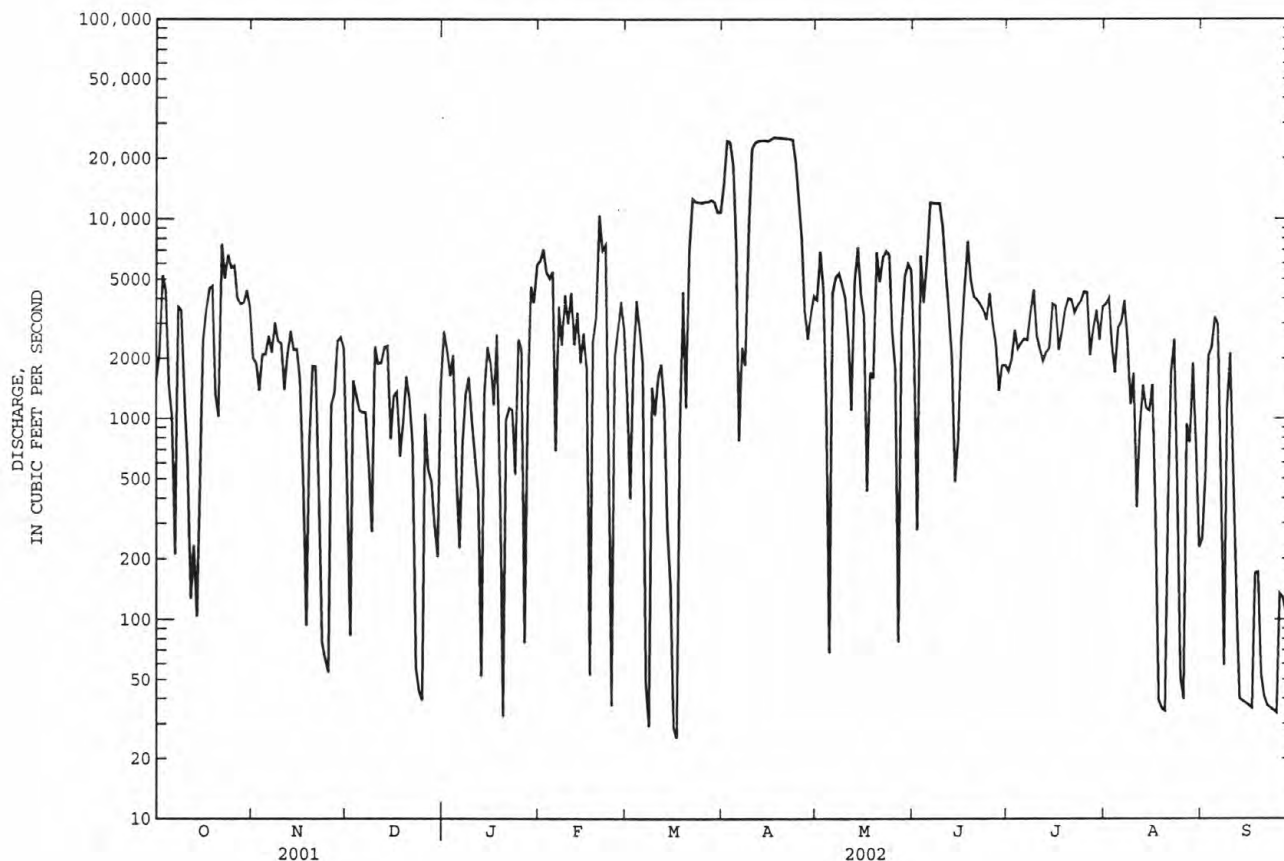
SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1968 - 2002	
ANNUAL TOTAL	2625050		1395696		^a 6829	
ANNUAL MEAN	7192		3824		15200	
HIGHEST ANNUAL MEAN					1012	
LOWEST ANNUAL MEAN					226000	
HIGHEST DAILY MEAN	42300	Mar 4	25400	Apr 17	^b 17	May 5 1990
LOWEST DAILY MEAN	39	Dec 25	25	Mar 17	^c 241000	Dec 1 1980
ANNUAL SEVEN-DAY MINIMUM	322	Aug 13	53	Sep 20	^d 25.32	Oct 7 1985
MAXIMUM PEAK FLOW			25700	Apr 16-18	May 3 1990	
MAXIMUM PEAK STAGE			11.03	Apr 16-18	May 3 1990	
INSTANTANEOUS LOW FLOW			17	Aug 19		
ANNUAL RUNOFF (AC-FT)	5207000		2768000		4947000	
10 PERCENT EXCEEDS	19100		8680		17000	
50 PERCENT EXCEEDS	4060		2230		3720	
90 PERCENT EXCEEDS	472		97		155	

^aPrior to regulation, water years 1939-63, 6,005 ft³/s.

^bMinimum daily discharge for period of record was 0.4 ft³/s, Oct. 8, 1956.

^cMaximum discharge for period of record 281,000 ft³/s, May 10, 1943.

^dMaximum gage height for period of record 25.5 ft, May 10, 1943.



LOCATION.--Lat 34°55'08", long 94°17'55", NW $\frac{1}{4}$ SW $\frac{1}{4}$, sec.16, T.3 N., R.31 W., Scott County, Hydrologic Unit 11110105, on right bank at downstream side of Scott County Road No. 56 bridge at Cauthron, 200 ft south of junction with State Hwy 28, 2.9 mi downstream from Cross Creek, 7.8 mi downstream from Jones Creek, and at mile 109.0.

PERIOD OF RECORD.--February 1939 to current year.

REVISED RECORDS.--WSP 1037: 1939(M). WRD Ark. 1970: Drainage area.

REMARKS.--No estimated daily discharges. Records good. As of September 1974, flow from 92.2 mi² upstream from this station is controlled by 16 floodwater-detention reservoirs that have a total combined capacity of 39,082 acre-ft below the flood spillway crests, of which 33,524 acre-ft are flood detention capacity, 2,100 acre-ft are water-supply storage, and 3,458 acre-feet are sediment storage capacity. Satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1935 reached a stage of 27.4 ft, from information by local resident.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	8.8	57	122	6150	123	720	116	431	14	4.3	1.6
2	4.9	10	36	105	1800	168	514	99	303	13	4.1	1.8
3	4.6	14	23	91	1520	227	395	84	236	12	4.1	2.1
4	4.7	18	17	78	1240	175	335	75	187	12	4.7	2.0
5	5.3	18	14	78	1080	168	279	69	265	11	4.7	1.6
6	5.6	18	13	129	968	154	235	61	231	11	4.8	1.3
7	5.0	18	31	130	880	142	1350	58	150	9.5	4.0	0.94
8	4.6	18	82	103	880	205	8620	53	121	8.2	3.4	0.54
9	4.7	20	63	93	751	857	2010	63	100	7.2	3.1	0.53
10	5.9	23	34	85	601	563	1480	105	92	6.4	3.1	0.61
11	11	23	23	77	465	429	1210	114	79	6.4	3.3	0.97
12	22	23	83	69	389	588	982	104	68	6.4	3.6	1.3
13	92	22	225	59	320	473	771	1600	55	6.0	3.8	1.4
14	175	22	185	53	267	363	521	546	49	5.8	4.5	1.5
15	59	23	158	51	232	300	411	290	47	13	4.3	1.7
16	23	24	5620	46	210	258	334	212	39	11	5.4	2.3
17	13	25	11400	43	184	224	506	497	32	8.9	6.1	3.2
18	9.4	26	2040	41	160	368	331	545	27	8.5	5.1	3.5
19	8.0	27	1680	40	420	9820	242	265	24	7.8	4.3	4.4
20	7.2	25	1430	40	913	7830	193	194	21	6.7	3.8	20
21	6.9	23	1270	37	509	2150	160	157	19	6.5	3.5	18
22	6.6	23	1130	36	367	1750	133	127	16	6.1	3.3	5.7
23	6.2	26	1010	401	298	1580	118	103	15	5.4	3.1	2.9
24	5.1	33	860	4300	251	1370	109	87	14	33	3.1	1.6
25	4.3	31	597	1690	213	1190	92	74	13	26	3.9	1.1
26	4.7	31	420	1150	181	1240	112	65	15	10	5.3	0.94
27	6.3	31	324	835	150	1040	315	62	32	7.0	6.5	1.0
28	7.0	40	257	575	131	895	199	871	26	5.8	4.7	1.3
29	6.4	68	209	445	---	687	144	1410	18	5.4	3.4	1.3
30	6.6	54	170	373	---	583	134	1350	15	5.8	2.5	1.3
31	7.0	---	143	6820	---	801	---	738	---	4.8	1.9	---
TOTAL	536.8	765.8	29604	18195	21530	36721	22955	10194	2744	300.6	125.7	88.43
MEAN	17.32	25.53	955.0	586.9	768.9	1185	765.2	328.8	91.47	9.697	4.055	2.948
MAX	175	68	11400	6820	6150	9820	8620	1600	431	33	6.5	20
MIN	4.3	8.8	13	36	131	123	92	53	13	4.8	1.9	0.53
AC-FT	1060	1520	58720	36090	42700	72840	45530	20220	5440	596	249	175

MEAN	103.5	282.0	376.0	310.1	414.5	447.8	348.5	459.2	214.6	56.21	18.80	21.57
MAX	1423	1900	1078	1075	1298	1185	1092	2080	846	314	93.7	166
(WY)	1985	1997	1983	1998	2001	2002	1991	1990	1986	1981	1996	1996
MIN	0.015	2.09	2.02	14.1	35.6	59.9	42.5	13.6	2.36	0.41	0.81	0.19
(WY)	1979	1996	1990	1981	1996	1986	1976	1977	1988	1980	1976	1980

ARKANSAS RIVER BASIN

347

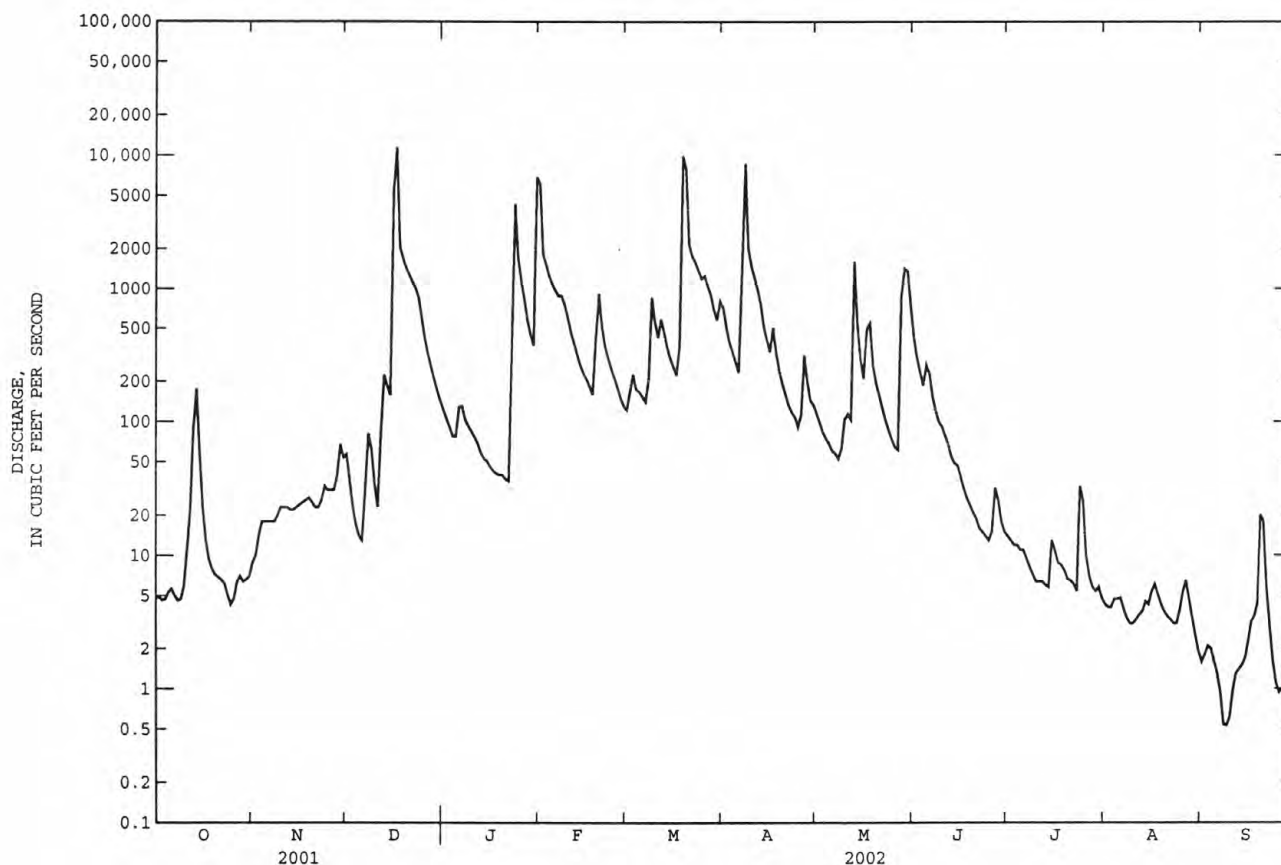
07247000 POTEAU RIVER AT CAUTHRON, AR--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1975 - 2002	
ANNUAL TOTAL	117864.7		143760.33		^a 253.6	
ANNUAL MEAN	322.9		393.9		432	
HIGHEST ANNUAL MEAN					48.7	
LOWEST ANNUAL MEAN					16900	
HIGHEST DAILY MEAN	11400	Dec 17	11400	Dec 17	May 3	1990
LOWEST DAILY MEAN	1.3	Aug 23	0.53	Sep 9	0.00	Aug 30 1976
ANNUAL SEVEN-DAY MINIMUM	1.7	Aug 19	0.88	Sep 6	0.00	Oct 7 1978
MAXIMUM PEAK FLOW			16300	Dec 17	^b 24000	May 3 1990
MAXIMUM PEAK STAGE			20.42	Dec 17	^c 22.17	May 3 1990
INSTANTANEOUS LOW FLOW			0.48	Sep 8-10	0.00	at times
ANNUAL RUNOFF (AC-FT)	233800		285100		183700	
10 PERCENT EXCEEDS	880		935		619	
50 PERCENT EXCEEDS	35		53		53	
90 PERCENT EXCEEDS	3.3		3.5		1.9	

^aprior to regulation, water years 1940-74, 218 ft³/s.

^bMaximum discharge for period of record, 32,200 ft³/s May 20, 1960.

^cMaximum gage height for period of record, 23.76 ft May 20, 1960.



ARKANSAS RIVER BASIN

07247015 POTEAU RIVER NEAR LOVING, OK

LOCATION.--Lat 34°52'47", long 94°29'02", in SW 1/4 NW 1/4 sec.29, T.5 N., R.27 E., LeFlore County, Hydrologic Unit 11110105, on right downstream bank of county road bridge, 0.6 mi northwest of Loving, 1.0 mi above Loving Creek, and at mile 93.6.

DRAINAGE AREA.--269 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1992, to current year.

REVISED RECORDS.--OK-2000-1: 1999.

GAGE.--Water-stage recorder. Datum of gage is 507.76 ft above sea level.

REMARKS.--Records fair. Some regulation by small flood-retarding structures. U.S. Geological Survey satellite telemeter at station.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	1.6	e65	e150	e6600	e135	758	162	572	19	4.6	3.8
2	1.7	2.8	e45	e120	e2000	e190	523	120	407	60	3.8	3.7
3	1.6	4.1	e33	e100	e1700	e250	410	96	311	106	3.1	3.4
4	1.8	3.6	e29	e90	e1350	e200	332	77	239	76	2.8	3.2
5	2.8	4.5	e25	e88	e1200	e185	278	65	432	22	2.6	2.8
6	2.6	5.0	e23	e150	e1050	e170	218	55	450	17	2.2	2.3
7	2.2	4.7	e36	e156	e980	e155	1400	45	245	14	2.3	2.5
8	2.2	4.5	e92	e120	e950	e220	10900	39	172	12	2.5	2.5
9	2.3	5.8	e75	e110	e850	e1000	5100	44	138	10	2.9	2.6
10	5.7	8.4	e50	e98	e700	e700	1900	83	120	9.0	3.1	2.6
11	28	12	e35	e90	e500	e500	1480	119	103	8.0	2.8	2.5
12	51	12	e97	e80	e420	e720	1150	109	87	7.2	2.6	2.5
13	172	12	e270	e70	e320	601	907	2500	81	6.8	2.3	2.3
14	400	15	e225	e65	e275	482	689	882	75	7.0	3.0	2.1
15	359	e20	e179	e58	e245	397	541	467	59	7.1	3.4	2.0
16	139	e25	e5900	e54	e220	343	465	319	54	7.3	3.1	2.0
17	57	e28	e12500	e50	e195	245	642	402	46	13	3.2	2.0
18	28	e29	e4500	e48	e175	411	531	832	39	14	3.1	2.0
19	16	e30	e2000	e47	e500	9720	382	419	33	12	3.4	2.3
20	8.5	e29	e1600	e46	e1100	11500	303	281	29	9.5	3.9	2.6
21	5.1	e27	e1380	e44	e600	4210	239	208	27	8.0	3.1	4.6
22	4.7	e27	e1250	e43	e410	2080	188	154	24	6.9	2.5	34
23	5.2	e30	e1150	e450	e320	1790	163	114	20	6.3	4.0	18
24	5.2	e37	e1000	e4600	e285	1530	142	87	19	6.0	3.3	11
25	3.7	e35	e780	e1900	e230	1270	114	69	17	15	2.9	7.5
26	3.2	e33	e600	e1300	e200	1290	122	56	16	31	2.8	5.0
27	3.5	e33	e490	e880	e170	1060	461	60	17	14	2.4	3.8
28	2.3	e42	e350	e610	e150	838	357	938	28	8.2	1.9	3.7
29	1.6	e80	e300	e491	---	627	250	2840	29	5.7	1.5	3.5
30	1.5	e70	e250	e456	---	523	198	1720	23	5.5	3.1	3.5
31	1.5	---	e200	e7600	---	666	---	892	---	5.0	3.7	---
TOTAL	1321.1	671.0	35529	20164	23695	44008	31143	14254	3912	548.5	91.9	146.3
MEAN	42.62	22.37	1146	650.5	846.2	1420	1038	459.8	130.4	17.69	2.965	4.877
MAX	400	80	12500	7600	6600	11500	10900	2840	572	106	4.6	34
MIN	1.5	1.6	23	43	150	135	114	39	16	5.0	1.5	2.0
AC-FT	2620	1330	70470	40000	47000	87290	61770	28270	7760	1090	182	290

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2002, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	89.69	482.0	586.6	562.1	588.8	578.1	402.0	428.3	234.4	41.32	11.38
MAX	408	2217	1146	1289	1639	1420	1038	1001	600	183	66.1
(WY)	1999	1997	2002	1998	2001	2002	2002	1999	1992	1999	1996
MIN	3.35	3.25	47.6	39.0	34.1	167	64.4	24.8	12.6	1.84	2.05
(WY)	2000	1996	1996	2000	1996	2000	1992	1997	1994	2001	1999

e Estimated

ARKANSAS RIVER BASIN

349

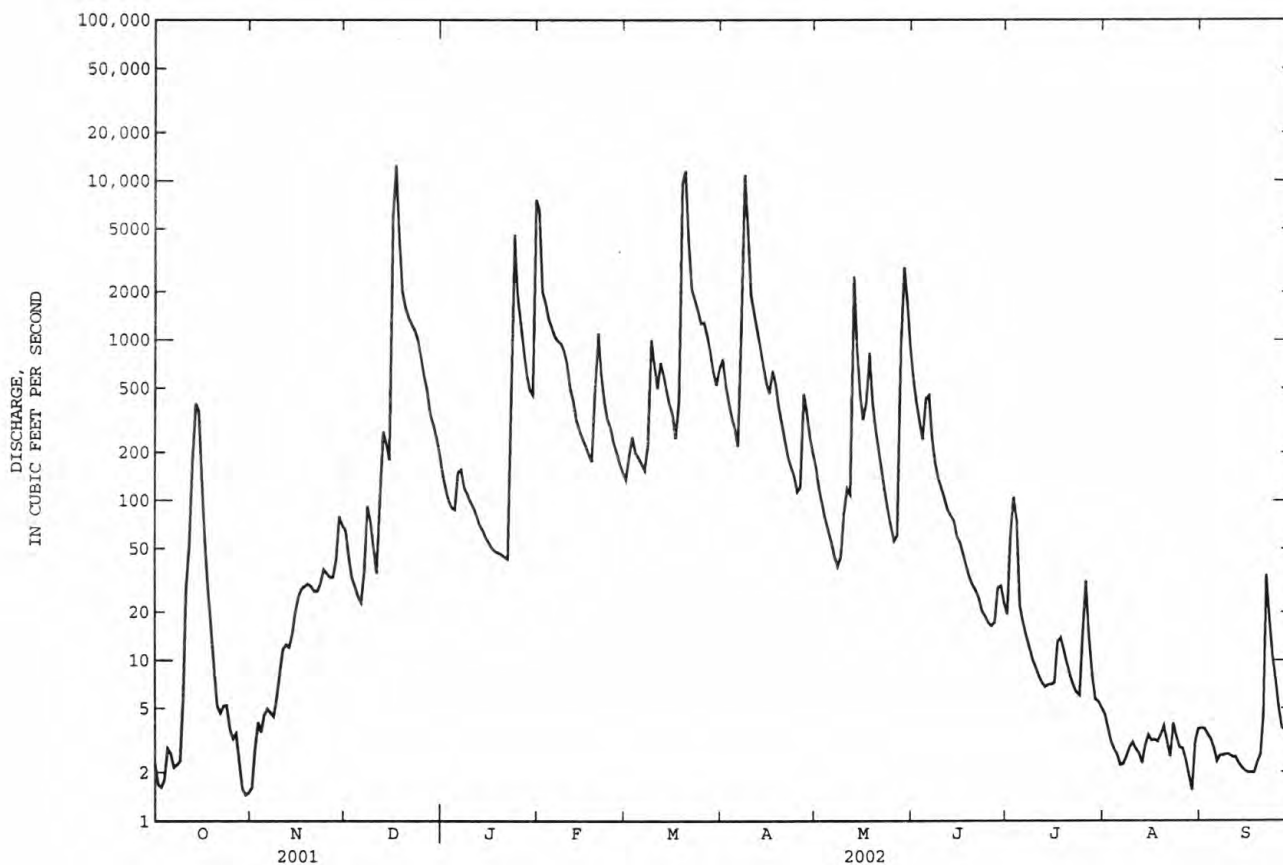
07247015 POTEAU RIVER NEAR LOVING, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR	FOR 2002 WATER YEAR	WATER YEARS 1992 - 2002
ANNUAL TOTAL	137951.08	175483.8	
ANNUAL MEAN	377.9	480.8	337.2
HIGHEST ANNUAL MEAN			481 2002
LOWEST ANNUAL MEAN			139 1996
HIGHEST DAILY MEAN	12500 Dec 17	12500 Dec 17	12500 Nov 25 1996
LOWEST DAILY MEAN	0.20 Jul 26	^a 1.5 Oct 30	^b 0.00 Sep 21 2000
ANNUAL SEVEN-DAY MINIMUM	0.48 Jul 22	2.1 Sep 13	0.06 Sep 16 2000
MAXIMUM PEAK FLOW		13800 Dec 17	13800 Dec 17 2001
MAXIMUM PEAK STAGE		^c 28.90 Dec 17	^c 28.90 Dec 17 2001
ANNUAL RUNOFF (AC-FT)	273600	348100	244300
10 PERCENT EXCEEDS	875	1050	817
50 PERCENT EXCEEDS	48	60	67
90 PERCENT EXCEEDS	1.5	2.6	3.1

^aAlso occurred Oct. 31 and Aug. 29.

^bAlso occurred Sept. 22, 2000.

^cFrom high-water mark



ARKANSAS RIVER BASIN

07247015 POTEAU RIVER AT LOVING, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 1991 to current year.

REMARKS.--Samples were collected periodically and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)		
JUN													
18...	1421	1028	1028	9.28	39	765	5.6	6.3	66	27.6	4.00		
18...	1422	1028	1028	9.28	39	765	5.6	6.3	67	27.6	12.0		
18...	1423	1028	1028	9.28	39	765	5.6	6.3	66	27.6	20.0		
18...	1424	1028	1028	9.28	39	765	5.6	6.3	66	27.6	28.0		
18...	1425	1028	1028	9.28	39	765	5.6	6.3	66	27.6	36.0		
SEP													
09...	1008	1028	1028	8.75	2.6	769	5.8	6.8	128	25.2	11.0		
09...	1015	1028	1028	8.75	2.6	769	5.8	6.8	134	25.5	--		
09...	1017	1028	1028	8.75	2.6	769	5.8	6.7	134	25.4	26.0		
09...	1019	1028	1028	8.75	2.6	769	6.3	6.8	134	25.6	36.0		
09...	1021	1028	1028	8.75	2.6	769	5.7	6.8	135	25.6	46.0		
09...	1024	1028	1028	8.75	2.6	769	5.0	6.8	134	25.4	56.0		
Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)
NOV													
06...	1430	80020	1028	8.99	5.6	770	57	5.6	7.0	307	25.5	16.3	26
JAN													
15...	1655	80020	1028	9.28	5.8	775	97	12.6	7.2	79	15.0	5.2	19
FEB													
13...	1300	80020	1028	10.60	319	774	90	11.3	6.5	51	10.0	6.5	13
APR													
25...	1445	80020	1028	9.87	111	774	90	8.1	6.8	58	20.0	21.2	15
JUN													
18...	1415	80020	1028	9.28	39	765	71	5.6	6.3	66	28.7	27.6	17
AUG													
26...	1530	80020	1028	8.76	2.8	760	66	5.2	7.0	117	31.0	27.4	25
Date	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SODIUM AD- SORP- TION RATIO (00931)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
NOV													
06...	--	3.48	4.21	9.30	4	43.7	72	55	67	0	37.0	28.5	.58
JAN													
15...	4	3.38	2.61	2.31	.9	8.57	46	16	19	0	7.00	10.3	.35
FEB													
13...	5	2.19	1.77	1.19	.4	3.68	36	8	10	0	3.6	7.3	.28
APR													
25...	0	2.46	2.08	1.48	.5	4.48	37	14	17	0	3.17	7.2	.34
JUN													
18...	0	2.98	2.37	1.81	.6	5.72	39	16	20	0	4.13	7.6	.37
AUG													
26...	--	3.24	4.04	3.39	1	14.4	52	32	39	0	10.7	7.2	.43

ARKANSAS RIVER BASIN

351

07247015 POTEAU RIVER AT LOVING, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, DIS- SOLVED (MG/L AS N) (00600)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)
NOV 06...	<.04	--	<.05	<.008	.230	.10	.07	.11	<10	.23	2.54	168	159
JAN 15...	E.02	.75	.39	<.008	.828	.28	.27	.34	<10	.08	--	62	46
FEB 13...	<.04	.55	.27	<.008	.086	E.05	.03	.06	<10	.05	29.3	34	26
APR 25...	<.04	.40	.06	E.004	.098	E.04	.03	.09	<10	.05	11.5	38	30
JUN 18...	<.04	.54	.17	<.008	.092	E.05	.03	.08	<10	.06	4.83	46	35
AUG 26...	<.04	--	E.03	<.008	.064	<.06	.02	E.05	<10	.10	.56	74	62
Date	TURBID- ITY LAB HACH 2100AN (NTU) (99872)	PHEO- PHYTIN PHYTO- PLANK- TON, ACID M. (UG/L) (32218)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	CHLORO- HPYLL A PHYTO- PLANK- TON ACID M. (UG/L) (32211)	CHLORO- PHYLL A PHYTO- PLANK- TON UNCORR. (UG/L) (32230)	CHLORO- PHYLL B PHYTO- PLANK- TON UNCORR. (UG/L) (32231)	CHLORO- PHYLL C PHYTO- PLANK- TON UNCORR. (UG/L) (32232)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 06...	3.4	<1.00	150	118	233	1.00	1.00	<1.00	<1.00	94.7	24	.36	92
JAN 15...	17	<1.00	32	25	136	4.00	4.00	<1.00	<1.00	27.6	23	--	82
FEB 13...	18	1.00	28	20	35	<1.00	<1.00	<1.00	<1.00	20	31	26.7	90
APR 25...	8.8	4.00	57	59	292	5.00	7.00	<1.00	<1.00	19.7	16	4.8	92
JUN 18...	8.4	3.00	110	80	155	4.00	6.00	<1.00	<1.00	46.4	14	14.0	86
AUG 26...	5.4	4.00	110	114	44	5.00	8.00	<1.00	<1.00	158	3.0	.02	92

ARKANSAS RIVER BASIN

07247250 BLACK FORK BELOW BIG CREEK NEAR PAGE, OK

LOCATION.--Lat 34°46'25", long 94°30'43", NE 1/4 SW 1/4 sec. 31, T.4 N., R.27 E., LeFlore County, Hydrologic Unit 11110105, on downstream side of bridge pier of county road bridge, 2.2 mi above Haw Creek, 5.0 mi north of Page, and at mile 24.6.

DRAINAGE AREA.--74.4 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1992 to current year.

REVISED RECORDS.--WDR OK-96-1: 1993(M), 1995(M).

GAGE.--Water-stage recorder. Datum of gage is 684.00 ft above sea level, from topographic map.

REMARKS.--Records fair. U.S. Army Corps of Engineers' satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 16	1500	21,800	20.45	Mar 19	0400	17,800	18.87
Jan 24	0130	6,200	12.93	Apr 8	0230	23,300	20.94

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	10	100	43	2130	72	242	67	266	9.9	3.9	e0.30
2	0.91	10	96	39	670	89	203	58	178	54	3.7	e0.28
3	0.83	12	83	35	435	87	168	56	129	102	3.6	e0.24
4	0.74	31	67	33	310	75	143	52	99	33	3.5	e0.22
5	0.95	25	54	37	250	77	125	45	741	19	3.4	e0.18
6	0.82	21	131	46	242	71	108	40	372	16	3.3	e0.10
7	0.80	17	201	39	217	70	1940	36	208	12	3.2	e0.08
8	0.75	15	211	34	226	112	7750	31	140	9.3	3.1	e0.04
9	0.71	15	139	33	232	1160	970	36	106	7.2	e2.8	e0.03
10	1.3	14	103	32	195	504	535	40	92	e6.9	e2.2	e0.02
11	61	12	79	30	170	349	371	39	74	e6.6	e1.8	e0.01
12	152	11	122	28	157	316	279	32	58	e6.3	e1.2	e0.00
13	272	11	208	27	137	244	223	347	46	e6.1	e1.0	e0.00
14	186	11	248	27	118	203	193	190	108	e5.9	0.80	e0.00
15	95	12	201	25	108	178	157	125	60	5.6	e0.76	e0.00
16	57	12	8200	23	99	157	134	92	42	5.4	e0.72	e0.00
17	40	11	4100	23	85	135	232	139	33	4.8	e0.70	e0.00
18	31	11	1060	22	76	763	161	166	26	38	e0.68	e0.00
19	25	11	543	23	299	8940	132	117	20	75	e0.56	e0.00
20	23	11	345	23	402	4020	114	93	16	30	e0.48	e0.00
21	21	11	254	23	265	1050	99	76	16	16	e0.40	e0.00
22	19	11	204	25	203	575	88	58	15	9.9	e0.32	e0.00
23	17	13	162	474	169	407	73	45	13	6.7	e0.28	e0.00
24	14	16	132	2700	143	313	68	38	12	5.8	e0.24	e0.00
25	12	22	109	939	120	274	55	33	12	25	e0.20	e0.00
26	10	22	93	502	100	331	65	33	15	18	0.12	e0.00
27	9.1	21	81	336	84	254	128	200	18	9.8	e0.44	e0.00
28	8.2	39	72	249	77	220	100	1650	16	6.5	e0.42	e0.00
29	8.0	111	61	202	---	193	82	1900	11	4.7	e0.40	e0.32
30	7.5	111	53	215	---	182	77	967	9.9	4.2	e0.38	e0.26
31	9.5	---	48	6500	---	265	---	444	---	4.1	e0.34	---
TOTAL	1086.11	660	17560	12787	7719	21686	15015	7245	2951.9	563.7	44.94	2.08
MEAN	35.04	22.00	566.5	412.5	275.7	699.5	500.5	233.7	98.40	18.18	1.450	0.069
MAX	272	111	8200	6500	2130	8940	7750	1900	741	102	3.9	0.32
MIN	0.71	10	48	22	76	70	55	31	9.9	4.1	0.12	0.00
AC-FT	2150	1310	34830	25360	15310	43010	29780	14370	5860	1120	89	4.1

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2002, BY WATER YEAR (WY)

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	
MEAN	92.22	240.8	311.6	299.8	294.7	278.4	216.0	221.1	112.6	21.67	6.713	42.73
MAX	491	1215	734	594	958	819	487	553	520	77.4	36.2	378
(WY)	1999	1997	2002	1998	2001	2002	2002	1993	2000	1996	1996	1992
MIN	0.000	0.23	24.0	31.3	30.2	48.8	87.8	37.4	16.0	0.46	0.000	0.000
(WY)	2000	2000	1996	2000	1996	2000	1998	1997	1994	1998	1998	1995

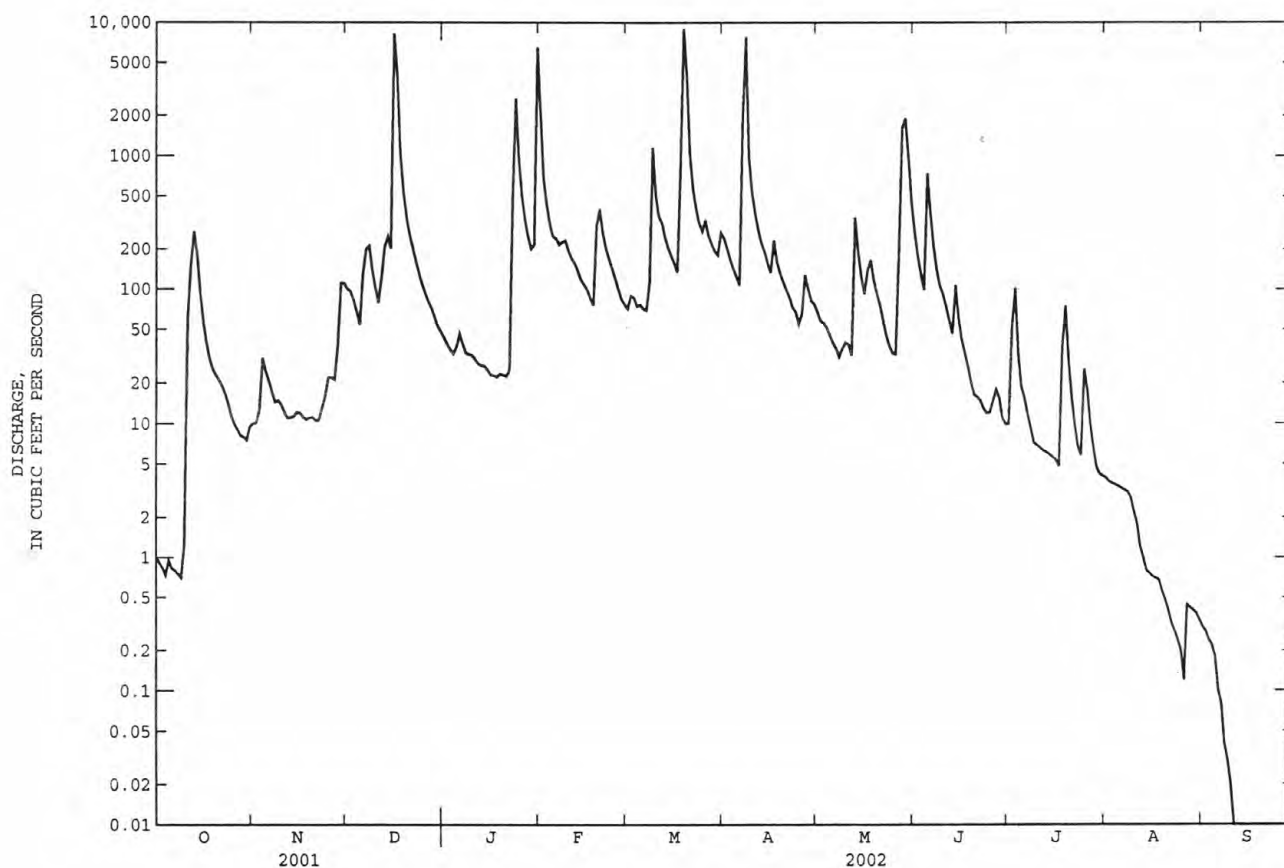
e Estimated

ARKANSAS RIVER BASIN

353

07247250 BLACK FORK BELOW BIG CREEK NEAR PAGE, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1992 - 2002	
ANNUAL TOTAL	70108.84		87320.73		179.6	
ANNUAL MEAN	192.1		239.2		254	
HIGHEST ANNUAL MEAN					66.9	
LOWEST ANNUAL MEAN					2002	
HIGHEST DAILY MEAN	8200	Dec 16	8940	Mar 19	15200	Dec 16 2001
LOWEST DAILY MEAN	0.28	Aug 9	0.00	Sep 12-28	0.00	at times
ANNUAL SEVEN-DAY MINIMUM	0.32	Aug 4	0.00	Sep 12	0.00	Sep 20 1994
MAXIMUM PEAK FLOW			23300	Apr 8	23300	Apr 8 2002
MAXIMUM PEAK STAGE			20.94	Apr 8	20.94	Apr 8 2002
ANNUAL RUNOFF (AC-FT)	139100		173200		130100	
10 PERCENT EXCEEDS	283		333		350	
50 PERCENT EXCEEDS	46		39		48	
90 PERCENT EXCEEDS	0.79		0.36		0.23	



ARKANSAS RIVER BASIN

07247250 BLACK FORK BELOW BIG CREEK NEAR PAGE, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 1991 to current year.

REMARKS.--Samples were collected periodically and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	
NOV 06...	1300	80020	1028	4.42	21	767	72	7.1	6.1	38	24.0	16.3	9	
JAN 15...	1525	80020	1028	4.47	25	775	88	11.2	6.9	30	16.2	5.8	9	
FEB 14...	0915	80020	1028	5.12	118	770	89	11.3	6.6	29	-2.0	5.7	6	
APR 25...	1330	80020	1028	4.73	55	775	81	7.5	6.2	30	23.0	19.8	7	
JUN 18...	1530	80020	1028	4.59	25	765	77	6.2	6.2	29	30.0	26.4	8	
AUG 26...	1400	80020	1028	3.75	.12	763	93	6.9	6.2	35	33.0	31.4	12	
Date		HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SODIUM AD- SORP- TION RATIO (00931)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
NOV 06...	0	1.47	1.29	1.02	.4	2.84	37	9	10	0	2.89	3.0	.19	
JAN 15...	2	1.36	1.24	.61	.4	2.67	38	6	8	0	2.75	3.7	.12	
FEB 14...	2	1.02	.94	.56	.4	2.16	40	5	6	0	2.3	3.8	.15	
APR 25...	0	1.21	1.04	.74	.4	2.17	36	7	8	0	1.93	3.0	.15	
JUN 18...	--	1.26	1.08	.69	.4	2.36	38	8	10	0	1.92	2.6	.16	
AUG 26...	--	2.19	1.61	.90	.3	2.54	29	15	18	0	3.00	1.4	.38	
Date		NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L) (70301)	TURBID- ITY LAB HACH 2100AN (NTU) (99872)
NOV 06...	<.04	--	E.04	<.008	<.06	<.02	<.06	<10	.04	1.59	28	18	3.0	
JAN 15...	E.02	.47	.35	<.008	<.06	<.02	<.06	<10	.04	2.02	30	18	6.4	
FEB 14...	<.04	.40	.25	<.008	<.06	<.02	<.06	<10	.03	6.37	20	15	6.9	
APR 25...	<.04	.23	.09	E.004	<.06	<.02	<.06	<10	.02	2.15	14	14	6.0	
JUN 18...	<.04	.23	.07	<.008	<.06	<.02	<.06	<10	.03	1.27	19	15	5.9	
AUG 26...	<.04	--	<.05	<.008	<.06	<.02	E.03	<10	.04	.01	32	21	5.8	

ARKANSAS RIVER BASIN

355

07247250 BLACK FORK BELOW BIG CREEK NEAR PAGE, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	PHEO- PHYTO- PLANK- TON, ACID M. (UG/L) (32218)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	COLI- FORM, FECAL, 0.7 UM-MF 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER 100 ML) (31673)	CHLORO- HPYLL A PHYTO- PLANK- TON ACID M. (UG/L) (32211)	CHLORO- PHYLL A PHYTO- PLANK- TON, UNCORR. (UG/L) (32230)	CHLORO- PHYLL B PHYTO- PLANK- TON, UNCORR. (UG/L) (32231)	CHLORO- PHYLL C PHYTO- PLANK- TON, UNCORR. (UG/L) (32232)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 06...	<1.00	52	45	40	2.00	2.00	<1.00	<1.00	11.0	5.0	.28	100
JAN 15...	<1.00	21	E17	32	<1.00	<1.00	<1.00	<1.00	9.6	14	.95	69
FEB 14...	<1.00	32	21	30	<1.00	<1.00	<1.00	<1.00	5.2	8.0	2.5	100
APR 25...	1.00	32	35	49	<1.00	<1.00	<1.00	<1.00	13.2	12	1.8	84
JUN 18...	--	E11	E6	27	--	--	--	--	19.8	9.0	.61	86
AUG 26...	11.0	32	41	231	8.00	15.0	1.00	<1.00	41.2	11	.0	88

ARKANSAS RIVER BASIN

07247345 BLACK FORK AT HODGEN, OK

LOCATION.--Lat 34°50'35", long 94°37'28", in SE $\frac{1}{4}$ SE $\frac{1}{4}$, sec. 01, T.4 N., R.25 E., LeFlore County, Hydrologic Unit 11110105, at county road bridge 0.4 mi east of Hodgen, OK.

DRAINAGE AREA.--179 mi².

PERIOD OF RECORD.--December 1991 to current year.

REMARKS.--Samples were collected periodically. Specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)			
JAN														
	15...	1345	1028	1028	10.08	41	775	12.5	6.8	36	3.00			
	15...	1346	1028	1028	10.08	41	775	12.4	6.8	36	13.0			
	15...	1347	1028	1028	10.08	41	775	12.2	6.8	36	23.0			
	15...	1348	1028	1028	10.08	41	775	12.1	6.8	36	33.0			
	15...	1349	1028	1028	10.08	41	775	12.1	6.8	36	43.0			
Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	
NOV														
07...	1335	80020	1028	10.05	19	771	87	8.4	6.8	48	22.0	17.9	13	
JAN														
15...	1355	80020	1028	10.08	41	775	97	12.2	6.8	36	13.6	6.2	10	
FEB														
14...	1200	80020	1028	10.42	231	772	95	11.9	6.1	35	12.1	6.4	9	
APR														
26...	1045	80020	1028	10.17	E90	774	79	7.4	6.3	39	9.5	19.4	10	
JUN														
19...	1545	80020	1028	9.97	45	767	59	4.7	7.0	36	31.0	27.0	11	
AUG														
27...	1315	80020	1028	9.64	.56	768	66	5.1	7.1	44	26.2	28.8	14	
Date		HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SODIUM AD- SORP- TION RATIO (00931)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	
NOV														
07...	--	1.93	1.87	1.24	.4	3.32	34	13	16	0	3.13	4.1	.27	
JAN														
15...	4	1.74	1.44	.69	.4	3.05	37	6	8	0	3.03	4.2	.13	
FEB														
14...	4	1.41	1.23	.66	.4	2.57	37	5	6	0	2.6	4.5	.11	
APR														
26...	2	1.75	1.43	.85	.4	2.81	35	9	10	0	2.32	4.0	.21	
JUN														
19...	0	1.81	1.46	.74	.4	2.97	36	10	13	0	2.23	3.4	.28	
AUG														
27...	--	2.24	2.02	1.02	.4	3.42	33	16	20	0	3.48	1.9	.36	
Date		NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	TURBID- ITY LAB HACH 2100AN (NTU) (99872)
NOV														
07...	<.04	--	<.05	<.008	<.06	<.02	<.06	<10	.04	1.64	32	23	3.5	
JAN														
15...	<.04	.49	.36	<.008	<.06	<.02	<.06	<10	.04	3.32	30	20	6.5	
FEB														
14...	<.04	.33	.22	<.008	<.06	<.02	<.06	<10	.02	11.2	18	17	11	
APR														
26...	<.04	.28	.07	E.005	<.06	<.02	<.06	<10	.04	--	32	19	7.4	
JUN														
19...	<.04	--	<.05	<.008	<.06	<.02	<.06	<10	.04	3.70	31	19	6.0	
AUG														
27...	E.03	--	E.03	<.008	<.06	<.02	E.03	<10	.04	.05	32	24	4.8	

ARKANSAS RIVER BASIN

357

07247345 BLACK FORK AT HODGEN, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	PHEO- PHYTIN PHYTO- PLANK- TON, ACID M. (UG/L) (32218)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STREP MF, WATER (COL/ 100 ML) (31673)	CHLORO- HPYLL A PHYTO- PLANK- TON ACID M. (UG/L) (32211)	CHLORO- PHYLL A PHYTO- PLANK- TON UNCORR. (UG/L) (32230)	CHLORO- PHYLL B PHYTO- PLANK- TON UNCORR. (UG/L) (32231)	CHLORO- PHYLL C PHYTO- PLANK- TON UNCORR. (UG/L) (32232)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 07...	<1.00	35	E17	44	4.00	5.00	<1.00	<1.00	16.7	8.0	.41	100
JAN 15...	<1.00	E8	E5	E16	<1.00	<1.00	<1.00	<1.00	15.1	11	1.2	83
FEB 14...	<1.00	25	21	32	<1.00	<1.00	<1.00	<1.00	8.1	10	6.2	97
APR 26...	2.00	55	41	161	<1.00	1.00	<1.00	<1.00	24.0	14	--	72
JUN 19...	2.00	E6	E6	85	3.00	4.00	<1.00	<1.00	30.0	10	1.2	97
AUG 27...	7.00	35	59	490	2.00	6.00	<1.00	<1.00	60.2	11	.02	21

ARKANSAS RIVER BASIN

07247500 FOURCHE MALINE NEAR RED OAK, OK

LOCATION.--Lat 34°54'45", long 95°09'20", in NW 1/4 NW 1/4 sec.13, T.5 N., R.20 E., Latimer County, Hydrologic Unit 11110105, on downstream side of left abutment of county road bridge, 0.1 mi downstream from Little Fourche Maline, 5.0 mi southwest of Red Oak, and at mile 41.2.

DRAINAGE AREA.--122 mi².

PERIOD OF RECORD.--October 1938 to April 1991, October 1991 to current year.

REVISED RECORDS.--WSP 1117: Drainage area. WSP 1631: 1940.

GAGE.--Water-stage recorder. Datum of gage is 540.80 ft above sea level. Prior to April 25, 1939, nonrecording gage at same site and datum.

REMARKS.--Records good. Some regulation by several flood-retarding structures. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1935 reached a stage of 25.4 ft, from floodmarks.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec 17	0330	3,960	16.54	Apr 8	0300	5,780	17.49
Mar 20	0230	4,800	17.05				

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	4.9	92	43	1080	86	281	51	240	12	16	2.4
2	1.5	4.3	97	43	688	88	191	44	181	21	11	1.9
3	1.1	4.2	74	e42	458	95	153	37	116	93	7.9	1.6
4	1.0	45	58	e44	232	95	129	31	71	83	5.7	1.3
5	0.98	68	51	46	174	103	114	28	1350	61	4.5	1.1
6	1.2	39	44	48	176	109	104	26	1290	33	3.6	1.0
7	1.1	24	37	44	205	99	1260	22	743	30	3.2	0.82
8	1.8	15	50	49	227	93	4330	20	537	14	2.6	e0.72
9	1.9	11	38	46	229	95	2060	20	240	9.1	2.3	e0.32
10	3.0	9.4	28	39	191	100	1210	18	129	6.5	2.1	0.12
11	568	8.4	18	33	156	89	1070	17	103	4.6	2.1	e0.10
12	786	6.7	53	30	138	89	1010	19	87	3.6	1.9	e0.08
13	1520	5.5	79	26	126	87	954	102	83	2.7	1.9	e0.06
14	1220	4.6	98	24	115	79	910	99	521	2.8	3.1	e0.04
15	757	4.2	98	23	108	72	775	56	347	4.8	3.3	1.0
16	580	3.8	2000	21	102	66	588	36	242	3.7	3.3	0.65
17	338	3.8	3410	35	95	60	469	42	123	2.7	2.9	0.70
18	136	3.6	1780	37	87	103	348	69	76	2.8	2.8	0.86
19	96	3.7	1180	36	564	2660	187	60	57	3.2	2.5	1.1
20	74	3.3	1060	34	976	3900	108	42	45	4.1	2.4	1.2
21	60	3.2	981	20	599	1820	90	30	33	4.9	2.3	1.1
22	48	3.1	860	11	399	1180	77	23	27	5.3	2.2	0.95
23	37	3.0	622	12	201	1070	64	17	21	4.9	2.1	0.84
24	29	5.4	460	24	167	1010	55	13	17	4.3	1.9	0.72
25	23	5.9	282	13	140	1110	47	12	14	3.6	2.4	0.69
26	17	5.1	111	13	118	1210	51	78	13	2.9	3.6	0.38
27	12	6.7	88	12	101	926	122	335	13	2.5	4.9	e0.20
28	9.3	21	78	11	92	755	107	787	15	2.3	4.0	e0.18
29	7.4	77	66	9.7	---	568	80	676	13	2.1	3.7	e0.10
30	6.1	93	56	11	---	434	61	599	12	29	3.3	0.06
31	5.3	---	50	827	---	339	---	410	---	40	3.0	---
TOTAL	6344.68	495.8	13999	1706.7	7944	18590	17005	3819	6759	499.4	118.5	22.29
MEAN	204.7	16.53	451.6	55.05	283.7	599.7	566.8	123.2	225.3	16.11	3.823	0.743
MAX	1520	93	3410	827	1080	3900	4330	787	1350	93	16	2.4
MIN	0.98	3.0	18	9.7	87	60	47	12	12	2.1	1.9	0.04
AC-FT	12580	983	27770	3390	15760	36870	33730	7570	13410	991	235	44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2002, BY WATER YEAR (WY)

	MEAN	74.33	130.0	143.7	112.4	191.3	229.7	266.1	272.1	122.1	53.65	16.45	45.83
MAX	675	811	726	762	780	1100	1224	1377	695	847	189	547	
(WY)	1971	1986	1972	1998	2001	1945	1957	1960	1945	1950	1964	1950	
MIN	0.000	0.000	0.000	0.000	1.75	2.42	18.6	8.85	0.91	0.042	0.000	0.000	
(WY)	1939	1957	1964	1964	1967	1967	1950	1988	1963	1955	1943	1939	

e Estimated

ARKANSAS RIVER BASIN

07247650 FOURCHE MALINE NEAR LEFLORE, OK

LOCATION.--Lat 34°55'11", long 94°56'43", in NE 1/4 SE 1/4, sec. 11, T.5 N., R.22 E., LeFlore County, Hydrologic Unit 11110105, at county road bridge 1.6 mi east of Leflore, OK.

DRAINAGE AREA.--270 mi².

PERIOD OF RECORD.--December 1991 to current year.

REMARKS.--Samples were collected periodically, and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)		
JAN													
15...	1038	1028	1028	9.16	44	777	11.4	7.2	101	5.1	70.0		
15...	1039	1028	1028	9.16	44	777	11.4	7.2	101	5.1	60.0		
15...	1040	1028	1028	9.16	44	777	11.4	7.2	101	5.1	50.0		
15...	1041	1028	1028	9.16	44	777	11.4	7.2	101	5.1	40.0		
15...	1042	1028	1028	9.16	44	777	11.4	7.2	101	5.1	30.0		
15...	1043	1028	1028	9.16	44	777	11.4	7.2	101	5.1	20.0		
15...	1044	1028	1028	9.16	44	777	11.4	7.2	101	5.1	10.0		
JUN													
19...	0935	1028	1028	9.45	91	767	5.0	6.5	61	25.3	4.00		
19...	0936	1028	1028	9.45	91	767	5.0	6.5	62	25.3	12.0		
19...	0937	1028	1028	9.45	91	767	5.1	6.6	62	25.3	20.0		
19...	0938	1028	1028	9.45	91	767	5.1	6.5	62	25.3	28.0		
19...	0939	1028	1028	9.45	91	767	5.1	6.5	62	25.3	36.0		
19...	0940	1028	1028	9.45	91	767	5.1	6.5	62	25.3	44.0		
19...	0941	1028	1028	9.45	91	767	5.1	6.5	62	25.3	52.0		
19...	0942	1028	1028	9.45	91	767	5.1	6.5	62	25.3	60.0		
19...	0943	1028	1028	9.45	91	767	5.0	6.5	62	25.4	68.0		
19...	0944	1028	1028	9.45	91	767	5.0	6.6	62	25.3	76.0		
NOV													
07...	0825	80020	1028	9.43	102	770	71	7.0	7.0	92	12.0	16.3	27
JAN													
15...	1050	80020	1028	9.16	44	777	88	11.4	7.2	101	.1	5.1	31
FEB													
15...	1000	80020	1028	9.74	171	772	91	11.4	6.8	83	5.7	6.2	22
APR													
26...	0855	80020	1028	14.52	E65	774	67	6.2	6.7	94	10.0	19.6	26
JUN													
19...	0945	80020	1028	9.45	91	767	62	5.1	6.5	62	21.3	25.3	19
AUG													
27...	0930	80020	1028	7.98	1.0	769	62	5.0	7.2	138	19.2	26.4	41
NOV													
07...	--	6.16	2.91	1.81	.5	5.45	29	30	36	0	4.17	9.0	.37
JAN													
15...	7	6.73	3.48	1.40	.7	9.48	39	25	30	0	5.87	17.2	.47
FEB													
15...	5	4.67	2.48	1.06	.6	6.60	38	18	21	0	4.7	14.2	.31
APR													
26...	1	5.72	2.95	1.45	.6	7.18	36	25	30	0	3.56	13.5	.41
JUN													
19...	0	4.23	2.16	1.40	.4	4.39	31	19	23	0	2.48	7.0	.62
AUG													
27...	--	7.59	5.26	2.58	.9	13.1	39	47	57	0	7.95	9.8	.45

ARKANSAS RIVER BASIN

361

07247650 FOURCHE MALINE NEAR LEFLORE, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	
	NOV 07...	E.03	--	.44	--	.08	--	<.008	<.06	<.02	E.05	12	.08	15.4
	JAN 15...	<.04	--	.66	--	.19	--	<.008	<.06	<.02	E.04	14	.10	9.07
FEB 15...	E.03	--	.44	--	.13	--	<.008	<.06	<.02	<.06	12	.08	25.9	
APR 26...	E.03	.17	.59	.770	.18	.026	.008	<.06	<.02	.06	16	.09	--	
JUN 19...	<.04	--	.74	--	.12	--	<.008	<.06	<.02	.08	30	.07	13.1	
AUG 27...	E.02	--	--	--	<.05	--	<.008	<.06	<.02	E.04	16	.12	.25	
Date	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	TURBID- ITY LAB HACH 2100AN (NTU) (99872)	PHEO- PHYTO- PLANK- TON, ACID M. (UG/L) (32218)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	CHLORO- HPYLL A PHYTO- PLANK- TON ACID M. (UG/L) (32211)	CHLORO- PHYLL A PHYTO- PLANK- TON, UNCORR. (UG/L) (32230)	CHLORO- PHYLL B PHYTO- PLANK- TON, UNCORR. (UG/L) (32231)	CHLORO- PHYLL C PHYTO- PLANK- TON, UNCORR. (UG/L) (32232)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	
NOV 07...	56	48	26	<1.00	80	73	168	1.00	1.00	<1.00	<1.00	61.0	27	
JAN 15...	76	60	23	<1.00	E15	21	25	6.00	7.00	<1.00	<1.00	46.5	27	
FEB 15...	56	45	29	2.00	49	53	41	<1.00	<1.00	<1.00	<1.00	30	22	
APR 26...	66	50	30	2.00	32	22	156	1.00	3.00	<1.00	<1.00	158	32	
JUN 19...	54	33	55	4.00	82	68	193	<1.00	<1.00	<1.00	<1.00	115	49	
AUG 27...	89	75	24	5.00	45	41	185	3.00	6.00	<1.00	<1.00	208	32	
Date						SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)							
NOV 07...						7.4	100							
JAN 15...						3.2	97							
FEB 15...						10.2	98							
APR 26...						--	97							
JUN 19...						12.0	99							
AUG 27...						.09	97							

ARKANSAS RIVER BASIN

07247800 HOLSON CREEK AT SUMMERFIELD, OK

LOCATION.--Lat 34°52'46", long 94°51'11", in SW 1/4 NW 1/4, sec. 26, T.5 N., R.23 E., LeFlore County, Hydrologic Unit 11110105, at county road bridge, 1.4 mi east of Summerfield, OK.

DRAINAGE AREA.--71.6 mi².

PERIOD OF RECORD.--December 1991 to current year.

REMARKS.--Samples were collected periodically. Specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field. No flow Aug. 27.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST- CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)			
APR														
	25...	1027	1028	21.27	30	775	7.4	6.5	39	19.2	60.0			
	25...	1028	1028	21.27	30	775	7.4	6.5	38	19.1	52.0			
	25...	1029	1028	21.27	30	775	7.9	6.5	39	19.1	42.0			
	25...	1030	1028	21.27	30	775	7.9	6.5	39	19.1	32.0			
	25...	1031	1028	21.27	30	775	7.8	6.5	39	19.1	22.0			
	25...	1032	1028	21.27	30	775	7.9	6.5	39	19.1	12.0			
	25...	1033	1028	21.27	30	775	7.5	6.5	38	19.2	2.00			
Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST- CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	
NOV														
07...	1045	80020	1028	21.75	5.6	770	80	7.9	6.8	50	22.0	16.7	13	
JAN														
14...	1610	80020	1028	21.57	9.0	768	102	12.4	7.3	43	11.5	7.3	10	
FEB														
14...	1645	80020	1028	21.14	52	769	107	13.0	6.5	38	12.6	7.2	9	
APR														
25...	1045	80020	1028	21.27	30	775	83	7.8	6.5	39	14.0	19.1	10	
JUN														
19...	1245	80020	1028	21.54	9.3	767	88	7.0	6.7	45	30.5	27.4	12	
Date	Time	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SODIUM AD- SORP- TION RATIO (00931)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
NOV														
07...	0	2.00	1.88	.98	.5	3.71	37	13	15	0	3.59	5.1	.12	
JAN														
14...	4	1.63	1.55	.70	.4	3.28	39	7	8	0	3.29	5.6	E.09	
FEB														
14...	4	1.31	1.33	.62	.4	3.02	41	5	6	0	3.0	6.1	E.06	
APR														
25...	1	1.52	1.44	.79	.4	3.00	38	8	10	0	2.36	5.6	.20	
JUN														
19...	1	1.88	1.72	.96	.5	3.81	39	10	13	0	3.32	5.8	.13	
Date	Time	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	TURBID- ITY LAB HACH 2100AN (NTU) (99872)	PHEO- PHYTO- PLANK- TON, ACID M. (UG/L) (32218)
NOV														
07...	<.04	<.05	<.008	<.06	<.02	<.06	<10	.04	.45	30	25	4.1	<1.00	
JAN														
14...	<.04	.07	<.008	<.06	<.02	<.06	<10	.05	.83	34	20	9.1	<1.00	
FEB														
14...	<.04	.05	<.008	<.06	<.02	<.06	<10	.03	3.38	24	19	9.8	<1.00	
APR														
25...	<.04	<.05	E.004	<.06	<.02	<.06	<10	.04	2.57	32	20	9.4	<1.00	
JUN														
19...	<.04	<.05	<.008	<.06	<.02	<.06	<10	.04	.77	30	24	9.6	3.00	

ARKANSAS RIVER BASIN

363

07247800 HOLSON CREEK AT SUMMERFIELD, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	CHLORO- HPYLL A PHYTO- PLANK- TON ACID M. (UG/L) (32211)	CHLORO- PHYLL A PHYTO- PLANK- TON UNCORR. (UG/L) (32230)	CHLORO- PHYLL B PHYTO- PLANK- TON UNCORR. (UG/L) (32231)	CHLORO- PHYLL C PHYTO- PLANK- TON UNCORR. (UG/L) (32232)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 07...	E6	E7	E5	<1.00	<1.00	<1.00	<1.00	17.6	5.0	.08	100
JAN 14...	E4	<1	E6	<1.00	<1.00	<1.00	<1.00	9.9	15	.37	89
FEB 14...	E6	E8	20	<1.00	<1.00	<1.00	<1.00	6.5	11	1.5	88
APR 25...	E13	22	77	<1.00	<1.00	<1.00	<1.00	13.5	12	.97	80
JUN 19...	E11	E3	103	<1.00	1.00	<1.00	<1.00	24.7	11	.28	95

ARKANSAS RIVER BASIN

07249413 POTEAU RIVER NEAR PANAMA, OK

LOCATION.--Lat 35°09'56", long 94°39'10", in SE 1/4, SE 1/4 sec.15, T.8 N., R.25 E., LeFlore County, Hydrologic Unit 11110105, on left pier of county bridge, 1.5 mi east of Panama, OK, .8 mi downstream from James Fork Creek, and at mile 26.4.

DRAINAGE AREA.--1,767 mi².

PERIOD OF RECORD.--October 1989 to December 1990, May 1992 to current year.

GAGE.--Water-stage recorder. Datum of gage is 387.96 ft above sea level. Prior to December 1990, at site .4 mi upstream at datum 5.00 ft higher.

REMARKS.--No estimated daily discharge. Records fair. Flow partially regulated by Wister Reservoir 34.5 mi upstream. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1935 reached a stage of 44.6 ft (HWM) at datum then in use, from information by U.S. Army Corps of Engineers.

DISCHARGE VIA 355 SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86	255	259	6270	17000	1530	6210	7550	4800	70	190	21
2	81	93	238	6080	15100	1240	6320	7590	4410	64	89	21
3	78	67	210	5310	8440	1380	6700	7500	4140	63	58	20
4	78	60	581	4360	4810	1340	7000	7370	3940	78	45	20
5	78	57	757	3910	5610	1450	7080	7240	6370	86	39	19
6	74	53	756	3870	7090	1400	5790	7110	11200	78	36	19
7	57	53	759	3810	7870	1340	5970	7110	8360	65	34	22
8	45	55	823	3100	8190	1790	21800	7110	5170	56	33	22
9	40	56	913	2330	8040	3260	28300	7060	4270	413	31	23
10	58	57	840	1610	7690	4400	18700	6530	4030	408	29	22
11	1060	57	795	919	7310	2300	12200	5570	3850	192	28	18
12	2750	53	831	574	7050	3840	8190	4280	2910	75	30	17
13	2270	49	1160	548	6850	3710	6750	6220	1450	51	35	17
14	2790	46	1210	534	6660	3240	7030	6790	1600	54	77	18
15	1270	45	1200	524	6460	3000	7400	5350	1220	49	75	32
16	2080	46	4760	515	5690	2860	7490	4350	796	53	58	55
17	2290	45	17500	507	5210	2760	7480	2610	699	52	55	54
18	2220	44	21100	500	5040	2850	6870	2700	656	50	45	52
19	2180	43	13600	499	5780	14000	6720	2120	636	49	38	56
20	2140	41	7980	497	8270	34100	7230	1640	632	48	30	61
21	2100	37	7490	493	5960	30000	7440	600	680	46	25	54
22	2060	42	7970	492	4230	17800	7390	362	505	43	22	54
23	1310	62	7930	527	3570	10600	7450	293	289	40	21	57
24	1080	69	7680	2830	3400	6080	7650	752	219	41	20	51
25	1060	68	7410	3810	3290	6980	7650	1100	110	41	20	45
26	703	64	7160	4060	3160	9580	7600	1130	97	40	23	41
27	585	64	6970	4020	2540	8080	7820	1710	83	38	25	41
28	574	81	6820	3830	1770	7260	7940	5020	74	36	23	40
29	564	106	6690	3710	---	7180	7680	9790	65	36	22	41
30	560	209	6530	3640	---	6340	7520	10900	70	38	23	42
31	550	---	6400	7820	---	5820	---	6550	---	396	22	---
TOTAL	32871	2077	155322	81499	182080	207510	267370	152007	73331	2849	1301	1055
MEAN	1060	69.23	5010	2629	6503	6694	8912	4903	2444	91.90	41.97	35.17
MAX	2790	255	21100	7820	17000	34100	28300	10900	11200	413	190	61
MIN	40	37	210	492	1770	1240	5790	293	65	36	20	17
AC-FT	65200	4120	308100	161700	361200	411600	530300	301500	145500	5650	2580	2090

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2002, BY WATER YEAR (WY)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
MEAN	716.8	2125	3519	3654	4189	4398	3942	4504	2674	626.0	208.1	518.6		
MAX	3519	9861	8135	10930	7467	8242	8912	16670	5531	3155	818	2678		
(WY)	1999	1997	1998	1999	1990	1997	2002	1990	1999	1999	1992	1992		
MIN	15.0	11.5	10.4	350	262	860	1002	403	180	33.6	24.6	35.2		
(WY)	1990	1990	1990	2000	1996	2000	2001	1997	1994	2001	1998	2002		

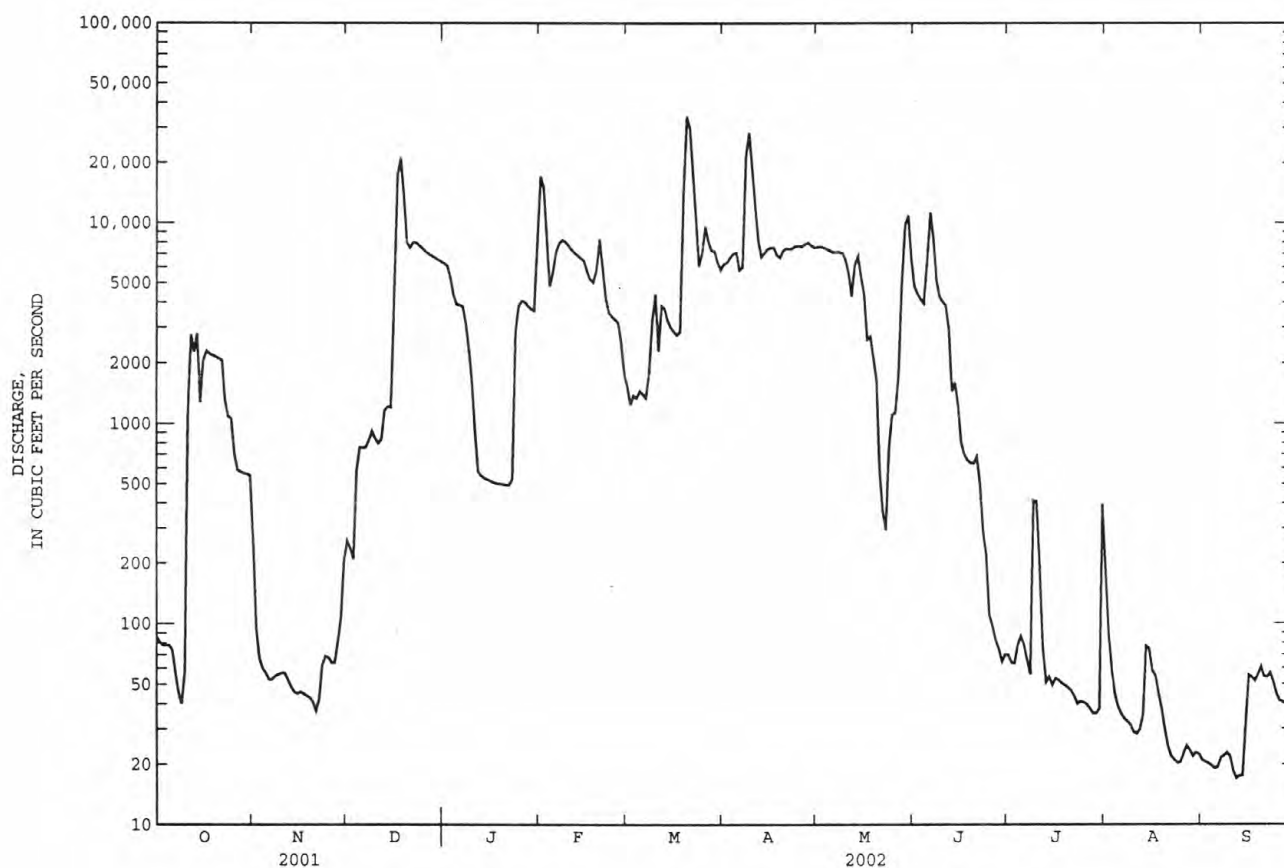
ARKANSAS RIVER BASIN

365

07249413 POTEAU RIVER NEAR PANAMA, OK--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1989 - 2002	
ANNUAL TOTAL	885117		1159272		2593	
ANNUAL MEAN	2425		3176		3907	
HIGHEST ANNUAL MEAN					786	
LOWEST ANNUAL MEAN					67000	
HIGHEST DAILY MEAN	25600	Feb 17	34100	Mar 20	67000	May 3 1990
LOWEST DAILY MEAN	15	Aug 22,23	17	Sep 12,13	6.8	Dec 4 1989
ANNUAL SEVEN-DAY MINIMUM	18	Aug 19	20	Sep 8	7.4	Dec 2 1989
MAXIMUM PEAK FLOW			38000	Mar 20	74600	May 3 1990
MAXIMUM PEAK STAGE			42.42	Mar 20	^a 46.59	May 3 1990
ANNUAL RUNOFF (AC-FT)	1756000		2299000		1878000	
10 PERCENT EXCEEDS	7600		7650		7430	
50 PERCENT EXCEEDS	633		1060		754	
90 PERCENT EXCEEDS	27		36		30	

^aAt present datum.



ARKANSAS RIVER BASIN

07249455 ARKANSAS RIVER NEAR FORT SMITH, AR

LOCATION.--Lat 35°23'30", long 94°25'56", in NW 1/4, SW 1/4 sec.08, T.8 N., R.32 E., Sebastian County, Hydrologic Unit 11110104, at U.S. Highway 64 bridge at Aklahoma and Arkansas state line, .7 mi downstream from Poteau River, 6.6 mi upstream from Lee Creek, 8.0 mi upstream from Arkansas River at Van Buren, and at mile 324.5.

DRAINAGE AREA.--149,977 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1997 to current year, some data collected prior to period of record, and are available in the district office.

GAGE.--Water-stage recorder. Datum of gage is 380.24 ft above sea level.

REMARKS.--Records fair except for estimated periods, which are poor. Flow regulated by Lock and Dam 12 upstream and Lock and Dam 13 downstream.

DISCHARGE VIA SATELLITE, in CFS, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e5500	e5200	e2870	e11300	e72000	13700	24800	32400	49700	21000	18100	4700
2	e5500	e11500	e3210	e20500	e62000	21000	45000	35600	50400	35100	15700	5450
3	e4350	e7380	e9280	e15200	e47600	7250	56000	26600	38200	37300	12400	6720
4	e6760	e25700	e1900	e15300	e41000	15300	36600	21300	40100	38600	11500	7080
5	e11300	e14100	e3620	e7680	e41200	9660	43000	15100	48800	30300	14100	8900
6	e6140	e11900	e7620	e14600	e43000	20700	16900	23700	68600	25700	15600	13200
7	e3100	e11400	e3970	e9580	e26100	11400	34100	26400	70000	31100	14100	2900
8	e8650	e13600	e10100	e10200	e23100	11000	142000	31300	65700	29100	17000	391
9	e7600	e13300	e4270	e5670	e34700	14500	95900	48000	57500	30000	16600	4910
10	e18100	e200	e9840	e3220	e35800	6360	81600	76400	44600	36800	6800	2110
11	e39600	e3000	e6950	e4260	e14700	11100	73300	78600	56500	19400	10300	2940
12	e27200	e12200	e4800	e2590	e23700	31500	64500	79200	56100	15200	9120	5830
13	e19800	e4170	e5490	e3970	e33800	12200	60200	79500	55000	14000	10300	3110
14	e28600	e5970	e10000	e9270	18200	16400	58000	81300	80100	18100	25100	3630
15	e9100	e6330	e6000	e11300	21800	11700	57500	82300	56400	10600	16300	246
16	e8340	e3890	e42000	e6430	16500	10400	58400	81200	37900	11200	9220	7400
17	e13800	e2370	e103000	e7970	7980	4020	55500	86200	36300	14100	9630	2180
18	e10200	e3650	e58200	e6930	14100	11600	48000	125000	50700	27600	8580	2580
19	e14600	e10200	e58200	e4010	23800	78300	53700	122000	60300	118000	19400	4430
20	e16400	e5050	e46500	e1630	47600	117000	59500	101000	74300	174000	14300	406
21	e5710	e4690	e27600	e3470	25200	75300	49900	71200	87000	12500	10300	8330
22	e11900	e1000	e23900	e4970	25300	72800	39000	73300	88600	20800	13000	18700
23	e11300	e2210	e12500	e3090	20900	56600	49900	68700	79900	23800	13000	18400
24	e16000	e9080	e24200	e15500	11100	44500	63500	56700	73800	14000	6780	12500
25	e13100	e300	e13700	e8040	19600	52400	58200	66700	56100	16600	8100	10200
26	e11400	e3680	e17400	e12000	15700	61800	45800	56700	54000	10900	9580	2510
27	e11900	e4540	e15000	e7800	8860	49200	32600	15000	42800	11700	5580	9580
28	e10500	e9660	e17600	e13000	12700	50700	31500	14600	36700	9790	6000	3820
29	e10400	e17200	e12300	e22600	---	41200	27100	27200	31000	9410	7920	4390
30	e11500	e6820	e12700	e17700	---	32200	32800	48800	36400	26100	10700	9510
31	e16400	---	e20000	e31000	---	33500	---	51800	---	29400	5060	---
TOTAL	394750	230290	594720	310780	788040	1005290	1594800	1803800	1683500	659400	370170	187053
MEAN	12730	7676	19180	10030	28140	32430	53160	58190	56120	21270	11940	6235
MAX	39600	25700	103000	31000	72000	117000	142000	125000	88600	38600	25100	18700
MIN	3100	200	1900	1630	7980	4020	16900	14600	31000	9410	5060	246
AC-FT	783000	456800	1180000	616400	1563000	1994000	3163000	3578000	3339000	1308000	734200	371000

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2002, BY WATER YEAR (WY)

	1997	1998	1999	2000	2001	2002
MEAN	25850	30390	31550	40490	44180	71810
MAX	78990	104200	53480	128800	78150	98560
(WY)	1999	1999	1999	1998	2001	2001
MIN	4832	3936	13160	10030	14620	32430
(WY)	2001	2000	2001	2002	2000	2002

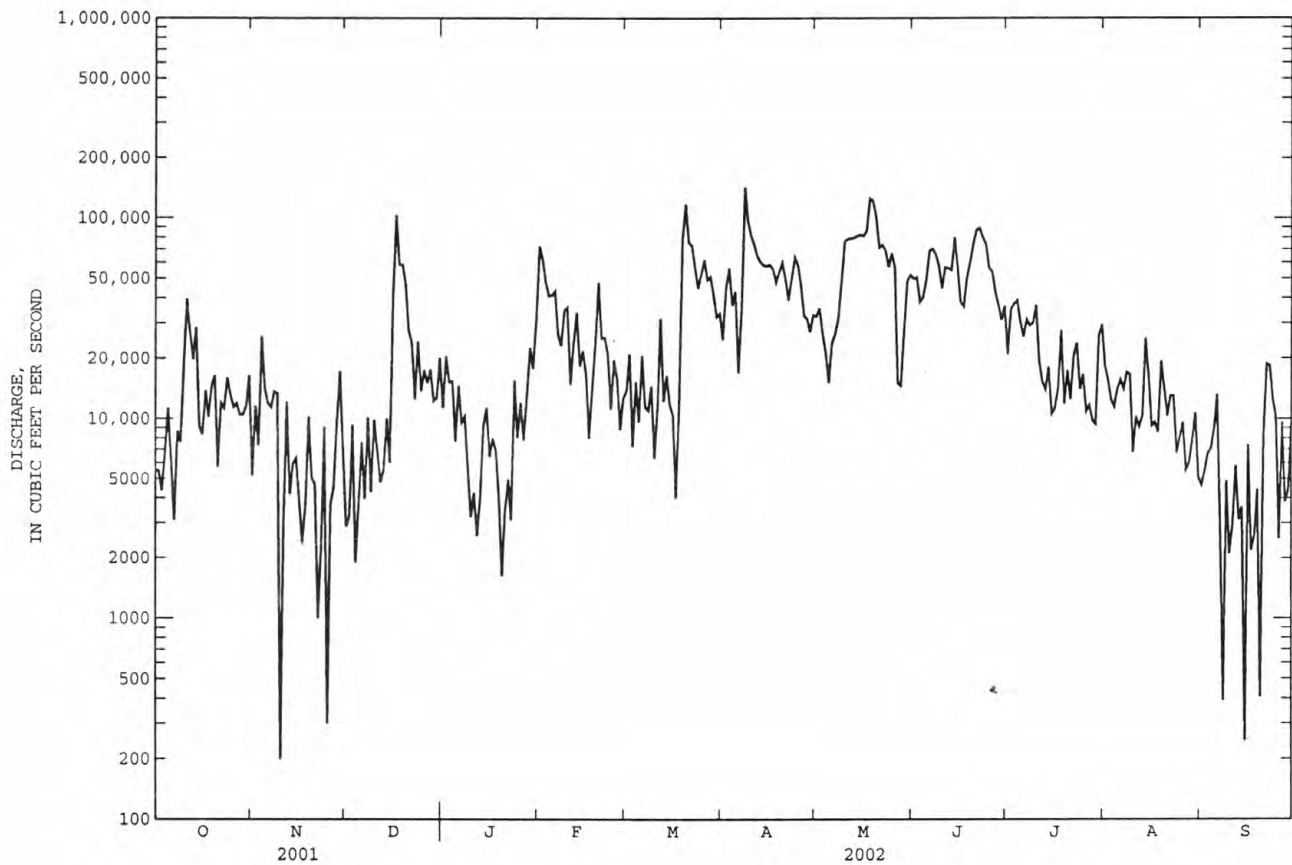
e Estimated

ARKANSAS RIVER BASIN

367

07249455 ARKANSAS RIVER NEAR FORT SMITH, AR--Continued

SUMMARY STATISTICS	FOR 2001 CALENDAR YEAR		FOR 2002 WATER YEAR		WATER YEARS 1997 - 2002	
ANNUAL TOTAL	11616166		9622593		41720	
ANNUAL MEAN	31830		26360		73680	
HIGHEST ANNUAL MEAN					26360	
LOWEST ANNUAL MEAN					198000	
HIGHEST DAILY MEAN	152000	Feb 25	142000	Apr 8	198000	Jan 5 1998
LOWEST DAILY MEAN	200	Nov 10	200	Nov 10	45	Sep 10 1998
ANNUAL SEVEN-DAY MINIMUM	1860	Aug 30	2980	Sep 14	1430	Sep 7 1998
MAXIMUM PEAK FLOW			168000	Apr 8	206000	Jan 5 1998
MAXIMUM PEAK STAGE			22.31	Apr 8	25.82	Jan 5 1998
ANNUAL RUNOFF (AC-FT)	23040000		19090000		30220000	
10 PERCENT EXCEEDS	81900		62600		116000	
50 PERCENT EXCEEDS	16700		15300		23900	
90 PERCENT EXCEEDS	3910		4220		5230	



ARKANSAS RIVER BASIN

07249455 ARKANSAS RIVER AT FORT SMITH, AR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1996 to current year.

REMARKS.--Samples collected periodically. Specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

		AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)			
AUG														
	28...	1355	1028	1028	11.30	5600	773	7.4	7.7	663	28.9	100		
	28...	1358	1028	1028	11.30	5600	773	7.5	7.8	670	29.0	300		
	28...	1401	1028	1028	11.30	5600	773	7.5	7.8	671	29.0	500		
	28...	1402	1028	1028	11.30	5600	773	7.5	7.8	673	29.0	700		
	28...	1404	1028	1028	11.30	5600	773	7.6	7.8	675	29.0	900		
Date	Time	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	GAGE HEIGHT (FEET) (00065)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	
NOV														
08...	1000	80020	1028	12.36	E13600	771	56	5.5	8.3	490	20.0	17.0	130	
JAN														
16...	1035	80020	1028	11.57	E6430	770	86	11.2	7.9	340	8.4	4.4	110	
FEB														
13...	1600	80020	1028	11.71	37400	775	101	12.5	8.2	447	11.0	6.7	110	
APR														
24...	1415	80020	1028	13.76	61600	765	110	10.4	7.5	300	27.4	18.2	91	
JUN														
20...	1000	80020	1028	13.92	73700	775	90	7.1	7.6	482	27.0	28.5	120	
AUG														
28...	1400	80020	1028	11.30	5600	773	86	6.7	7.5	670	26.2	29.0	150	
Date	Time	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	SODIUM AD- SORP- TION RATIO (00931)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
NOV														
08...	34	37.3	9.61	3.54	1	38.8	38	100	119	1	55.8	48.7	.45	
JAN														
16...	21	32.3	6.25	3.34	1	25.6	34	85	104	0	33.4	29.7	.45	
FEB														
13...	34	30.6	7.59	3.34	2	43.6	46	74	90	0	64.3	43.0	.61	
APR														
24...	16	25.2	6.83	2.69	.9	19.9	31	75	91	0	25.8	28.9	.53	
JUN														
20...	31	36.4	7.58	3.79	2	51.4	47	91	111	0	75.2	38.0	.70	
AUG														
28...	29	43.0	9.89	4.72	3	77.5	52	119	144	0	113	46.9	.55	
Date	Time	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, DIS- SOLVED (MG/L AS N) (00613)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	ORTHO- PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)
NOV														
08...	E.03	--	.57	--	.12	--	E.004	.055	E.03	.02	E.06	12	.36	
JAN														
16...	<.04	--	.84	--	.40	--	<.008	.061	E.03	.02	E.06	14	.27	
FEB														
13...	<.04	--	1.0	--	.41	--	E.004	--	<.06	E.02	.09	26	.34	
APR														
24...	<.04	.26	.80	1.16	.27	.036	.011	--	<.06	E.01	.09	29	.23	
JUN														
20...	<.04	--	1.2	--	.50	--	E.004	.110	E.05	.04	.12	38	.39	
AUG														
28...	<.04	--	--	--	<.05	--	<.008	.144	E.04	.05	.10	<10	.53	

ARKANSAS RIVER BASIN

369

07249455 ARKANSAS RIVER AT FORT SMITH, AR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

Date	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	TURBID- ITY LAB HACH 2100AN (NTU) (99872)	PHEO- PHYTIN PHYTO- PLANK- TON, ACID M. (UG/L) (32218)	E COLI, MTEC MF WATER (COL/ 100 ML) (31633)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	FECAL STREP, KF STRP MF, WATER (COL/ 100 ML) (31673)	CHLORO- HPYLL A PHYTO- PLANK- TON ACID M. (UG/L) (32211)	CHLORO- PHYLL A PHYTO- PLANK- TON, UNCORR. (UG/L) (32230)	CHLORO- PHYLL B PHYTO- PLANK- TON, UNCORR. (UG/L) (32231)	CHLORO- PHYLL C PHYTO- PLANK- TON, UNCORR. (UG/L) (32232)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
NOV 08...	--	268	254	14	4.00	E5	E6	E3	12.0	15.0	<1.00	<1.00	E1.1
JAN 16...	--	202	184	17	3.00	E11	E6	E8	10.0	12.0	<1.00	<1.00	E1.6
FEB 13...	25400	252	239	31	4.00	E7	20	E16	9.00	12.0	<1.00	<1.00	7.1
APR 24...	28700	172	155	35	8.00	E13	E10	60	7.00	12.0	<1.00	<1.00	5.3
JUN 20...	57700	290	270	51	7.00	23	20	243	2.00	7.00	<1.00	<1.00	<2.0
AUG 28...	5850	387	366	12	18.0	E10	E15	E8	21.0	33.0	<1.00	<1.00	E1.1
						SEDI- MENT, DIS- CHARGE, SUS- PENDEED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)					
						NOV 08...	54	--	99				
						JAN 16...	46	--	94				
						FEB 13...	67	6770	95				
						APR 24...	65	10800	93				
						JUN 20...	69	13700	96				
						AUG 28...	11	166	95				

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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.

DISCHARGE AT PARTIAL-RECORD STATIONS

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
ARKANSAS RIVER BASIN						
07158110	Cimarron River nr Orienta, OK	Lat 36°22'10", long 98°27'16", in SW 1/4, NE 1/4, sec.23, T.22 N., R.12 W., Major County, Hydrologic Unit 11050001, at U.S. Highway 412 bridge, 0.1 mi downstream of Eagle Chief Creek and 1.5 miles northwest of Orienta.		2002	06-04-02 06-13-02 06-14-02 06-15-02	41.0 5290 5220 895
07159639	Bluff Creek above Bethany and Warr Acres Sewage Treatment Plant near Edmond, OK.	Lat 35°40'02", long 97°35'45", in NE 1/4, NW 1/4, sec.26, T.14 N., R.4 W., Oklahoma County, Hydrologic Unit 11050002, at county road bridge 0.4 mi upstream of Deer Creek and 0.6 mi west of State Highway 74.		1986 1993-2002	05-14-02 06-19-02 07-16-02 09-11-02	4.3 7.8 4.2 4.4
07159643	Deer Creek below Bluff Creek at Oklahoma City, OK.	Lat 35°40'56", long 97°35'26", in NE 1/4, NW 1/4, sec.23, T.14 N., R.4 W., Oklahoma County, Hydrologic Unit 11050002, 0.3 mi upstream of County Road and 0.5 mi downstream of confluence of Bluff Creek.		1993-2002	05-15-02 06-20-02 07-16-02 09-11-02	13 16 9.3 7.3
07159650	Deer Creek at Oklahoma City, OK.	Lat 35°41'24", long 97°35'06", in SW 1/4, NW 1/4, sec.13, T.14 N., R.4 W., Oklahoma County, Hydrologic Unit 11050002, at bridge on 220th St., 0.4 mi east of State Highway 74.		1993-2002	05-14-02 06-19-02 07-16-02 09-11-02	33 26 29 26
07159730	Chisholm Creek at Edmond, OK.	Lat 35°40'55", long 97°32'06", in SE 1/4, SE 1/4, sec.17, T.14 N., R.3 W., Oklahoma County, Hydrologic Unit 11050002, at bridge on 206th St., 0.2 mi west of Western Avenue, 1.8 mi south of Logan County line.		1993-2002	05-14-02 06-19-02 07-16-02 09-11-02	1.3 2.2 1.8 2.0
07159735	Chisholm Creek near Edmond, OK.	Lat 35°43'32", long 97°31'37", in NW 1/4, NW 1/4, sec.4, T.14 N., R.3 W., Oklahoma County, Hydrologic Unit 11050002, at bridge on County Road, 0.2 mi east of Western Avenue on the Logan and Oklahoma County lines.		1993-2002	05-14-02 06-19-02 07-16-02 09-11-02	8.2 9.0 7.2 8.3
07165520	Arkansas River at Bixby, OK	Lat 35°57'26", long 95°53'10", in NE 1/4, NE 1/4, sec.14, T.17 N., R.13 E., Tulsa County, Hydrologic Unit 11110101, on US 64, 0.8 mi north of Bixby, Ok.		2001-2002	03-13-01 06-19-02 06-21-02 08-21-02	298 12100 37500 10400
07163500	Cimarron River at Oilton, OK	Lat 36°05'48", long 96°34'52", in NE 1/4, SW 1/4, sec.28, T.19 N., R.7 E., Creek County, Hydrologic Unit 11050003, on SH 99, 0.5 mi northeast of Oilton, Ok.		2002	06-05-02 06-17-02	674 8050

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
ARKANSAS RIVER BASIN						
07164400	Arkansas River at Sand Springs, OK	Lat 36°06'48", long 96°06'49", in SE 1/4, NW 1/4, sec.11, T.19 N., R.12 E., Tulsa County, Hydrologic Unit 11110101, on SH 97, 1.0 mi south of Sand Springs, Ok.		2002	06-19-02 06-21-02	30700 38600
07196090	Illinois River at Chewey, Ok.	Lat 36°06'15", long 94°46'57", in SE 1/4 SE 1/4, sec. 19, T.19 N., R.24 E., Adair County, Hydrologic Unit 11110103, at Hampton Bridge, 0.85 mi west of Chewey, Ok.		1996-2002	10-11-01 12-11-01 12-17-01 02-01-02 03-20-02 04-08-02 06-14-02 08-15-02	1110 335 17400 7420 9540 11600 1640 3230
07196320	Illinois River near Moodys, Ok.	Lat 36°01'54", long 94°54'38", in SE 1/4 SW 1/4, sec. 13, T.18 N., R.22 E., Cherokee County, Hydrologic Unit 11110103, at Combs Bridge, 2.6 mi east of Moodys, Ok.		2001-2002	10-12-01 12-11-01 12-18-01 02-01-02 03-20-02 04-08-02 06-14-02	2100 366 9790 7300 10100 11500 1980
07196520	Illinois River near Park Hill, OK.	Lat 35°51'11", long 94°54'55", in NE 1/4, NW 1/4, sec.24 T.16 N., R.22 E., Cherokee County, Hydrologic Unit 11110103, adjacent to unimproved road, 0.2 mi upstream from Barron Fork, 2.4mi southeast of Park Hill, Ok.		1996-2002	10-24-01 12-10-01 02-15-02 06-11-02	385 460 680 772
072294282	Canadian River near Konawa, OK	Lat 34°56'00", long 96°40'59", in NE 1/4, SE 1/4, sec.4 T.5 N., R.6 E., Seminole County, Hydrologic Unit 11090202, on SH 99, 0.5 miles south of SH 99 and SH 39.	26,435	2002	04-08-02 04-09-02 06-20-02 08-20-02	10300 3010 721 48.8
072319752	Brushy Creek near Haileyville, OK	Lat 34°52'15", long 95°35'16", in SE 1/4, SW 1/4, sec.26 T.5 N., R.16 E., Pittsburg County, Hydrologic Unit 11090204, on Dow Lake Road, 1.0 mile southeast of Dow and 1.1 miles downstream of Peaceable Creek.	313	2002	03-19-02 04-10-02 07-24-02	8410 2060 1.07
07242185	N. Canadian River near Dustin, OK	Lat 35°18'58", long 95°57'18", in NE 1/4, NW 1/4, sec.29 T.10 N., R.13 E., McIntosh County, Hydrologic Unit 11100302, on Indian Nation Turnpike, 8.0 miles south of I-40, 1.6 miles downstream of Fish Creek and 3.4 miles north of junction of SH 9 and Indian Nation Turnpike.	10,017	2002	04-08-02 04-10-02 06-12-02 08-08-02	17500 6240 401 176
07242900	Deep Fork near Stroud, OK	Lat 35°41'10", long 96°39'10", in NW 1/4, SW 1/4, sec.15 T.14 N., R.6 E., Lincoln County, Hydrologic Unit 11100303, on SH 99, 1.3 miles upstream of Dry Creek and 4.2 miles south of Stroud.		2002	04-19-02 06-11-02 09-05-02	522 136 24.0
07247345	Black Fork at Hodgen, OK.	Lat 34°50'35", long 94°37'28", in SE 1/4, SE 1/4, sec.1 T.4 N., R.25 E., LeFlore County, Hydrologic Unit 11110105, at county road bridge .4 mi east of Hodgen.	179	1992-2002	11-07-01 01-15-02 02-14-02 06-19-02 08-27-02	19 41 231 44.8 .56
07247350	Poteau River near Heavener, OK	Lat 34°51'30", long 94°37'45", in SE 1/4, SE 1/4, sec.35 T.5 N., R.25 E., LeFlore County, Hydrologic 11110105, on SH 59, 0.7 mile downstream of Black Fork and 1.1 miles north of Hodgen, OK	523	2002	03-20-02 06-06-02 08-21-02	29500 1732 9.53

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
ARKANSAS RIVER BASIN						
07247650	Fourche Maline near Leflore, OK.	Lat 34°55'11", long 94°56'43", in NE 1/4, SE 1/4, sec.11 T.5 N., R.22 E., LeFlore County, Hydrologic Unit 11110105, at county road bridge 1.6 mi east of LeFlore.	270	1992-2002	11-07-01 01-15-02 02-15-02 06-19-02 08-27-02	102 44.2 171 90.8 1.04
07247800	Holson Creek at Summerfield, OK.	Lat 34°52'46", long 94°51'11", in SW 1/4, NW 1/4, sec.26 T.5 N., R.23 E., LeFlore County, Hydrologic Unit 11110105, at county road bridge 1.4 mi east of Summerfield.	71.6	1992-2002	11-07-01 01-14-02 02-14-02 04-25-02 06-19-02	5.57 9.04 52.1 29.8 9.35
07249430	Poteau River near Pocola, OK	Lat 35°14'19", long 94°31'13", in SW 1/4, NE 1/4, sec.23 T.9 N., R.23 E., LeFlore County, Hydrologic Unit 11110105, on McKenzie county road, 1.8 miles upstream of Wells Creek and 2.4 miles northwest of Pocola, OK	1,836	2002	03-20-02 04-17-02 06-05-02	31900 7720 5890

INDEX

373

Page	Page
A	
Access to USGS Water Data	12
Accuracy of the Records	7
Acre-foot, definition of	12
Algae, definition of	12
Alva, Salt Fork Arkansas River near	24
Aquifer, definition of	12
Arkansas River at Bixby	370
at Fort Smith, AR	366
at Ralston	30
at Sand Springs	371
at Tulsa	62
near Haskell	72
Salt Fork, at Tonkawa	26
near Alva	24
Aroclor, definition of	12
Arrangement of Records	8
Artesian, definition of	12
Artificial substrate, definition of	16
Ash mass, definition of	13
Avant, Bird Creek at	82
B	
Bacteria, definition of	12
Barber, Caney Creek near	220
Baron Fork at Eldon	216
Bartlesville, Caney River	
above Coon Creek at	76
Beaty Creek near Jay	168
Beaver River, at Beaver	250
near Felt	242
near Goodwell	244
Beaver, Beaver River at	250
Bed load discharge, definition of	16
Bed load, definition of	16
Bed material, definition of	12
Beggs, Deep Fork near	338
Big Cabin Creek near Big Cabin	144
Big Cabin, Big Cabin Creek near	144
Biochemical oxygen demand, definition of	13
Biomass, definition of	13
Bird Creek at State Highway 266	
near Catoosa	108
at Avant	82
near Owasso	98
near Sperry	84
Black Bear Creek at Pawnee	32
Black Fork, at Hodgen	356,371
below Big Creek near Page	352
Blackwell, Chikaskia River near	28
Blue-green algae, definition of	15
Bluff Creek above Bethany and Warr Acres	
Sewage Treatment Plant	
near Edmond	46,370
Bottom material, definition of	13
Bridgeport, Canadian River at	226
Brushy Creek near Haileyville	371
Buffalo, Cimarron River near	38
C	
Calumet, North Canadian River near	260
Calvin, Canadian River at	240
Canadian River, at Bridgeport	226
at Calvin	240
at Purcell	228
near Konawa	371
near Whitefield	344
Caney Creek near Barber	220
Caney River, above Coon Creek	
at Bartlesville	76
near Ramona	78
Canton, North Canadian River at	256
Catoosa, Bird Creek at State Highway 266	108
Cauthron, AR, Poteau River at	346
Cave Springs Branch near South West City, MO	132
Cells/volume, definition of	13
Chemical oxygen demand, definition of	13
Cherokee, Ar, Spavinaw Creek near	152
Chewey, Illinois River at	202,371
Chikaskia River near Blackwell	28
Chisholm Creek, at Edmond	49,370
near Edmond	50,370
Chlorophyll, definition of	13
Chouteau, Neosho River near	182
Christie, Peacheater Creek at	214
Cimarron River, near Buffalo	38
near Dover	42
near Forgan	36
near Guthrie	54
near Kenton	34
near Oilton	370
near Orienta	370
near Ripley	60
near Waynoka	40
Claremore, Dog Creek South of	118
Verdigris River near	80
Classification of Records	8
Coal Creek at Tulsa	96
Coal Creek near Henryetta	340
Code	13
Code Numbers	13
Colcord, Spavinaw Creek near	162
Coldwater Creek near Guymon	246
Commerce, Neosho River near	122
Contents, definition of	13
Control structure, definition of	13
Control, definition of	13
Cooperation	1
Cottonwood Creek near Seward	52
Cubic feet per second per square mile,	
definition of	13
Cubic foot per second, definition of	13
D	
Data Collection and Computation	4,11
Data Presentation	4,9,11
Deep Fork near Beggs	338
near Stroud	371
near Warwick	336
Deer Creek, at Oklahoma City	48,370
below Bluff Creek	
at Oklahoma City	47,370
Definition of Terms	12
Diatoms, definition of	15
Discharge, definition of	13
Dissolved, definition of	13
Dissolved-solids concentration, definition of	13
Dog Creek South of Claremore	118
Dover, Cimarron River near	42
Downstream Order System	2
Drainage area, definition of	13
Drainage basin, definition of	13
Dry mass, definition of	13
E	
Edmond, Bluff Creek above	
Bethany and Warr Acres	
Sewage Treatment Plant near	46,370
Chisholm Creek at	49,370
Chisholm Creek near	50,370
El Reno, North Canadian River near	276
Eldon, Baron Fork at	216
Elk River near Tiff City, MO	130
Enid, Skeleton Creek at	56
Eucha, Lake Eucha near	174
Spavinaw Creek near	176
Explanation of the Records	2
F	
Fecal coliform bacteria, definition of	12
Fecal streptococcal bacteria, definition of	12
Felt, Beaver River near	242
Flat Rock Creek	
at Cincinnati Avenue at Tulsa	94
Flint Creek near Kansas	196
near West Siloam Springs	188
Forgan, Cimarron River near	36
Fort Smith, AR, Arkansas River at	366
Fourche Maline, near Leflore	360,372
near Red Oak	358

Page	Page
G	
Gage height, definition of	14
Gaging station, definition of	14
Goodwell, Beaver River near	244
Gore, Illinois River near	224
Green algae, definition of	15
Guthrie, Cimarron River near	54
Guymon, Coldwater Creek near	246
H	
Haikey Creek	
at 101st Street South at Tulsa	68
Hardness, definition of	14
Harrah, North Canadian River near	318
Haskell, Arkansas River near	72
Henryetta, Coal Creek near	340
High-water mark	14
Hodgen, Black Fork at	356,371
Holson Creek at Summerfield	362,372
Honey Creek near South West City, MO	136
Hydrologic Benchmark Network,	
definition of	14
Hydrologic unit, definition of	14
I	
Illinois River at Chewey	202,371
near Gore	224
near Moodys	204,371
near Park Hill	212,371
near Tahlequah	206
near Watts	184
Instantaneous discharge, definition of	13
Introduction	1
J	
Jay, Beaty Creek near	168
Joe Creek at 61st Street at Tulsa	66
K	
Kansas, Flint Creek near	196
Kenton, Cimarron River near	34
L	
Laboratory Measurements	9
Lake Hefner at Oklahoma City	44
Lake Hefner Canal near Oklahoma City	288
Lake Overholser near Oklahoma City	294
Lakes and reservoirs	
Eucha, Lake, near Eucha	174
Hefner, Lake, at Oklahoma City	44
Hudson, Lake, near Locust Grove	180
Overholser, Lake, near Oklahoma City	294
O' the Cherokees, Lake, at Langley	140
Spavinaw Lake at Spavinaw	178
Stanley Draper Lake near Oklahoma City	230
Thunderbird, Lake, near Norman	232
Land-surface datum, definition of	14
Langley, Lake O' the Cherokees near	140
Neosho River near	142
Latitude-Longitude System	3
Leflore, Fourche Maline near	360,372
Lenapah, Verdigris River near	74
Little Haikey Creek	
at 101st Street South at Tulsa	70
Little River, below Lake Thunderbird	
near Norman	234
near Sasakwa	238
near Tecumseh	236
Locust Grove, Lake Hudson near	180
Lovell, Skeleton Creek near	58
Loving, Poteau River near	348
M	
Maysville, Ar, Spavinaw Creek near	146
Mean concentration, definition of	16
Mean discharge, definition of	13
Measuring point, definition of	14
Miami, Neosho River at	124
Micrograms per gram, definition of	14
per liter, definition of	14
Milligrams of carbon per area or volume	
per unit time, definition of	15
Milligrams of oxygen per area or volume	
per unit time, definition of	15
Milligrams per liter, definition of	14
Moodys, Illinois River near	204,371
N	
Natural substrate, definition of	16
Neosho River at Miami	124
near Chouteau	182
near Commerce	122
near Langley	142
Norman, Lake Thunderbird near	232
Little River below	
Lake Thunderbird near	234
North Canadian River at Britton Road	
at Oklahoma City	306
at Canton	256
at Highway 66 at Oklahoma City	290
at Shawnee	332
at Woodward	252
below Lake Overholser	
near Oklahoma City	296
below Weavers Creek near Watonga	258
near Calumet	260
near Dustin	371
near El Reno	276
near Harrah	318
near Seiling	254
near Wetumka	334
near Yukon	282
O	
O' the Cherokees, Lake, near Langley	140
Oklahoma City,	
Deer Creek at	48,370
Deer Creek below Bluff Creek at	47,370
Lake Hefner near	44
Lake Hefner Canal near	288
Lake Overholser near	294
North Canadian River	
at Britton Road at	306
at Highway 66 at	290
below Lake Overholser near	296
Stanley Draper Lake near	230
On-site Measurements and	
Sample Collection	8
Organic mass, definition of	13
Organism, definition of	14
Count/area, definition of	14
Count/volume, definition of	14
Other Records Available	7
Owasso, Bird Creek near	98
P	
Page, Black Fork below Big Creek near	352
Palo Duro Creek at Range	248
Panama, Poteau River near	364
Parameter Code, definition of	14
Park Hill, Illinois River near	212,371
Partial-record station, definition of	14
Particle size, definition of	14
Particle-size classification, definition of	14
Pawnee, Black Bear Creek at	32
Peacheater Creek at Christie	214
Percent composition, definition of	14
Periphyton, definition of	14
Pesticides, definition of	15
Phytoplankton, definition of	15
Picocurie, definition of	15
Plankton, definition of	15
Poteau River, at Cauthron, AR	346
near Heavener	371
near Loving	348
near Panama	364
near Pocola	372
Primary productivity, definition of	15
Publications on Techniques of	
Water-Resources Investigations	18
Purcell, Canadian River at	228

INDEX

375

Page	Page
Q	
Quapaw, Spring River near	128
R	
Ralston, Arkansas River at	30
Ramona, Caney River near	78
Range, Palo Duro Creek at	248
Records of Ground-Water Levels	11
Records of Stage and Water Discharge	3
Records of Surface-Water Quality	8
Recoverable from bottom material, definition of	15
Red Oak, Fourche Maline near	358
Remark Codes	10
Return period, definition of	15
Ripley, Cimarron River near	60
Runoff in inches, definition of	15
S	
Sager Creek near West Siloam Springs	192
Salt Fork Arkansas River, at Tonkawa	26
near Alva	24
Sasakwa, Little River near	238
Sea Level, definition of	15
Sediment	9
Sediment, definition of	15
Seiling, North Canadian River near	254
Seward, Cottonwood Creek near	52
Shawnee, North Canadian River at	332
Skeleton Creek at Enid	56
near Lovell	58
Sodium-adsorption-ratio, definition of	16
Solute, definition of	16
South West City, MO	
Cave Springs Branch near	132
Honey Creek near	136
Spavinaw Creek near Cherokee, Ar	152
near Colcord	162
near Eucha	176
near Maysville, Ar	146
near Sycamore	158
Spavinaw Lake at Spavinaw	178
Spavinaw, Spavinaw Lake near	178
Special Networks and Programs	2
Specific conductance, definition of	16
Sperry, Bird Creek near	84
Spring River near Quapaw	128
Stage-discharge relation, definition of	16
Stanley Draper Lake near Oklahoma City	230
Station Identification Numbers	2
Streamflow, definition of	16
Substrate, definition of	16
Summerfield, Holson Creek at	362,372
Surface area, definition of	16
Surficial bed material, definition of	16
Suspended sediment, definition of	16
Suspended, definition of	16
Suspended, recoverable, definition of	16
Suspended, total, definition of	17
Suspended-sediment concentration, definition of	16
discharge, definition of	16
load, definition of	16
Sycamore, Spavinaw Creek near	158
T	
Tahlequah, Illinois River near	206
Taxonomy, definition of	17
Tecumseh, Little River near	236
Terms, definition of	12
Tiff City, MO, Elk River near	130
Time-weighted average, definition of	17
Tonkawa, Salt Fork Arkansas River at	26
Tons per acre-foot, definition of	17
Tons per day, definition of	17
Total discharge, definition of	17
Total organism count, definition of	14
Total recoverable, definition of	17
Total sediment discharge, definition of	16
Total, definition of	17
Total-sediment load, definition of	16
Tulsa, Arkansas River at	62
Coal Creek at	96
Flat Rock Creek	
at Cincinnati Avenue at	94
Haikey Creek at 101st Street South at	68
Joe Creek at 61st Street at	66
Little Haikey Creek	
at 101st Street South at	70
V	
Verdigris River, near Claremore	80
near Lenapah	74
W	
Warwick, Deep Fork near	336
Water Quality-Control Data	10
Water Temperature	9
Water year, definition of	17
Watonga, North Canadian River below	
Weavers Creek near	258
Watts, Illinois River near	184
Waynoka, Cimarron River near	40
WDR, definition of	17
Weighted average, definition of	17
West Siloam Springs, Flint Creek near	188
Sager Creek near	192
Wet mass, definition of	13
Wetumka, North Canadian River near	334
Whitefield, Canadian River near	344
Woodward, North Canadian River at	252
WSP, definition of	17
Y	
Yukon, North Canadian River near	282
Z	
Zooplankton, definition of	15

CONVERSION FACTORS

Multiply	By	To obtain
Length		
inch (in.)	2.54×10^1	millimeter
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter
mile (mi)	1.609×10^0	kilometer
Area		
acre	4.047×10^3	square meter
	4.047×10^{-1}	square hectometer
	4.047×10^{-3}	square kilometer
square mile (mi ²)	2.590×10^0	square kilometer
Volume		
gallon (gal)	3.785×10^0	liter
	3.785×10^0	cubic decimeter
	3.785×10^{-3}	cubic meter
million gallons (Mgal)	3.785×10^3	cubic meter
	3.785×10^{-3}	cubic hectometer
cubic foot (ft ³)	2.832×10^1	cubic decimeter
	2.832×10^{-2}	cubic meter
cubic-foot-per-second day [(ft ³ /s) d]	2.447×10^3	cubic meter
	2.447×10^{-3}	cubic hectometer
acre-foot (acre-ft)	1.233×10^3	cubic meter
	1.233×10^{-3}	cubic hectometer
	1.233×10^{-6}	cubic kilometer
Flow		
cubic foot per second (ft ³ /s)	2.832×10^1	liter per second
	2.832×10^1	cubic decimeter per second
	2.832×10^{-2}	cubic meter per second
gallon per minute (gal/min)	6.309×10^{-2}	liter per second
	6.309×10^{-2}	cubic decimeter per second
	6.309×10^{-5}	cubic meter per second
million gallons per day (Mgal/d)	4.381×10^1	cubic decimeter per second
	4.381×10^{-2}	cubic meter per second
Mass		
ton (short)	9.072×10^{-1}	megagram 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 THE INTERIOR
U.S. Geological Survey
202 N. W. 66th Bldg. 7
Oklahoma City, Ok 73116



Printed on recycled paper