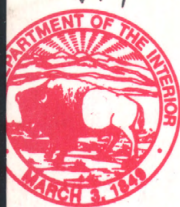


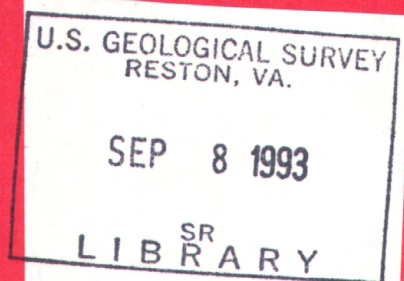
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Water Resources Data Oklahoma Water Year 1992

Volume 1. Arkansas River Basin

by R.L. Blazs, D.M. Walters, T.E. Coffey, D.K. White, D.L. Boyle,
and J.F. Kerestes



Volume 1.
Arkansas River Basin

Volume 2.
Red River Basin

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT OK-92-1

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

CALENDAR FOR WATER YEAR 1992

1991

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
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NOVEMBER

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1992

JANUARY

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AUGUST

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SEPTEMBER

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20	21	22	23	24	25	26
27	28	29	30			



Water Resources Data Oklahoma Water Year 1992

Volume 1. Arkansas River Basin

by R.L. Blazs, D.M. Walters, T.E. Coffey, D.K. White, D.L. Boyle,
and J.F. Kerestes



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT OK-92-1
Prepared in cooperation with the State of Oklahoma and
with other agencies

U.S. DEPARTMENT OF THE INTERIOR

BRUCE BABBITT, *Secretary*

U.S. GEOLOGICAL SURVEY

Dallas L. Peck, 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:

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R.W. Chadd	C.Z. Jones	M.L. Phillips	D.K. White
L.K. Carpenter 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 Kathy D. Peter, 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	1. REPORT NO. USGS/WRD/HD-93-280	2.	3. Recipient's Accession No.
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7. Author(s) R.L. Blazs, D.M. Walters, T.E. Coffey, D.K. White, D.L. Boyle, J.F. Kerestes		8. Performing Organization Rept. No. USGS-WDR-OK-92-1	
9. Performing Organization Name and Address U.S. Geological Survey Water Resources Division 202 NW 66th, Building 7 Oklahoma City, OK 73116		10. Project/Task/Work Unit No.	
		11. Contract(C) or Grant(G) No. (C) (G)	
12. Sponsoring Organization Name and Address		13. Type of Report & Period Covered Annual - Oct. 1, 1991 to Sept. 30, 1992	
		14.	
15. Supplementary Notes Prepared in cooperation with the State of Oklahoma and with other agencies.			
16. Abstract (Limit: 200 words) Volumes 1 and 2 of the water resources data for the 1992 water year for Oklahoma consists of records 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 136 gaging stations; stage and contents for 31 lakes or reservoirs; water quality for 50 gaging stations. Also included are 61 partial-record or miscellaneous streamflow stations and 28 ground-water 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.			
17. Document Analysis a. Descriptors *Oklahoma, *Hydrologic data, *Surface water, *Water quality, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediment, Water temperature, Sampling sites, Water analyses, Ground-Water. b. Identifiers/Open-Ended Terms c. COSATI Field/Group			
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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 discharge stations.....	xii
Introduction.....	1
Cooperation.....	1
Summary of hydrologic conditions.....	2
Streamflow	2
Chemical quality of streamflow	13
Ground-water	18
Special networks and programs.....	21
Explanation of records.....	21
Station identification numbers	21
Downstream order system.....	21
Latitude-longitude system.....	22
Records of stage and water discharge	22
Data collection and computation.....	22
Data presentation.....	23
Station manuscript.....	24
Data table of mean daily values.....	25
Statistics of monthly mean data.....	25
Summary statistics.....	25
Hydrographs.....	26
Identifying estimated daily discharge 23.....	27
Accuracy of the records.....	27
Other records available.....	27
Records of surface-water quality	27
Classification of records.....	27
Arrangement of records.....	28
On-site measurements and sample collection.....	28
Water temperature.....	28
Sediment.....	28
Laboratory measurements.....	29
Data presentation.....	29
Remark codes.....	30
Dissolved trace-element concentrations.....	30
Records of ground-water levels	30
Data collection and computation.....	30
Data presentation.....	31
Access to WATSTORE data.....	31
Definition of terms.....	32
Publications on Techniques of Water-Resources Investigations.....	39
Station records, surface water.....	46
Discharge at partial-record stations	504
Water-quality at miscellaneous sites	515
Station records, ground-water: See Volume 2	
Index.....	521

ILLUSTRATIONS

Figures 1-8. Comparisons of daily, monthly, and annual discharges, for water year 1992 and period of record:	
1. North Canadian River at Woodward.....	5
2. Arkansas River at Ralston.....	6
3. Neosho River near Commerce.....	7
4. Baron Fork at Eldon.....	8
5. Canadain River at Calvin.....	9
6. Elk Creek near Hobart.....	10
7. Washita River near Dickson.....	11
8. Blue River near Blue.....	12
Figure 9. Location of water-quality stations on selected principal streams.....	13

Figures 10-13. Comparison of minimum and maximum concentrations of selected constituents, in mg/L, for the 1992 water year and period of record 1970-90:

10. Dissolved - solids	14
11. Dissolved - chloride	15
12. Dissolved - sulfate	16
13. Suspended - sediment	17

Figures 14-18. Hydrographs of wells for the 1990-92 water years:

14. Idabel well	18
15. Texhoma well	19
16. Sharon well	19
17. Taloga well	20
18. Fittstown well	20

Figures 19-22. Maps of Oklahoma showing:

19. Locations of continuous-record surface-water stations, water year 1992	41
20. Locations of water-quality stations, water year 1992	42
21. Locations of partial-record stations, water year 1992	43
22. Locations of ground-water wells, water year 1992	44

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

[Letters after station name designate type of data: (d) discharge, (c) chemical, (b) biological, (e) contents, (m) microbiological, (t) water temperature, (s) sediment]

	Station number	Page
LOWER MISSISSIPPI RIVER BASIN		
MISSISSIPPI RIVER		
ARKANSAS RIVER BASIN		
Kaw Lake near Ponca City (e)	07148130	46
Arkansas River near Ponca City (d)	07148140	48
Salt Fork Arkansas River near Winchester (d)	07148350	50
Salt Fork Arkansas River near Alva (d)	07148400	52
Great Salt Plains Lake near Jet (e)	07150000	54
Salt Fork Arkansas River near Jet (d)	07150500	56
Salt Fork Arkansas River at Tonkawa (d)	07151000	58
Chikaskia River near Blackwell (d)	07152000	60
Arkansas River at Ralston (dcms)	07152500	62
Black Bear Creek at Pawnee (d)	07153000	68
Cimarron River near Kenton (d)	07154500	70
Cimarron River near Forgan (d)	07156900	72
Cimarron River near Buffalo (dcms)	07157950	74
Buffalo Creek near Lovedale (d)	07157960	80
Cimarron River near Waynoka (d)	07158000	82
Cimarron River near Dover (d)	07159100	84
Cottonwood Creek near Seward (d)	07159750	86
Cimarron River near Guthrie (d)	07160000	88
Skeleton Creek near Lovell (d)	07160500	90
Cimarron River at Perkins (cms)	07161000	92
Cimarron River near Ripley (d)	07161450	96
Council Creek near Stillwater (d)	07163000	98
Keystone Lake near Sand Springs (e)	07164200	100
Arkansas River at Tulsa (dcmts)	07164500	102
Joe Creek at 61st Street at Tulsa (d)	07164600	114
Polecat Creek:		
Heyburn Lake near Heyburn (e)	07165000	116
Haikey Creek at 101st Street South at Tulsa (d)	07165562	118
Little Haikey Creek at 101st Street South at Tulsa (d)	07165565	120
Arkansas River near Haskell (d)	07165570	122
Verdigris River near Lenapah (d)	07171000	124

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

vii

	Station number	Page
LOWER MISSISSIPPI RIVER BASIN		
MISSISSIPPI RIVER--Continued		
ARKANSAS RIVER BASIN--Continued		
Oologah Lake near Oologah (e).....	07171300	126
Verdigris River near Oologah (d).....	07171400	128
Hulah Lake near Hulah (e).....	07172500	130
Caney River near Hulah (d).....	07173000	132
Little Caney River:		
Copan Lake near Copan (e).....	07174300	134
Caney River above Coon Creek at Bartlesville (d).....	07174400	136
Sand Creek at Okesa (d).....	07174600	138
Caney River near Ramona (dcms).....	07175500	140
Verdigris River near Claremore (d).....	07176000	146
Bird Creek:		
Birch Creek:		
Birch Lake near Barnsdall (e).....	07176460	148
Birch Creek below Birch Lake near Barnsdall (d).....	07176465	150
Bird Creek near Avant (d).....	07176500	152
Hominy Creek:		
Skiatook Lake near Skiatook (e).....	07177400	154
Hominy Creek below Skiatook Lake near Skiatook (d).....	07177410	156
Bird Creek near Sperry (dcst).....	07177500	158
Flat Rock Creek at Cincinnati Avenue at Tulsa (d).....	07177650	172
Coal Creek at Tulsa (d).....	07177800	174
Bird Creek near Owasso (dcst).....	07178000	176
Mingo Creek at 46th Street North at Tulsa (dcst).....	07178040	190
Bird Creek at State Highway 266 near Catoosa (dcst).....	07178200	204
Neosho River near Commerce (d).....	07185000	218
Tar Creek at 22nd Street Bridge at Miami (dc).....	07185095	220
Spring River near Quapaw (d).....	07188000	226
Elk River near Tiff City, MO (d).....	07189000	228
Lake O' The Cherokees at Langley (e).....	07190000	230
Neosho River near Langley (d).....	07190500	232
Big Cabin Creek near Big Cabin (d).....	07191000	234
Spavinaw Creek near Sycamore (d).....	07191220	236
Spavinaw Lake at Spavinaw (e).....	07191300	238
Lake Hudson near Locust Grove (e).....	07191400	240
Neosho River near Chouteau (d).....	07191500	242
Fort Gibson Lake near Fort Gibson (e).....	07193000	244
Neosho River below Fort Gibson near Fort Gibson (cms).....	07193500	246
Illinois River near Watts (dc).....	07195500	250
Flint Creek near Kansas (c).....	07196000	256
Illinois River near Tahlequah (dc).....	07196500	260
Baron Fork at Eldon (dct).....	07197000	266
Tenkiller Ferry Lake near Gore (e).....	07197500	272
Illinois River near Gore (dc).....	07198000	274
Canadian River at Bridgeport (dc).....	07228500	280
Canadian River at Purcell (d).....	07229200	284
Walnut Creek at Purcell (d).....	07229300	286
Little River:		
Lake Thunderbird near Norman (e).....	07229900	288
Little River below Lake Thunderbird near Norman (d).....	07230000	290
Little River near Tecumseh (d).....	07230500	292
Little River near Sasakwa (dc).....	07231000	294
Canadian River at Calvin (dcms).....	07231500	298
Gaines Creek near Higgins (c).....	07231955	304
Pit Creek near Hartshorne (c).....	07231959	308
Gaines Creek near Gowen (c).....	07231960	312

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

	Station number	Page
LOWER MISSISSIPPI RIVER BASIN		
MISSISSIPPI RIVER--Continued		
ARKANSAS RIVER BASIN--Continued		
Beaver River near Felt (d).....	07232250	316
Beaver River near Guymon (d).....	07232500	318
Coldwater Creek near Guymon (d).....	07232900	320
Optima Lake near Hardesty (e).....	07233200	322
Beaver River:		
Palo Duro Creek at Range (d).....	07233650	324
Beaver River at Beaver (dcms).....	07234000	326
Clear Creek near Elmwood (d).....	07234100	330
North Canadian River:		
Wolf Creek:		
Fort Supply Lake near Fort Supply (e).....	07236500	332
Wolf Creek near Fort Supply (d).....	07237000	334
North Canadian River at Woodward (dcms).....	07237500	336
North Canadian River near Seiling (d).....	07238000	342
Canton Lake near Canton (e).....	07238500	344
North Canadian River at Canton (d).....	07239000	346
North Canadian River below Weavers Creek near Watonga (d).....	07239300	348
North Canadian River near Calumet (dct).....	07239450	350
North Canadian River near El Reno (dct).....	07239500	372
Lake Hefner Canal near Oklahoma City (d).....	07240000	380
Lake Overholser near Oklahoma City (e).....	07240500	382
North Canadian River below Lake Overholser near Oklahoma City (dct)...	07241000	384
North Canadian River at Britton Road at Oklahoma City (dct).....	07241520	400
North Canadian River near Harrah (dcmtb).....	07241550	418
Tecumseh Creek at Tecumseh (d).....	07241750	442
North Canadian River near Wetumka (dcmts).....	07242000	446
Deep Fork:		
Arcadia Lake near Arcadia (e).....	07242340	452
Deep Fork near Arcadia (d).....	07242350	454
Deep Fork near Warwick (d).....	07242380	456
Dry Creek near Kendrick (d).....	07243000	458
Deep Fork near Beggs (dcmts).....	07243500	460
Eufaula Lake near Broken (e).....	07244800	466
Canadian River near Whitefield (d).....	07245000	468
Poteau River at Cathron, Ar (dct).....	07247000	470
Poteau River at Loving (dct).....	07247015	474
Poteau River at Hontubby (ct).....	07247025	480
Black Fork Below Big Creek near Page (dc).....	07247250	481
Black Fork at Hodgen (c),.....	07247345	485
Fourche Maline near Red Oak (dc).....	07247500	488
Foruche Maline near Leflore (c).....	07247650	494
Holson Creek at Summerfield (c).....	07247800	497
Wister Lake near Wister (e).....	07248000	500
Poteau River near Panama (d).....	07249413	502

WATER RESOURCES DATA - OKLAHOMA, 1992
DISCONTINUED SURFACE-WATER DISCHARGE STATIONS

ix

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 discharge stations

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
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
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
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
Cimarron River at Oilton, OK	07163500	18,669	1935-45
Cimarron River at Mannford, OK	07164000	18,849	1939-50 1960-63
Polecat Creek below Heyburn Reservoir near Heyburn, OK	07165500	123	1944-79
Arkansas River near Tullahasse, OK	07165600	75,815	1970-72
Verdigris River near Sageeyah, OK	07171500	4,402	1939-45
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
Caney River near Ochelata, OK	07174700	1,753	1956-76
Double Creek subwater shed 5 near Ramona, OK	07175000	2.39	1955-69

DISCONTINUED SURFACE-WATER DISCHARGE STATIONS--Continued

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
Caney River near Collinsville, OK	07175550	2,046	1936-38
Candy Creek near Wolco, OK	07176800	30.6	1970-81
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
Verdigris River near Inola, OK	07178600	7,911	1945-70
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
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
Flint Creek near Kansas, OK	07196000	110	1956-76 1979-90
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 Noble, OK	07229100	25,911	1960-61 1964-75
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
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
Coldwater Creek near Hardesty, OK	07233000	1,967	1940-64
Beaver River near Hardesty, OK	07233210	5,029	1978-86
Wolf Creek near Shattuck, OK	07235500	1,183	1938-46
Wolf Creek near Fargo, OK	07236000	1,624	1943-76
Bent Creek near Seiling, OK	07237800	139	1967-70

WATER RESOURCES DATA - OKLAHOMA, 1992
DISCONTINUED SURFACE-WATER DISCHARGE STATIONS--Continued

xi

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
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
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
Bellcow Creek at Chandler, OK	07242500	46.0	1949-55
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, 1992
DISCONTINUED SURFACE-WATER-QUALITY STATIONS

The following stations are discontinued surface-water-quality 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	8670	1948-51, 1961
Arkansas River near Ponca City, OK	07148140	46530	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	1009	1938-54, 1962, 1977-79, 1985-90
Salt Fork Arkansas River near Ingersoll, OK	07148450	1140	1961-62, 1973-80
Salt Fork Arkansas River near Cherokee, OK	07149500	2439	1941-49
Cottonwood Canyon Creek near Cherokee, OK	07149704		1944-45
Salt Fork Arkansas River near Jet, OK	07150500	3202	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	4528	1943-45, 1948, 1951-64, 1968-79, 1985-90
Chikaskia River near Braman, OK	07151900	1510	1976-77
Chikaskia River near Blackwell, OK	07152000	1859	1906, 1938, 1943-45, 1952-53, 1955-56, 1959-64, 1975-80, 1985-90

WATER RESOURCES DATA - OKLAHOMA, 1992
Discontinued surface-water-quality stations

xiii

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
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
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	1106	1952-53, 1955-56, 1959-63, 1967-68, 1977, 1982, 1987-90
Cimarron River Ab Ute Creek near Boise City, OK	07155000	1955	1938-48, 1950
Cimarron River near Forgan, OK	07156900	8536	1967-68, 1970-71, 1974, 1987-90
Cimarron River near Mocane, OK	07157000	8670	1942-49, 1952-53, 1955-56, 1959-66, 1977-78
Cimarron River near Englewood, Ks	07157580	10096	1938-42, 1982-87
Buffalo Creek near Lovedale, OK	07157960	408	1917, 1973-80, 1987-90
Cimarron River at Freedom, OK	07157980	12706	1953, 1973-80
Cimarron River near Waynoka, OK	07158000	13334	1938-53, 1955-56, 1959-63, 1968-79, 1985-90

WATER RESOURCES DATA - OKLAHOMA, 1992
Discontinued surface-water-quality stations

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
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	15713	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
Bluff Ck Ab Bethany/Warr Ac Swg Trmt Plt near Edmond OK	07159639		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
Cimarron River near Guthrie, OK	07160000	16892	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 near Ripley, OK	07161450	17979	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	18669	1938, 1942, 1944-45, 1981

WATER RESOURCES DATA - OKLAHOMA, 1992
Discontinued surface-water-quality stations

xv

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
Cimarron River at Mannford, OK	07164000	18849	1939-52, 1959-63
Arkansas River at Sand Springs near Tulsa, OK	07164400	74615	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	75473	1972-83, 1986-88
Cane Creek near Jamesville, OK	07165581		1960-61
Arkansas River near Tullahassee, OK	07165600	75815	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	3639	1940-83, 1985-87, 1989-90
California Creek near Nowata, OK	07171080		1952-53, 1959
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	4339	1961-83, 1986, 1988-89
Verdigris River Ab Caney River near Claremore, OK	07171405		1941, 1945, 1948, 1952-55, 1959, 1961, 1978

WATER RESOURCES DATA - OKLAHOMA, 1992
Discontinued surface-water-quality stations

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
Sweetwater Creek near Claremore, OK	07171490		1980-83
Verdigris River near Sageeyah, OK	07171500	4402	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	1392	1985-86, 1989-90
Caney River at Bartlesville, OK	07174500	1465	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
Caney River near Ochelata, OK	07174700	1753	1959-61
Double Creek SWS 5 near Ramona, OK	07175000	2.39	1957-59, 1964-65, 1967-69
Caney River near Collinsville, OK	07175550	2046	1949-53, 1959
Verdigris River near Claremore, OK	07176000	6534	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

WATER RESOURCES DATA - OKLAHOMA, 1992
Discontinued surface-water-quality stations

xvii

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
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 near Sperry, OK	07177500	905	1951-53, 1955, 1957, 1960-62, 1964-83, 1986, 1988-90
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	1022	1948-50, 1987-90
Mingo Creek at 46th Street North at Tulsa, OK	07178040	59.9	1978, 1980-81, 1988-90
Bird Creek near Catoosa, OK	07178050	1080	1963-90
Bird Ck at State Highway 266 near Catoosa, OK	07178200	1103	1988-90
Bird Creek at Catoosa, OK	07178400		1977-80, 1989
Verdigris River near Inola, OK	07178600	7911	1940-71, 1976-79
Verdigris River (Newt Graham L&D) near Inola, OK	07178620	7911	1971-86
Verdigris River near Okay, OK	07178670	1959-63	
Neosho River near Commerce, OK	07185000	5876	1944-54, 1959-73, 1975-83, 1985-89
Spring River near Quapaw, OK	07188000	2510	1944-64, 1975-80, 1986, 1988-89

WATER RESOURCES DATA - OKLAHOMA, 1992
Discontinued surface-water-quality stations

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
Neosho River near Langley, OK	07190500	10335	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, 951-60, 1964-71, 1975-77, 1985-89
Spavinaw Creek near Sycamore, OK	07191220	133	1972-77, 1980-88
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	11534	1921, 1940-48, 1950-58, 1960, 1975-80
Pryor Creek near Pryor, OK	07192000	229	1942-44, 1948-58, 1960-63
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	12307	1930-31, 1938-50
Arkansas River near Muskogee, OK	07194500	96674	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

WATER RESOURCES DATA - OKLAHOMA, 1992
Discontinued surface-water-quality stations

xix

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
Illinois River near Silo, Ar	07195400	509	1978-79, 1981, 1983-91
Illinois River South Of Siloam Springs, Ar	07195430		1972-81
Flint Creek at Springtown, Ar	07195800	14.2	1975-79
Flint Creek North Of Siloam Springs, Ar	07195850		1972-81
Tahlequah Creek at Tahlequah, OK	07196510	13.4	1976-77
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	23615	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 near Union City, OK	07228700		1953, 1973
Canadian River Trib near Newcastle, OK	07228960	3.32	1938-45
Canadian River near Noble, OK	07229100	25911	1963-75
Canadian River at Purcell, OK	07229200	25939	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

WATER RESOURCES DATA - OKLAHOMA, 1992
Discontinued surface-water-quality stations

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
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
Pit Creek near Gowen, OK	07231958	5.74	1990-91
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	2139	1937-65, 1967-77, 1988, 1990
Beaver River near Hooker, OK	07232630	3017	1972-73, 1975, 1977, 1979
Coldwater Creek near Hardesty, OK	07233000	1967	1939-64
Beaver River near Hardesty, OK	07233210	5029	1938-39, 1979-82
Palo Duro Creek near Range, OK	07233700	1745	1953-54, 1959-62
Clear Creek near Elmwood, OK	07234100	170	1987-90
Kiowa Creek near Slapout, OK	07234200	371	1953-54, 1959-60, 1980

WATER RESOURCES DATA - OKLAHOMA, 1992
Discontinued surface-water-quality stations

xxi

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
Clear Creek near May, OK	07234300	109	1953-54, 1960
Beaver River near Fort Supply, OK	07234500	9615	1939-51, 1957, 1976
Wolf Creek near Shattuck, OK	07235500	1183	1938-46
Wolf Creek near Fargo, OK	07236000	1624	1941-64, 1967-68, 1971-72, 1976, 1978
Wolf Creek near Fort Supply, OK	07237000	1739	1938-63, 1971, 1973, 1979, 1987-90
North Canadian River near Seiling, OK	07238000	12261	1943-44, 1946-72, 1974-83, 1987-90
North Canadian River at Canton, OK	07239000	12484	1938-68, 1971-80, 1986-90
North Canadian River near Watonga, OK	07239200	12692	1943-44, 1949-51, 1954-57, 1959, 1963, 1965
North Canadian R Blw Weavers Ck near Watonga, OK	07239300	12736	1985-90
North Canadian River near Yukon, OK	07239700	13183	1952-53, 1974, 1988-89
Lake Hefner Canal near OK City, OK	07240000		1979, 1988
North Canadian River near OK City, OK	07241500	13354	1940, 1942, 1944-50, 1952, 1959-63, 1973, 1975
North Canadian River at NE 36th St at OKC, OK	07241503	13356	1988-91
North Canadian River near Jones, OK	07241530		1973, 1982
North Canadian River near Shawnee, OK	07241700		1973, 1979-80
Wewoka Creek at Wewoka, OK	07242050		1961-63

WATER RESOURCES DATA - OKLAHOMA, 1992
Discontinued surface-water-quality stations

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
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	17712	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
Bellocow 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 Dewar, OK	07244000	2307	1938-51, 1960-65, 1979
Deep Fork near Pierce, OK	07244200		1959-63
North Canadian River near Eufaula, OK	07244500	17657	1952-53, 1959-61
Canadian River near Whitefield, OK	07245000	47576	1900, 1938-90
Taloka Creek at Stigler, OK	07245020	3.98	1921, 1974, 1978-81
Taloka Creek Trib near Stigler, OK	07245025		1978-81
Taloka Creek near Stigler, OK	07245030	20.1	1978-81

WATER RESOURCES DATA - OKLAHOMA, 1992
Discontinued surface-water-quality stations

xxiii

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
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	147757	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	1983-90
Poteau River Northwest Of Waldron, Ar	07246950	46.1	1983-90
Poteau River South Of Bates, Ar	07247012		1972-83
Fourche Maline near Wilburton, OK	07247450	56.2	1978-81
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
Sugarloaf Creek near Monroe, OK	07248700	53.6	1978-81
Poteau River at Poteau, OK	07249000	1240	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

WATER RESOURCES DATA - OKLAHOMA, 1992
Discontinued surface-water-quality stations

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
James Fork near Williams, OK	07249410	198	1976-81
Poteau River near Panama, OK	07249413	1767	1989-91
Coal Creek Tributary near Bokoshe, OKla.	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	150547	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
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

WATER RESOURCES DATA - OKLAHOMA, 1992
Discontinued surface-water-quality stations

xxv

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
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 Colcord, OK	361923094410301		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
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

WATER RESOURCES DATA - OKLAHOMA, 1992
Discontinued surface-water-quality stations

Station name	Station number	Drainage area (mi ²)	Period of record
ARKANSAS RIVER BASIN			
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
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, it contains: (1) Discharge records for 136 streamflow-gaging stations, and 61 partial-record or miscellaneous streamflow stations, (2) stage and content records for 31 lakes and reservoirs, (3) water-quality records for 50 streamflow-gaging stations; (4) water-level records for 28 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 levels. 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-92-1." 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,
Patty Eaton, Executive Director.**

**Oklahoma Geological Survey,
Charles J. Mankin, Director.**

**Oklahoma State Department of
Health, Environmental Health
Services, Mark S. Coleman, Deputy
Commissioner.**

**Oklahoma City Water Department,
James D. Couch, Director of
Water Services.**

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**

**Bureau of Land Management, 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, Lawton, Norman, Oklahoma City, and Tulsa.**

Organizations that supplied data are acknowledged in the station descriptions.

SUMMARY OF HYDROLOGIC CONDITIONS**Streamflow**

Large variations in streamflow characterize hydrologic conditions in Oklahoma. In the extreme southeastern part of the State, mean annual precipitation exceeds 52 inches and mean annual runoff exceeds 20 inches. In the southeast, stream channels are deeply incised in mountainous terrain, and streamflow generally is perennial. In the extreme northwestern part of the Panhandle, mean annual precipitation is less than 16 inches and mean annual runoff is less than 0.1 inch. In northwestern Oklahoma, streams generally have shallow, poorly-defined channels and ephemeral flow.

Precipitation data from monthly reports of the Oklahoma Climatological Survey, averaged over the State, indicated that monthly precipitation was below normal during February and March of the water year. Totals were above normal during October, December, June, July, and August. The December total was the third wettest and the summer total (June-August) was the fifth wettest in the last 100 years. November, January, April, May, and September totals were about average.

However, precipitation was not spread uniformly across the State. Western Oklahoma had dry conditions during September; the Panhandle of the State averaged only 0.14 inch of precipitation. In October, heavy rains fell across southeastern Oklahoma with three times normal rainfall being reported. The entire State had a very wet December with over five times normal precipitation reported in southwestern Oklahoma. Although April had normal rainfall, local heavy rains caused flooding which took the lives of three children, two in Oklahoma City and one in Lawton. During the summer months significantly above-average precipitation fell over the entire State.

A comparison of daily, monthly and annual streamflow for the 1992 water year with the period of record at eight selected stations (fig. 1-8) reflected unusually dry conditions for the entire year in western Oklahoma; average streamflow for the year in north-central and northeastern Oklahoma; and above-average streamflow for the year in southwestern, central, southern, and southeastern Okla-

homa, caused by high flows in December and in June through September. These stations were selected at representative locations within Oklahoma. Three locations are affected to some degree by regulation: Arkansas River at Ralston, the Washita River near Dickson, and North Canadian River at Woodward.

Drought effects during the 1992 water year varied throughout the State. Streamflow was below normal in streams during the water year in northwestern Oklahoma (fig. 1) and about normal in streams during the water year in north-central and northeastern Oklahoma, with high flows in December and the summer months (fig. 2-4). In central Oklahoma, streamflow was far above normal during December, and during April through August (fig. 5). In southwestern Oklahoma, streamflow was far above normal throughout the water year, with the most significant rises occurring in December and in June through September (fig. 6). Streamflow was far above normal throughout the year with the highest peaks in December and in June and July in the south-central part of the State (fig. 7) and in October, December, and September in the southeast (fig. 8). Overall the year's streamflow was below normal in the northwest; about normal in the north-central and northeast; and far above normal in central, southwestern, south-central, and southeastern Oklahoma, with annual peak flows in the medium to high flow range.

The worst flooding occurred during December across the entire State and during June through August in large parts of the State, except northwestern Oklahoma. For several days in late December, rainfall totals over 2 inches were reported at several locations, with 3.20 inches at Anadarko and 3.47 inches at Bartlesville. Thunderstorms buffeted Oklahoma throughout June. Rainfall totals exceeded 3 inches in Oneta, Boynton, and Tahlequah in early June, and Muskogee reported 6.03 inches in June. Heavy rains and major-flooding stopped the wheat harvest in many parts of the State. Flash flooding hit Carter, Bryan, and Creek Counties at the end of June.

The following table presents a comparison of streamflow for the 1992 water year with streamflow for the period of record at the eight selected stations:

WATER RESOURCES DATA - OKLAHOMA, 1992
ARKANSAS RIVER BASIN

3

STATION IDENTIFICATION		Statistics of discharge during period of record (cubic feet per second)			Statistics of discharge during 1992 water year (cubic feet per second)		
		Maximum Instan- taneous	Minimum Mean Daily	Average	Maximum Instan- taneous	Minimum Mean Daily	Average
ARKANSAS RIVER BASIN							
07152500	Arkansas River at Ralston	35,100	87	4,453	211,000	14	4,826
				(Prior to regulation 1926-75)			
					174,000	52	5,097
				(Since regulation by Kaw Lake 1977-92)			
07185000	Neosho River near Commerce	39,600	9.5	3,598	267,000	0	3,609
						(1940-92)	
07197000	Baron Fork at Eldon	7,580	30	435	57,600	1.8	314
						(1949-92)	
07231500	Canadian River at Calvin	62,100	280	3,303	174,000	0	1,734
					(1906, 1939-42, 1945-1992)		
07237500	North Canadian River at Woodward	214	1.2	33.8	42,000	0	194
				(Prior to regulation 1939-78)			
					3.090	0	103
				(Since regulation by Optima Lake 1979-92)			
RED RIVER BASIN							
07304500	Elk Creek near Hobart	2,710	10	122	28,000	0	86.3
						(1950-92)	
07331000	Washita River near Dickson	47,900	380	3,402	98,000	0	1,573
				(Prior to regulation 1929-58)			
					118,000	0.10	1,645
				(Since regulation by Fort Cobb Reservoir 1962-92)			
07332500	Blue River near Blue	13,700	77	575	65,200	0	317
						(1937-92)	

WATER RESOURCES DATA - OKLAHOMA, 1992
ARKANSAS RIVER BASIN

The average discharge streamflow statistic for the 1992 water year also illustrates below-normal runoff conditions in western Oklahoma, average runoff conditions for northern and northeastern Oklahoma, and above-normal runoff conditions in the rest of the State.

Conservation storage in six selected reservoirs in the State, with a combined conserva-

tion storage capacity of 8,014,000 acre-feet, remained about the same. Conservation storage increased slightly from 95 percent at the start of the water year to 98 percent at the end of the water year.

The following table presents a comparison of conservation storage capacity for the start and end of the 1992 water year for the six selected reservoirs:

STATION IDENTIFICATION		Conservation Storage Capacity			
		Start of 1992 WY		End of 1992 WY	
		(acre-feet)	(percent)	(acre-feet)	(percent)
ARKANSAS RIVER BASIN					
07164200	Keystone Lake near Sand Springs	523,600	79	553,200	84
07190000	Lake O' the Cherokees at Langely	1,504,000	101	1,639,000	110
07197500	Tenkiller Ferry Lake near Gore	629,300	100	647,600	103
07244800	Eufaula Lake near Brooken	2,218,000	93	2,337,000	101
RED RIVER BASIN					
07302500	Lake Altus at Lugert	69,010	52	105,200	79
07331500	Lake Texoma near Denison	2,654,000	97	2,569,000	94
Total/Average		7,597,910	95	7,850,800	98

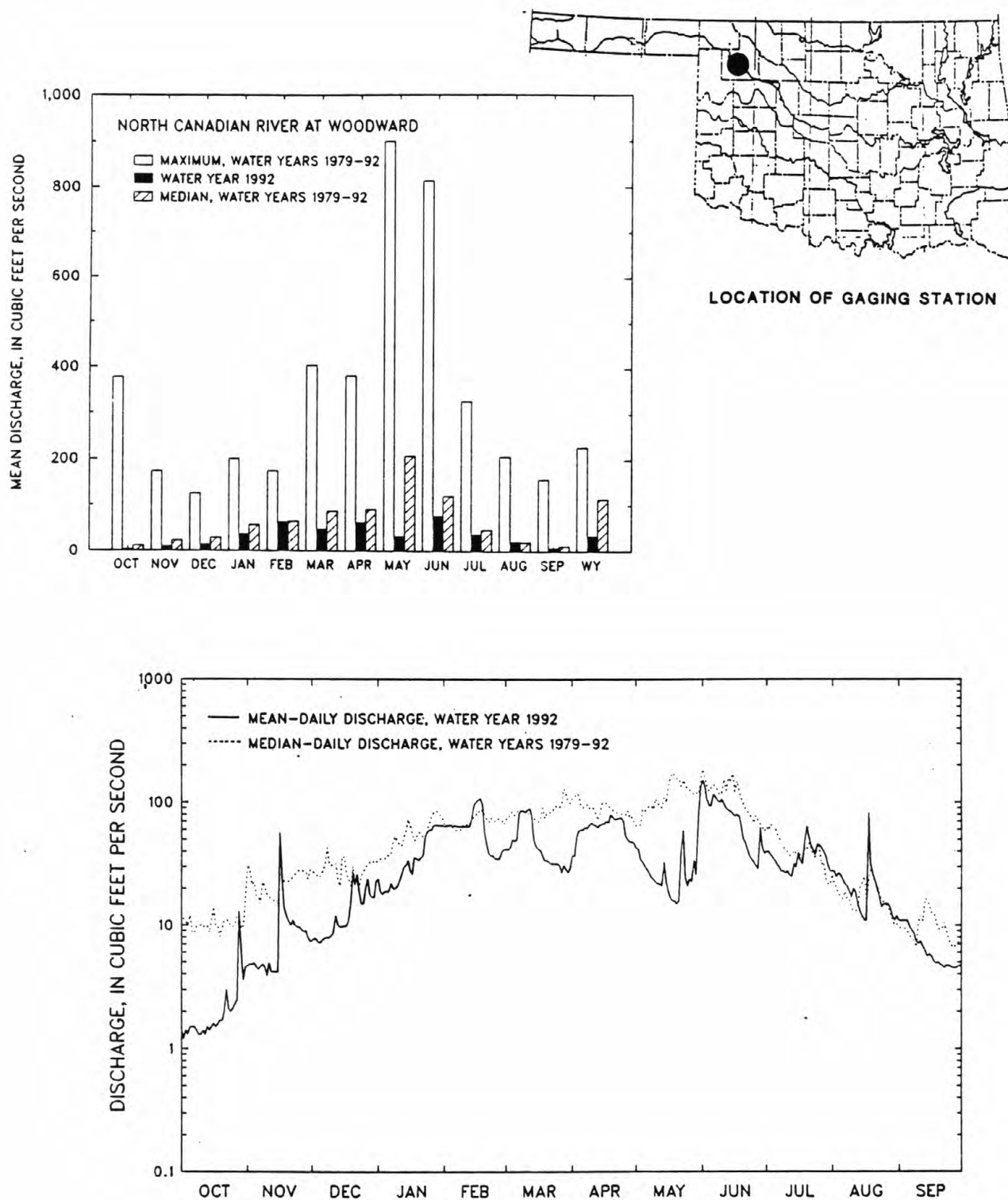


Figure 1.—Comparison of daily, monthly, and annual discharges for water year 1992 and period of record for North Canadian River at Woodward, Oklahoma.

WATER RESOURCES DATA - OKLAHOMA, 1992
ARKANSAS RIVER BASIN

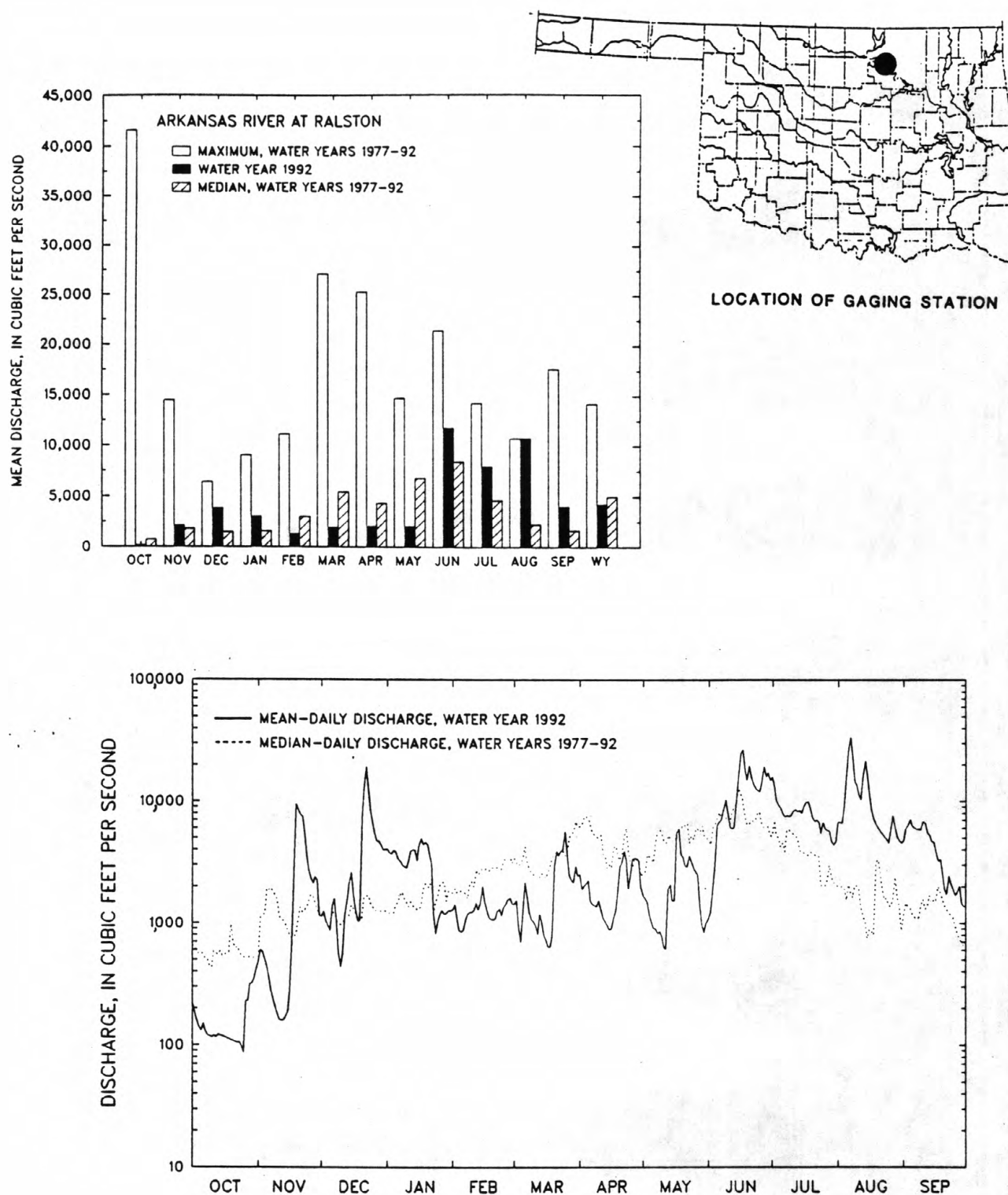


Figure 2.—Comparison of daily, monthly, and annual discharges for water year 1992 and period of record for Arkansas River at Ralston, Oklahoma.

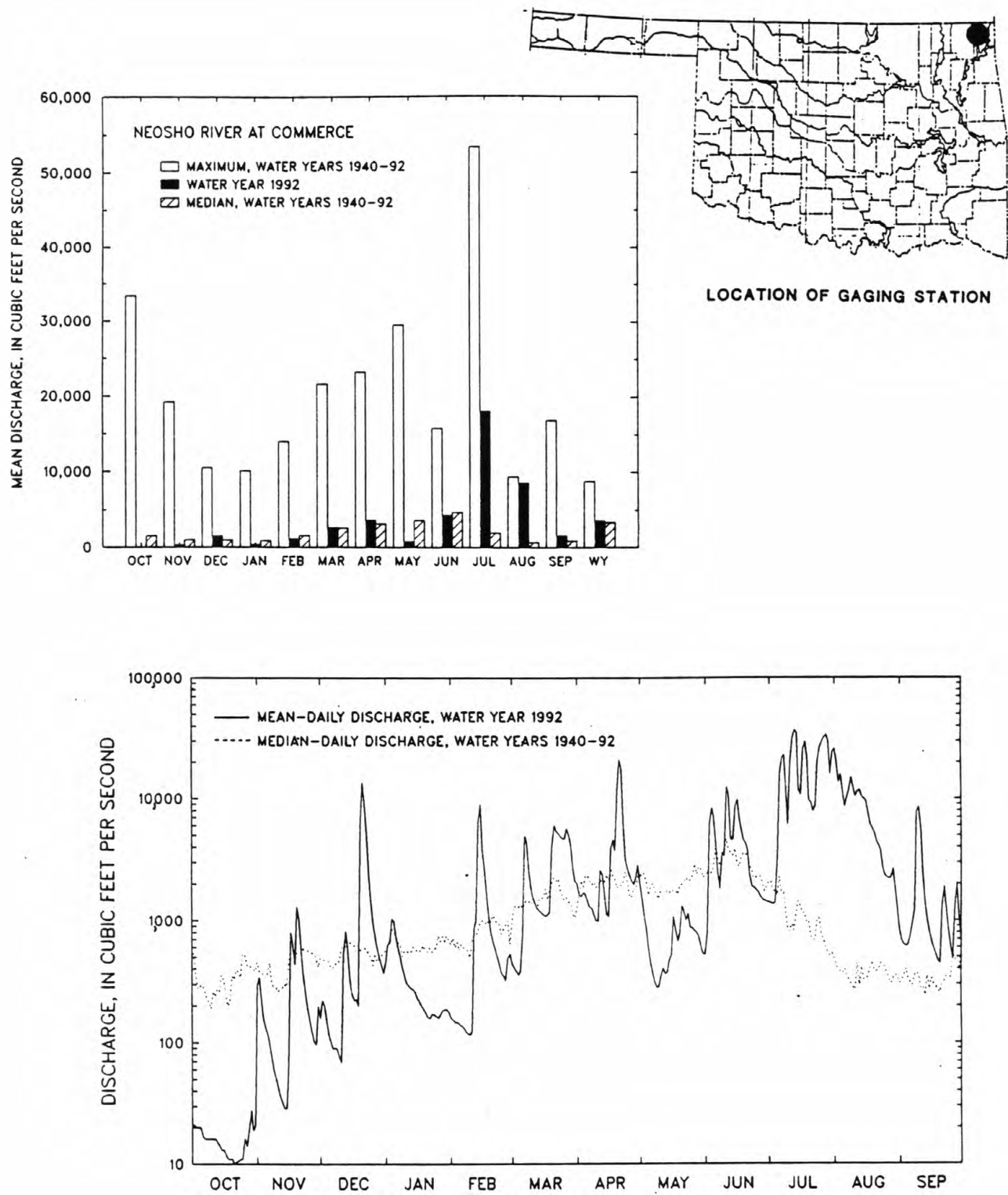


Figure 3.—Comparison of daily, monthly, and annual discharges for water year 1992 and period of record for Neosho River near Commerce, Oklahoma.

WATER RESOURCES DATA - OKLAHOMA, 1992
ARKANSAS RIVER BASIN

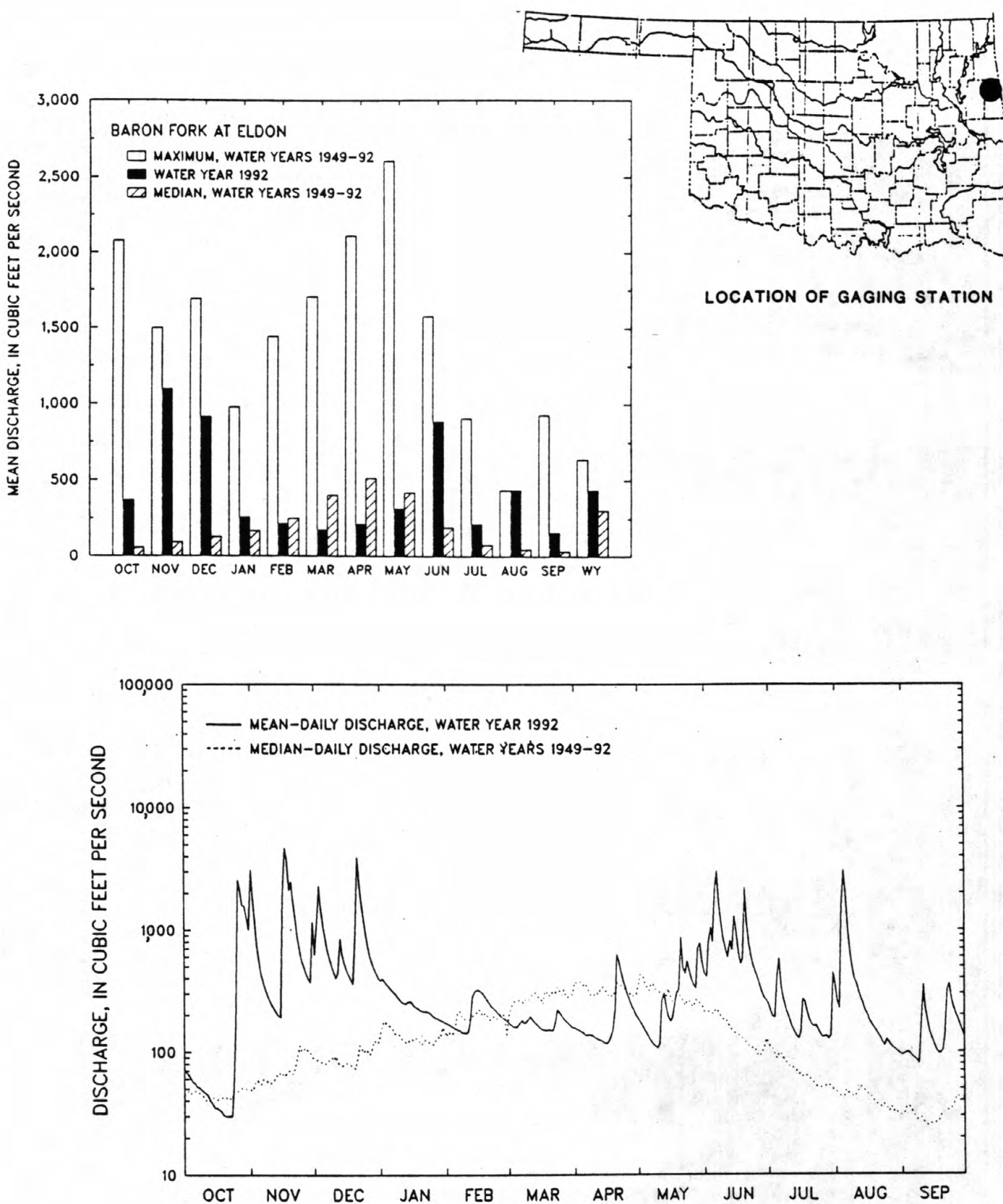


Figure 4.—Comparison of daily, monthly, and annual discharges for water year 1992 and period of record for Baron Fork at Eldon, Oklahoma.

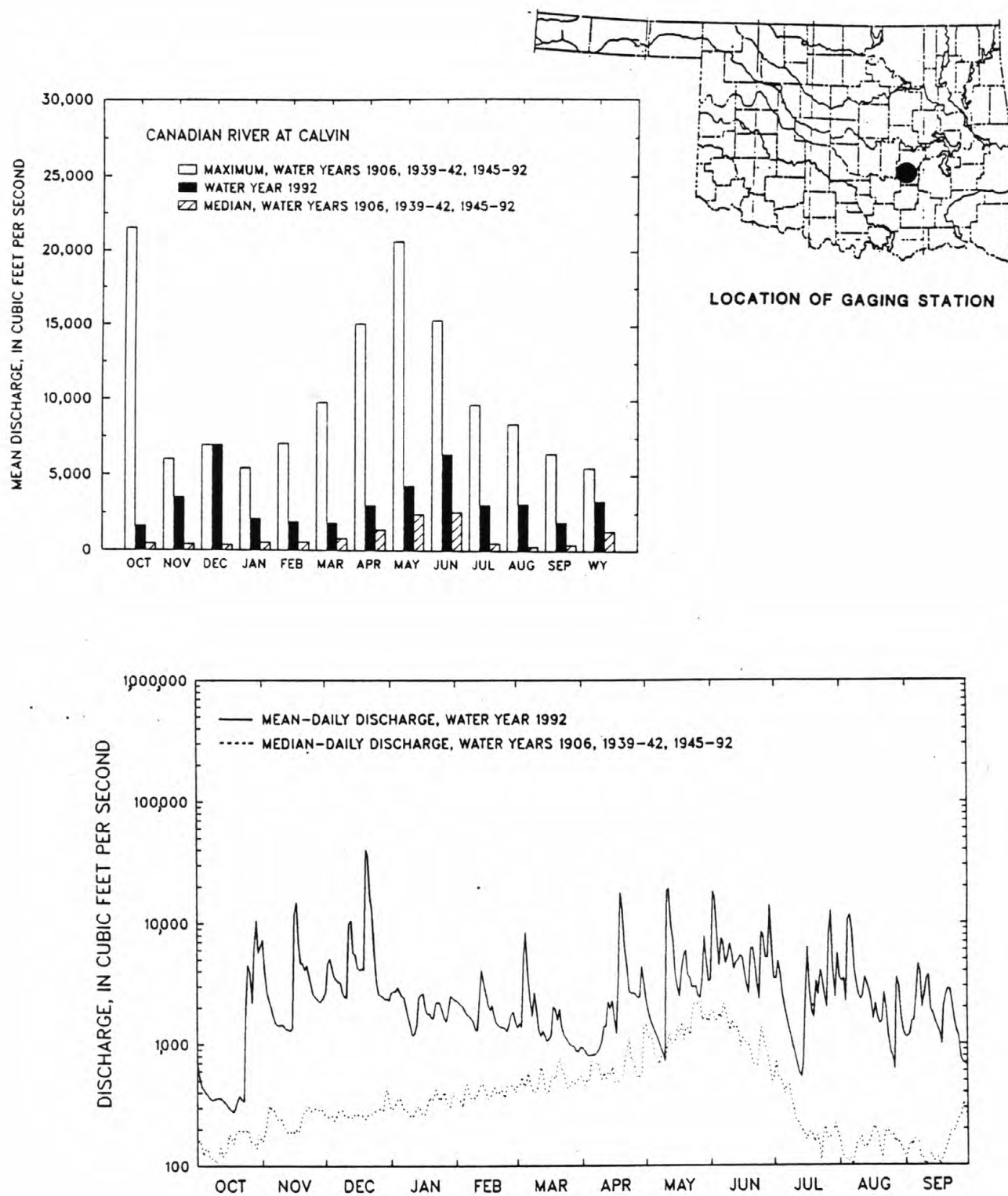


Figure 5.—Comparison of daily, monthly, and annual discharges for water year 1992 and period of record for Canadian River at Calvin, Oklahoma.

WATER RESOURCES DATA - OKLAHOMA, 1992
ARKANSAS RIVER BASIN

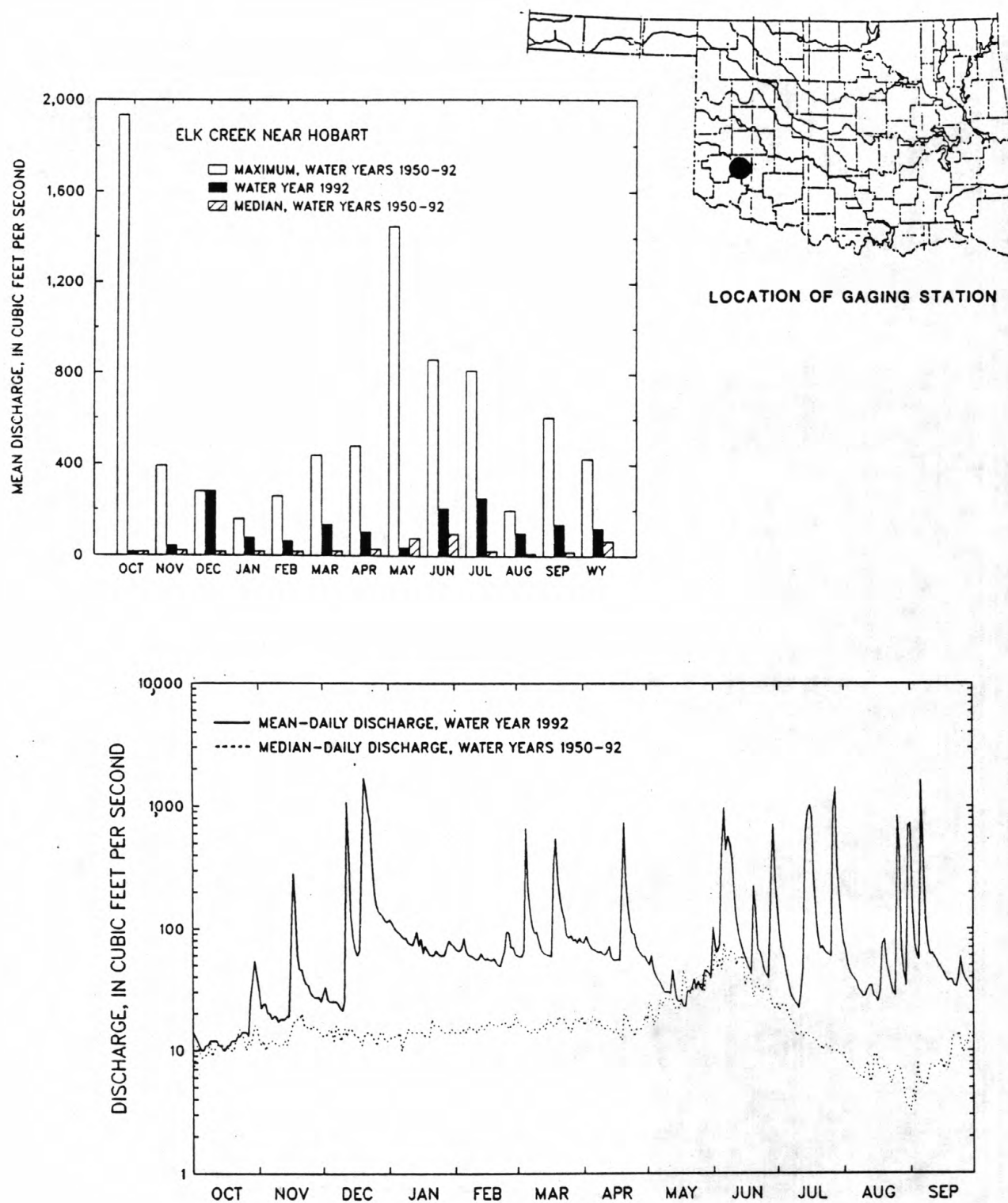


Figure 6.—Comparison of daily, monthly, and annual discharges for water year 1992 and period of record for Elk Creek near Hobart, Oklahoma.

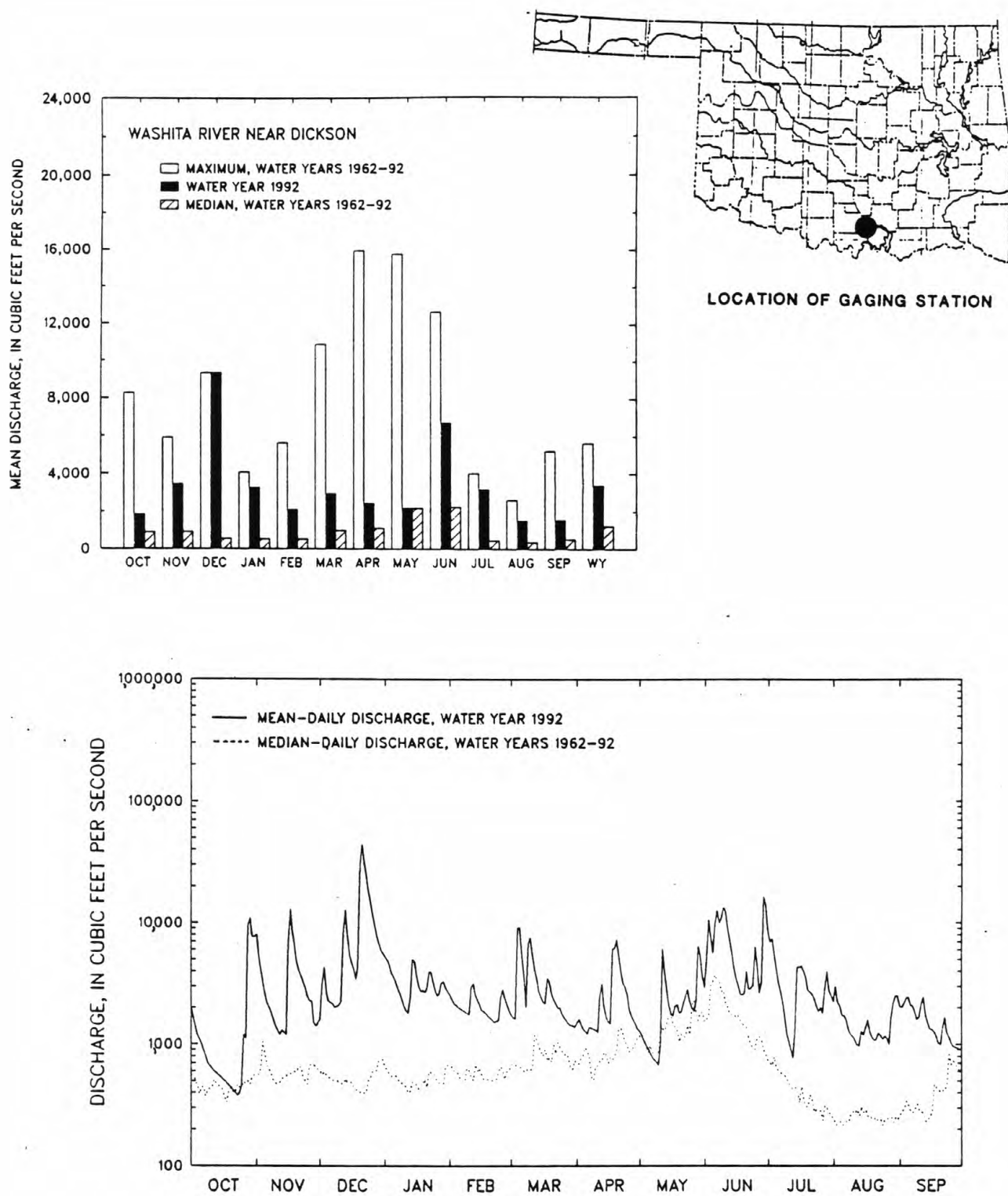


Figure 7.—Comparison of daily, monthly, and annual discharges for water year 1992 and period of record for Washita River near Dickson, Oklahoma.

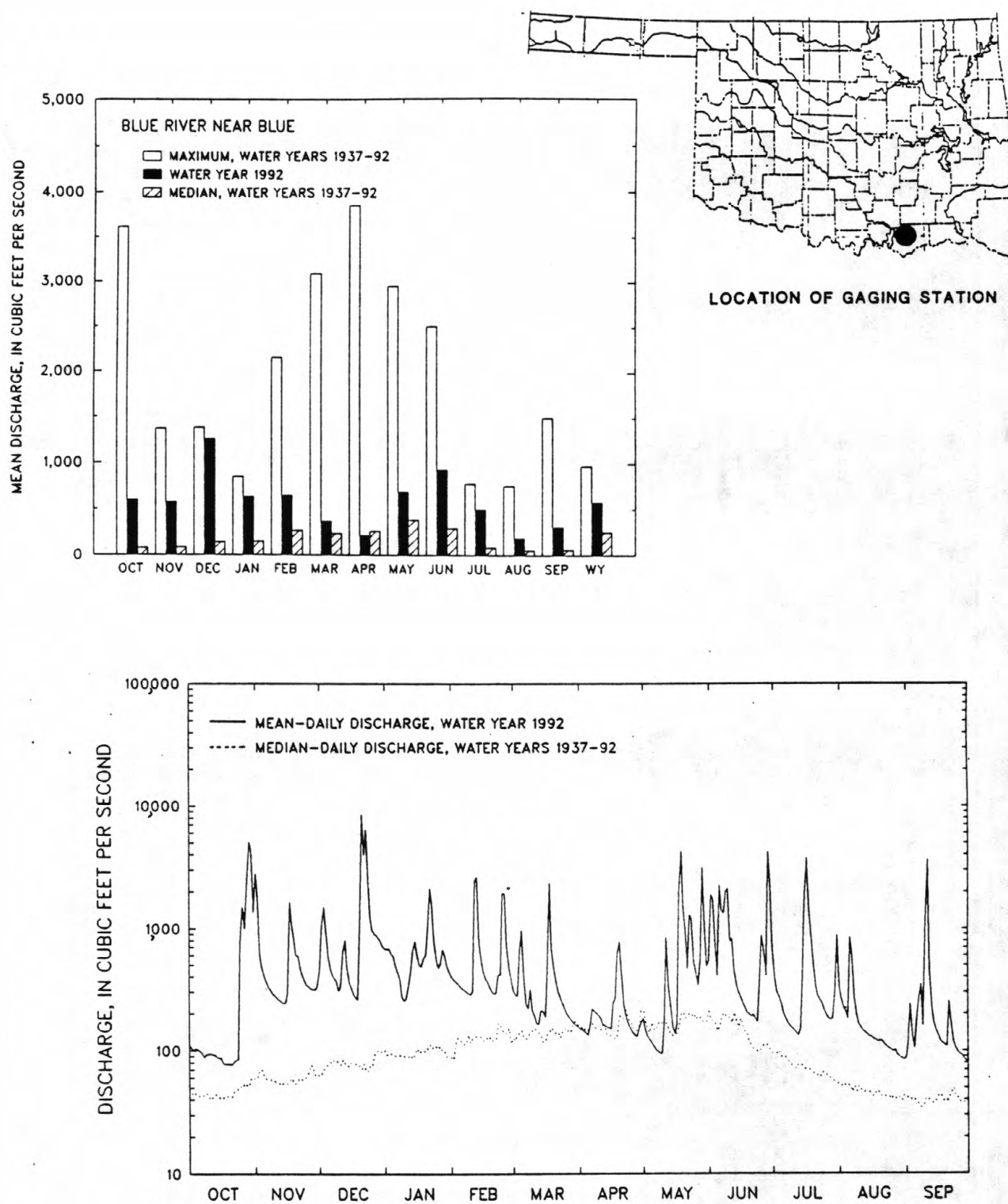
WATER RESOURCES DATA - OKLAHOMA, 1992
ARKANSAS RIVER BASIN

Figure 8.—Comparison of daily, monthly, and annual discharges for water year 1992 and period of record for Blue River near Blue, Oklahoma.

Chemical Quality of Streamflow

The concentrations of selected dissolved chemical constituents measured at surface-water sampling stations in the State during the 1992 water year were generally within the ranges measured during previous years. The minimum values for the selected constituents for most stations were larger for the 1992 water year than the minimum values for the 1970 through 1990 water years. The maximum values for these same constituents were smaller for most sta-

tions for the 1992 water year than the maximum values for the 1970 through 1990 water years. Concentrations of dissolved solids, chloride, sulfate, and suspended sediment are shown in the following graphs for sampling sites on selected principal streams (fig. 9) in the State. Maximum and minimum concentrations of these constituents for the 1992 water year are compared to maximum and minimum concentrations for the 1970 through 1990 water years.

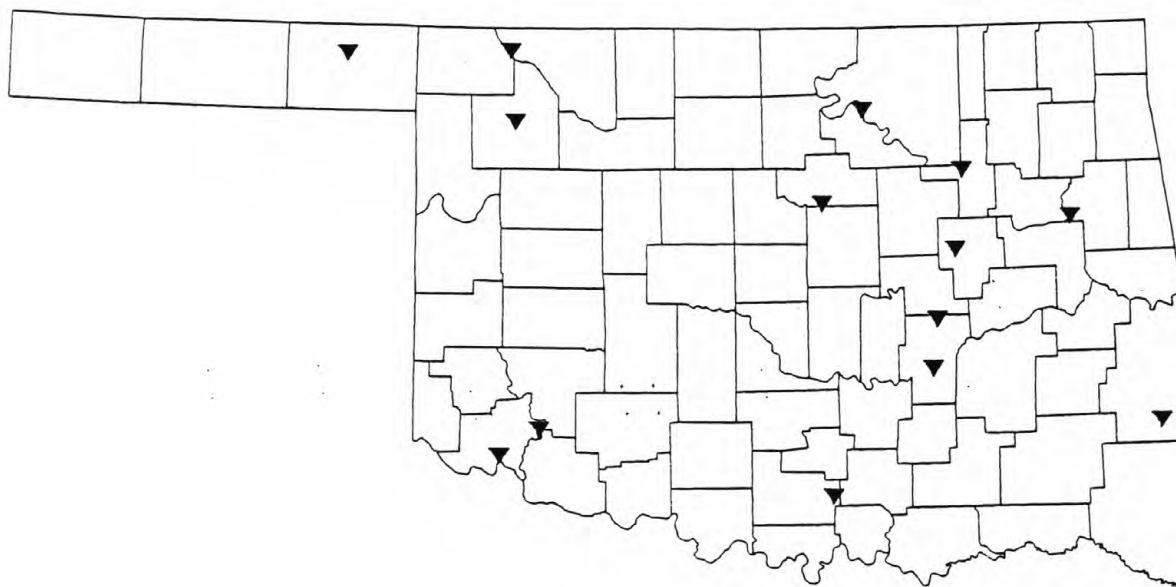


Figure 9.—Location of water-quality stations on selected principal streams.

WATER RESOURCES DATA - OKLAHOMA, 1992
ARKANSAS RIVER BASIN

The maximum dissolved-solids concentration measured in these streams in 1992 was 22,400 milligrams per liter (mg/L) in

the Cimarron River near Buffalo. Dissolved-solids concentrations, in mg/L, are shown in the following graphs:

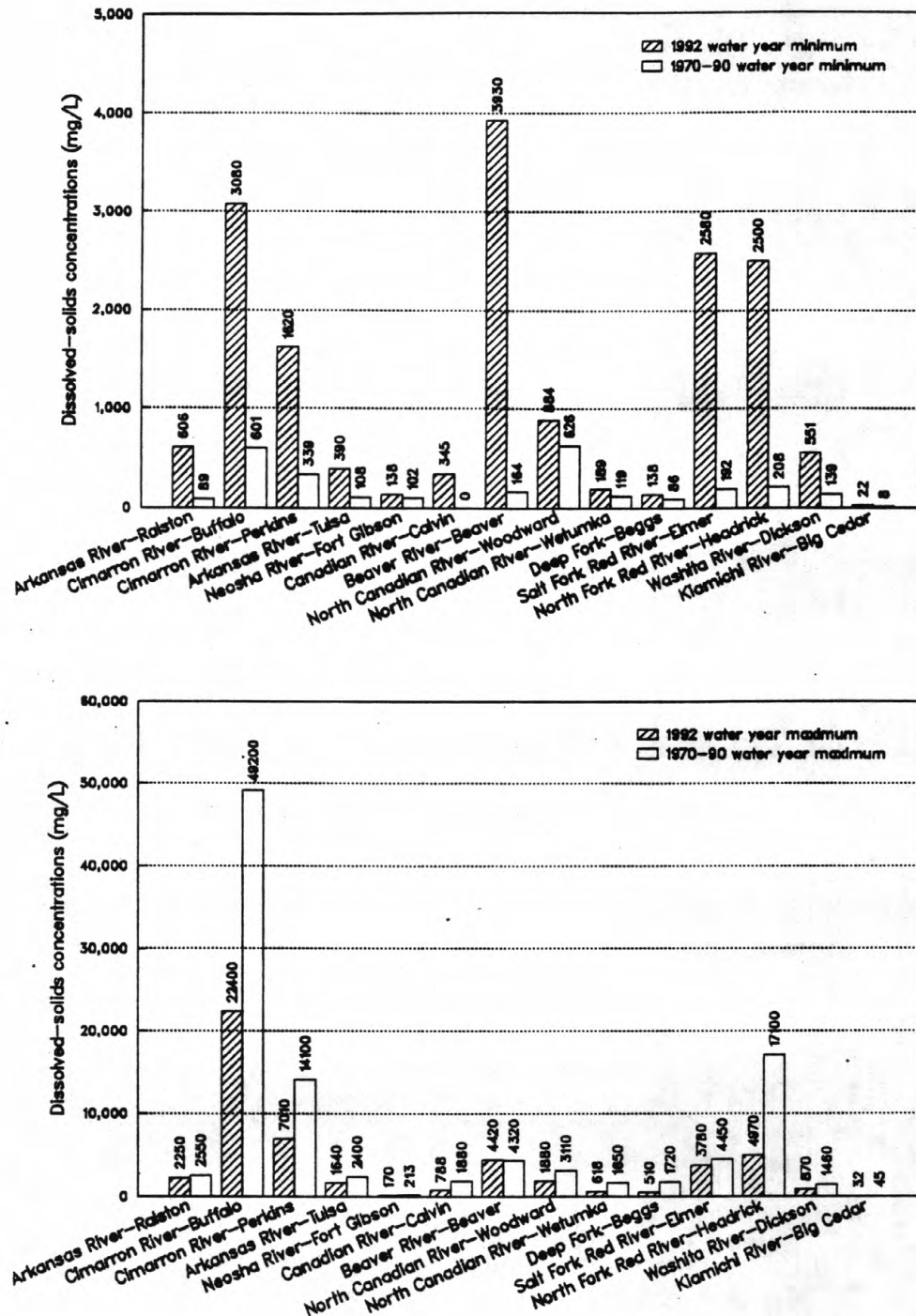


Figure 10.—Comparisons of minimum and maximum dissolved-solids concentrations, in milligrams per liter (mg/L), for water year 1992 and water years 1970-90.

The maximum dissolved-chloride concentration measured at the selected stations in 1992 was 11,000 mg/L in the Cimarron River near Buffalo.

Dissolved-chloride concentrations, in mg/L, are shown in the following graphs:

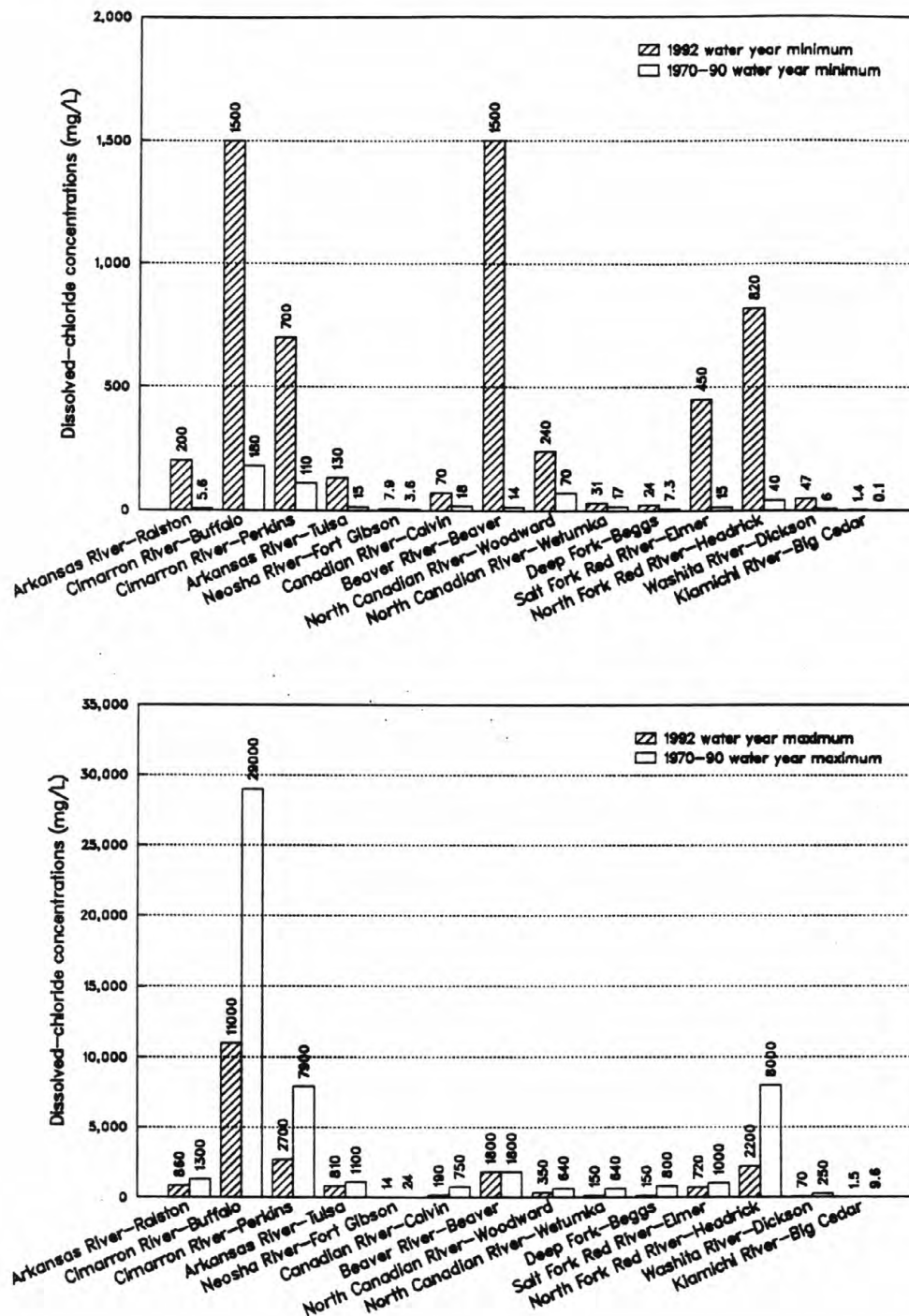


Figure 11.—Comparisons of minimum and maximum dissolved-chloride concentrations, in milligrams per liter (mg/L), for water year 1992 and water years 1970-90.

WATER RESOURCES DATA - OKLAHOMA, 1992
ARKANSAS RIVER BASIN

The maximum dissolved-sulfate concentration measured at the selected stations in 1992 was 1,600 mg/L in the Salt Fork

Red River near Elmer. Dissolved-sulfate concentrations, in mg/L, are shown in the following graphs:

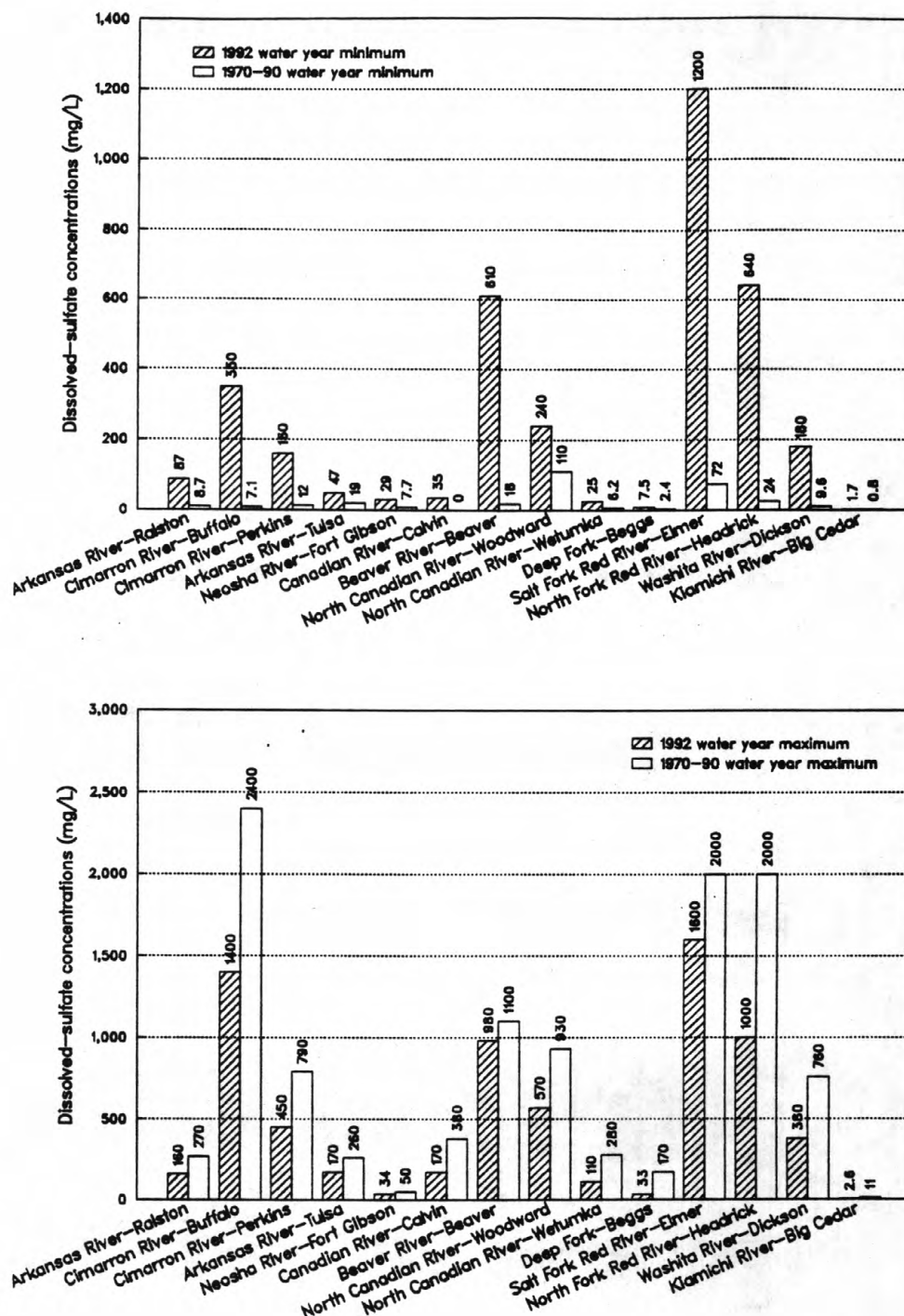


Figure 12.—Comparisons of minimum and maximum dissolved-sulfate concentrations, in milligrams per liter (mg/L), for water year 1992 and water years 1970-90.

The maximum suspended-sediment concentration measured at the selected stations in 1992 was 1,700 mg/L in the North Canadian River near

Wetumka. Suspended-sediment concentrations in mg/L, are shown in the following graphs:

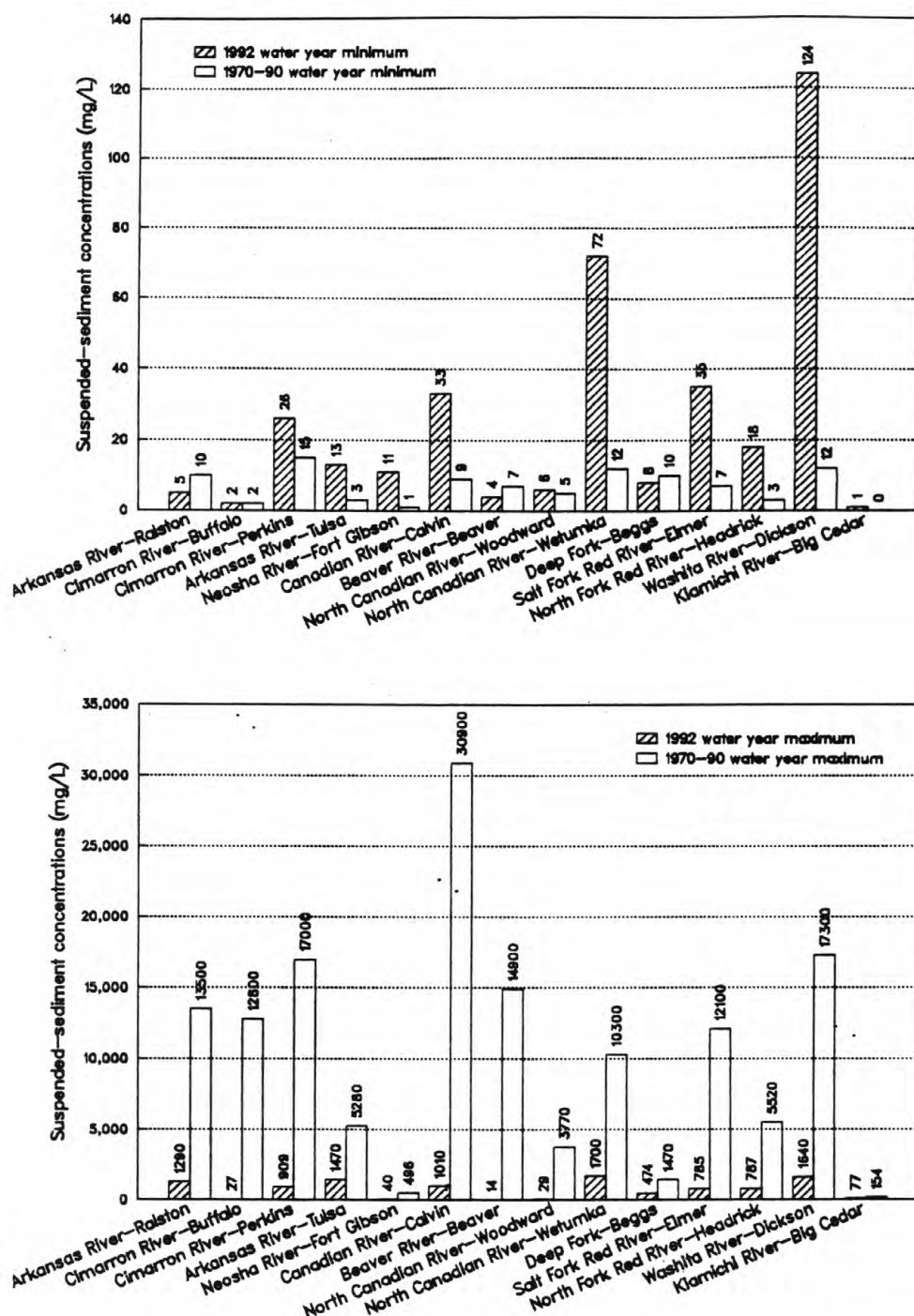


Figure 13.—Comparisons of minimum and maximum suspended-sediment concentrations, in milligrams per liter (mg/L), for water year 1992 and water years 1970-90.

Ground Water

Ground-water levels are measured annually at more than 900 sites statewide during January to March. An additional 28 sites are part of a network of sites visited quarterly, monthly, or that have continuous recorders.

Figures 14-18 show 3-year hydrographs for five of the continuous recorder sites throughout the State. The hydrograph of the Idabel GW Well (McCurtain County) (fig. 14) is representative of seasonal variations in water levels in a shallow well in an irrigated area.

The hydrographs of the Texhoma GW Well (Texas County) (fig. 15) and the Sharon GW well (Woodward County) (fig. 16) are indicative of the long-term decline of water levels in the

Ogallala aquifer. The Texhoma well recorded a new low water level of record. The Sharon well has averaged a water-level decline of nearly one foot per year for the last three years.

Conversely, the Taloga GW well (Dewey County) (fig. 17) hydrograph shows recovering water levels in the Rush Springs aquifer at the rate of nearly one foot per year for the last three years. The Taloga well recorded a new highest water level of record.

The hydrograph for the Fittstown GW well (Pontotoc County) (fig. 18) indicates water levels that respond rapidly to precipitation and slowly recede. Water levels are elevated after above-normal precipitation in this area for the past two years

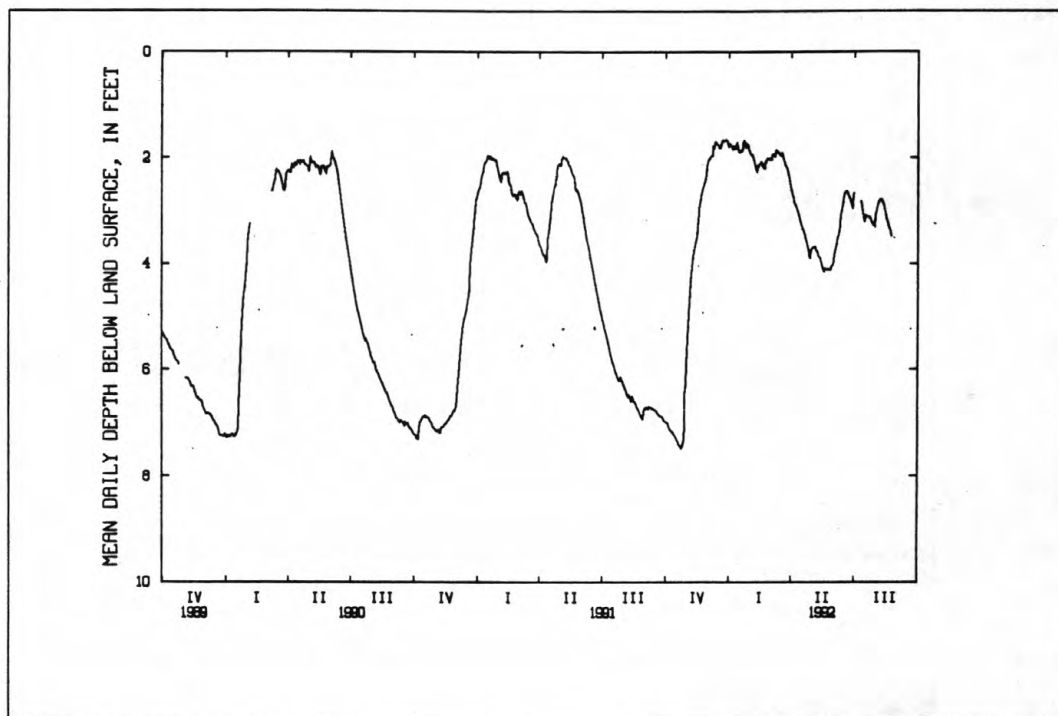


Figure 14.—Hydrograph for well 08S-24E-01 BBD 1 (Idabel GW Well, 335337094451101) for water year 1990-92.

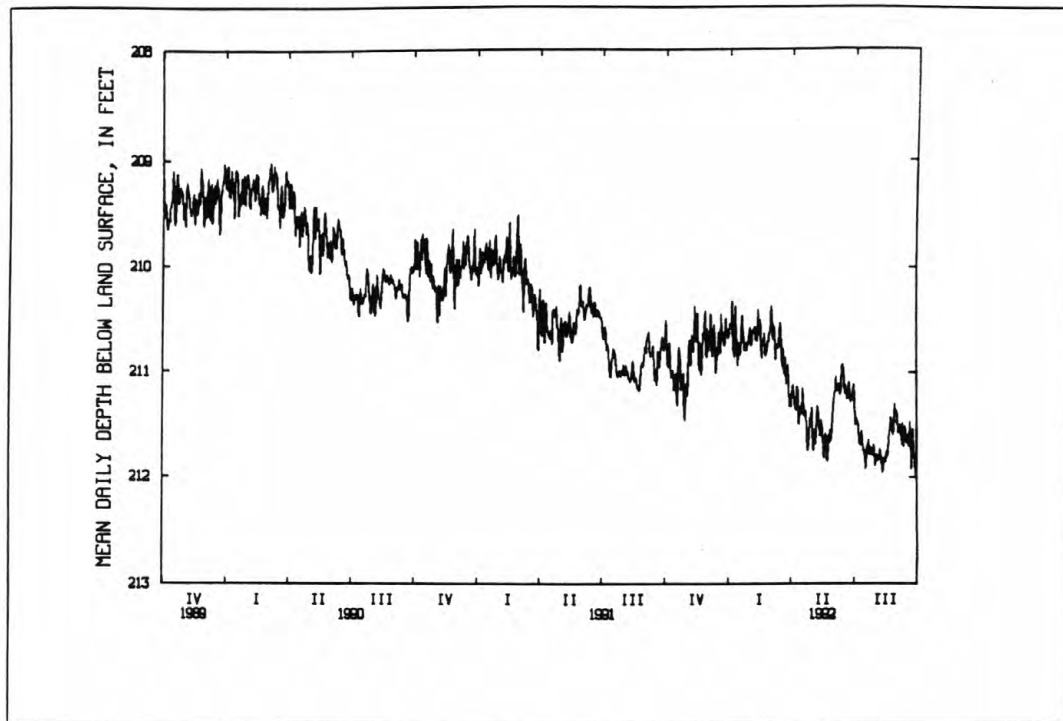


Figure 15.—Hydrograph for well 01N-12E-35 BDD 1 (Texhoma GW Well, 363033101440701) for water years 1990-91.

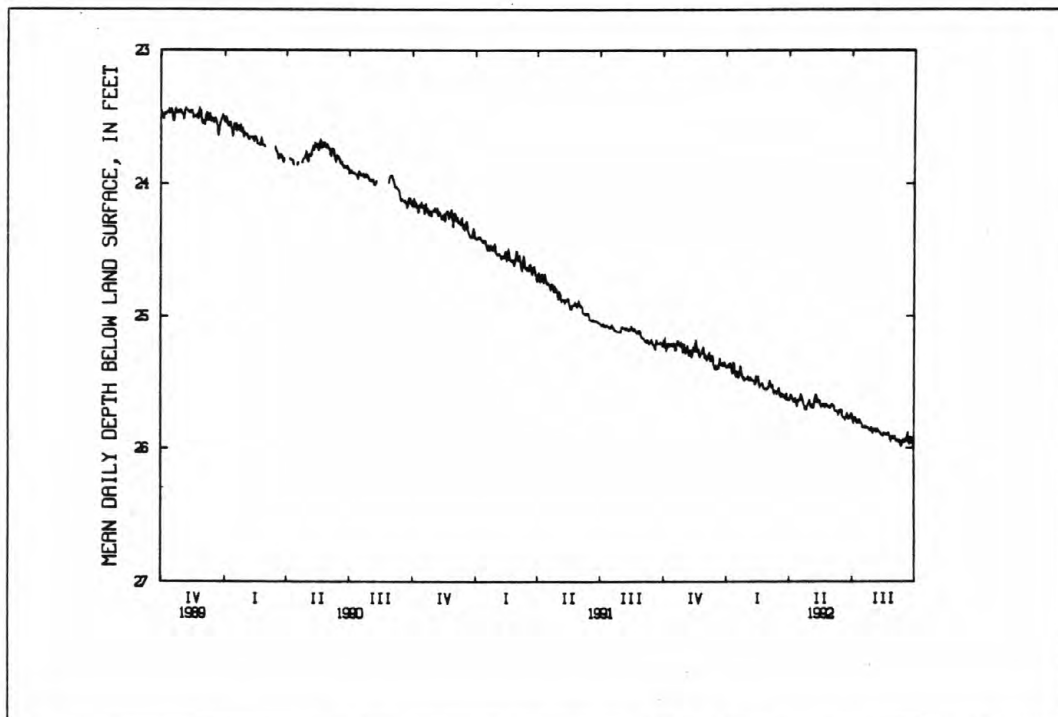


Figure 16.—Hydrograph for well 21N-22W-23 BBB 1 (Sharon GW Well, 361714099315101) for water years 1990-92.

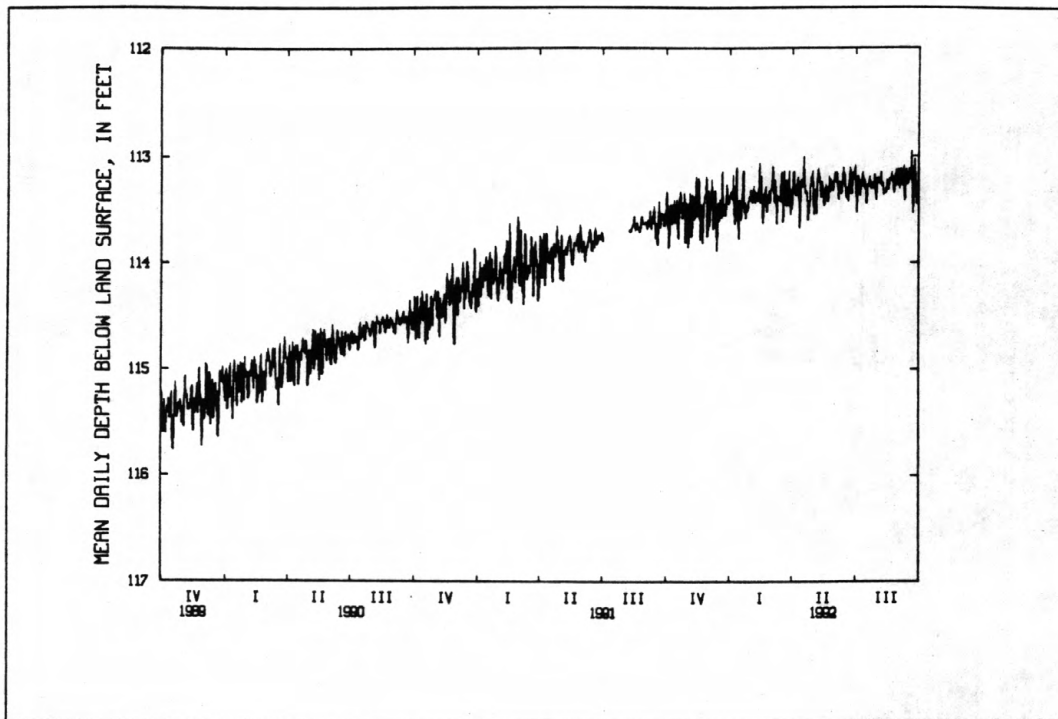
WATER RESOURCES DATA - OKLAHOMA, 1992
ARKANSAS RIVER BASIN

Figure 17.—Hydrograph for well 17N-16W-02 ACB 1 (Taloga GW Well, 355850098522701) for water years 1990-92.

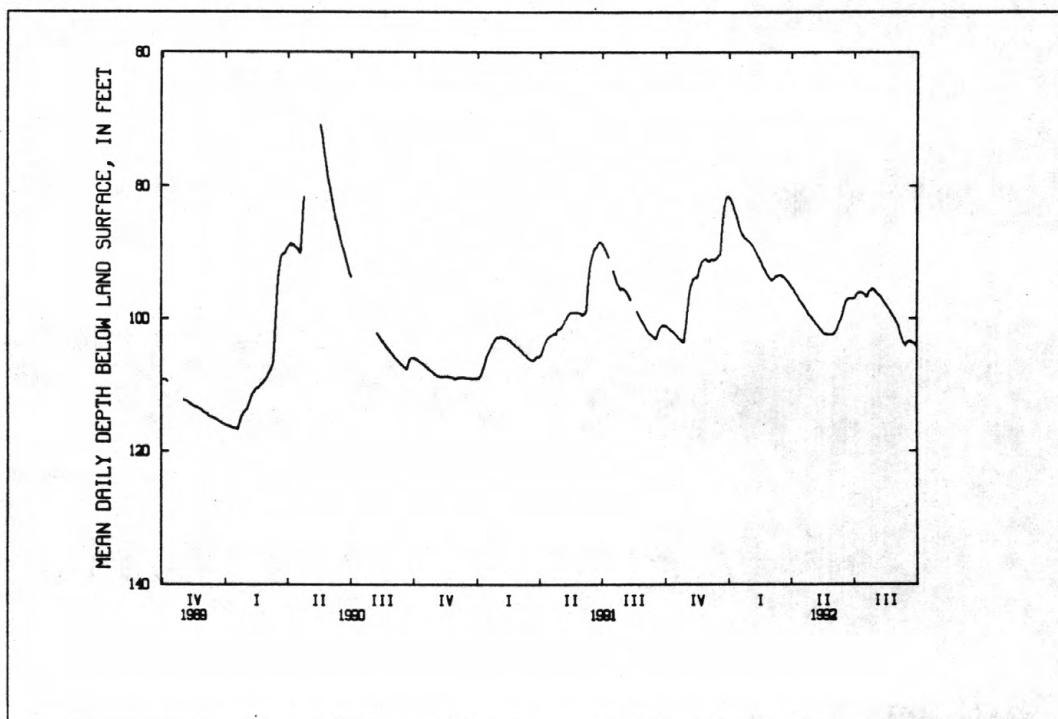


Figure 18.—Hydrograph for well 01N-06E-04 CAD 1 (Fittstown GW Well, 343457096404501) for water years 1990-92.

SPECIAL NETWORKS AND PROGRAMS

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.

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 500 or so 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 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).

EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for the 1992 water year that began Oct. 1, 1991, and ended Sept. 30, 1992. 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 19-22. 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.

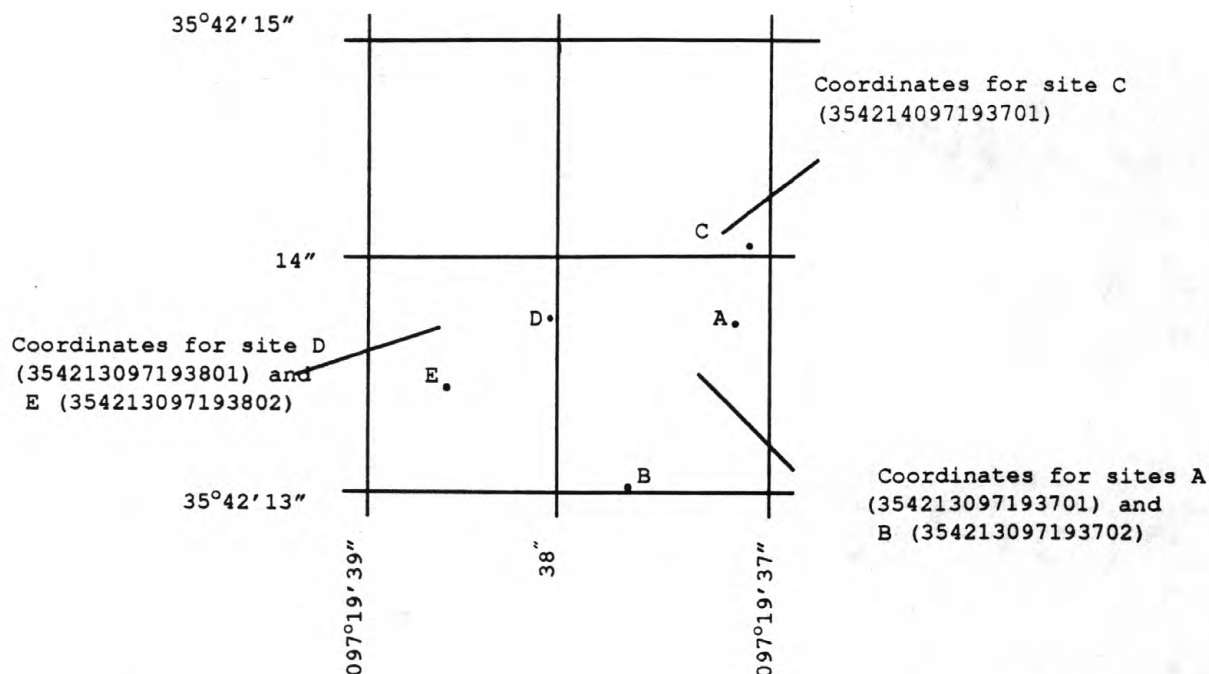
Station Identification Numbers

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 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



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

consecutive. The complete eight-digit 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 six-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 miscellaneous surface-water sites 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 figures 19, 21.

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 supple-

mental 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 A6.

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 charac-

teristics 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 only a few stations, were determined by methods given in "River Mileage Measurement," Bulletin 14, Revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

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

PERIOD OF RECORD.--This 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 National Geodetic Vertical Datum of 1929 (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 or 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.

WATER RESOURCES DATA - OKLAHOMA, 1992
ARKANSAS RIVER BASIN

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. At least 5 complete years of record must be available before this statistic is published for the designated period.

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

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

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

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

ANNUAL 7-DAY MINIMUM.--The lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-flow frequency 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 (AC-FT).--Indicates the depth, in acre-feet, to which the drainage area would be covered if all the runoff for the year were uniformly distributed on it.

ANNUAL RUNOFF (CFSM).--Indicates 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 for the year.

ANNUAL RUNOFF (INCHES).--Indicates the depth to which the drainage area would be covered if all the runoff for the year were uniformly distributed on it.

10 PERCENT EXCEEDS.--The discharge that is exceeded by 10 percent of the flow for the designated period.

50 PERCENT EXCEEDS.--The discharge that is exceeded by 50 percent of the flow for the designated period.

90 PERCENT EXCEEDS.--The discharge that is exceeded by 90 percent of the flow for the designated period.

Hydrograph

A hydrograph for the current year follows the table for most stations. Stream-

flow 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 (NAW-DEX), 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 once 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 20.

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 onsite measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. All of these references are listed in this report. Also, detailed information on collecting, treating, and shipping samples may be obtained from the Geological Survey District Office.

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 dis-

charge, 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. All samples obtained for the National Stream Quality Accounting Network (see definitions) are obtained from at least several verticals. 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.

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

Sediment samples, samples for biochemical-oxygen (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the Geological Survey laboratories in Arvada, Colo. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used by the Geological Survey laboratories are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4.

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 in this report 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, and water temperature 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 record, sediment pumping sampler, or other sampling device is in operation at a station.

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

COOPERATION.--Records provided by a cooperating organization or obtained for the 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.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No

descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Remark Codes

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

<u>PRINTED OUTPUT</u>	<u>REMARK</u>
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)
&	Biological organism estimated as dominant

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). Present 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 will begin using new trace-element protocols in the near future.

Records of Ground-Water Levels

Only water-level data from a national network of observation wells are given in this report. 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 22.

Although, in this report, records of water levels are presented for fewer than 100 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 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) National Geodetic Vertical Datum of 1929 (NGVD of 1929); 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 WATSTORE DATA

The U.S. Geological Survey is the principal Federal water-data agency and, as such, collects and disseminates about 70 percent of the water data currently being used by numerous State, local, private, and other Federal agencies to develop and manage our water resources. As part of the Geological Survey's program of releasing water data to the public, a large-scale computerized system has been developed for the storage and retrieval of water data collected through its activities. The National **W**ATER **D**ATA **S**TORAGE and **R**ETRIEVAL System (WATSTORE) was established in 1972 to provide an effective and efficient means for the processing and maintenance of water data collected through the activities of the U.S. Geological Survey and to facilitate release of the data to the public. A variety of useful products, ranging from data tables to complex statistical analyses such as Log Pearson Type III, can be produced using WATSTORE. The system resides on the central computer facilities of the U.S. Geological Survey at its National Center in Reston, Virginia, and consists of related files and data bases.

- * Station Header File - contains descriptive information on more than 440,000 sites throughout the United States and its territories where the U.S. Geological Survey collects or has collected data.
- * Daily Values File - Contains more than 220 million daily values of streamflows, stages, reservoir contents, water temperatures, specific conductances, sediment concentrations, sediment discharges, and ground-water levels.
- * Peak Flow File - Contains approximately 500,000 maximum (peak)

streamflow and gage-height values at surface-water sites.

* **Water-Quality File** - Contains approximately 2 million analyses of water samples that describe the chemical, physical, biological, and radio-chemical characteristics of both surface and ground water.

* **Ground-Water Site Inventory Data Base** - Contains inventory data for more than 900,000 wells, springs, and other sources of ground water. The data include site location, geohydrologic characteristics, well-construction history, and one-time field measurements such as water temperature.

In 1976, the U.S. Geological Survey opened WATSTORE to the public for direct access. The signing of a Memorandum of Agreement with the Survey is required to obtain direct access to WATSTORE. The system can be accessed either synchronously or asynchronously. The requestor will be expected to pay all computer costs he/she incurs. Direct access may be obtained by contacting:

U.S. Geological Survey
National Water Data Exchange
421 USGS National Center
Reston, Virginia 22092

In addition to providing direct access to WATSTORE, data can be provided in various machine-readable formats on magnetic tape or 5-1/4 inch floppy disc; and as noted in the introduction, on CD-ROM discs. 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. 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's District offices. (See address on the back of the title page.) 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.

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-celled, 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.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C + 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations

are expressed as number of colonies per 100 mL of sample.

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/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2).

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 sedi-

ment, 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.

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

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

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 (ft^3/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

$[(\text{ft}^3/\text{s})/\text{mi}^2]$ 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.

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

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

Dissolved refers to that material in a representative water sample which passes through a 0.45 m 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 (CaCO_3).

HWM is a high-water mark or flood mark.

Hydrologic Benchmark Network is a network of 57 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 ($\mu\text{g/g}$) 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 , $\mu\text{g/L}$) 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.

National Geodetic Vertical Datum of

1929 (NGVD of 1929) 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 "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.

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 500 or so 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 150-station network 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).

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 (m^2), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumer-

ated 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 computerized data system, WATSTORE, to uniquely identify a specific constituent. The codes used in WATSTORE are the same as those used in the U.S. Environmental Protection Agency data system, STORET. The Environmental Protection Agency assigns and approves all requests for new codes.

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-</u> <u>cation</u>	<u>Size (mm)</u>	<u>Method of</u> <u>analysis</u>
Clay.....	0.00024 - 0.004	Sedimentation
Silt.....	.004 - .062	Sedimentation
Sand.....	.062 - 2.0	Sedimenta- tion 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 [$\text{mg O}_2/(\text{m}^2 \cdot \text{time})$] for periphyton and macrophytes and [$\text{mg O}_2/(\text{m}^3 \cdot \text{time})$] 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.

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 multiplate 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 μ m 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 μ m 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 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, 1986, is called the "1986 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, Books and Open-File Reports Section, Federal Center, Box 25425, 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."

- 1-D1. *Water temperature-influential factors, field measurement, and data presentation*, by H.H. Stevens, Jr., J.F. Ficken, and G.F. Smoot: USGS-TWRI Book 1, Chapter D1. 1975. 65 pages.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W. Wood: USGS-TWRI Book 1, Chapter D2. 1976. 24 pages.
- 2-D1. *Application of surface geophysics to ground-water investigations*, by A.A.R. Zohdy, G.P. Eaton, and D.R. Mabey: USGS-TWRI Book 2, Chapter D1. 1974. 116 pages.

- 2-D2. *Application of seismic-refraction techniques to hydrologic studies*, by F.P. Haeni: USGS-TWRI Book 2, Chapter D2. 1988. 86 pages.
- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W.S. Keys and L.M. McCary: USGS-TWRI Book 2, Chapter E1. 1971. 126 pages.
- 2-E2. *Borehole geophysics applied to ground-water investigations*, by W.S. Keys: USGS-TWRI Book 2, Chapter E2. 1990. 150 pages.
- 2-F1. *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and W.E. Teasdale: USGS-TWRI Book 2, Chapter F1. 1989. 97 pages.
- 3-A1. *General field and office procedures for indirect discharge measurements*, by M.A. Benson and Tate Dalrymple: USGS-TWRI Book 3, Chapter A1. 1967. 30 pages.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M.A. Benson: USGS-TWRI Book 3, Chapter A2. 1967. 12 pages.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G.L. Bodhaine: USGS-TWRI Book 3, Chapter A3. 1968. 60 pages.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H.F. Matthai: USGS-TWRI Book 3, Chapter A4. 1967. 44 pages.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS-TWRI Book 3, Chapter A5. 1967. 29 pages.
- 3-A6. *General procedure for gaging streams*, by R.W. Carter and Jacob Davidian: USGS-TWRI Book 3, Chapter A6. 1968. 13 pages.
- 3-A7. *Stage measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS-TWRI Book 3, Chapter A7. 1968. 28 pages.
- 3-A8. *Discharge measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS-TWRI Book 3, Chapter A8. 1969. 65 pages.
- 3-A9. *Measurement of time of travel in streams by dye tracing*, by F.A. Kilpatrick and J.F. Wilson, Jr.: USGS-TWRI Book 3, Chapter A9. 1989. 27 pages.
- 3-A10. *Discharge ratings at gaging stations*, by E.J. Kennedy: USGS-TWRI Book 3, Chapter A10. 1984. 59 pages.
- 3-A11. *Measurement of discharge by moving-boat method*, by G.F. Smoot and C.E. Novak: USGS-TWRI Book 3, Chapter A11. 1969. 22 pages.
- 3-A12. *Fluorometric procedures for dye tracing*, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS-TWRI Book 3, Chapter A12. 1986. 41 pages.
- 3-A13. *Computation of continuous records of streamflow*, by E.J. Kennedy: USGS-TWRI Book 3, Chapter A13. 1983. 53 pages.
- 3-A14. *Use of flumes in measuring discharge*, by F.A. Kilpatrick and V.R. Schneider: USGS-TWRI Book 3, Chapter A14. 1983. 46 pages.
- 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. Rathburn, Nobuhiro Yotsukura, G.W. Parker, and L. L. DeLong: USGS-TWRI Book 3, Chapter A18. 1989. 52 pages.
- 3-A19. *Levels of streamflow gaging stations*, by E.J. Kennedy: USGS-TWRI Book 3, Chapter A19. 1990. 27 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 programmed 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-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. 90 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: 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.
- 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.
- 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.

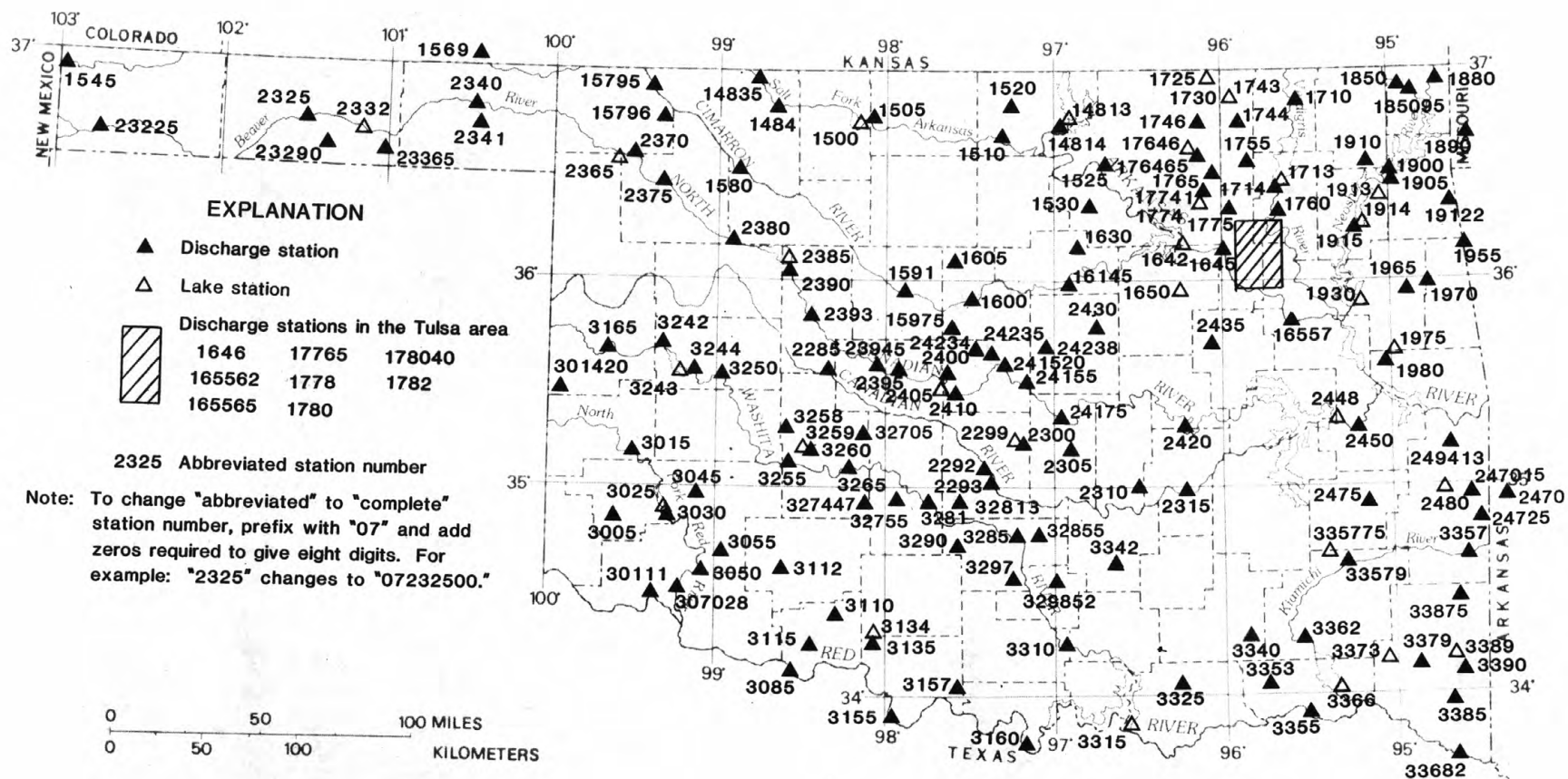


Figure 19.—Locations of continuous-record surface-water stations, water year 1992.

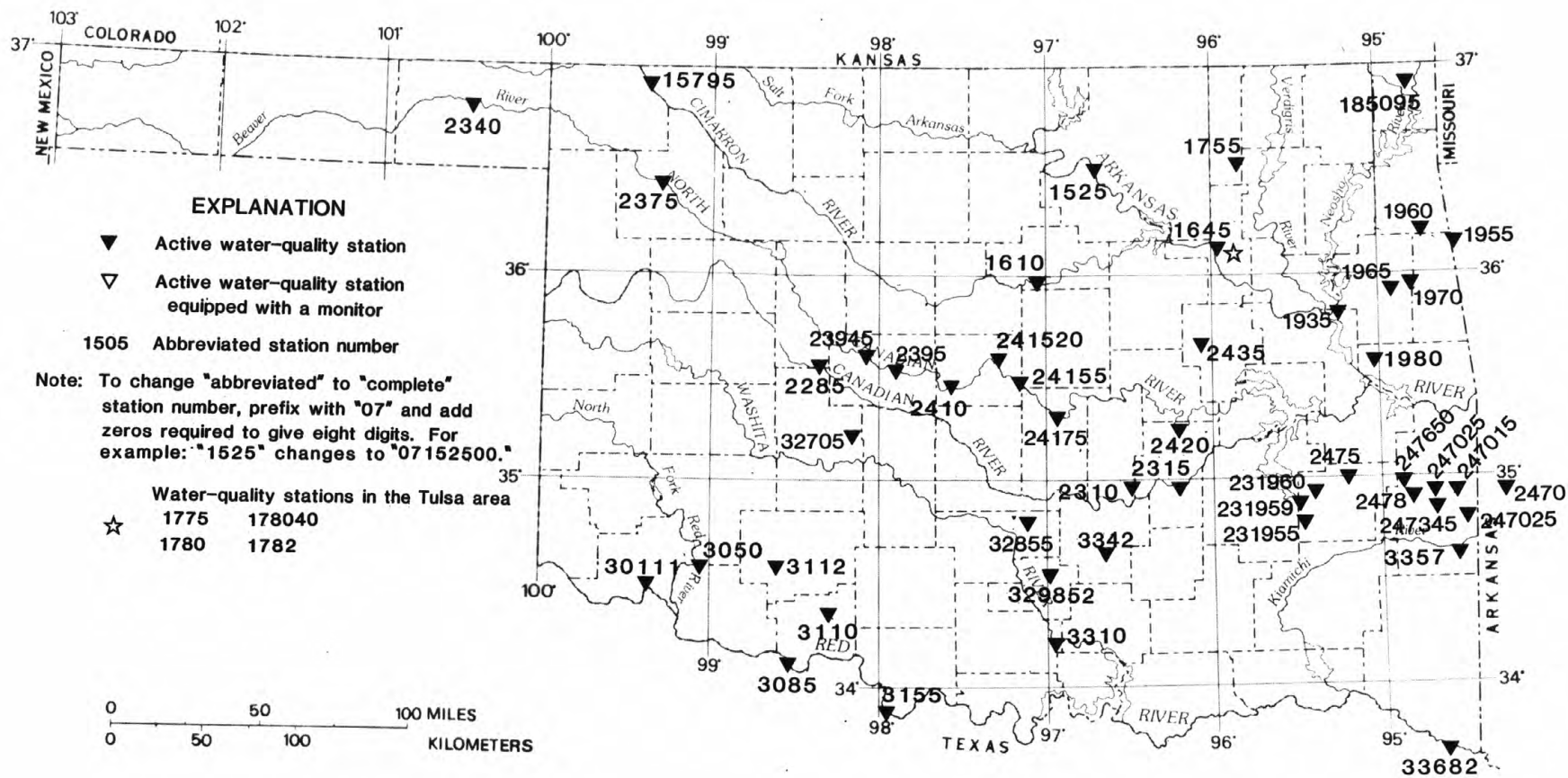


Figure 20.—Locations of water-quality stations, water year 1992.

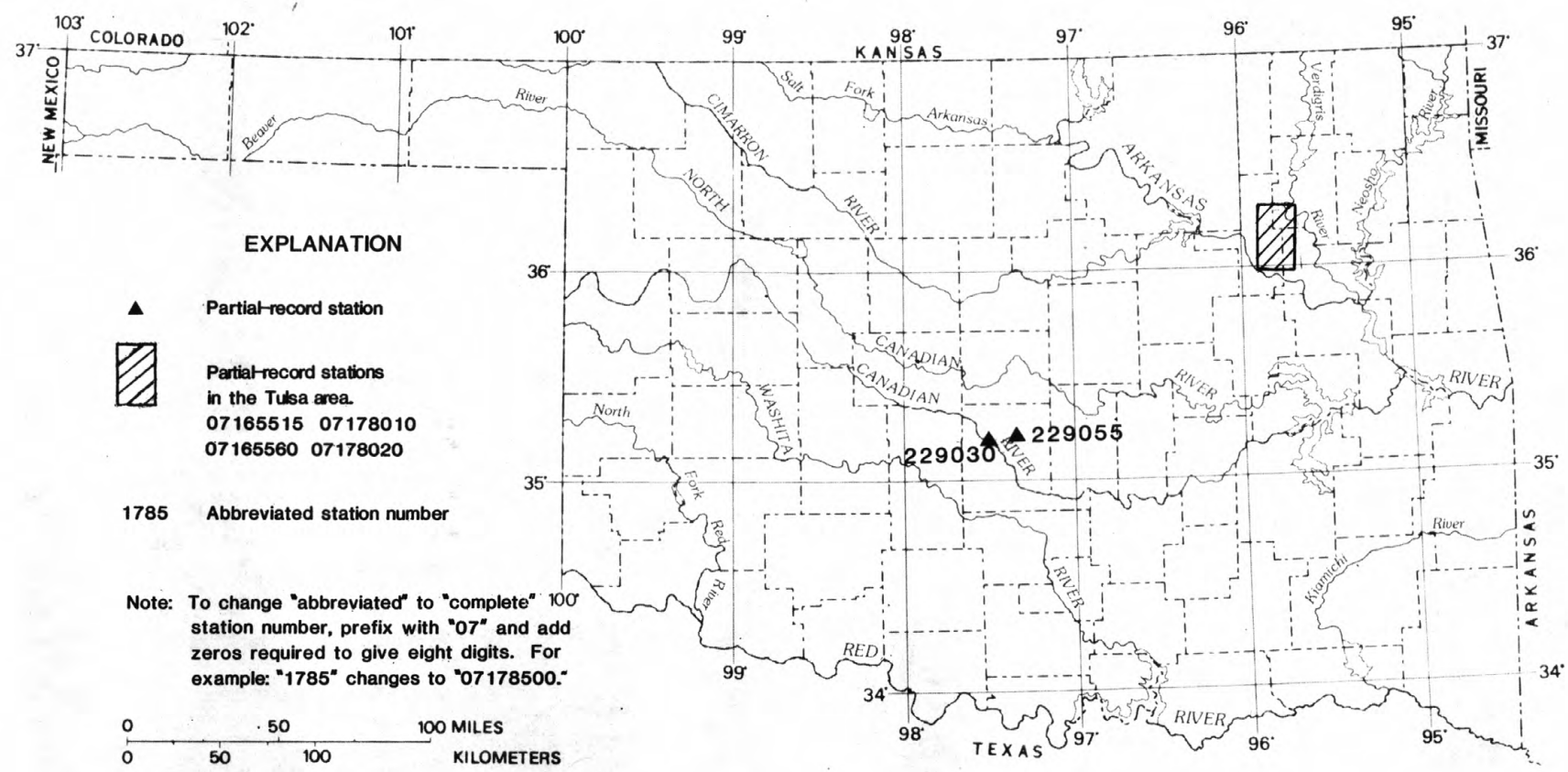


Figure 21.—Locations of partial-record stations, water year 1992.

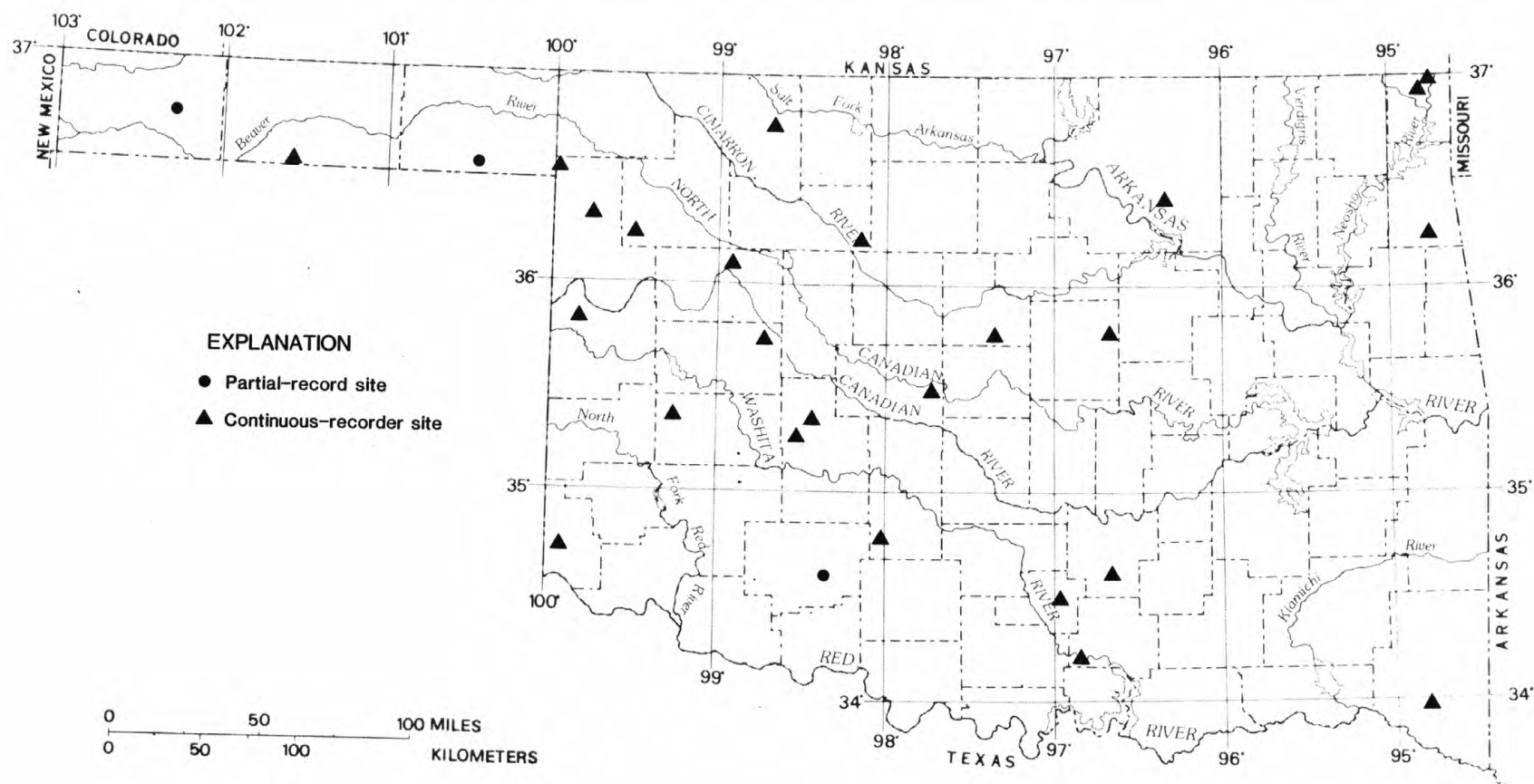


Figure 22.—Locations of network ground-water wells, water year 1992.

ARKANSAS RIVER BASIN
07148130 KAW LAKE NEAR PONCA CITY, OK

LOCATION.--Lat 36°41'58", long 96°55'18", in NE 1/4 SE 1/4 sec.25, T.26 N., R.3 E., Osage County, Hydrologic Unit 11060001, 1,700 ft east of centerline of spillway on dam on Arkansas River, about 8 mi east of Ponca City, and at mile 653.7.

DRAINAGE AREA.--46,530 mi², of which 7,607 mi² is probably noncontributing.

PERIOD OF RECORD.--April 1976 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to July 8, 1976 nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by a rolled, earth dam. Spillway is concrete, gravity ogee-weir type controlled by eight 50-foot taintor gates. Outlet works consist of two sluice gates. Regulated storage began April 22, 1976; conservation pool first filled July 6, 1976. Capacity, 1,327,000 acre-ft, at elevation 1,044.5 ft, top of flood control pool, 406,500 acre-ft, at elevation 1,010.0 ft, top of conservation pool, and 234,100 acre-ft, at elevation 997.5 ft, crest of controlled spillway. Dead storage 76,360 acre-ft below elevation 978.0 ft. Figures given herein represent total contents. Reservoir is designed for flood control, water-quality control, recreation, fish and wildlife, water supply, and power generation. Revised capacity table, based on 1986 resurvey, used since Oct. 1, 1991. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,387,000 acre-ft, Oct. 6, 1986, elevation, 1,045.52 ft; minimum since conservation pool first filled, 223,100 acre-ft, Mar. 25, 1977, elevation, 995.06 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 644,600 acre-ft, June 22, elevation, 1,021.89 ft; minimum, 363,100 acre-ft, Jan. 20, elevation, 1,007.32 ft.

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

1,006	342,800	1,018	559,500
1,009	389,900	1,021	624,400
1,012	441,400	1,024	694,600
1,015	498,300	1,027	769,800

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	384200	388800	409200	421700	367900	366800	407200	407600	410400	593400	515500	474100
2	384200	388800	409400	419500	368100	368100	407900	408400	415000	592700	510600	470800
3	383600	389100	409400	418800	368700	368700	406900	408600	420300	590600	505500	465300
4	384200	388800	407600	418300	368900	371600	407900	408700	427300	588000	501100	458700
5	384100	389800	406400	417800	368400	372500	408200	408600	433300	584500	497700	452800
6	383600	391600	406200	416500	367800	373400	408200	407900	438000	581100	491500	447100
7	383400	390600	407400	415000	367800	374400	408600	407200	440500	574900	489100	443200
8	383700	390400	408600	414000	367000	374400	408200	406900	444300	569000	488300	436500
9	383900	391300	408200	412600	366000	377000	407700	406500	445800	560700	487900	432200
10	383700	392100	407700	408900	366300	375800	408400	407200	450400	553200	487600	428900
11	384100	392100	407600	404900	367600	376800	410100	408600	465100	545300	494800	423400
12	384100	392300	408900	402700	367000	377100	409600	409600	484100	537600	499900	417800
13	385500	392600	409100	397500	366000	378700	409900	408200	495200	535400	502500	413100
14	383600	393900	408100	396200	366800	379100	410300	407900	518100	530300	502900	408400
15	383400	395200	408600	388100	367300	379900	409400	408700	543600	526200	506100	405700
16	383100	398900	408600	382600	367100	380000	409600	410900	582000	526000	509200	403000
17	383900	403200	409200	377900	367400	380800	411100	413100	612400	526800	510600	400000
18	384200	414700	408900	371900	368100	388300	413100	413300	617900	536800	509400	401500
19	382900	415900	409600	366200	367900	392700	414800	412500	624400	539500	508600	401200
20	382900	411300	423100	363200	367400	404500	411800	412100	637500	538700	507200	403200
21	382600	408200	431200	364800	367900	412800	412500	410300	642800	535400	505700	404000
22	382900	410400	438700	366300	367600	412300	414300	409200	643700	531900	503700	404000
23	383100	410400	440100	366700	367800	410900	416200	408900	641900	527800	501300	403500
24	383700	410600	439200	366700	368700	406400	413600	406500	637100	523900	499500	403000
25	383600	410100	438000	367800	367900	406400	411100	406000	629200	523900	499500	401900
26	384600	408900	435600	367800	367400	407000	408600	404700	621700	524400	499100	403000
27	385000	407400	433500	368600	366800	407000	405500	406400	613900	524400	495800	403000
28	386700	409100	431200	368400	367000	404900	406500	407200	607300	526000	492600	404400
29	387800	409400	428700	367900	365700	405900	407900	407900	600800	527600	488900	403500
30	387000	410400	426200	368100	---	404200	407000	408600	596000	525000	485200	401200
31	388100	---	423800	367300	---	406700	---	409600	---	520100	479800	---

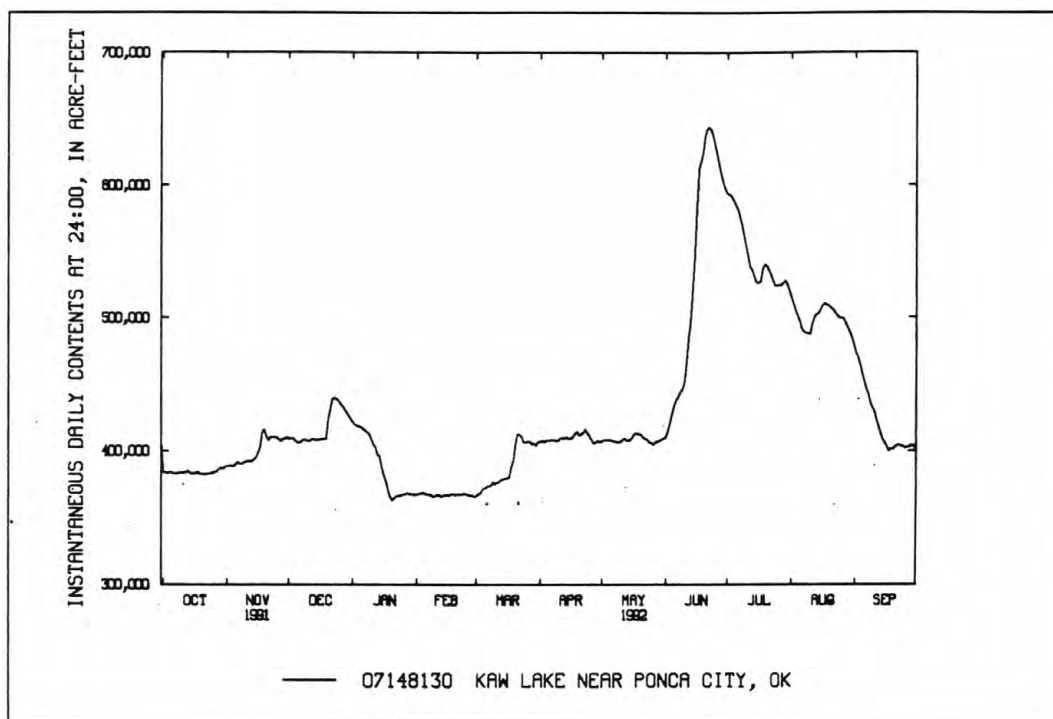
ARKANSAS RIVER BASIN
07148130 KAW LAKE NEAR PONCA CITY, OK--Continued

47

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MAX	388100	415900	440100	421700	368900	412800	416200	413300	643700	593400	515500	474100
MIN	382600	388800	406200	363200	365700	366800	405500	404700	410400	520100	479800	400000
(+)	1008.89	1010.23	1011.01	1007.59	1007.49	1010.01	1010.03	1010.18	1019.71	1016.09	1014.05	1009.68
(++)	-17,600	+22,300	+13,400	-56,500	-1,600	+41,000	+300	+2,6000	+186,400	-75,900	-40,300	-78,600
CAL YR 1991	MAX 459600		MIN 382600		(++) -17,600							
WTR YR 1992	MAX 643700		MIN 363200		(++) -4,500							

(+) ELEVATION, IN FEET AT END OF MONTH

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



ARKANSAS RIVER BASIN

07148140 ARKANSAS RIVER NEAR PONCA CITY, OK

LOCATION.--Lat 36°41'36", long 96°55'48", in NW 1/4 NE 1/4 sec.36, T.26 N., R.3 E., Kay County, Hydrologic Unit 11060001, 3,000 ft downstream from Kaw Lake, 8 mi east of Ponca City, and at mile 653.1.

DRAINAGE AREA.--46,530 mi², of which 7,607 mi² is probably noncontributing.

PERIOD OF RECORD.--April 1976 to current year.

GAGE.--Water-stage recorder. Datum of gage is 860.66 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 1, 1987, gage at site 3,000 ft upstream at National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow completely regulated by Kaw Lake. U.S. Army Corps of Engineers' satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	41	265	1890	401	59	959	702	263	4940	4580	3490
2	53	47	256	1910	373	24	1080	440	791	3140	4510	3580
3	69	48	252	1930	377	90	1310	439	1920	3310	4440	3610
4	51	41	872	1420	419	166	687	433	2960	3580	4420	3580
5	48	23	896	1480	553	188	691	532	2750	3580	4450	3670
6	48	22	292	1420	690	222	676	470	3440	3580	4700	3640
7	42	20	21	1410	689	294	709	547	3890	4430	3420	3600
8	56	20	19	1430	598	286	915	525	2860	4260	2630	3650
9	49	20	237	1400	576	281	717	351	2920	4940	2620	3630
10	46	19	534	2320	567	276	555	354	1730	5330	2720	3030
11	48	19	648	2450	370	284	457	359	1840	5740	2490	3200
12	48	19	397	2410	274	110	454	537	1870	5520	1410	3290
13	48	19	896	2400	922	131	446	671	1750	4830	482	2980
14	45	19	344	1020	453	124	551	911	2060	4500	2660	2990
15	47	16	323	e4360	405	122	700	870	2720	3610	2680	1800
16	51	12	326	3110	390	124	809	903	3700	2620	2660	1930
17	44	11	328	3000	379	121	631	887	5750	2590	2680	1830
18	39	480	363	2990	376	120	1190	1410	7630	2580	2730	441
19	40	3370	900	3040	459	379	1370	1310	8730	2560	2730	438
20	43	3470	1000	1850	552	364	2770	1360	8720	3160	2740	454
21	27	3020	1740	52	578	1880	1470	1730	8620	3590	2750	481
22	35	527	1860	28	485	1890	457	1190	8700	3300	2750	631
23	36	319	1890	459	460	2560	1090	1240	8720	3130	2750	650
24	36	457	1940	468	451	3870	1660	1270	8510	3620	2290	746
25	34	434	1880	481	664	1210	1930	1320	8350	3530	2550	899
26	36	880	1950	468	673	1130	1920	578	8180	3520	2670	444
27	36	949	2050	467	668	898	1950	27	6980	3420	2600	433
28	37	24	1840	687	676	1880	645	40	7050	2660	2640	461
29	35	366	1830	697	753	1550	496	316	6720	2380	2660	893
30	31	374	1950	681	---	1450	665	337	5860	3870	2660	1370
31	35	---	1930	778	---	805	---	333	---	4570	3190	---
TOTAL	1352	15086	30029	48506	15231	22888	29960	22392	145984	116390	91262	61841
MEAN	43.6	503	969	1565	525	738	999	722	4866	3755	2944	2061
MAX	69	3470	2050	4360	922	3870	2770	1730	8730	5740	4700	3670
MIN	27	11	19	28	274	24	446	27	263	2380	482	433
AC-FT	2680	29920	59560	96210	30210	45400	59430	44410	289600	230900	181000	122700

e Estimated

ARKANSAS RIVER BASIN
07148140 ARKANSAS RIVER NEAR PONCA CITY, OK--Continued

49

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1992, BY WATER YEAR (WY)

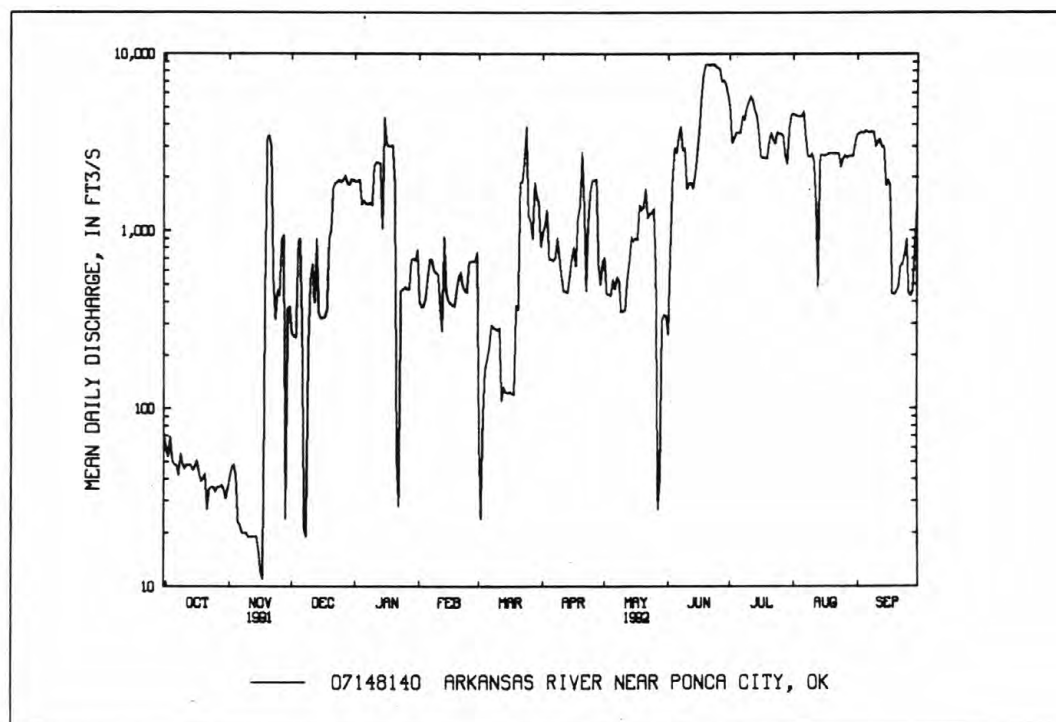
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2663	2090	1389	1665	1567	3752	5093	3315	5131	3577	1719	2151
MAX	18950	8092	5417	3763	3179	15310	16510	7463	13740	9285	5636	12340
(WY)	1987	1980	1986	1988	1987	1987	1984	1984	1982	1987	1977	1989
MIN	43.6	131	205	400	301	185	157	722	933	425	222	169
(WY)	1992	1991	1991	1977	1981	1989	1981	1992	1988	1980	1984	1984

SUMMARY STATISTICS	1991 CALENDAR YEAR		1992 WATER YEAR		WATER YEARS 1977-92	
ANNUAL TOTAL	264251		600921			
ANNUAL MEAN	724		1642		2844	
HIGHEST ANNUAL MEAN					7206	
LOWEST ANNUAL MEAN					648	
HIGHEST DAILY MEAN	4160	Apr 22	8730	Jun 19	39300	Oct 11 1986
LOWEST DAILY MEAN	11	Nov 17	11	Nov 17	^a .00	May 13 1979
ANNUAL SEVEN-DAY MINIMUM	16	Nov 11	16	Nov 11	.00	Sep 14 1986
INSTANTANEOUS PEAK FLOW			9150	Jun 19	^b 39300	Oct 11 1986
INSTANTANEOUS PEAK STAGE			10.20	Jun 19	^c 13.97	Sep 7 1989
ANNUAL RUNOFF (AC-FT)	524100		1192000		2060000	
10 PERCENT EXCEEDS	1930		3660		7910	
50 PERCENT EXCEEDS	448		883		1200	
90 PERCENT EXCEEDS	47		43		163	

^aAlso occurred Sept. 14-24, 1986, Oct. 1-4, 1986.

^bGage at site 3,000 ft upstream at flow through structure.

^cSince Oct. 1, 1987.



ARKANSAS RIVER BASIN

07148350 SALT FORK ARKANSAS RIVER NEAR WINCHESTER, OK

LOCATION.--Lat 36°57'42", long 98°46'55", in NE 1/4 SE 1/4 sec.26, T.29 N., R.15 W., Woods County, Hydrologic Unit 11060002, near left bank on downstream side of pier of county road bridge, 1.0 mi northeast of Winchester, 2.5 mi upstream from Greenleaf Creek (formerly Greenwood Creek), 4.9 mi downstream from Yellowstone Creek, 5.0 mi downstream from State line, 19.0 mi northwest of Alva, and at mile 156.2.

DRAINAGE AREA.--856 mi².

PERIOD OF RECORD.--October 1959 to current year. Monthly discharge only for some periods, published in WSP 1731.

REVISED RECORDS.--WSP 1731: Drainage area. WSP 1921: 1960.

GAGE.--Water-stage recorder. Datum of gage is 1,410.05 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1978, at datum .45 ft lower.

REMARKS.--Records good.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1957 reached a stage of 15.4 ft, from information provided by county engineer, discharge not determined.

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)
Aug. 4	1000	5,410	10.90	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.75	17	72	40	36	50	32	48	143	40	25
2	.08	.41	18	70	40	36	50	27	93	117	36	28
3	.07	.47	22	63	41	35	51	23	131	93	31	24
4	.08	.37	19	57	42	41	50	22	106	79	2230	20
5	.11	.45	21	56	43	42	46	20	83	64	1010	19
6	.12	.37	23	53	44	39	44	17	97	54	439	17
7	.12	.28	21	58	43	37	43	16	84	43	204	15
8	.10	.29	21	55	41	35	43	16	70	32	142	13
9	.10	.29	22	52	41	35	42	13	63	26	118	13
10	.10	.28	22	52	41	34	40	13	80	22	93	11
11	.08	.28	25	51	40	35	40	54	84	37	79	9.2
12	.09	.26	35	51	40	37	39	21	92	106	87	9.2
13	.09	.28	35	47	41	38	40	13	74	406	97	9.7
14	.07	.43	32	42	45	37	38	21	352	997	79	8.3
15	.12	1.6	31	e34	45	36	35	18	244	203	65	7.1
16	.11	95	29	e37	44	36	72	14	144	403	57	5.8
17	.10	106	29	41	44	36	63	10	104	447	51	4.5
18	.09	56	29	55	43	49	58	9.5	76	306	46	3.3
19	.12	38	39	49	42	126	112	9.5	56	298	44	3.1
20	.15	29	65	46	41	80	95	12	84	257	41	3.4
21	.15	24	77	47	41	63	71	10	60	312	38	3.6
22	.13	22	75	47	40	53	58	14	65	238	34	3.3
23	.11	20	69	44	39	49	50	21	64	152	30	3.0
24	.12	18	59	41	38	49	44	20	53	122	26	2.9
25	.16	19	56	42	38	47	39	19	61	100	27	2.8
26	.22	21	54	41	38	44	36	20	86	88	27	2.8
27	.23	20	57	42	37	41	34	23	95	76	26	2.8
28	.72	19	58	42	38	44	34	37	233	67	27	2.7
29	.17	20	59	41	37	45	36	44	318	59	24	2.7
30	.20	19	56	40	---	45	35	41	200	50	22	2.7
31	1.2	---	57	40	---	47	---	37	---	44	23	---
TOTAL	5.41	532.81	1232	1508	1187	1407	1488	667.0	3400	5441	5293	277.9
MEAN	.17	17.8	39.7	48.6	40.9	45.4	49.6	21.5	113	176	171	9.26
MAX	1.2	106	77	72	45	126	112	54	352	997	2230	28
MIN	.07	.26	17	34	37	34	34	9.5	48	22	22	2.7
AC-FT	11	1060	2440	2990	2350	2790	2950	1320	6740	10790	10500	551

e Estimated

ARKANSAS RIVER BASIN

51

07148350 SALT FORK ARKANSAS RIVER NEAR WINCHESTER, OK--Continued

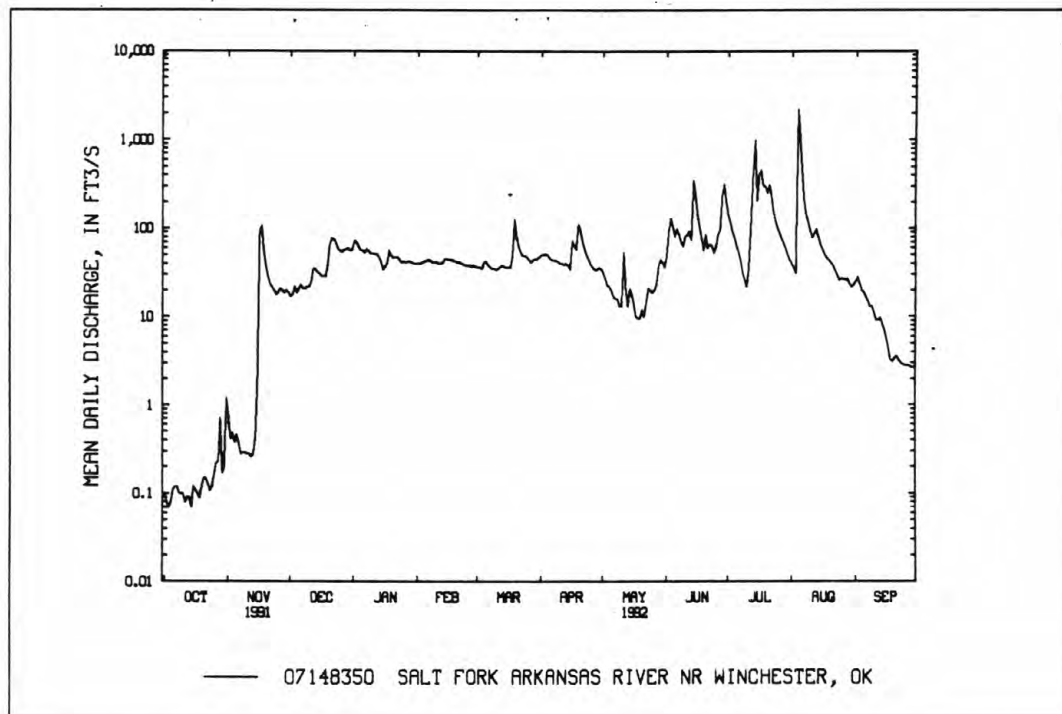
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	90.1	48.3	41.5	44.5	59.0	129	127	155	204	81.7	76.6	77.0
MAX	569	165	110	98.7	208	1171	818	586	1026	507	560	547
(WY)	1974	1982	1974	1988	1960	1973	1973	1979	1965	1982	1961	1969
MIN	.036	.062	.051	1.50	11.3	10.2	11.5	3.91	1.71	.000	.050	.021
(WY)	1967	1967	1967	1979	1967	1967	1964	1963	1966	1964	1978	1970

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1960-92

ANNUAL TOTAL	17981.36	22439.12	
ANNUAL MEAN	49.3	61.3	94.5
HIGHEST ANNUAL MEAN			244 1973
LOWEST ANNUAL MEAN			12.9 1964
HIGHEST DAILY MEAN	1100 Jun 3	2230 Aug 4	12100 Aug 19 1961
LOWEST DAILY MEAN	.07 Sep 29	.07 Oct 3, 14	.00 at times
ANNUAL SEVEN-DAY MINIMUM	.08 Sep 28	.09 Oct 8	.00 Jun 27 1964
INSTANTANEOUS PEAK FLOW		5410 Aug 4	^a 52000 Aug 19 1961
INSTANTANEOUS PEAK STAGE		10.90 Aug 4	13.95 Aug 19 1961
ANNUAL RUNOFF (AC-FT)		35670	44510 68500
10 PERCENT EXCEEDS	89	96	156
50 PERCENT EXCEEDS	34	39	33
90 PERCENT EXCEEDS	.14	.35	.33

^aFrom rating curve extended above 17,400 ft³/s.



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, October 1979 to current year. Occasional low-flow measurements water years 1952-54, 1977-79.

GAGE.--Water stage recorder. Datum of gage is 1,292.04 ft above National Geodetic Vertical Datum of 1929. 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.

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)
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No peak greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	8.0	22	89	41	32	43	38	51	205	55	40
2	2.7	5.1	21	98	40	33	42	34	134	157	48	41
3	2.4	e6.0	22	86	43	34	43	31	123	126	47	42
4	2.2	4.8	25	78	43	41	43	29	135	98	1250	37
5	2.4	5.6	26	71	41	41	41	27	116	82	1060	34
6	2.2	5.2	25	66	43	41	37	25	508	66	743	33
7	2.4	4.3	27	65	44	40	35	26	168	56	409	30
8	2.2	3.7	26	64	43	42	35	26	112	46	286	28
9	2.4	3.9	27	61	41	38	37	24	100	38	229	27
10	2.3	3.1	26	59	41	35	39	23	156	33	186	26
11	2.1	3.1	30	61	44	35	40	26	142	32	157	22
12	1.7	3.7	38	61	45	35	38	42	119	42	141	21
13	1.6	4.2	37	60	45	37	36	25	106	286	155	20
14	1.6	4.4	36	54	45	37	38	27	814	1270	157	18
15	1.6	4.6	34	e47	47	35	38	25	710	421	132	16
16	1.8	75	34	e39	45	34	391	23	276	317	115	13
17	1.7	386	33	45	45	34	151	21	196	615	103	13
18	1.6	75	33	47	45	36	81	19	140	461	93	12
19	1.6	44	45	56	45	87	200	18	106	377	85	11
20	1.8	33	68	51	45	99	252	22	127	345	81	12
21	1.6	27	97	48	44	81	112	21	129	311	72	12
22	1.4	24	86	52	42	62	80	23	90	399	65	12
23	1.3	21	78	46	42	54	67	23	85	236	59	11
24	1.2	20	67	42	45	52	59	24	77	198	52	11
25	1.4	19	64	42	42	51	50	25	79	149	48	10
26	1.6	20	62	41	43	48	46	24	82	128	48	8.3
27	2.0	21	60	46	44	43	45	25	103	110	48	8.9
28	8.6	21	61	43	40	44	46	31	285	93	48	8.9
29	3.2	21	64	41	35	43	46	33	359	80	44	8.9
30	2.3	22	64	41	---	41	43	37	295	70	41	8.9
31	7.2	---	68	41	---	42	---	42	---	59	40	---
TOTAL	73.0	898.7	1406	1741	1248	1407	2254	839	5923	6906	6097	595.9
MEAN	2.35	30.0	45.4	56.2	43.0	45.4	75.1	27.1	197	223	197	19.9
MAX	8.6	386	97	98	47	99	391	42	814	1270	1250	42
MIN	1.2	3.1	21	39	35	32	35	18	51	32	40	8.3
AC-FT	145	1780	2790	3450	2480	2790	4470	1660	11750	13700	12090	1180

e Estimated

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

53

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	123	76.9	58.2	65.9	80.2	156	171	230	279	118	65.0	63.2
MAX	620	211	114	121	227	822	362	476	689	411	197	259
(WY)	1986	1982	1987	1988	1987	1987	1988	1982	1989	1982	1992	1989
MIN	2.35	.95	14.8	15.3	17.4	29.2	22.5	27.1	51.0	5.17	2.66	.94
(WY)	1992	1981	1981	1981	1981	1981	1981	1992	1984	1984	1980	1980

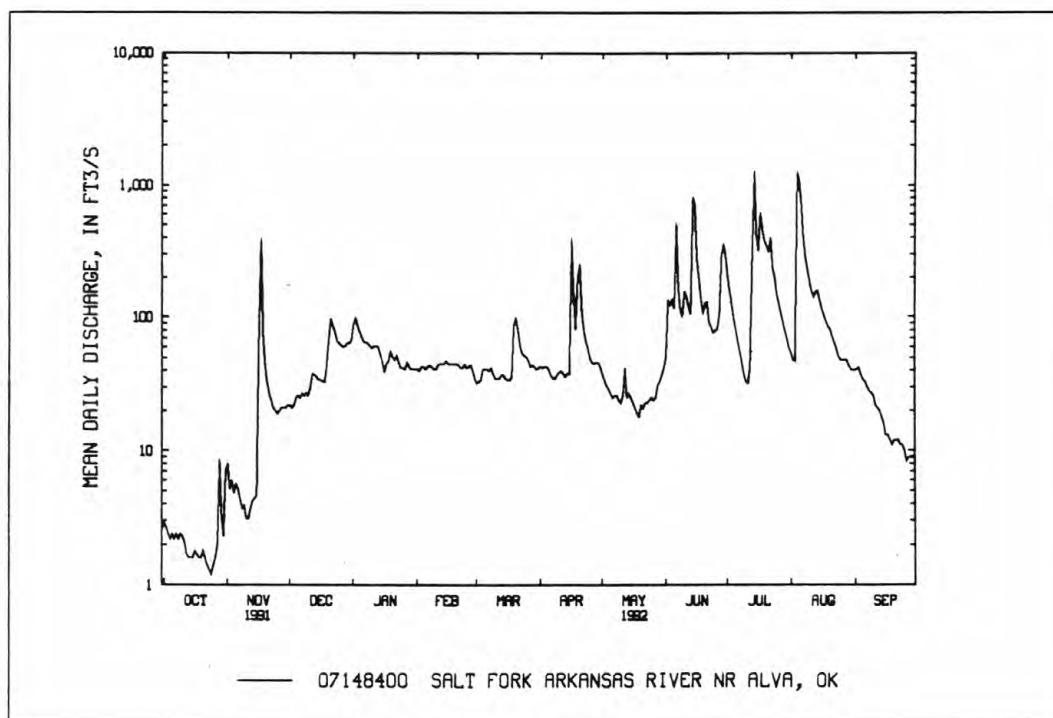
SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1980-92

ANNUAL TOTAL	20845.88	29388.6	
ANNUAL MEAN	57.1	80.3	^a 124
HIGHEST ANNUAL MEAN			271 1987
LOWEST ANNUAL MEAN			59.3 1984
HIGHEST DAILY MEAN	884	Apr 4	1270 Jul 14 7880 Mar 24 1987
LOWEST DAILY MEAN	.51	Aug 19	1.2 Oct 24 ^b .43 Aug 24 1984
ANNUAL SEVEN-DAY MINIMUM	.61	Aug 2	1.5 Oct 19 .48 Aug 18 1984
INSTANTANEOUS PEAK FLOW			3280 Aug 4 ^c 12800 Oct 10 1985
INSTANTANEOUS PEAK STAGE			11.67 Aug 4 15.24 Oct 10 1985
ANNUAL RUNOFF (AC-FT)	41350	58290	89700
10 PERCENT EXCEEDS	105	156	245
50 PERCENT EXCEEDS	36	42	61
90 PERCENT EXCEEDS	1.6	4.4	4.6

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

^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

07150000 GREAT SALT PLAINS LAKE NEAR JET, OK

LOCATION.--Lat 36°44'40", long 98°08'08", in NW 1/4 SE 1/4 sec.11, T.26 N., R.9 W., Alfalfa County, Hydrologic Unit 11060004, at right end of Great Salt Plains Dam on Salt Fork Arkansas River, 4.5 mi upstream from Wagon Creek, 5.5 mi northeast of Jet, and at mile 103.3.

DRAINAGE AREA.--3,200 mi², of which 8 mi² is probably noncontributing.

PERIOD OF RECORD.--July 1941 to current year. Prior to October 1970, published as Great Salt Plains Reservoir near Jet.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by earth dam. Outlet works consist of a 310-foot uncontrolled concrete spillway containing a series of three weirs to form a cascade. Storage began in June 1941; conservation pool was first filled Oct. 21, 1941. Capacity, 257,700 acre-ft at elevation 1,138.5 ft, crest of upper weir, and 31,420 acre-ft at elevation 1,125.0 ft, crest of intermediate weir and conservation pool. Reservoir is used for flood control and as a wildlife refuge. Figures given herein represent total contents. Revised capacity table, based on survey in 1971, used since Oct. 1, 1972. U.S. Corps of Engineers' satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 189,400 acre-ft, July 2, 1951, elevation, 1,134.38 ft; minimum, 17,180 acre-ft, Sept. 6, 1973, elevation, 1,123.16 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 55,530 acre-ft, Aug. 8, elevation 1,127.37 ft, affected by seiche; minimum, 23,520 acre-ft, Oct. 30, elevation 1,124.03 ft, affected by seiche.

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

1,124	23,280	1,127	51,180
1,125	31,420	1,128	62,940
1,126	40,700	1,129	75,970

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30600	29380	33830	36150	34300	33740	34850	34300	35870	52830	35130	35780
2	30120	28980	34110	35870	34390	33460	34480	34200	35690	50240	34760	34110
3	30690	28980	33740	35870	34200	33280	35320	34200	36150	48040	33650	33830
4	29300	29140	33370	35970	34300	33090	33830	33930	35970	46460	40510	33370
5	29060	29140	33550	35970	34110	35320	34390	32900	35040	43740	44790	35690
6	28490	28160	33930	35410	34210	34110	34110	33280	38380	41750	51420	34850
7	30690	29140	34020	35870	32160	33830	34020	33180	39400	41010	55060	35040
8	29710	29140	33650	35130	33550	34020	33930	32900	39490	39310	54120	34300
9	29140	29220	33280	35040	33930	33740	34850	32260	36060	37920	51530	33090
10	29060	29140	33280	34950	34020	33930	33650	31980	39310	36900	49190	34200
11	29220	29380	34020	34300	34200	34110	33180	32720	38470	37360	47300	33930
12	28570	29630	34110	34300	34020	34020	33280	32810	38290	36710	46040	33550
13	28410	30120	34020	34950	33550	33180	33280	31790	37820	41540	46670	33180
14	28570	30690	34480	34390	34760	33550	33460	32440	40800	36900	46040	33280
15	28570	29710	33830	34300	33650	33090	36060	33180	43010	37730	44470	33000
16	28570	36250	33830	33830	33830	34110	33000	34020	46990	40700	42480	33550
17	27840	39490	33460	33650	34950	33930	34390	34480	47510	41960	41430	33000
18	26940	39770	32810	34200	33460	34020	35600	34760	47200	43010	40700	31880
19	27510	39590	34850	34200	33000	33650	37080	34610	45210	43010	39400	31790
20	27510	39490	36900	34200	33930	33930	38470	34390	43840	42270	38470	31790
21	28900	38380	37450	34200	33740	33740	37360	35040	43220	41750	37540	32350
22	27840	38190	37270	35500	33280	34390	37170	34950	42270	40610	36800	31510
23	26940	37730	37170	34850	34020	34480	36990	34300	40700	40240	36060	31260
24	27190	36150	36710	35690	33650	34670	36900	34390	40510	39400	35410	30690
25	27270	35970	36430	34020	33740	34670	36060	34950	44370	38840	35500	29710

ARKANSAS RIVER BASIN

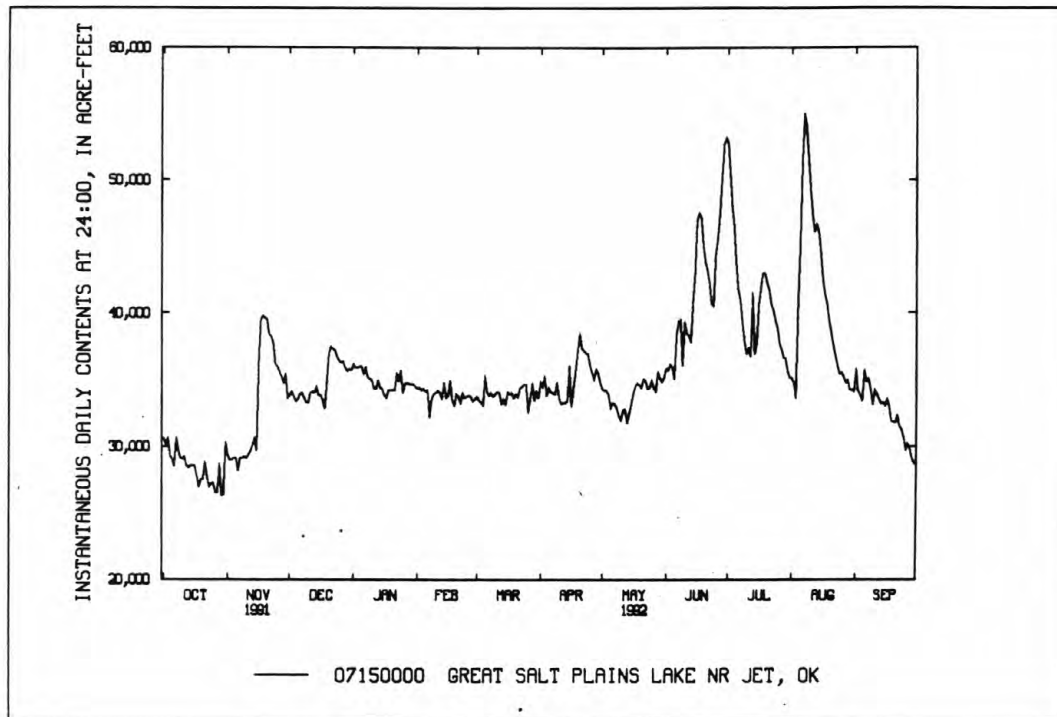
55

07150000 GREAT SALT PLAINS LAKE NEAR JET, OK--Continued

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MAX	30690	39770	37450	36150	34950	35320	38470	35600	53180	52830	55060	35780
MIN	26290	28160	32810	33650	32160	32530	33000	31790	35040	35130	33650	28730
(+)	1124.87	1125.24	1125.46	1125.33	1125.23	1125.24	1125.36	1125.40	1127.17	1125.40	1125.29	1124.68
(++)	-270	+3,310	+2,040	-1,210	-930	+100	+1,110	+370	+18,050	-18,050	-1,020	-5,290
CAL YR 1991	MAX 39960		MIN 26290		(++) +2,040							
WTR YR 1992	MAX 55060		MIN 26290		(++) -1,790							

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

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



ARKANSAS RIVER BASIN

07150500 SALT FORK ARKANSAS RIVER NEAR JET, OK

LOCATION.--Lat 36°45'09", long 98°07'43", in NE 1/4 NE 1/4 sec.11, T.26 N., R.9 W., Alfalfa County, Hydrologic Unit 11060004, near center of span on downstream side of bridge on State Highway 38, 0.6 mi downstream from Great Salt Plains Dam, 4 mi upstream from Wagon Creek, 6.7 mi northeast of Jet, and at mile 102.7.

DRAINAGE AREA.--3,202 mi², of which 8 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1937 to current year.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,092.20 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 17, 1938, nonrecording gage at site 2.5 mi upstream at datum 13.46 ft higher. Mar. 17, 1938 to Apr. 26, 1953, water-stage recorder at site 200 ft upstream, datum 5.00 ft higher prior to Oct. 1, 1950.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since June 1941 by Great Salt Plains Lake (station 07150000). U.S. Army Corps of Engineers' satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	2.9	117	326	186	141	201	261	263	2230	203	168
2	2.4	2.3	132	323	183	129	177	141	315	2160	191	174
3	9.8	2.0	144	323	177	107	217	178	313	1860	151	152
4	8.9	1.9	92	310	148	118	171	157	350	1650	766	137
5	9.1	1.6	120	329	174	155	156	108	343	1380	1200	162
6	8.7	1.3	115	298	174	197	155	98	562	1130	1770	269
7	8.5	1.2	122	321	171	127	137	103	658	1060	2470	283
8	7.4	1.2	147	361	133	112	146	86	730	809	2570	194
9	8.5	1.3	91	255	140	226	150	80	696	649	2350	207
10	9.4	1.2	99	241	134	150	151	72	718	499	2050	118
11	8.3	1.3	85	238	110	185	97	86	661	486	1770	144
12	8.5	1.2	211	213	160	145	72	71	604	519	1630	150
13	9.0	1.3	163	193	155	156	129	29	569	457	1590	142
14	8.7	1.4	144	225	224	130	124	89	705	372	1580	105
15	7.6	1.8	126	194	165	101	137	52	1010	489	1450	81
16	6.3	88	130	183	118	141	123	120	1330	760	1260	84
17	5.0	480	102	140	245	123	149	154	1540	1010	1100	59
18	5.7	611	79	147	216	185	281	197	1530	1140	990	26
19	7.8	630	119	178	116	152	422	208	1370	1210	853	21
20	7.5	658	309	165	143	158	511	211	1330	1150	713	32
21	6.9	596	401	155	105	166	557	224	1170	1070	593	73
22	6.9	516	422	230	105	152	509	257	1090	1030	506	157
23	7.2	503	412	261	107	201	513	220	962	916	445	151
24	7.4	373	387	231	105	185	408	191	822	839	349	149
25	11	298	351	205	112	187	384	200	1110	769	316	149
26	12	300	334	196	146	173	318	228	1290	577	255	149
27	13	251	318	202	137	97	277	149	1390	487	246	148
28	12	266	316	201	140	146	223	230	1680	428	243	149
29	10	290	280	206	121	230	294	267	1990	384	221	148
30	3.0	147	286	207	---	146	286	234	2170	288	154	63
31	5.1	---	255	198	---	152	---	233	---	244	170	---
TOTAL	244.0	6030.9	6409	7255	4350	4773	7475	4934	29271	28052	30155	4044
MEAN	7.87	201	207	234	150	154	249	159	976	905	973	135
MAX	13	658	422	361	245	230	557	267	2170	2230	2570	283
MIN	2.4	1.2	79	140	105	97	72	29	263	244	151	21
AC-FT	484	11960	12710	14390	8630	9470	14830	9790	58060	55640	59810	8020

ARKANSAS RIVER BASIN
07150500 SALT FORK ARKANSAS RIVER NEAR JET, OK--Continued

57

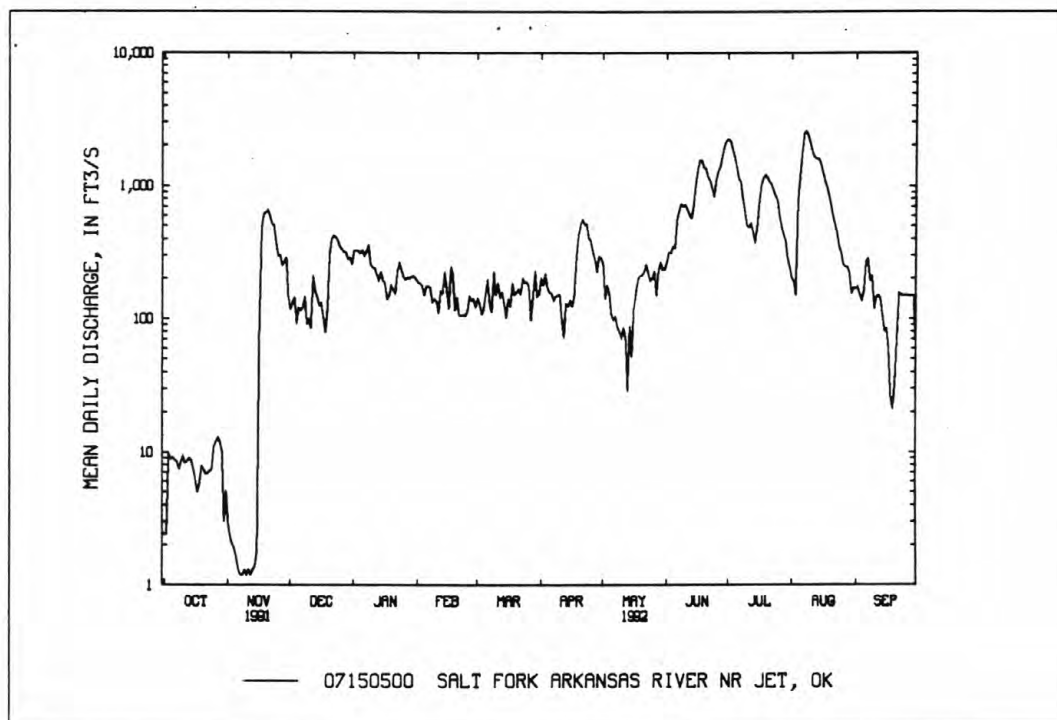
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	361	254	161	170	256	416	587	769	802	439	224	257
MAX	2945	1465	487	596	2498	2721	4714	4389	4333	4479	2286	2176
(WY)	1974	1982	1986	1988	1949	1973	1973	1949	1949	1951	1948	1949
MIN	3.10	.41	1.20	.94	.78	.38	1.52	5.24	3.72	5.66	5.57	2.91
(WY)	1957	1955	1977	1955	1955	1955	1955	1956	1956	1966	1970	1956

SUMMARY STATISTICS	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1942-92
ANNUAL TOTAL	54102.9	132992.9	
ANNUAL MEAN	148	363	392
HIGHEST ANNUAL MEAN			1429 1949
LOWEST ANNUAL MEAN			36.8 1956
HIGHEST DAILY MEAN	658	Nov 20 2570	Aug 8 10500
LOWEST DAILY MEAN	1.2	at times	1.2 at times .00
ANNUAL SEVEN-DAY MINIMUM	1.2	Nov 6	Nov 6 .07 Oct 31 1954
INSTANTANEOUS PEAK FLOW		2630	Aug 8 25900
INSTANTANEOUS PEAK STAGE		5.92	Aug 8 ^b 13.80 May 19 1938
ANNUAL RUNOFF (AC-FT)	107300	263800	283700
10 PERCENT EXCEEDS	358	1060	913
50 PERCENT EXCEEDS	109	185	140
90 PERCENT EXCEEDS	7.3	8.8	5.2

^aNo flow at times in 1939-41, 1944, 1955-56.

^bPresent datum.



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 National Geodetic Vertical Datum of 1929. 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 poor. 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 discharges of 11,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Aug. 6	0030	20,100	20.58	Aug. 12	2100	13,600	17.76

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e25	57	302	519	e248	e162	e208	394	291	5590	462	390
2	e24	66	273	565	e245	e157	206	417	291	4650	577	374
3	e23	68	195	638	e235	e154	215	342	487	3830	795	654
4	e26	e35	185	637	e225	e151	e220	252	896	2660	1150	556
5	e23	e31	184	636	e215	e149	e201	218	703	2160	12700	378
6	e22	e30	156	578	e209	148	e185	204	710	1860	15800	332
7	e21	48	157	557	e205	e175	166	169	1470	1520	9010	445
8	e21	e35	155	508	e202	e220	180	133	2310	1250	6990	613
9	e20	e32	147	500	e195	e190	165	135	1530	1140	7520	471
10	e21	e31	161	495	e185	e250	163	147	1270	923	4490	368
11	20	e31	187	425	e174	e220	160	533	1480	857	3830	360
12	e20	e30	551	394	e162	e205	166	502	1350	851	11900	290
13	e20	e30	636	349	156	e195	155	243	1250	824	12600	277
14	e20	e30	465	345	e195	e190	109	157	1530	778	8530	274
15	e19	e29	328	297	e290	e185	125	111	5200	732	4550	262
16	e19	56	279	336	e260	e182	139	104	5210	1260	2540	237
17	e18	2530	231	314	e240	e190	141	142	3460	3660	1950	213
18	e18	3100	194	292	e320	e200	154	174	2950	2370	1610	196
19	e17	2000	197	253	e290	212	206	192	2510	2060	1400	191
20	e17	1560	3440	227	e250	e250	307	208	2140	1630	1230	172
21	e17	1800	5660	243	e220	e241	401	227	1940	1540	1080	154
22	e16	1170	3060	230	e210	e235	493	231	1690	1360	940	245
23	e16	802	1980	229	e200	e232	556	233	1350	1150	819	162
24	e18	657	1370	288	e190	e228	524	255	1200	1070	731	214
25	e18	600	873	345	e185	e222	532	272	2330	967	665	229
26	e23	496	701	e300	e180	e218	457	251	4580	882	648	224
27	e30	410	632	e280	e175	e215	428	248	4760	797	647	222
28	54	391	596	e265	e170	e214	387	277	3930	662	556	217
29	e40	349	564	258	e165	e213	439	258	4770	586	490	213
30	45	308	559	e255	---	e212	383	240	6380	521	455	212
31	e40	---	525	e251	---	e210	---	287	---	470	436	---

e Estimated

ARKANSAS RIVER BASIN

59

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
TOTAL	731	16812	24943	11809	6196	6225	8171	7556	69968	50610	117101	9145
MEAN	23.6	560	805	381	214	201	272	244	2332	1633	3777	305
MAX	54	3100	5660	638	320	250	556	533	6380	5590	15800	654
MIN	16	29	147	227	156	148	109	104	291	470	436	154
AC-FT	1450	33350	49470	23420	12290	12350	16210	14990	138800	100400	232300	18140

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1992, BY WATER YEAR (WY)

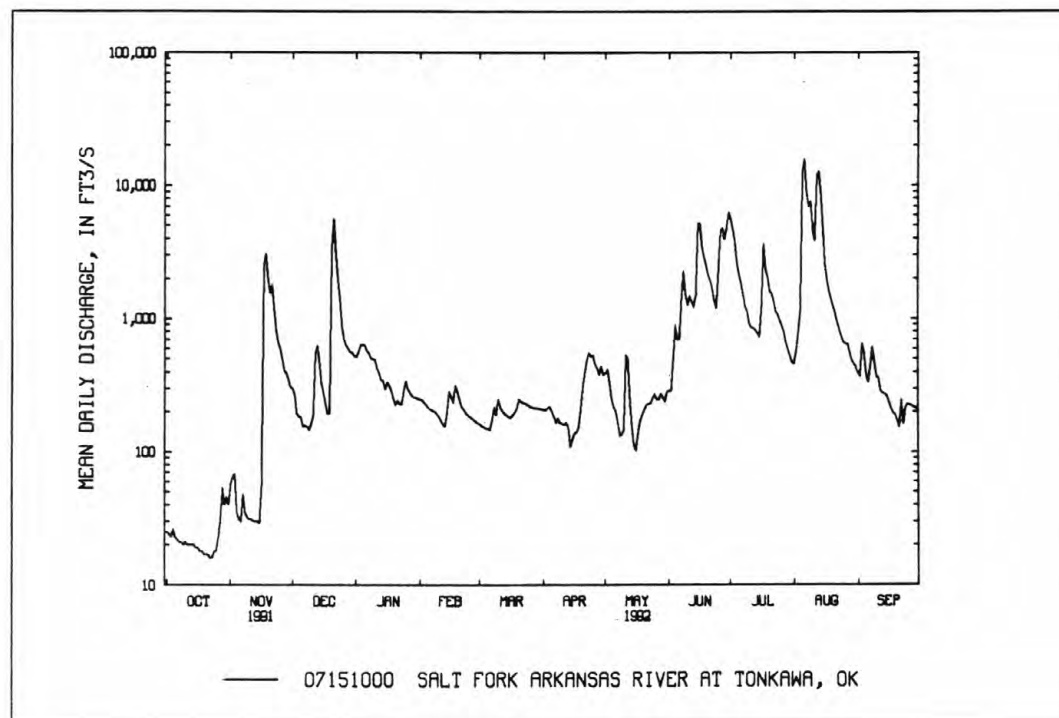
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	895	609	318	323	501	921	1179	1466	1411	831	494	602
MAX	9412	4431	1809	1633	5171	6188	7916	7070	7539	8821	3777	3448
(WY)	1987	1975	1945	1988	1949	1973	1973	1957	1957	1951	1992	1949
MIN	.64	4.82	3.56	7.52	10.9	10.6	13.6	8.78	7.92	5.69	5.50	.000
(WY)	1957	1955	1955	1957	1957	1955	1955	1956	1956	1954	1956	1956

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1942-92

ANNUAL TOTAL	106078	329267	
ANNUAL MEAN	291	900	796
HIGHEST ANNUAL MEAN			3260
LOWEST ANNUAL MEAN			95.5
HIGHEST DAILY MEAN	5660	Dec 21	15800
LOWEST DAILY MEAN	16	Oct 22	16
ANNUAL SEVEN-DAY MINIMUM	17	Oct 17	17
INSTANTANEOUS PEAK FLOW		20100	Aug 6
INSTANTANEOUS PEAK STAGE		^b 20.58	Aug 6
ANNUAL RUNOFF (AC-FT)	210400	653100	577000
10 PERCENT EXCEEDS	608	2150	1750
50 PERCENT EXCEEDS	150	268	224
90 PERCENT EXCEEDS	29	34	30

^aNo flow also Sept. 1 to Oct. 12, 14-16, 1956.

^bFrom high-water mark.



ARKANSAS RIVER BASIN

07152000 CHIKASKIA RIVER NEAR BLACKWELL, OK

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.

DRAINAGE AREA.--1,859 mi².

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 967.41 ft above National Geodetic Vertical Datum of 1929. See WSP 1921 for history of changes prior to April, 1952.

REMARKS.--Records fair. Some regulation at low flow by Lake Blackwell, capacity 3,600 acre-ft, 12.6 mi upstream from station. Small diversion made from reservoir for municipal supply of city of Blackwell. U.S. Army Corps of Engineers' satellite telemeter at station.

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.

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)
June 15	1900	15,100	30.15	Aug. 13	0330	8,720	24.35

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e8.0	32	77	341	105	94	165	134	249	868	87	133
2	e7.8	28	70	757	103	94	155	124	418	557	98	133
3	e7.4	18	69	499	102	95	147	108	1830	429	123	134
4	e7.0	10	67	349	101	173	142	104	1470	345	132	128
5	e6.7	11	67	251	100	150	137	94	688	293	3310	121
6	e6.4	13	69	205	101	147	131	90	1050	262	6750	121
7	e8.4	28	68	183	105	139	123	86	3180	231	1590	114
8	e14	40	70	179	102	125	120	84	1310	209	846	107
9	e10	38	67	164	99	119	118	80	675	188	635	100
10	e9.0	36	64	155	100	420	117	83	563	164	352	99
11	8.4	37	66	153	102	472	120	275	1330	221	873	96
12	7.8	44	269	145	111	221	126	303	1100	178	6320	94
13	7.6	42	318	142	110	152	123	129	679	189	6160	90
14	10	51	185	128	112	127	121	105	3510	185	1460	91
15	8.3	66	128	123	112	114	122	3750	13800	164	990	87
16	7.5	728	106	89	109	108	304	4090	10500	340	745	82
17	8.1	6720	97	84	112	110	1300	918	2450	1110	546	77
18	9.1	3100	82	113	113	702	540	616	1240	647	447	78
19	6.0	772	93	125	107	2760	347	461	868	376	377	122
20	3.8	652	3130	126	107	1250	548	544	841	269	333	87
21	3.3	581	3610	124	106	614	e560	851	824	221	292	75
22	3.4	262	970	134	104	413	e350	899	623	184	264	74
23	3.5	159	479	136	103	312	e250	468	501	168	238	107
24	4.8	129	317	136	117	265	e190	351	517	151	212	218
25	3.9	90	239	132	108	230	e145	292	3480	132	192	116
26	5.4	94	194	118	103	199	e130	270	5060	126	212	92
27	5.1	79	169	116	102	178	e124	245	1300	129	187	85
28	8.6	88	162	116	95	168	121	245	738	129	171	83
29	7.4	92	152	115	97	170	139	243	1770	104	162	79
30	5.6	91	159	107	---	159	137	256	2330	105	151	71
31	15	---	170	110	---	162	---	246	---	88	137	---
TOTAL	227.3	14131	11783	5655	3048	10442	7152	16544	64894	8762	34392	3094
MEAN	7.33	471	380	182	105	337	238	534	2163	283	1109	103
MAX	15	6720	3610	757	117	2760	1300	4090	13800	1110	6750	218
MIN	3.3	10	64	84	95	94	117	80	249	88	87	71
AC-FT	451	28030	23370	11220	6050	20710	14190	32820	128700	17380	68220	6140

e Estimated

ARKANSAS RIVER BASIN
07152000 CHIKASKIA RIVER NEAR BLACKWELL, OK--Continued

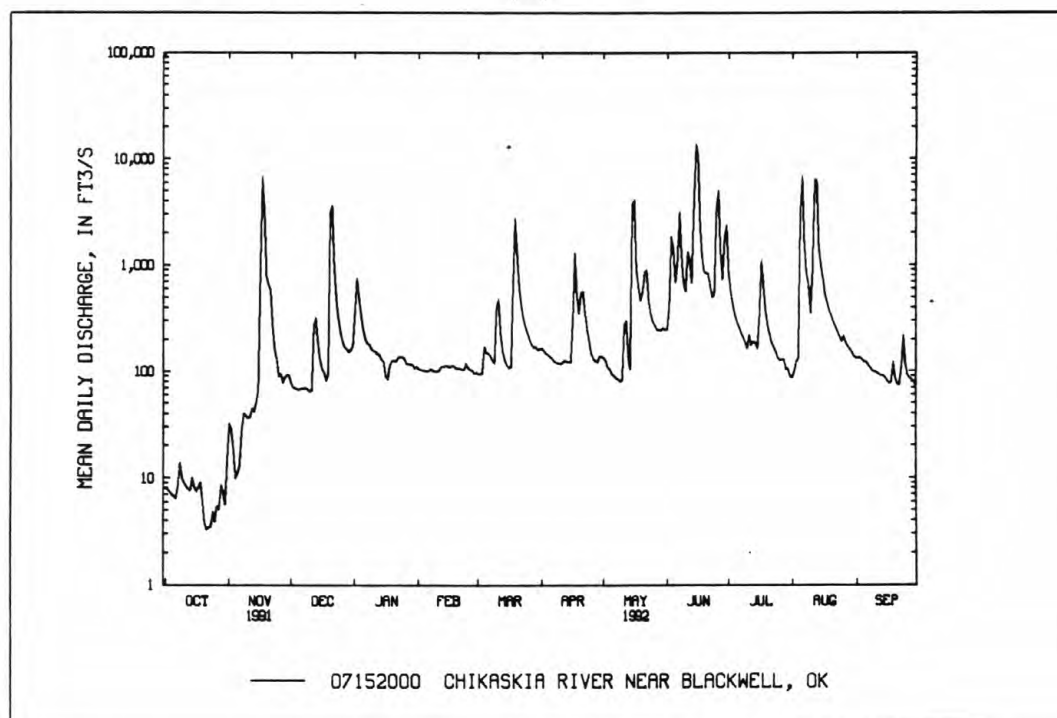
61

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	553	384	221	220	331	617	733	926	955	456	305	461
MAX	5244	4486	1649	1659	3732	4561	4748	4907	5093	5129	2426	3395
(WY)	1960	1965	1945	1949	1949	1973	1944	1951	1951	1951	1948	1973
MIN	.90	1.08	1.34	4.35	10.3	30.7	29.4	27.1	26.1	6.17	.55	.64
(WY)	1957	1955	1955	1957	1957	1957	1955	1956	1972	1954	1936	1956

SUMMARY STATISTICS	1991 CALENDAR YEAR		1992 WATER YEAR		WATER YEARS 1936 - 92	
ANNUAL TOTAL	50022.7		180124.3			
ANNUAL MEAN	137		492		518	
HIGHEST ANNUAL MEAN					1732	1987
LOWEST ANNUAL MEAN					71.0	1954
HIGHEST DAILY MEAN	6720	Nov 17	13800	Jun 15	69500	Jun 22 1942
LOWEST DAILY MEAN	3.3	Oct 21	3.3	Oct 21	.00	^a Jul 18 1954
ANNUAL SEVEN-DAY MINIMUM	4.0	Oct 20	4.0	Oct 20	.00	Aug 12 1954
INSTANTANEOUS PEAK FLOW			15100	Jun 15	85000	Jun 22 1942
INSTANTANEOUS PEAK STAGE			30.15	Jun 15	34.28	Oct 3 1986
ANNUAL RUNOFF (AC-FT)	99220		357300		375100	
10 PERCENT EXCEEDS	172		905		756	
50 PERCENT EXCEEDS	80		132		126	
90 PERCENT EXCEEDS	8.0		28		19	

^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.

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 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 National Geodetic Vertical Datum of 1929. 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 good. 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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e220	490	1130	4040	1300	1440	2520	1710	1080	16000	6770	4740
2	e190	602	1250	3770	1420	1540	1890	1610	1240	13100	6740	5910
3	e160	579	1040	3710	1070	936	2030	1500	1820	10200	6650	6330
4	e142	506	949	3930	865	695	2110	1190	3040	9380	9240	7080
5	e130	436	866	3850	846	1120	2240	1040	6330	8840	15700	6290
6	e150	361	1390	3390	874	2170	1530	911	6910	8010	27200	6040
7	e130	278	1590	3240	1070	1660	1440	899	7080	7500	33800	5900
8	e120	236	1040	2990	1180	1220	1400	827	8650	7670	23100	5920
9	e118	207	563	2910	1230	1070	1370	849	10300	7550	14700	5840
10	116	180	438	2820	1240	1030	1550	788	8220	7730	13700	6800
11	e120	162	559	3200	1270	957	1290	628	6230	8410	11400	6630
12	e116	160	1170	3880	1470	801	1120	611	5980	8560	10300	5580
13	e122	161	1550	4010	1300	1190	1030	1920	6150	8340	16300	5250
14	e120	172	2110	3980	1470	1050	968	2090	9940	8510	21700	4700
15	e118	188	2610	3240	2000	798	886	1540	15500	8080	16900	4620
16	116	280	1740	4380	1510	724	901	1550	25200	9130	11300	3830
17	e114	694	1280	4940	1290	639	1100	5520	26800	9870	8520	3260
18	e112	2600	1040	4390	1120	641	1280	5950	18400	10000	7150	3340
19	e110	9400	1050	4590	1080	779	1840	3670	15100	8690	6550	2570
20	e108	8640	7180	4440	1080	2960	2930	3500	19700	7420	6060	1880
21	e106	7820	12800	3670	1090	3880	3160	2960	16200	6910	5700	1740
22	e105	7450	19300	3060	1260	3600	3900	2920	14100	7070	5420	2460
23	105	5600	13300	1180	1310	3910	3300	3580	13000	6800	5130	2130
24	98	3570	8210	817	1160	3980	1920	3240	12400	5440	4920	1910
25	87	2740	6650	1050	1350	5610	2490	2850	12100	6690	4570	1700
26	229	2320	5490	1180	1440	3590	3370	2680	14300	5980	5970	1820
27	232	2120	4710	1270	1580	2470	3420	2500	19500	5790	7640	2000
28	318	2390	4710	1190	1620	2250	3370	1400	16000	5720	6320	1470
29	323	2250	4370	1210	1440	2160	3250	979	17200	4720	5140	1380
30	349	1160	3990	1270	---	2930	2010	839	14900	4400	4760	1360
31	418	---	4030	1270	---	2470	---	1010	---	4680	4550	---
TOTAL	5002	63752	118105	92867	36935	60270	61615	63261	353370	247190	333900	120480
MEAN	161	2125	3810	2996	1274	1944	2054	2041	11780	7974	10770	4016
MAX	418	9400	19300	4940	2000	5610	3900	5950	26800	16000	33800	7080
MIN	87	160	438	817	846	639	886	611	1080	4400	4550	1360
AC-FT	9920	126500	234300	184200	73260	119500	122200	125500	700900	490300	662300	239000

e Estimated

ARKANSAS RIVER BASIN
07152500 ARKANSAS RIVER AT RALSTON, OK--Continued

63

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1992, BY WATER YEAR (WY)												
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5230	3781	2525	2897	3329	7532	8371	6912	8832	5188	2921	3627
MAX	41580	14500	6415	9049	11110	27120	25290	14720	21480	14240	10770	17660
(WY)	1987	1980	1986	1988	1987	1987	1984	1987	1982	1987	1992	1989
MIN	161	251	453	500	487	402	305	2041	2139	908	390	205
(WY)	1992	1981	1983	1977	1981	1981	1981	1992	1988	1991	1978	1984

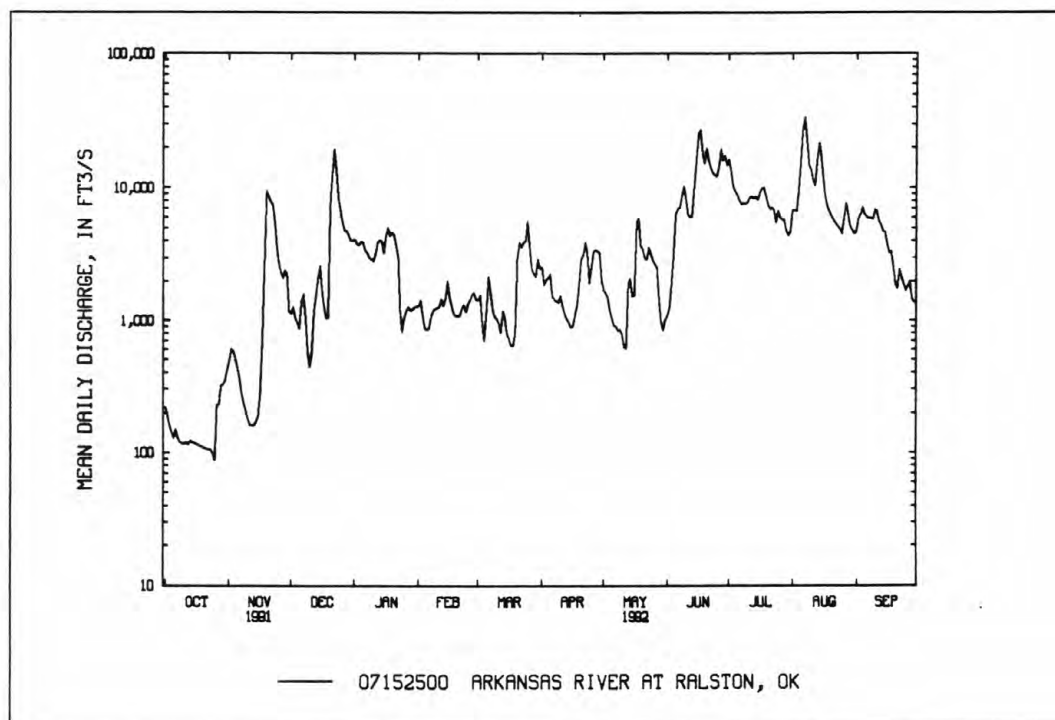
SUMMARY STATISTICS	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1977-92
ANNUAL TOTAL	702184	1556747	
ANNUAL MEAN	1924	4253	^a 5097
HIGHEST ANNUAL MEAN			14220 1987
LOWEST ANNUAL MEAN			1292 1981
HIGHEST DAILY MEAN	19300	Dec 22 33800	Aug 7 170000 Oct 4 1986
LOWEST DAILY MEAN	87	Oct 25 87	Oct 25 ^b 52 Sep 18 1978
ANNUAL SEVEN-DAY MINIMUM	103	Oct 19 103	Oct 19 103 Oct 19 1991
INSTANTANEOUS PEAK FLOW		35100	Aug 7 ^c 174000 Oct 4 1986
INSTANTANEOUS PEAK STAGE		10.99	Aug 7 ^d 22.20 Oct 4 1986
ANNUAL RUNOFF (AC-FT)	1393000	3088000	3693000
10 PERCENT EXCEEDS	4680	9960	12600
50 PERCENT EXCEEDS	1100	2420	2430
90 PERCENT EXCEEDS	202	279	410

^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

07152500 ARKANSAS RIVER AT RALSTON, OK--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1950-63, 1965 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1950 to September 1963, July 1968 to May 1989.

WATER TEMPERATURE: January 1950 to September 1963, July 1968 to May 1989.

INSTRUMENTATION.--Water-quality monitor, July 1968 to September 1980.

REMARKS.--Samples were collected bimonthly 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, 7,510 microsiemens, Sept. 14, 1955; minimum daily, 157 microsiemens, Nov. 21, 1979.

WATER TEMPERATURE: Maximum daily, 37.0°C, July 28, 1956; minimum daily, -0.5°C on many days during winter period.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	TEMPER- ATURE (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	AGENCY COL- LECTING (CODE NUMBER) (00027)	AGENCY ANA- LYZING (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	GAGE HEIGHT (FEET) (00065)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
AUG											
26...	1020	960	22.5	750	1028	1028	4120	4.72	1110	7.0	8.6
26...	1025	810	22.5	750	1028	1028	4120	4.72	1180	6.9	8.6
26...	1030	710	22.5	750	1028	1028	4120	4.72	1190	6.9	8.6
26...	1035	610	22.5	750	1028	1028	4120	4.72	1170	6.6	8.6
26...	1040	510	22.5	750	1028	1028	4120	4.72	1200	6.8	8.6
26...	1045	360	22.5	750	1028	1028	4120	4.72	1110	6.9	8.6
26...	1050	260	22.5	750	1028	1028	4120	4.72	1070	7.0	8.6
26...	1055	160	22.5	750	1028	1028	4120	4.72	1040	6.9	8.6
26...	1100	60.0	23.0	750	1028	1028	4120	4.72	988	7.0	8.5

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT												
23...	1145	1028	80020	116	2700	8.4	27.0	21.0	2.4	770	9.4	105
DEC												
12...	1415	1028	80020	1560	3070	8.8	12.5	13.5	50	775	13.0	123
FEB												
18...	1130	1028	80020	1270	2220	8.8	11.0	9.0	11	740	12.1	109
JUN												
09...	1015	1028	80020	10800	1390	8.2	23.5	23.0	170	738	7.4	90
AUG												
26...	1000	1028	80020	4120	1090	8.6	21.0	22.5	21	750	7.0	82

ARKANSAS RIVER BASIN

65

07152500 ARKANSAS RIVER AT RALSTON, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	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)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM AD-SORP-TION RATIO SODIUM PERCENT (00932)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER (DIS IT FIELD MG/L AS HCO3) (00453)	
OCT 23...	K31	K21	320	140	85	27	370	71	9	219	
DEC 12...	K710	540	280	130	78	21	540	80	14	160	
FEB 18...	K6	K19	290	120	78	24	360	72	9	198	
JUN 09...	230	320	210	71	57	16	190	66	6	168	
AUG 26...	170	330	210	70	59	15	130	57	4	162	
DATE	CAR-BONATE WATER (DIS IT FIELD MG/L AS CO3) (00452)	ALKA-LINITY (WAT DIS TOT IT FIELD MG/L AS CACO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)
OCT 23...	5	188	160	600	0.30	4.0	1360	1370	1.85	426	--
DEC 12...	10	148	140	860	0.70	2.9	2250	1740	3.06	9480	0.170
FEB 18...	8	175	160	530	0.40	2.4	1290	1270	1.75	4420	0.150
JUN 09...	0	138	100	320	0.40	7.0	820	784	1.12	23900	0.690
AUG 26...	4	139	87	200	0.30	7.9	606	592	0.82	6740	0.270
DATE	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2) (71856)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4) (71846)
OCT 23...	--	--	<0.010	<0.010	--	<0.050	<0.050	0.020	0.010	0.03	0.01
DEC 12...	0.170	0.75	0.020	0.020	0.07	0.190	0.190	--	0.020	--	0.03
FEB 18...	--	--	0.010	<0.010	--	0.160	0.160	0.020	0.020	0.03	0.03
JUN 09...	0.680	3.0	0.020	0.010	0.03	0.710	0.690	0.030	<0.010	0.04	--
AUG 26...	--	--	0.030	<0.010	--	0.300	0.310	0.040	0.020	0.05	0.03

ARKANSAS RIVER BASIN

07152500 ARKANSAS RIVER AT RALSTON, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHATE, TOTAL (MG/L AS PO4) (00650)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHODIS- SOLVED (MG/L AS P) (70507)	PHOS- PHORUS ORTHODIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHODIS- SOLVED (MG/L AS PO4) (00660)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)
------	---	--	--	--	---	---	--	---	---	---	--

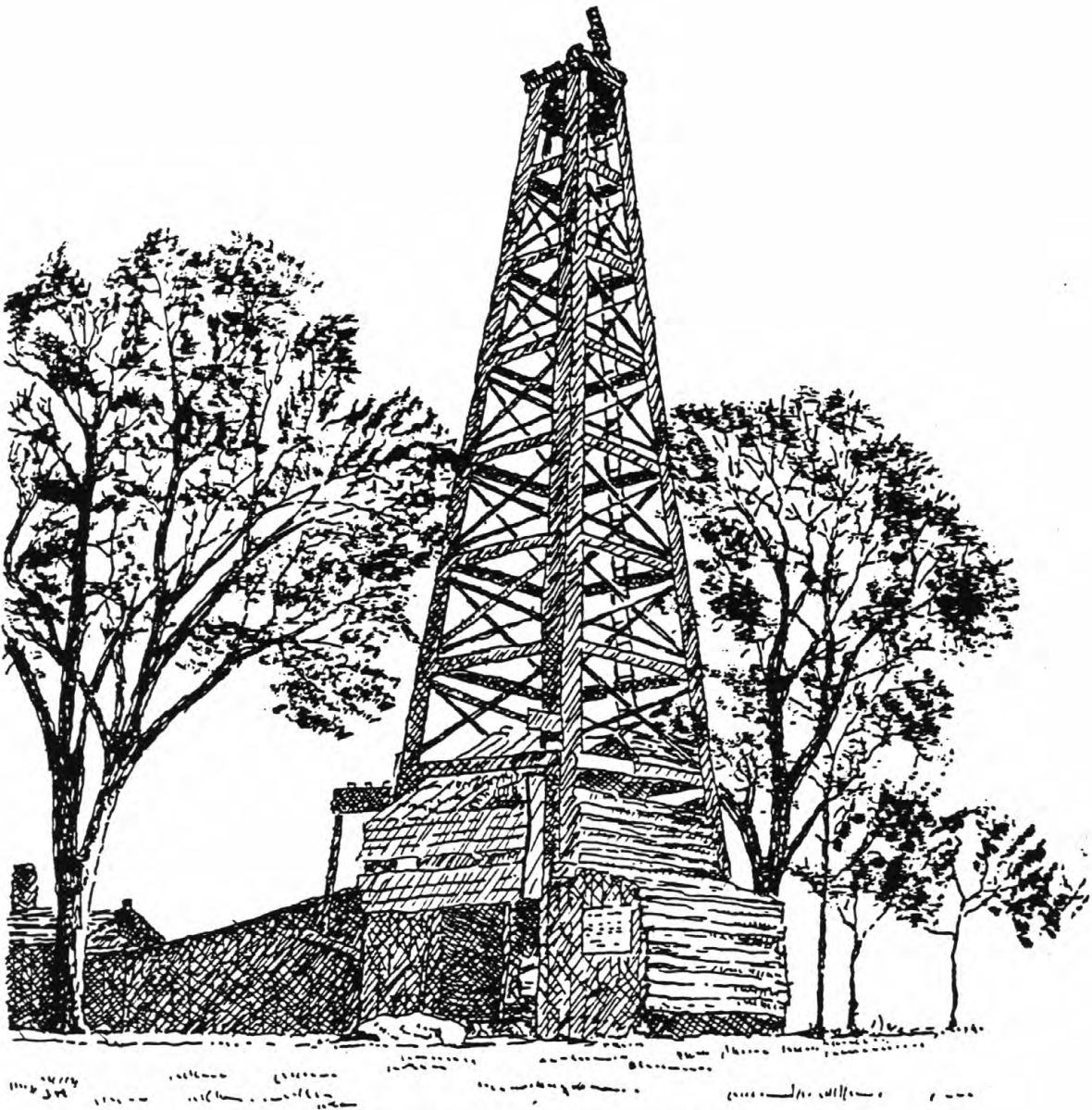
OCT											
23...	0.48	0.50	--	--	0.110	0.18	0.080	0.060	0.050	0.15	--
DEC											
12...	--	1.6	1.8	7.9	0.360	0.37	0.060	0.120	0.050	0.15	<10
FEB											
18...	0.68	0.70	0.86	3.8	0.120	0.09	0.060	0.030	<0.010	--	<10
JUN											
09...	0.67	0.70	1.4	6.2	0.140	0.37	0.150	0.120	0.120	0.37	30
AUG											
26...	0.56	0.60	0.90	4.0	0.180	0.40	0.110	0.130	0.100	0.31	20

DATE	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
------	---	---	---	---	--	---	---	---	---	---	---

OCT											
23...	--	--	--	--	--	--	--	--	--	--	--
DEC											
12...	3	160	<2	<3.0	2	<9	4	16	<1	19	<3
FEB											
18...	--	200	--	--	--	<1	--	<10	--	20	10
JUN											
09...	--	120	--	--	--	<3	--	10	--	15	<1
AUG											
26...	--	110	--	--	--	<3	--	<3	--	9	<1

DATE	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	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)	SEDI- MENT, DIS- SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- SUS- PENDEDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
------	---	--	---	--	---	---	---	---	---	--	--

OCT											
23...	--	--	--	--	--	--	--	--	5	1.6	40
DEC											
12...	0.2	<30	1	<1	<1.0	800	<18	14	95	400	62
FEB											
18...	--	3	<1	<1	<1.0	980	12	--	1290	4420	2
JUN											
09...	--	<10	3	<1	<1.0	580	<6	--	--	--	--
AUG											
26...	--	<10	2	<1	<1.0	550	8	--	483	5370	96



Oklahoma's first commercial oil well near Bartlesville

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, National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Sept. 21, 1944, nonrecording gage at present site and datum except for Aug. 27, 1953 to Apr. 29, 1954, nonrecording gage at site 500 ft downstream at same datum.

REMARKS.--No estimated daily discharges. 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)
Aug. 6	1400	10,800	21.69	No other peaks greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	139	12	79	19	12	12	9.5	16	541	17	103
2	1.6	105	9.6	69	18	15	11	9.0	21	335	189	600
3	1.6	50	7.3	62	18	280	12	9.0	32	227	208	1690
4	1.6	27	6.4	54	17	367	14	8.7	31	163	2410	905
5	1.7	13	7.3	47	16	177	16	8.6	37	123	8440	661
6	1.4	6.7	7.3	42	15	122	14	7.9	153	95	10200	564
7	1.2	3.8	8.2	40	15	86	12	7.6	269	73	7650	1240
8	1.3	2.6	8.2	37	14	63	15	6.7	245	55	3560	725
9	1.3	2.3	6.8	34	15	45	19	5.2	197	40	2560	557
10	1.4	2.1	6.6	29	15	33	17	4.8	233	29	2170	1170
11	1.5	2.0	7.2	27	21	25	20	5.0	456	23	1890	871
12	1.6	1.8	85	25	22	22	21	4.5	255	19	1590	470
13	1.6	1.8	343	27	30	19	49	68	154	17	1260	310
14	1.9	2.1	157	25	44	18	44	46	1270	49	1040	213
15	1.7	2.4	92	23	57	16	34	32	2450	40	838	156
16	1.5	17	63	24	40	15	25	25	895	818	608	124
17	1.5	716	46	23	32	14	21	20	474	1550	483	101
18	1.6	372	36	21	24	14	18	17	324	788	408	83
19	1.5	151	38	18	20	15	15	17	254	425	345	70
20	1.4	86	2740	18	17	14	16	23	2020	532	290	63
21	1.4	65	3400	18	15	15	98	20	1080	413	232	54
22	1.4	121	2340	17	14	13	124	28	500	189	191	86
23	1.5	82	1280	18	13	12	63	27	316	123	156	122
24	1.7	53	812	20	13	11	40	17	203	79	112	90
25	2.1	36	516	21	17	11	26	12	811	60	89	66
26	3.0	26	359	22	19	11	19	9.5	1280	46	485	52
27	2.8	19	262	23	19	11	15	7.5	478	36	945	44
28	4.8	17	198	19	16	11	14	8.8	289	27	423	39
29	53	14	155	17	14	11	12	7.4	824	22	255	34
30	70	10	122	17	---	10	10	7.4	1210	18	170	30
31	44	---	98	18	---	10	---	10	---	15	127	---
TOTAL	216.2	2146.6	13228.9	934	609	1498	826	489.1	16777	6970	49341	11293
MEAN	6.97	71.6	427	30.1	21.0	48.3	27.5	15.8	559	225	1592	376
MAX	70	716	3400	79	57	367	124	68	2450	1550	10200	1690
MIN	1.2	1.8	6.4	17	13	10	10	4.5	16	15	17	30
AC-FT	429	4260	26240	1850	1210	2970	1640	970	33280	13820	97870	22400

ARKANSAS RIVER BASIN
07153000 BLACK BEAR CREEK AT PAWNEE, OK--Continued

69

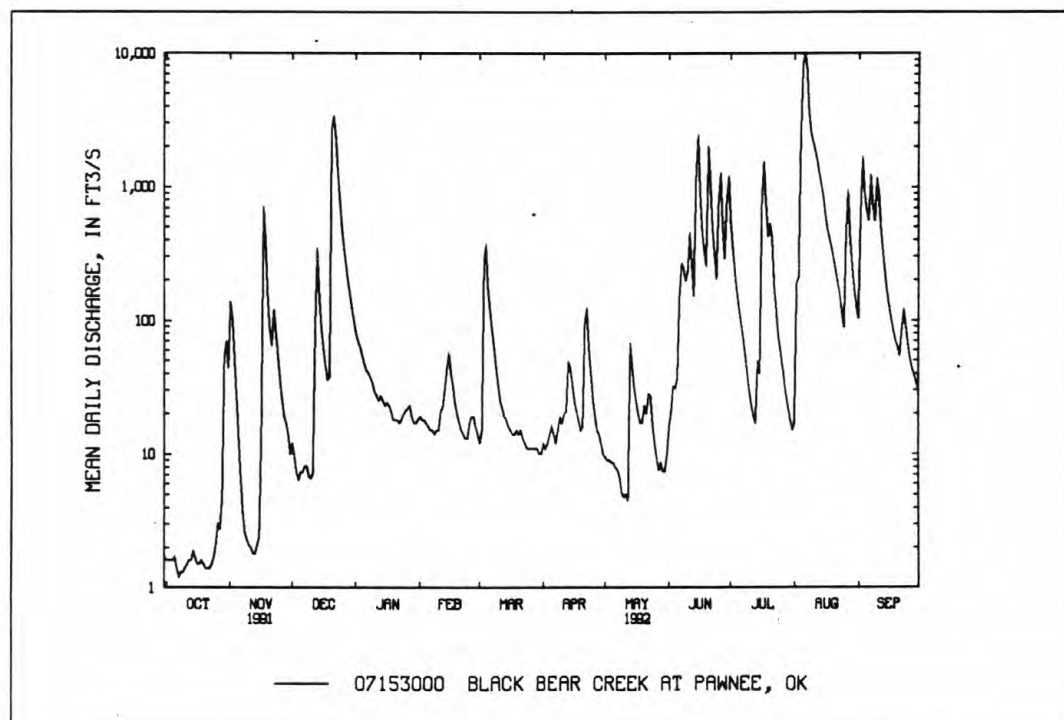
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	233	133	71.4	56.1	107	248	245	423	325	156	101	180
MAX	4025	2359	523	482	1013	1607	1291	2144	2181	932	1592	1354
(WY)	1987	1975	1945	1973	1987	1990	1947	1957	1957	1959	1992	1945
MIN	.000	.000	.023	.37	.73	.90	1.14	2.28	4.68	.30	.000	.000
(WY)	1955	1955	1967	1957	1968	1954	1955	1956	1966	1954	1954	1954

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1945-92

ANNUAL TOTAL	25356.21	104328.8	
ANNUAL MEAN	69.5	285	190
HIGHEST ANNUAL MEAN			835 1987
LOWEST ANNUAL MEAN			23.1 1954
HIGHEST DAILY MEAN	3400	Dec 21 10200	Aug 6 25400 Oct 3 1959
LOWEST DAILY MEAN	.00	Aug 21-22 1.2	Oct 7 ^a .00 Jul 17 1954
ANNUAL SEVEN-DAY MINIMUM	.03	Aug 16 1.4	Oct 6 .00 Jul 17 1954
INSTANTANEOUS PEAK FLOW		10800	Aug 6 30200 Oct 3 1959
INSTANTANEOUS PEAK STAGE		21.69	Aug 6 31.43 Oct3 1959
ANNUAL RUNOFF (AC-FT)	50290	206900	137800
10 PERCENT EXCEEDS	105	719	331
50 PERCENT EXCEEDS	13	27	12
90 PERCENT EXCEEDS	.52	4.3	.80

^aNo flow at times many years.



ARKANSAS RIVER BASIN
07154500 CIMARRON RIVER NEAR KENTON, OK

LOCATION.--Lat 36°55'36", long 102°57'31", in SW 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 National Geodetic Vertical Datum of 1929. 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. Extensive diversions for irrigation upstream from 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)
July 23	0600	2,460	12.89	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	.00	.52	.94	1.1	.89	.27	.09	.63	.19	.11	.85
2	.00	.00	.52	.94	1.2	.45	.23	.06	.45	.15	.16	.77
3	.00	.00	.52	.94	1.7	.49	.20	.06	.29	.11	.13	.40
4	.00	.01	.54	.98	1.7	1.0	.23	.06	.20	.06	.05	.48
5	.00	.03	.55	1.0	1.5	.90	.17	.06	.28	.02	.01	.45
6	.00	.03	.54	1.0	1.3	.45	.13	.05	.15	.01	.01	.32
7	.00	.03	.58	.97	1.2	.31	.11	.04	.24	.00	.00	.34
8	.00	.06	.58	.96	1.2	.30	.12	.09	.27	.00	.00	.22
9	.00	.15	.58	.96	1.2	.31	.11	.23	10	.00	.00	.16
10	.00	.17	.57	.97	1.2	.41	.11	.16	2.1	.00	.00	.12
11	.00	.21	.62	1.0	1.3	.33	.10	.17	1.1	47	50	.10
12	.00	.22	.86	1.2	1.3	.27	.10	.09	70	5.3	1.7	.09
13	.00	.31	.85	1.2	1.3	.21	.10	.06	22	2.5	76	.08
14	.00	.28	.71	1.2	1.3	.17	.09	.06	2.9	.72	16	.10
15	.00	.26	.70	1.2	1.1	.13	.10	.05	.77	.34	.66	.50
16	.00	.47	.66	1.1	1.1	.12	.41	.04	.23	.39	.15	.22
17	.00	.58	.67	1.2	.55	.12	199	.04	.18	.45	.13	.33
18	.00	.56	.71	1.2	.36	.12	7.7	.04	.18	.40	.33	.27
19	.00	.64	.84	1.2	.29	.13	1.8	.04	.16	.27	.20	.25
20	.00	.53	1.4	1.4	.27	.16	.83	.04	.14	.20	.19	.29
21	.00	.82	1.3	1.3	.27	.13	1.2	.04	.14	14	.10	.31
22	.00	.60	1.1	1.2	.25	.12	1.0	.04	.15	37	.03	.20
23	.00	.69	.84	1.2	.24	.12	.51	.03	.12	539	.00	.19
24	.00	.53	.84	1.1	.25	.11	.35	.03	.09	34	.00	.17
25	.00	.50	.79	1.1	.23	.11	.42	.02	7.0	4.9	.01	.15
26	.00	.48	.79	1.3	.20	.10	.28	.02	8.5	1.5	.16	.12
27	.00	.51	.82	1.4	.21	.10	.15	.02	.38	.77	172	.09
28	.00	.52	.82	1.3	.21	.12	.70	.03	.22	.49	29	.06
29	.00	.51	.82	1.2	.31	.11	.39	.03	.31	.37	3.6	.04
30	.00	.52	.82	1.2	---	.12	.16	.04	.23	.29	.98	.03
31	.00	---	.97	1.1	---	.17	---	.07	---	.17	.59	---
TOTAL	0.00	10.22	23.43	34.96	24.34	8.58	217.07	1.90	129.41	690.60	352.30	7.70
MEAN	.000	.34	.76	1.13	.84	.28	7.24	.061	4.31	22.3	11.4	.26
MAX	.00	.82	1.4	1.4	1.7	1.0	199	.23	.70	539	172	.85
MIN	.00	.00	.52	.94	.20	.10	.09	.02	.09	.00	.00	.03
AC-FT	.00	20	46	69	48	17	431	3.8	257	1370	699	15

e Estimated

ARKANSAS RIVER BASIN
07154500 CIMARRON RIVER NEAR KENTON, OK--Continued

71

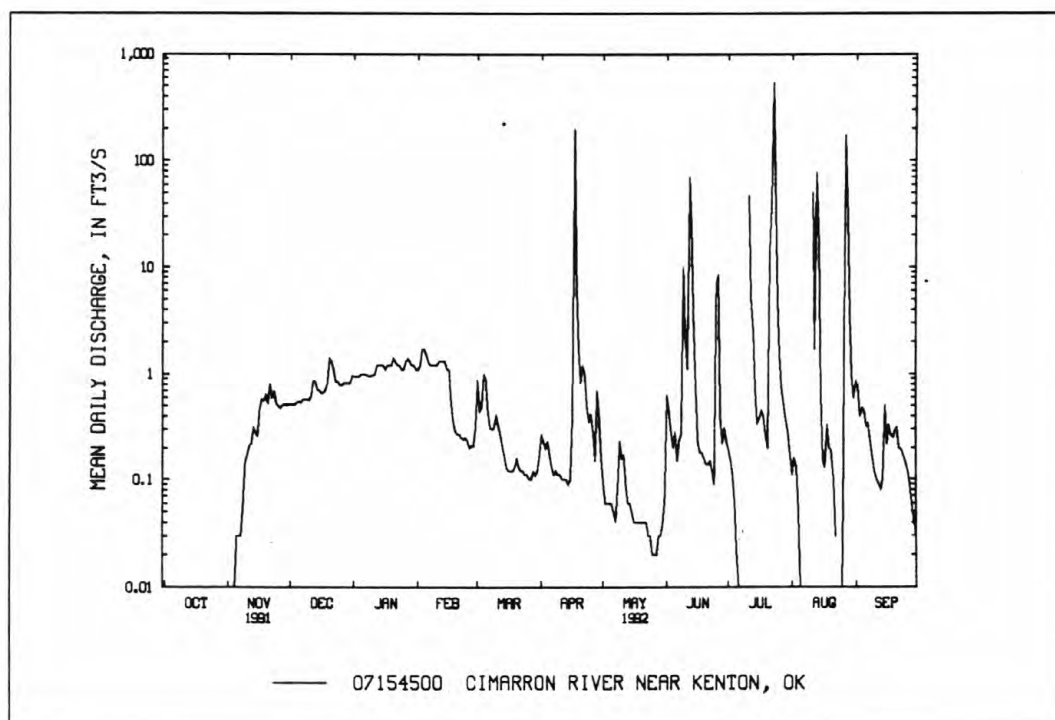
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	11.8	2.13	2.27	2.14	1.88	1.56	6.31	35.9	36.7	35.4	56.7	30.0
MAX	334	12.1	9.59	8.07	6.76	4.42	116	525	514	204	406	235
(WY)	1966	1966	1966	1988	1966	1958	1977	1955	1965	1958	1965	1963
MIN	.000	.000	.000	.000	.027	.012	.000	.029	.000	.34	.000	.000
(WY)	1965	1965	1965	1965	1976	1976	1965	1975	1954	1970	1972	1956

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1951-92

ANNUAL TOTAL	1128.68	1500.51	
ANNUAL MEAN	3.09	4.10	18.7
HIGHEST ANNUAL MEAN			95.2 1965
LOWEST ANNUAL MEAN			1.30 1975
HIGHEST DAILY MEAN	599	Jun 29	539 Jul 23 11000 Jun 17 1965
LOWEST DAILY MEAN	.00	at times	.00 at times .00 most years
ANNUAL SEVEN-DAY MINIMUM	.00	May 30	.00 Oct 1 .00 Jun 14 1952
INSTANTANEOUS PEAK FLOW			2460 Jul 23 ^a 43400 Oct 17 1965
INSTANTANEOUS PEAK STAGE			12.89 Jul 23 17.32 Oct 17 1965
ANNUAL RUNOFF (AC-FT)	2240	2980	13540
10 PERCENT EXCEEDS	1.1	1.3	8.5
50 PERCENT EXCEEDS	.21	.27	1.0
90 PERCENT EXCEEDS	.00	.00	.00

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



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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except for estimated winter periods which are poor. Natural flow affected by irrigational developement.

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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	e32	32	58	41	46	45	33	42	36	26	29
2	21	e30	34	48	42	46	45	34	44	35	29	29
3	21	e27	35	45	45	48	46	35	42	35	27	29
4	23	e26	35	44	47	50	46	34	36	33	36	29
5	26	e39	37	40	46	47	41	33	35	38	31	28
6	27	40	37	38	46	45	37	32	44	33	32	27
7	26	39	37	42	44	44	38	33	44	32	40	27
8	26	40	36	47	43	44	39	32	44	31	31	27
9	27	37	36	46	43	46	40	32	52	29	30	26
10	28	37	37	44	45	46	39	34	45	31	34	26
11	27	35	38	41	46	43	41	37	39	31	57	26
12	26	43	40	42	46	42	45	36	37	29	36	25
13	26	39	38	41	47	41	43	35	39	29	30	27
14	25	45	37	40	46	41	41	36	38	29	30	26
15	26	45	36	e50	46	42	42	33	36	28	29	25
16	26	61	36	e39	45	43	42	33	34	34	30	26
17	24	53	38	38	44	44	45	33	33	33	29	27
18	24	48	36	38	44	46	46	33	32	31	32	27
19	26	49	42	38	44	46	46	33	31	30	34	27
20	27	48	50	38	43	46	44	37	31	41	32	28
21	26	47	46	39	44	45	42	36	39	37	29	27
22	25	45	47	39	46	46	40	34	35	32	29	26
23	24	42	45	38	48	44	39	33	34	31	29	26
24	24	40	41	37	51	44	38	32	32	29	28	26
25	25	37	40	37	50	43	38	34	34	28	34	27
26	26	34	41	37	49	41	38	34	32	29	37	27
27	24	35	45	38	46	41	37	39	36	29	34	27
28	38	34	47	38	46	44	36	45	94	27	31	26
29	31	30	47	39	45	42	36	39	68	27	29	26
30	30	31	47	40	---	41	33	39	44	27	29	26
31	e32	---	56	41	---	43	---	42	---	26	29	---
TOTAL	809	1188	1249	1280	1318	1370	1228	1085	1226	970	993	805
MEAN	26.1	39.6	40.3	41.3	45.4	44.2	40.9	35.0	40.9	31.3	32.0	26.8
MAX	38	61	56	58	51	50	46	45	94	41	57	29
MIN	21	26	32	37	41	41	33	32	31	26	26	25
AC-FT	1600	2360	2480	2540	2610	2720	2440	2150	2430	1920	1970	1600

e Estimated

ARKANSAS RIVER BASIN
07156900 CIMARRON RIVER NEAR FORGAN, OK--Continued

73

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

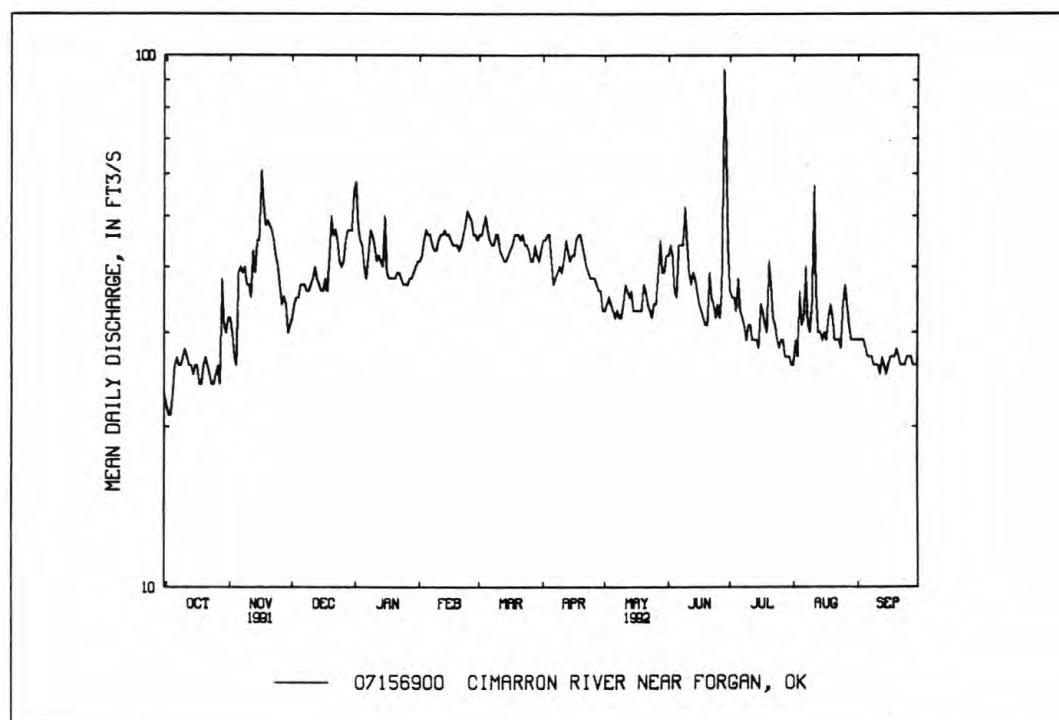
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	77.6	58.6	60.4	59.7	64.6	63.2	77.7	82.1	68.5	52.5	55.9	52.7
MAX	751	114	102	110	167	111	376	476	364	211	208	210
(WY)	1966	1972	1973	1967	1978	1973	1976	1977	1978	1967	1972	1966
MIN	26.1	32.3	30.7	38.8	41.8	44.2	38.3	23.8	22.0	20.5	19.1	22.0
(WY)	1992	1988	1990	1988	1988	1992	1986	1986	1986	1991	1983	1990

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1966-92

ANNUAL TOTAL	12714	13521	
ANNUAL MEAN	34.8	36.9	64.5
HIGHEST ANNUAL MEAN			145 1966
LOWEST ANNUAL MEAN			35.4 1991
HIGHEST DAILY MEAN	95 May 24	94 Jun 28	7490 Oct 20 1965
LOWEST DAILY MEAN	13 Aug 2	21 Oct 2-3	^a 13 Jun 19 1988
ANNUAL SEVEN-DAY MINIMUM	17 Jul 28	24 Oct 1	15 Jul 13 1986
INSTANTANEOUS PEAK FLOW		157 Jun 28	21200 Oct 20 1965
INSTANTANEOUS PEAK STAGE		^b 3.47 Jan 16	8.10 Oct 20 1965
ANNUAL RUNOFF (AC-FT)	25220	26820	46700
10 PERCENT EXCEEDS	48	46	88
50 PERCENT EXCEEDS	36	37	50
90 PERCENT EXCEEDS	21	26	28

^aAlso occurred June 20, 1988, and Aug. 2, 1991.

^bOccurred during ice jam.



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.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1960 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,599.67 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1979, at site 6.9 mi upstream at elevation 1,650 ft.

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

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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.20	2.0	74	58	51	35	3.1	47	416	6.3	11
2	.00	.20	1.8	85	57	47	20	2.5	49	235	4.1	12
3	.00	.21	1.6	94	59	46	26	2.2	46	149	3.2	6.9
4	.00	.20	1.3	80	59	54	22	2.4	43	107	82	15
5	.00	e.17	1.3	75	59	53	21	2.1	53	83	46	11
6	.00	.19	2.8	69	63	41	21	1.5	77	66	104	6.2
7	.00	e.20	3.7	80	61	38	20	1.1	54	60	53	4.4
8	.00	e.16	3.6	81	56	24	21	.69	54	53	33	4.2
9	.00	e.16	3.9	82	53	24	19	.46	48	45	28	9.5
10	.00	e.15	3.9	83	53	16	16	.50	78	34	16	9.9
11	.00	e.15	4.4	80	55	23	14	4.8	59	28	15	15
12	.00	e.15	9.2	79	56	18	14	2.0	58	19	18	8.8
13	.00	.14	6.4	77	55	20	13	.65	48	26	54	6.0
14	.00	.18	7.9	66	61	17	11	2.9	78	93	101	5.4
15	.00	.19	9.2	e43	59	18	11	2.2	44	23	62	4.6
16	.00	35	9.2	e77	55	16	20	.77	34	86	46	1.2
17	.00	8.7	9.6	57	61	15	13	.41	24	54	38	.74
18	.00	1.6	9.6	62	56	18	13	.46	12	54	91	.53
19	.00	.96	25	84	48	20	18	.42	6.9	78	85	.63
20	.00	1.3	48	84	46	30	23	6.6	7.8	91	96	.61
21	.00	1.3	49	77	47	32	13	8.6	17	152	63	.51
22	.00	1.0	70	74	47	23	9.6	4.7	13	100	39	.41
23	.00	.74	68	64	49	21	8.7	3.6	82	68	26	.40
24	.00	.53	53	61	75	19	7.2	2.5	72	65	15	.38
25	.00	.60	49	60	58	16	5.9	2.7	68	45	21	.29
26	.00	.62	50	56	59	12	5.4	3.6	34	27	18	.31
27	.00	.62	57	59	55	11	5.0	3.5	32	16	40	.31
28	.65	.70	61	58	53	32	4.8	25	102	10	40	.29
29	.19	1.6	63	58	51	19	5.3	9.1	529	7.5	24	.30
30	.18	2.4	62	61	---	14	4.4	12	909	4.9	11	.26
31	.18	---	64	59	---	22	---	25	---	4.2	8.7	---
TOTAL	1.20	60.32	810.4	2199	1624	810	440.3	138.06	2778.7	2299.6	1287.3	137.07
MEAN	.039	2.01	26.1	70.9	56.0	26.1	14.7	4.45	92.6	74.2	41.5	4.57
MAX	.65	35	70	94	75	54	35	25	909	416	104	15
MIN	.00	.14	1.3	43	46	11	4.4	.41	6.9	4.2	3.2	.26
AC-FT	2.4	120	1610	4360	3220	1610	873	274	5510	4560	2550	272

e Estimated

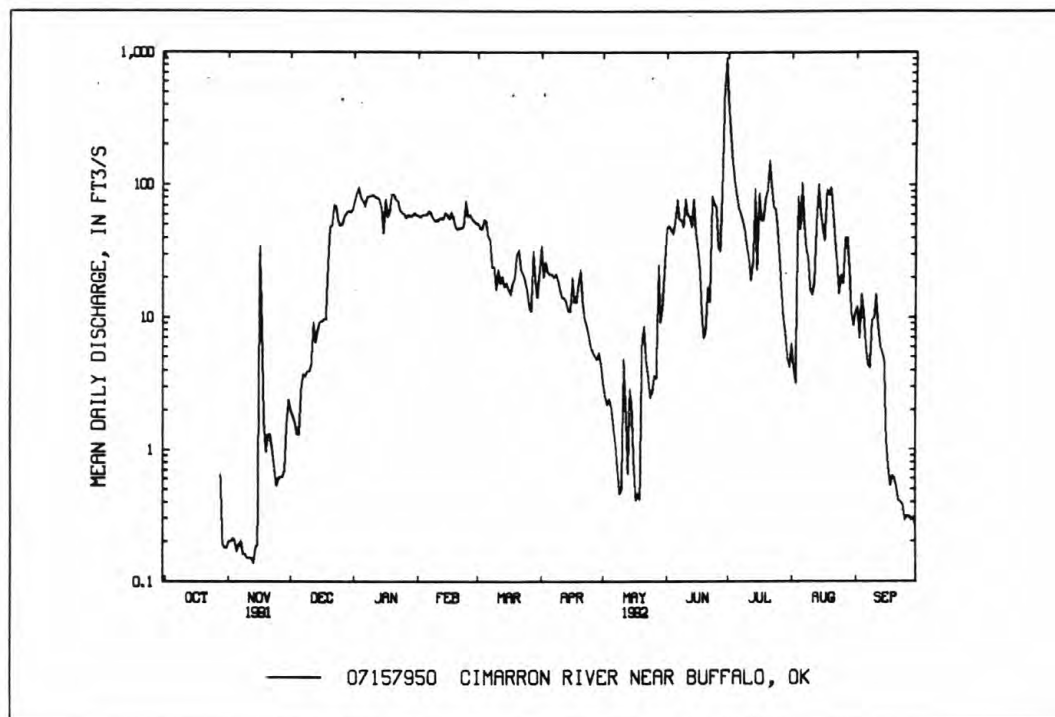
ARKANSAS RIVER BASIN
07157950 CIMARRON RIVER NEAR BUFFALO, OK--Continued

75

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	96.1	83.9	84.4	92.4	118	187	152	205	240	91.6	88.0	134
MAX	788	482	270	155	216	1848	1304	851	1227	461	476	1100
(WY)	1966	1972	1974	1964	1966	1973	1973	1987	1965	1962	1968	1973
MIN	.000	.47	8.61	31.2	40.2	26.1	8.69	4.45	6.70	.21	.000	.000
(WY)	1981	1981	1981	1981	1981	1992	1981	1992	1966	1991	1976	1980

SUMMARY STATISTICS	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1960-92
ANNUAL TOTAL	8658.74	12585.95	
ANNUAL MEAN	23.7	34.4	132
HIGHEST ANNUAL MEAN			430 1973
LOWEST ANNUAL MEAN			23.6 1991
HIGHEST DAILY MEAN	329	May 25 909	Jun 30 12500 Sep 26 1973
LOWEST DAILY MEAN	.00	at times	.00 at times
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 26	.00 Jul 19 1960
INSTANTANEOUS PEAK FLOW		1280	Jun 30 26400 Sep 26 1973
INSTANTANEOUS PEAK STAGE		6.46	Jun 30 5.57 Sep 26 1973
ANNUAL RUNOFF (AC-FT)	17170	24960	95300
10 PERCENT EXCEEDS	63	77	236
50 PERCENT EXCEEDS	6.5	18	58
90 PERCENT EXCEEDS	.00	.18	.04



ARKANSAS RIVER BASIN

07157950 CIMARRON RIVER NEAR BUFFALO, OK--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1953, 1961-63, 1968 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1968 to January 1982.

WATER TEMPERATURE: July 1968 to January 1982.

INSTRUMENTATION.--Water-quality monitor from March 1969 to September 1979.

REMARKS.--Samples were collected quarterly and specific conductance, pH, water temperature, dissolved oxygen, and alkalinity were determined in the field.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	TEMPER- ATURE WATER (DEG C) (00010)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	GAGE HEIGHT (FEET) (00065)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
FEB										
11...	1100	10.0	7.5	1028	1028	55	4.50	12000	11.6	8.5
11...	1108	20.0	7.5	1028	1028	55	4.50	12000	11.6	8.4
11...	1117	30.0	7.5	1028	1028	55	4.50	12000	11.6	8.4
11...	1125	40.0	7.5	1028	1028	55	4.50	12000	11.6	8.4
11...	1130	79.0	7.5	1028	1028	55	4.50	12000	11.6	8.5
11...	1140	93.0	7.5	1028	1028	55	4.50	12100	11.6	8.4
11...	1150	105	7.5	1028	1028	55	4.50	12100	11.6	8.4
11...	1200	117	7.5	1028	1028	55	4.50	12200	11.7	8.4

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
NOV												
13...	1030	1028	80020	0.13	16000	8.2	15.0	9.5	2.5	715	12.9	128
FEB												
11...	1300	1028	80020	55	12000	8.4	6.5	7.5	6.0	735	11.6	105
MAY												
13...	1000	1028	80020	0.74	34500	8.1	24.0	17.5	22	737	9.2	113
JUL												
07...	1100	1028	80020	61	5420	8.4	32.0	26.0	3.9	730	7.9	104

ARKANSAS RIVER BASIN

77

07157950 CIMARRON RIVER NEAR BUFFALO, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCHI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS, NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00900)	HARD-NESS, NONCARB DISSOLV DIS- SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM, AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR-BONATE, WATER DIS IT FIELD (MG/L AS HCO3) (00453)		
NOV 13...	62	110	1200	1000	370	74	3000	84	37	5.6	237
FEB 11...	20	21	630	440	150	61	2000	87	35	7.1	234
MAY 13...	44	1400	1400	1200	360	110	7500	92	89	13	222
JUL 07...	54	69	510	320	120	51	920	79	18	9.3	222
DATE	CAR-BONATE, WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA-LINITY, WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE, DIS- SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO-GEN, NITRATE TOTAL (MG/L AS N) (00620)
NOV 13...	0	194	1400	4600	2.2	18	8480	9590	11.5	2.98	0.026
FEB 11...	0	192	400	3400	1.2	13	6860	6150	9.33	1030	--
MAY 13...	0	182	1300	11000	0.90	14	22400	20400	30.5	44.8	--
JUL 07...	7	194	350	1500	1.1	17	3080	3090	4.19	503	--
DATE	NITRO-GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO-GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)
NOV 13...	0.038	0.17	0.030	0.020	0.07	0.056	0.058	0.050	0.060	0.06	0.08
FEB 11...	--	--	<0.010	<0.010	--	<0.050	<0.050	0.010	<0.010	0.01	--
MAY 13...	--	--	<0.010	0.010	0.03	<0.050	<0.050	0.050	0.050	0.06	0.06
JUL 07...	--	--	<0.010	<0.010	--	<0.050	<0.050	0.020	0.010	0.03	0.01

ARKANSAS RIVER BASIN

07157950 CIMARRON RIVER NEAR BUFFALO, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHATE, TOTAL (MG/L AS PO4) (00650)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
NOV 13...	--	<0.20	<0.010	0.06	<0.010	0.020	<0.010	<10	<100	<2	<10
FEB 11...	0.29	0.30	0.020	--	<0.010	<0.010	<0.010	20	<100	<1	<10
MAY 13...	--	<0.20	<0.010	0.03	<0.010	0.010	<0.010	<40	<100	<1	20
JUL 07...	0.88	0.90	0.090	--	<0.010	<0.010	<0.010	10	100	<1	<10

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	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)	SEDI- MENT, DIS- SUS- PENDE (MG/L (80154)	SEDI- MENT, DIS- SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 13...	40	490	2	<1	1	<1.0	3100	58	2	0.00	25
FEB 11...	60	30	8	<1	2	<1.0	3000	60	22	3.3	91
MAY 13...	70	490	4	1	<1	<1.0	5000	170	27	0.05	95
JUL 07...	10	<10	5	<1	1	<1.0	2100	25	19	3.1	91



ARKANSAS RIVER BASIN
07157960 BUFFALO CREEK NEAR LOVEDALE, OK

LOCATION.--Lat 36°46'14", long 99°22'00", in SW 1/4 SW 1/4 sec.33, T.27 N., R.20 W., Harper County, Hydrologic Unit 11050001, near center of channel on downstream side of pier of bridge on State Highway 34, 1.2 mi east of Lovedale, 1.3 mi upstream from Sleeping Bear Creek, and at mile 7.6.

DRAINAGE AREA.--408 mi².

PERIOD OF RECORD.--August 1966 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,602.56 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair, except for periods of estimated record, which are poor.

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)
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No peaks greater than base discharge.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	.43	1.9	7.9	5.7	5.4	7.8	1.8	12	29	.05	.68
2	.06	.49	1.6	8.4	5.7	5.0	7.7	1.5	12	17	.04	239
3	.05	.47	1.4	8.2	6.1	4.7	7.9	1.3	13	12	.04	66
4	.05	.52	1.3	7.7	6.2	5.7	7.7	1.3	12	8.2	21	21
5	.06	.59	1.3	7.5	6.2	6.0	7.0	1.7	14	5.5	28	6.5
6	.07	.62	1.3	6.9	6.0	6.4	6.6	.86	26	3.7	14	1.2
7	.06	.61	1.4	7.1	5.8	5.8	6.4	.80	28	1.9	.70	.25
8	.06	.59	1.3	7.1	5.5	5.4	6.1	.70	24	1.0	.44	.05
9	.05	.59	1.2	7.2	5.5	5.5	6.0	.64	19	.63	.33	.10
10	.05	.57	1.3	7.4	5.8	5.1	5.9	.64	16	.52	.13	.09
11	.05	.56	1.5	7.3	5.9	4.8	5.6	.67	14	.45	.08	.07
12	.05	.53	2.7	6.8	5.9	4.7	5.5	.57	12	.38	.05	.02
13	.05	.57	2.6	6.2	6.3	4.7	5.3	.51	10	.32	e.04	.04
14	.05	.58	2.4	5.4	6.6	4.5	4.9	1.1	8.8	.35	e.05	.05
15	.05	.55	2.4	e5.3	6.1	4.3	4.7	1.2	7.8	.31	e.04	.05
16	.05	3.1	2.4	e5.5	5.8	4.2	18	.84	6.0	.53	e.04	.04
17	.05	12	2.3	6.7	5.6	4.1	13	.61	4.2	2.2	e.03	.04
18	.05	13	2.2	6.1	5.4	4.0	8.4	.63	2.7	7.0	.16	.05
19	.05	7.7	3.9	7.5	5.2	4.4	7.9	.59	1.9	4.6	.18	.05
20	.06	4.8	7.7	7.1	5.2	4.5	7.1	.53	1.5	4.0	5.1	.05
21	.06	3.5	9.2	6.2	4.8	4.1	6.3	.54	1.5	4.9	6.7	.06
22	.05	2.2	9.1	5.8	4.9	3.7	5.4	.73	1.2	7.0	3.8	.06
23	.05	1.7	7.9	5.3	5.0	3.7	4.9	.96	.99	6.6	2.0	.07
24	.05	1.4	7.2	5.1	5.7	3.9	4.2	1.3	.64	3.7	1.2	.07
25	.05	1.1	6.4	5.1	6.4	5.4	3.9	2.3	.67	3.4	.98	.07
26	.06	1.1	5.9	5.0	6.7	4.8	3.4	6.1	.61	3.7	.78	.05
27	.08	1.1	7.1	5.5	6.5	4.2	3.0	5.9	1.1	2.1	.72	.05
28	.19	1.1	8.1	6.0	6.0	5.4	2.8	8.9	31	1.4	.68	.05
29	.09	1.5	8.3	6.2	5.8	5.9	2.7	9.1	48	.95	.55	.04
30	.09	2.1	7.8	6.2	---	5.9	2.4	9.0	36	.45	.44	.05
31	.19	---	7.6	5.8	---	6.1	---	10	---	.18	.58	---
TOTAL	2.04	65.67	128.7	201.5	168.3	152.3	188.5	73.32	366.61	133.97	88.93	335.90
MEAN	.066	2.19	4.15	6.50	5.80	4.91	6.28	2.37	12.2	4.32	2.87	11.2
MAX	.19	13	9.2	8.4	6.7	6.4	18	10	48	29	28	239
MIN	.05	.43	1.2	5.0	4.8	3.7	2.4	.51	.61	.18	.03	.02
AC-FT	4.0	130	255	400	334	302	374	145	727	266	176	666

e Estimated

ARKANSAS RIVER BASIN
07157960 BUFFALO CREEK NEAR LOVEDALE, OK--Continued

81

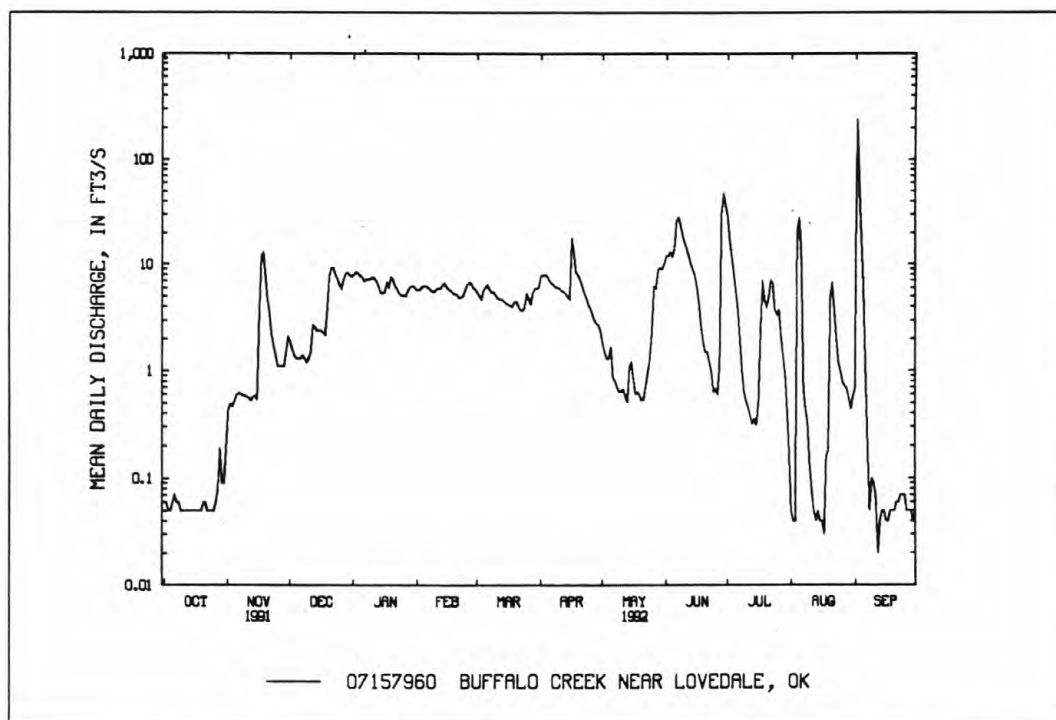
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	12.7	6.08	5.50	5.16	5.99	15.0	16.4	30.0	19.6	10.1	19.2	10.5
MAX	123	20.9	35.4	20.1	21.2	118	64.2	149	125	89.6	144	138
(WY)	1986	1972	1974	1988	1987	1987	1985	1979	1987	1979	1967	1974
MIN	.000	.000	.000	.000	.87	.40	.24	.000	.000	.000	.000	.000
(WY)	1971	1971	1971	1971	1981	1972	1972	1971	1967	1969	1970	1970

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1966-92

ANNUAL TOTAL	2535.57	1905.74	
ANNUAL MEAN	6.95	5.21	12.8
HIGHEST ANNUAL MEAN			43.1 1987
LOWEST ANNUAL MEAN			.78 1971
HIGHEST DAILY MEAN	307 Jun 24	239 Sep 2	3830 Aug 9 1967
LOWEST DAILY MEAN	.04 Aug 7	.02 Sep 12	.00 at times
ANNUAL SEVEN-DAY MINIMUM	.05 Aug 13	.04 Sep 12	.00 Oct 11 1966
INSTANTANEOUS PEAK FLOW		613 Sep 2	^a 15800 Aug 9 1967
INSTANTANEOUS PEAK STAGE		6.80 Sep 2	16.17 May 10 1979
ANNUAL RUNOFF (AC-FT)	5030	3780	9260
10 PERCENT EXCEEDS	10	8.5	20
50 PERCENT EXCEEDS	3.3	3.6	2.0
90 PERCENT EXCEEDS	.06	.05	.00

^aFrom rating curve extended above 7,000 ft³/s on basis of slope-area determination of peak flow.



ARKANSAS RIVER BASIN
07158000 CIMARRON RIVER NEAR WAYNOKA, OK

LOCATION.--Lat 36°31'02", long 98°52'45", in NW 1/4 NE 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 National Geodetic Vertical Datum of 1929. 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.--No estimated daily discharges. Records good. 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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	6.0	14	128	86	87	63	31	83	764	27	13
2	.00	2.9	14	130	85	85	96	26	335	476	27	42
3	.00	11	13	117	91	85	79	23	139	337	40	113
4	.00	6.2	13	129	94	95	64	20	96	248	280	76
5	.00	5.2	13	127	94	104	57	18	85	194	348	39
6	.00	5.9	13	117	89	91	53	14	405	149	107	26
7	.00	6.3	13	116	87	84	51	11	468	116	86	18
8	.00	6.2	13	117	87	78	52	9.0	213	91	77	12
9	.00	5.3	12	110	88	75	55	7.1	175	76	57	9.6
10	.00	5.9	14	107	87	65	55	6.1	205	73	43	5.7
11	.00	4.5	18	111	90	58	50	7.9	296	74	38	3.9
12	.00	3.6	42	113	91	54	48	6.1	170	47	40	3.2
13	.00	3.0	60	103	93	55	48	4.7	134	44	38	1.9
14	.00	3.1	43	96	95	54	45	10	116	318	35	.57
15	.00	3.2	38	90	96	50	44	25	338	374	39	.00
16	.00	84	35	90	95	49	103	98	197	241	49	.00
17	.00	378	37	63	98	47	215	65	105	259	39	.00
18	.00	155	38	73	95	50	94	26	70	201	53	.00
19	.00	69	56	81	90	48	170	16	53	202	98	.00
20	.00	46	120	77	87	47	197	11	36	145	65	.00
21	.00	32	163	93	86	45	141	11	32	158	53	.00
22	.00	25	120	98	86	46	91	19	29	233	44	.00
23	.00	20	121	89	89	47	67	40	32	222	31	.00
24	.00	17	119	79	107	47	56	36	26	158	19	.00
25	.00	15	102	75	107	50	47	28	81	119	14	.00
26	.00	15	93	75	122	52	43	25	107	107	13	.00
27	.00	14	95	86	106	44	37	24	120	98	21	.00
28	.40	15	112	100	101	48	35	34	241	76	13	.00
29	.52	14	113	98	93	53	40	74	389	56	7.4	.00
30	3.3	14	108	92	---	54	35	69	365	40	23	.00
31	5.7	---	112	89	---	50	---	56	---	30	25	---
TOTAL	9.92	991.3	1877	3069	2715	1897	2231	850.9	5141	5726	1849.4	363.87
MEAN	.32	33.0	60.5	99.0	93.6	61.2	74.4	27.4	171	185	59.7	12.1
MAX	5.7	378	163	130	122	104	215	98	468	764	348	113
MIN	.00	2.9	12	63	85	44	35	4.7	26	30	7.4	.00
AC-FT	20	1970	3720	6090	5390	3760	4430	1690	10200	11360	3670	722

ARKANSAS RIVER BASIN
07158000 CIMARRON RIVER NEAR WAYNOKA, OK--Continued

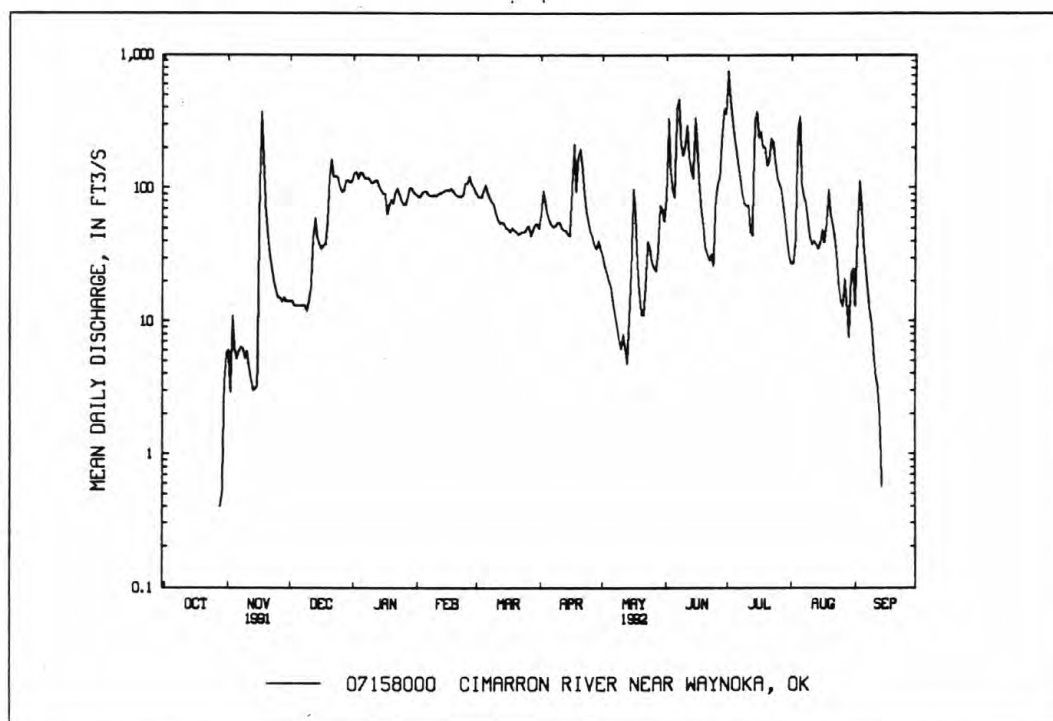
83

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	229	120	112	124	177	239	367	805	622	353	231	267
MAX	2644	587	493	290	1011	2196	2944	5673	3674	3826	2507	1475
(WY)	1942	1947	1974	1974	1949	1973	1942	1957	1957	1950	1950	1973
MIN	.000	.000	1.98	2.65	30.1	12.6	6.00	10.6	.60	.008	.000	.000
(WY)	1940	1981	1955	1940	1957	1955	1956	1967	1966	1974	1970	1956

SUMMARY STATISTICS	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1938-92
ANNUAL TOTAL	17547.31	26721.39	
ANNUAL MEAN	48.1	73.0	304
HIGHEST ANNUAL MEAN			1081 1957
LOWEST ANNUAL MEAN			43.2 1991
HIGHEST DAILY MEAN	707	Jun 2 764	Jul 1 51600 May 16 1957
LOWEST DAILY MEAN	.00	at times	.00 at times .00 most years
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 15	Oct 1 .00 Sep 3 1939
INSTANTANEOUS PEAK FLOW		1260	Aug 4 ^a 94500 May 16 1957
INSTANTANEOUS PEAK STAGE		6.90	Aug 4 15.10 May 16 1957
ANNUAL RUNOFF (AC-FT)	34810	53000	220500
10 PERCENT EXCEEDS	107	151	463
50 PERCENT EXCEEDS	22	50	85
90 PERCENT EXCEEDS	.00	.00	.30

^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.

GAGE.--Water-stage recorder. Datum of gage is 999.19 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Several unpublished observations of water temperature, specific conductance, and pH were made during the year and are available at the District Office. 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)
Dec. 20	2230	13,000	16.71	No other peaks greater than base discharge			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	174	154	447	279	189	167	145	235	1880	126	3010
2	57	158	157	456	268	182	181	134	1670	926	118	697
3	54	117	153	464	256	179	184	125	2370	1010	119	526
4	49	98	154	546	252	227	183	117	2310	865	175	373
5	48	100	151	474	251	350	189	109	983	624	1110	299
6	47	98	148	424	246	258	190	101	1360	490	2640	447
7	47	91	148	412	244	258	174	98	3350	400	2360	1030
8	46	97	143	404	242	212	165	93	6740	329	1670	817
9	45	97	138	386	239	194	160	90	3550	281	654	417
10	46	94	133	363	235	220	158	89	3120	242	432	355
11	46	91	133	355	234	719	154	94	7680	255	386	276
12	45	90	671	347	234	336	170	176	1510	275	918	234
13	43	89	1070	340	234	238	159	124	985	231	1010	210
14	40	92	409	337	239	203	157	97	813	230	351	173
15	38	91	277	320	240	179	152	89	2700	225	258	153
16	38	121	230	309	237	166	148	188	1020	417	230	138
17	38	3120	212	290	217	156	151	428	1150	2190	193	126
18	35	7020	187	295	211	159	152	319	738	1130	189	114
19	33	2930	300	281	207	155	237	330	652	802	207	107
20	34	1230	6960	268	204	151	519	221	339	463	217	108
21	35	942	9000	261	199	149	391	214	468	756	188	107
22	36	512	3620	270	197	145	588	211	317	563	200	106
23	35	368	2040	280	190	148	412	220	238	315	196	104
24	33	295	1100	277	199	148	299	188	196	247	160	101
25	34	253	735	281	197	156	234	162	1280	230	144	103
26	53	229	613	277	198	166	198	156	1490	257	359	93
27	54	210	544	274	200	160	177	221	776	218	1450	85
28	76	201	500	288	197	154	169	208	1240	185	328	80
29	125	184	476	299	193	149	166	224	8520	161	187	78
30	86	167	446	288	---	164	157	205	4230	147	153	76
31	85	---	440	281	---	167	---	195	---	135	4200	---
TOTAL	1540	19359	31442	10594	6539	6437	6541	5371	62030	16479	20928	10543
MEAN	49.7	645	1014	342	225	208	218	173	2068	532	675	351
MAX	125	7020	9000	546	279	719	588	428	8520	2190	4200	3010
MIN	33	89	133	261	190	145	148	89	196	135	118	76
AC-FT	3050	38400	62370	21010	12970	12770	12970	10650	123000	32690	41510	20910

ARKANSAS RIVER BASIN
07159100 CIMARRON RIVER NEAR DOVER, OK--Continued

85

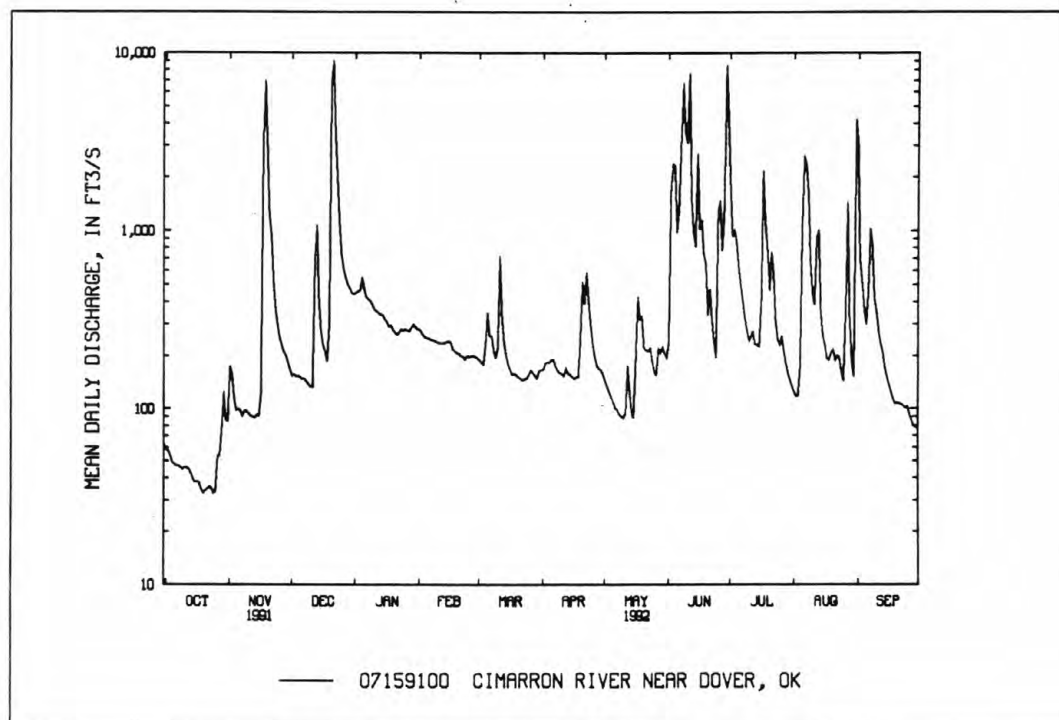
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	937	710	353	338	493	1115	920	2097	1368	484	429	622
MAX	9071	3381	1014	1068	2410	4283	4218	5817	3795	2002	1489	1996
(WY)	1987	1975	1992	1988	1987	1987	1988	1982	1975	1987	1989	1974
MIN	40.2	45.1	70.2	61.8	75.6	77.4	60.7	173	207	45.3	29.5	13.8
(WY)	1985	1985	1977	1977	1981	1977	1981	1992	1984	1974	1984	1984

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1974-92

ANNUAL TOTAL	141482		197803				
ANNUAL MEAN	388		540			824	
HIGHEST ANNUAL MEAN						2804	1987
LOWEST ANNUAL MEAN						265	1991
HIGHEST DAILY MEAN	9000	Dec 21	9000	Dec 21	80200	Oct 3 1986	
LOWEST DAILY MEAN	19	Aug 8	33	Oct 19, 24	4.3	Sep 23 1980	
ANNUAL SEVEN-DAY MINIMUM	20	Aug 7	34	Oct 19	7.5	Sep 19 1980	
INSTANTANEOUS PEAK FLOW			13000	Dec 20,21	123000	Oct 3 1986	
INSTANTANEOUS PEAK STAGE			16.71	Dec 21	^a 26.10	Oct 3 1986	
ANNUAL RUNOFF (AC-FT)	280600		392300		596700		
10 PERCENT EXCEEDS	718		1080		1690		
50 PERCENT EXCEEDS	151		215		253		
90 PERCENT EXCEEDS	42		89		54		

^aFrom high-water mark.



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, 6.5 mi southwest of Guthrie, and at mile 22.1 on Broadway Road.

DRAINAGE AREA.--320 mi².

PERIOD OF RECORD.--March 1973 to September, 1982, November 1989 to current year.

GAGE.--Water-stage recorder. Datum of gage is 936.49 ft National Geodetic Vertical Datum of 1929. 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 above base of 3,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Dec. 20	2300	11,400	28.50	July 24	1400	3680	23.65
June 19	1900	3,850	24.11				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	491	73	192	96	65	68	100	709	e460	e54	e280
2	34	195	68	185	121	64	80	83	704	e300	e52	e525
3	33	117	89	173	105	59	75	65	670	e230	e56	e460
4	32	85	97	158	100	651	68	45	330	e170	e60	e285
5	32	67	82	150	86	959	68	37	212	e140	e450	e230
6	34	56	78	144	80	505	66	32	463	e110	e360	e780
7	36	41	76	140	88	299	68	27	623	92	e250	e410
8	36	36	75	140	91	230	66	25	308	e84	e225	e270
9	39	35	75	125	77	186	63	22	235	e76	e200	e190
10	45	36	65	112	72	145	62	30	231	e70	e175	e150
11	35	38	59	107	78	120	61	277	215	e68	e160	e120
12	34	34	760	103	93	102	205	247	167	e62	e280	e100
13	35	34	603	112	84	98	289	94	124	e60	e210	e90
14	36	34	260	180	99	93	144	57	132	e58	e175	e84
15	42	46	184	172	85	86	103	34	1490	e150	e155	e74
16	42	276	150	132	85	83	82	26	649	e700	e135	e66
17	40	1500	133	123	75	82	81	23	313	480	e120	e60
18	42	574	117	117	76	90	211	176	807	e140	e110	54
19	42	293	166	110	62	84	415	111	2640	e120	e130	76
20	43	204	4320	102	56	71	790	128	1710	e105	e90	61
21	45	214	4960	107	53	68	756	463	607	e180	e70	58
22	47	180	1140	111	59	78	344	157	e450	e465	e56	65
23	46	152	955	115	69	86	220	100	e360	e130	e48	60
24	46	123	711	106	71	85	165	72	e900	67	e45	54
25	49	107	630	93	120	91	130	64	e2100	e58	42	40
26	452	100	484	82	123	91	111	55	1500	e54	316	42
27	217	93	320	86	89	87	97	60	e860	e52	995	52
28	521	91	269	112	71	84	91	55	e1500	e74	324	47
29	758	92	242	124	67	90	188	357	e2600	e64	221	45
30	217	81	221	105	---	80	156	184	e720	e60	176	44
31	156	---	202	96	---	68	---	125	---	e56	155	---
TOTAL	3302	5425	17664	3914	2431	4980	5323	3331	24329	4935	5895	4872
MEAN	107	181	570	126	83.8	161	177	107	811	159	190	162
MAX	758	1500	4960	192	123	959	790	463	2640	700	995	780
MIN	32	34	59	82	53	59	61	22	124	52	42	40
AC-FT	6550	10760	35040	7760	4820	9880	10560	6610	48260	9790	11690	9660

e Estimated

ARKANSAS RIVER BASIN
07159750 COTTONWOOD CREEK NEAR SEWARD, OK--Continued

87

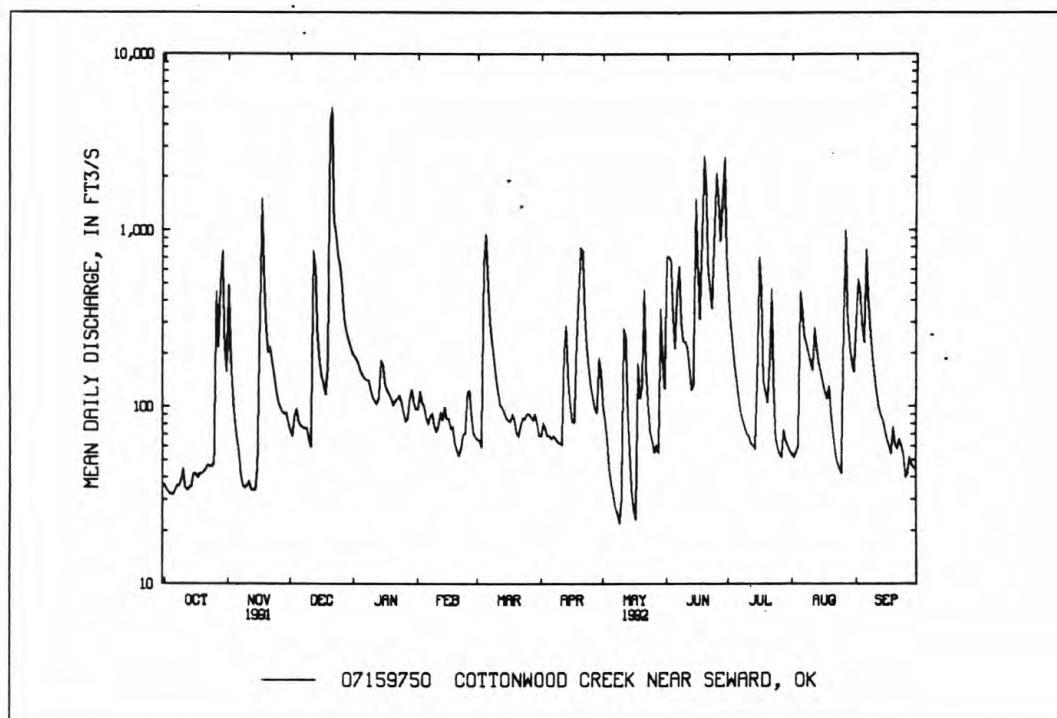
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	81.4	167	93.6	78.0	106	232	156	464	317	99.0	64.9	60.3
MAX	267	1218	570	265	336	1591	803	1227	811	467	231	162
(WY)	1975	1975	1992	1975	1975	1990	1990	1982	1992	1975	1975	1992
MIN	12.0	15.2	17.6	17.6	22.7	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

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1974-92

ANNUAL TOTAL	53602	86401	
ANNUAL MEAN	147	236	142
HIGHEST ANNUAL MEAN			324 1975
LOWEST ANNUAL MEAN			42.9 1981
HIGHEST DAILY MEAN	4960 Dec 21	4960 Dec 21	15800 Mar 11 1990
LOWEST DAILY MEAN	11 Jul 24	22 May 9	6.1 ^a Aug 15 1976
ANNUAL SEVEN-DAY MINIMUM	14 Jul 24	31 May 4	6.7 Aug 11 1976
INSTANTANEOUS PEAK FLOW		11400 Dec 20	29900 Nov 2 1976
INSTANTANEOUS PEAK STAGE		28.50 Dec 20	23.99 Nov 2 1976
ANNUAL RUNOFF (AC-FT)	106300	171400	102500
10 PERCENT EXCEEDS	265	522	291
50 PERCENT EXCEEDS	56	100	44
90 PERCENT EXCEEDS	32	42	17

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



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 122.4.

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 National Geodetic Vertical Datum of 1929 (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. 30, 1976, recording gage 125 ft upstream from railway bridge at datum 4.00 ft higher. From Sept. 14, 1967 to Sept. 30, 1976, supplementary water-stage recorder at present site and datum.

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 16,000 ft³/s.

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Dec. 21	0800	26,200	11.29	No other peak greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	166	659	316	900	513	380	346	408	1170	4990	308	2140
2	159	538	309	890	506	370	344	346	3090	2840	289	2560
3	148	447	305	898	503	361	339	309	7860	1780	275	1030
4	137	328	301	855	491	1300	346	280	3940	1550	474	760
5	136	270	291	893	477	2510	343	256	2660	1330	1020	612
6	134	249	279	837	465	1850	335	233	1900	1060	2110	1220
7	130	234	266	765	459	1080	337	214	3920	862	2150	1540
8	e123	221	254	737	452	843	327	202	4000	714	1920	1200
9	e120	212	253	717	449	709	310	188	5170	612	1510	1040
10	e123	206	251	673	444	615	299	173	3160	541	940	699
11	e125	202	243	634	442	543	284	321	3430	488	973	669
12	e121	196	574	607	446	933	755	561	5140	454	1590	593
13	e118	187	2490	622	446	674	1750	314	1860	458	1100	458
14	e110	179	1990	633	448	553	872	300	1650	595	1300	418
15	e102	177	872	682	452	486	543	229	3970	646	778	367
16	e103	310	603	620	447	433	434	190	4450	1000	572	324
17	e100	2320	486	584	438	411	395	190	1860	1690	496	298
18	e96	3720	436	567	415	406	445	534	1940	2140	437	279
19	e90	5430	468	556	402	406	553	524	10500	1420	430	265
20	e92	2600	9510	536	382	387	1710	717	7790	1110	432	264
21	e94	1750	22800	519	367	369	2560	1000	2140	1060	435	261
22	e98	1370	9880	512	355	377	1360	614	1450	1740	396	272
23	e93	822	5900	512	354	362	1150	498	1110	1480	364	250
24	e90	607	4090	516	387	363	885	462	896	773	364	239
25	e88	491	2590	505	420	360	699	406	3250	566	334	226
26	330	425	1890	496	444	360	559	354	5850	479	572	211
27	811	385	1470	494	434	362	469	328	2960	470	2400	210
28	726	352	1250	512	409	353	433	503	3170	443	2480	209
29	2000	331	1110	549	395	344	481	661	9340	405	1030	198
30	952	328	1010	562	---	341	526	708	11100	364	615	193
31	492	---	939	537	---	340	---	632	---	330	493	---

e Estimated

ARKANSAS RIVER BASIN
07160000 CIMARRON RIVER NEAR GUTHRIE, OK--Continued

89

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
TOTAL	8207	25546	73426	19920	12642	19181	20189	12655	120726	34390	28587	19005
MEAN	265	852	2369	643	436	619	673	408	4024	1109	922	633
MAX	2000	5430	22800	900	513	2510	2560	1000	11100	4990	2480	2560
MIN	88	177	243	494	354	340	284	173	896	330	275	193
AC-FT	16280	50670	145600	39510	25080	38050	40040	25100	239500	68210	56700	37700

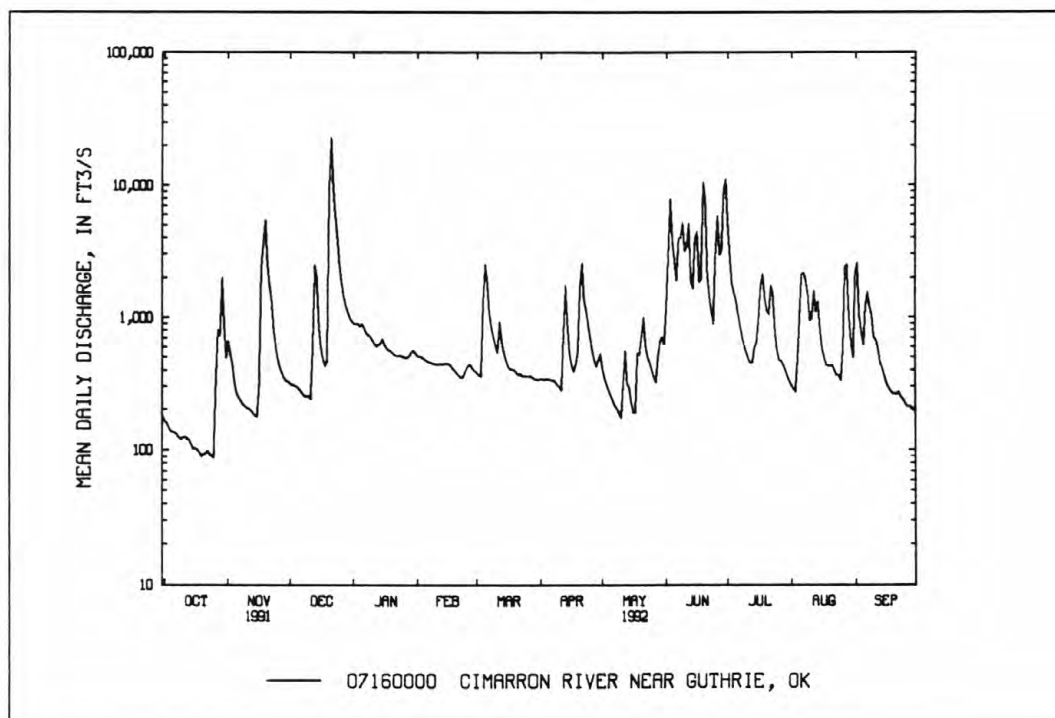
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1136	631	389	388	557	1013	1343	2226	1960	834	565	878
MAX	13800	6145	2369	1837	4063	6337	8184	14960	11780	4220	4100	3988
(WY)	1987	1975	1992	1988	1987	1987	1942	1957	1957	1950	1950	1989
MIN	.79	.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

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1938 - 92

ANNUAL TOTAL	224120	394474	
ANNUAL MEAN	614	1078	987
HIGHEST ANNUAL MEAN			3901
LOWEST ANNUAL MEAN			192
HIGHEST DAILY MEAN	22800	Dec 21	22800
LOWEST DAILY MEAN	86	Aug 10	88
ANNUAL SEVEN-DAY MINIMUM	92	Oct 19	92
INSTANTANEOUS PEAK FLOW			26200
INSTANTANEOUS PEAK STAGE			11.29
ANNUAL RUNOFF (AC-FT)	444500	782400	715000
10 PERCENT EXCEEDS	1250	2420	1910
50 PERCENT EXCEEDS	255	492	296
90 PERCENT EXCEEDS	119	202	47

^aOct. 20-22, Nov. 2, 1939.



ARKANSAS RIVER BASIN
07160500 SKELETON CREEK NEAR LOVELL, OK

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, near right bank on downstream side of pier of bridge on State Highway 74, 2 mi upstream from Otter Creek, 2.8 mi east of Lovell, and at mile 14.6.

DRAINAGE AREA.--410 mi².

PERIOD OF RECORD.--October 1949 to current year.

GAGE.--Water-stage recorder. Datum of gage is 909.76 ft above National Geodetic Vertical Datum of 1929 (Oklahoma State Highway Department datum). Prior to Dec. 5, 1949, nonrecording gage at site 60 ft downstream at datum 4.70 ft higher. Prior to Oct. 1, 1979, gage at present site and datum 5.00 ft higher.

REMARKS.--Records fair.

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)
Dec. 20	2100	4,550	19.24	Aug. 12	0930	11,300	28.08
June 29	1200	2,500	14.24	Sept. 3	1300	2,350	13.78
Aug. 5	1730	8,240	24.95	Sept. 7	0900	3,300	16.44

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.77	20	17	73	37	26	25	31	23	238	9.6	107
2	.16	58	15	88	35	28	36	19	107	128	105	294
3	.35	23	14	73	33	26	39	14	351	78	80	1880
4	.79	13	15	66	31	228	29	12	109	61	431	318
5	3.1	13	16	57	31	159	25	9.5	41	51	5700	142
6	3.6	11	17	54	33	88	23	6.8	378	43	3560	1110
7	3.4	7.2	17	52	31	49	21	7.4	1120	38	478	2520
8	3.0	6.9	15	49	28	41	22	8.2	213	30	186	305
9	2.9	5.8	15	47	29	35	23	9.4	87	23	120	175
10	1.6	4.7	15	46	33	33	21	8.9	261	25	87	255
11	3.1	6.5	15	45	32	29	20	39	524	82	4020	144
12	5.6	6.3	281	44	33	27	181	201	154	114	8470	e110
13	6.9	6.3	295	44	34	25	87	50	73	41	1530	e90
14	10	15	86	44	33	25	45	23	402	72	344	e82
15	12	15	41	42	36	28	30	18	467	186	279	e76
16	14	101	28	37	38	27	41	15	290	368	199	e70
17	13	517	23	35	34	24	28	13	105	1400	156	e66
18	17	226	20	40	30	25	30	59	58	293	133	e60
19	19	73	43	39	28	30	56	53	148	94	129	e70
20	22	90	2260	37	28	34	142	32	355	75	123	e56
21	22	358	3610	38	26	28	86	62	596	87	105	e45
22	18	104	538	39	26	28	43	27	158	45	91	e54
23	24	44	374	42	29	26	31	24	82	39	82	49
24	27	29	217	50	28	25	25	26	378	33	74	e43
25	31	22	136	43	37	25	21	16	1110	27	180	e37
26	13	19	102	37	35	30	17	13	1190	23	844	e33
27	8.6	19	88	34	30	35	16	25	243	18	1660	e30
28	29	18	83	39	27	26	29	27	538	16	389	e28
29	46	17	85	49	25	24	33	45	2230	15	165	e26
30	43	17	76	42	---	22	36	45	797	13	112	e25
31	16	---	72	37	---	22	---	24	---	9.6	118	---
TOTAL	419.87	1865.7	8629	1462	910	1278	1261	963.2	12588	3765.6	29959.6	8300
MEAN	13.5	62.2	278	47.2	31.4	41.2	42.0	31.1	420	121	966	277
MAX	46	517	3610	88	38	228	181	201	2230	1400	8470	2520
MIN	.16	4.7	14	34	25	22	16	6.8	23	9.6	9.6	25
AC-FT	833	3700	17120	2900	1800	2530	2500	1910	24970	7470	59420	16460

e Estimated

ARKANSAS RIVER BASIN
07160500 SKELETON CREEK NEAR LOVELL, OK--Continued

91

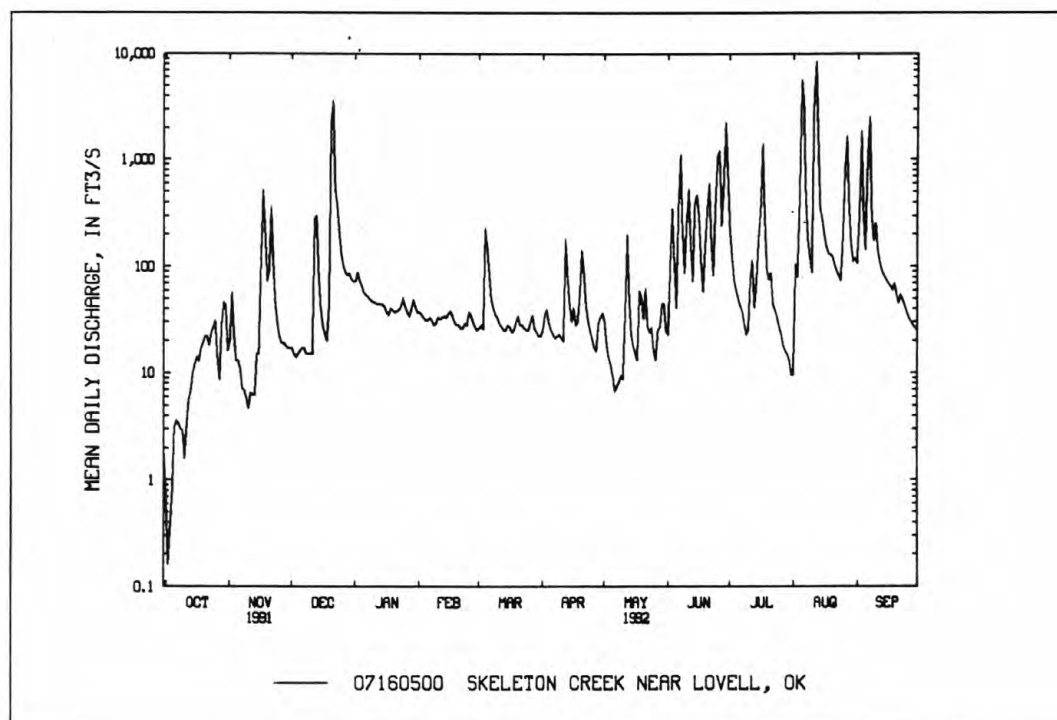
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1950 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	177	96.8	44.5	42.9	67.6	129	123	342	222	103	74.2	135
MAX	2450	1285	278	324	667	811	847	2850	1390	739	966	1046
(WY)	1987	1975	1992	1988	1975	1974	1988	1957	1957	1950	1992	1961
MIN	.40	1.34	2.13	3.23	3.81	2.55	2.80	4.72	8.41	.34	3.45	.40
(WY)	1953	1955	1955	1953	1953	1955	1955	1971	1959	1954	1971	1956

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1950-92

ANNUAL TOTAL	19018.09	71401.97	
ANNUAL MEAN	52.1	195	130
HIGHEST ANNUAL MEAN			501 1987
LOWEST ANNUAL MEAN			16.9 1953
HIGHEST DAILY MEAN	3610 Dec 21	8470 Aug 12	39200 May 16 1957
LOWEST DAILY MEAN	.16 Oct 2	.16 Oct 2	.00 ^a Sep 23 1953
ANNUAL SEVEN-DAY MINIMUM	1.5 Sep 30	1.7 Oct 1	.00 Sep 23 1953
INSTANTANEOUS PEAK FLOW		11300 Aug 12	75200 May 16 1957
INSTANTANEOUS PEAK STAGE		28.08 Aug 12	34.58 May 16 1957
ANNUAL RUNOFF (AC-FT)	37720	141600	94220
10 PERCENT EXCEEDS	81	326	168
50 PERCENT EXCEEDS	15	37	14
90 PERCENT EXCEEDS	4.0	13	3.7

^aNo flow at times in 1953, 54, 56.



ARKANSAS RIVER BASIN

07161000 CIMARRON RIVER AT PERKINS, OK

(National stream-quality accounting network station)

LOCATION.--Lat 35°57'27" long 97°01'54", in SW 1/4 SW 1/4 sec.7, T.17 N., R.3 E., Payne County, Hydrologic Unit 11050003, on right bank at downstream side of bridge on U.S. Highway 177, 1.0 mi south of Perkins, 1.5 mi upstream from Dugout Creek, 4.0 mi downstream from Wildhorse Creek, and at mile 87.3.

DRAINAGE AREA.--17,852 mi² of which 4,926 mi² is probably noncontributing.

PERIOD OF RECORD.--Water years 1950, 1953-63, 1965 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1952 to September 1963, June 1965 to January 1982.

WATER TEMPERATURE: October 1962 to September 1963, June 1965 to January 1982.

INSTRUMENTATION.--Water-quality monitor from April 1969 to September 1980.

REMARKS.--Samples were collected bimonthly and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	TEMPER- ATURE (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF (00025)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	GAGE HEIGHT (FEET) (00065)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
AUG											
17...	1340	30.0	24.5	743	1028	1028	922	8.26	2880	7.0	8.4
17...	1347	70.0	24.0	743	1028	1028	922	8.26	2920	7.9	8.4
17...	1354	90.0	24.5	743	1028	1028	922	8.26	2920	7.8	8.4
17...	1401	110	25.0	743	1028	1028	922	8.26	2900	7.5	8.4
17...	1408	130	25.0	743	1028	1028	922	8.26	2880	7.5	8.4
17...	1415	150	25.0	743	1028	1028	922	8.26	2930	7.8	8.4
17...	1422	170	25.0	743	1028	1028	922	8.26	2950	8.0	8.4
17...	1428	190	25.0	743	1028	1028	922	8.26	2960	8.1	8.4
17...	1435	210	25.0	743	1028	1028	922	8.26	2960	8.2	8.4
17...	1440	235	25.0	743	1028	1028	922	8.26	2940	8.0	8.4
17...	1446	260	25.0	743	1028	1028	922	8.26	2970	8.1	8.4

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT												
24...	1245	1028	80020	94	5870	9.2	29.5	22.0	10	770	12.2	141
JAN												
06...	1443	1028	80020	551	9810	8.4	9.5	9.0	37	775	10.4	92
FEB												
19...	1200	1028	80020	516	7400	8.7	10.0	9.5	7.0	750	12.6	115
JUN												
10...	1115	1028	80020	5300	3700	8.0	23.5	23.0	580	737	6.8	83
AUG												
17...	1330	1028	80020	922	2910	8.4	25.0	24.5	62	743	7.9	98
SEP												
01...	1130	1028	80020	889	2900	8.4	27.5	23.5	54	739	8.3	102

ARKANSAS RIVER BASIN

93

07161000 CIMARRON RIVER AT PERKINS, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	COLI-FORM, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD-NESS, TOTAL AS (MG/L) (00900)	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)	SODIUM, DIS-SOLVED (MG/L) AS NA (00930)	SODIUM PERCENT (00932)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L) AS K (00935)	BICAR-BONATE, WATER (DIS IT) FIELD (MG/L AS HCO3) (00453)	CAR-BONATE, WATER (DIS IT) FIELD (MG/L AS CO3) (00452)
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OCT												
24...	K12	K13	480	310	110	51	1100	83	22	7.4	150	32
JAN												
06...	74	140	680	430	170	62	1800	85	30	7.7	280	12
FEB												
19...	K2	K13	660	410	160	63	1700	85	29	5.4	276	13
JUN												
10...	1500	3900	260	150	65	23	690	85	19	8.5	133	0
AUG												
17...	260	330	310	110	82	26	500	77	12	6.6	222	11
SEP												
01...	320	130	300	110	77	26	490	78	12	6.4	213	7

DATE	ALKA-LINITY (WAT DIS TOT IT FIELD) (MG/L AS CACO3) (39086)	SULFATE DIS-SOLVED (MG/L) AS SO4 (00945)	CHLO-RIDE, DIS-SOLVED (MG/L) AS CL (00940)	FLUO-RIDE, DIS-SOLVED (MG/L) AS F (00950)	SILICA, DIS-SOLVED (MG/L) AS SIO2 (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	NITRO-GEN, NITRATE TOTAL (MG/L) AS N (00620)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L) AS N (00618)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L) AS NO3 (71851)
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OCT												
24...	175	270	1700	0.70	<0.10	3330	3350	4.53	849	--	0.044	0.19
JAN												
06...	250	450	--	--	11	7010	5160	9.53	10400	1.43	1.54	6.8
FEB												
19...	248	440	2700	0.70	3.3	5070	5230	6.90	7060	--	0.790	3.5
JUN												
10...	109	210	1100	0.40	8.6	2190	2180	2.98	31400	0.480	0.480	2.1
AUG												
17...	200	160	700	0.40	12	1650	1610	2.24	4110	0.810	0.810	3.6
SEP												
01...	186	170	740	0.40	11	1620	1640	2.20	3890	0.640	0.670	3.0

DATE	NITRO-GEN, NITRITE TOTAL (MG/L) AS N (00615)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L) AS N (00613)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L) AS NO2 (71856)	NITRO-GEN, NO2+NO3 TOTAL (MG/L) AS N (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L) AS N (00631)	NITRO-GEN, AMMONIA TOTAL (MG/L) AS N (00610)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) AS N (00608)	NITRO-GEN, AMMONIA TOTAL (MG/L) AS NH4 (71845)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) AS NH4 (71846)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) AS N (00605)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) AS N (00625)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L) AS N (00600)
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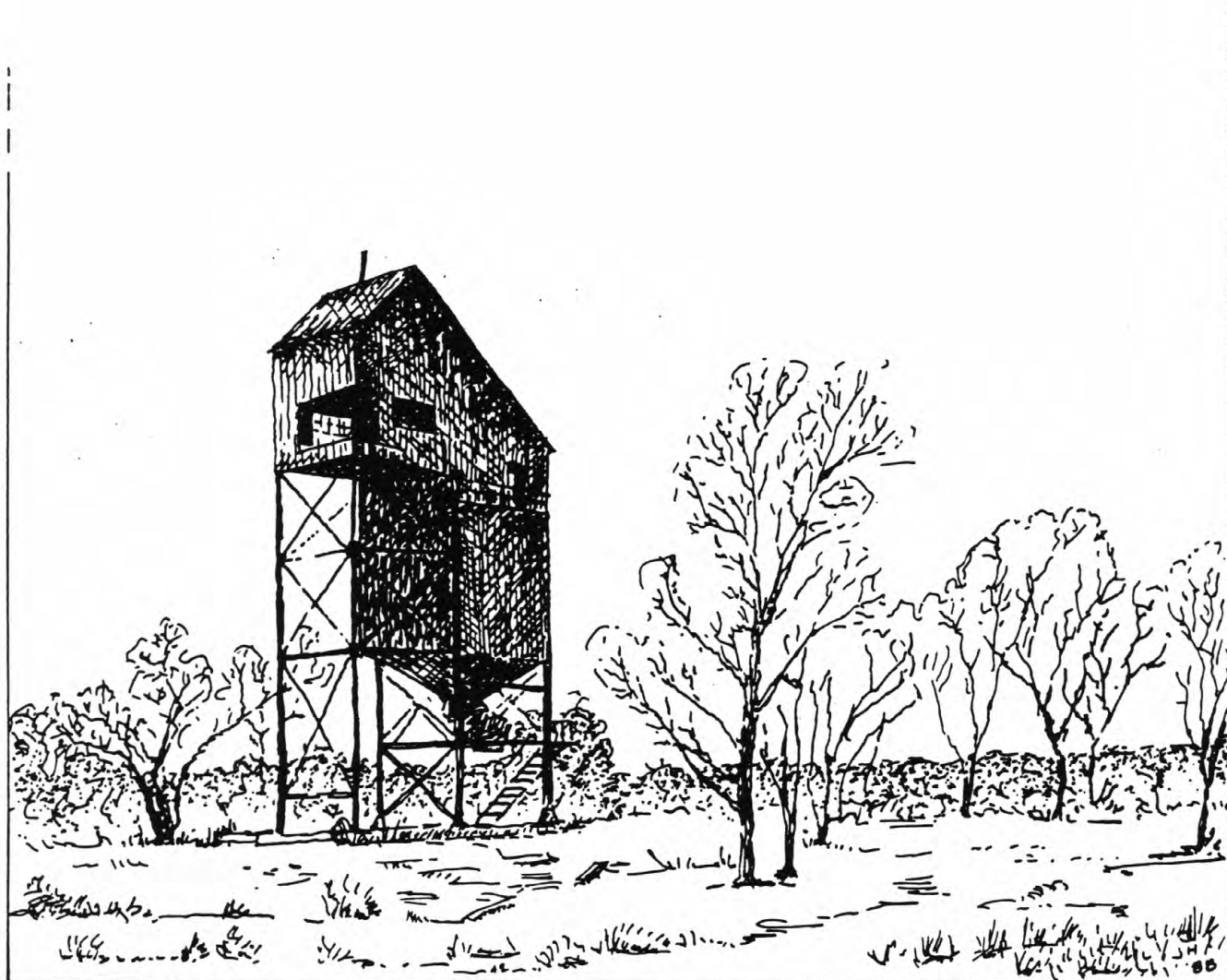
OCT												
24...	0.010	0.010	0.03	<0.050	0.054	--	0.080	--	0.10	--	1.3	--
JAN												
06...	0.070	0.060	0.20	1.50	1.60	0.090	0.100	0.12	0.13	0.51	0.60	2.1
FEB												
19...	0.020	0.020	0.07	--	0.810	0.020	0.020	0.03	0.03	0.88	0.90	--
JUN												
10...	0.050	0.030	0.10	0.530	0.510	0.070	0.070	0.09	0.09	0.43	0.50	1.0
AUG												
17...	0.010	0.010	0.03	0.820	0.820	0.050	0.040	0.06	0.05	0.55	0.60	1.4
SEP												
01...	0.010	0.020	0.07	0.650	0.690	0.030	0.030	0.04	0.04	0.37	0.40	1.0

ARKANSAS RIVER BASIN

07161000 CIMARRON RIVER AT PERKINS, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHATE, TOTAL (MG/L AS PO4) (00650)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS TOTAL (MG/L AS P) (70507)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, DIS- SOLVED (MG/L AS PO4) (00660)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
OCT											
24...	--	0.460	0.71	0.200	0.230	0.160	0.49	--	--	--	--
JAN											
06...	9.3	0.270	0.55	0.230	0.180	0.180	0.55	<10	300	<1	<10
FEB											
19...	--	0.230	0.43	0.140	0.140	0.110	0.34	<10	100	<1	<10
JUN											
10...	4.6	0.130	0.34	0.130	0.110	0.110	0.34	20	100	<1	30
AUG											
17...	6.3	--	0.61	0.420	0.200	0.210	0.64	20	210	<9	<9
SEP											
01...	4.6	0.210	0.52	0.190	0.170	0.180	0.55	--	--	--	--
DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	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)	SEDI- MENT, SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT											
24...	--	--	--	--	--	--	--	--	28	7.1	36
JAN											
06...	30	20	3	2	3	<1.0	2400	42	909	1350	100
FEB											
19...	40	90	5	<1	2	<1.0	2600	51	26	36	48
JUN											
10...	20	530	2	1	<1	<1.0	770	22	--	--	--
AUG											
17...	<12	<3	<30	1	1	<1.0	930	<18	69	172	100
SEP											
01...	--	--	--	--	--	--	--	--	341	819	--



Ore loader in the Tar Creek area

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 National Geodetic Vertical Datum of 1929.

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)
Dec. 21	1500	33,100	18.46	No other peaks greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	197	961	410	1850	656	350	414	740	982	9340	383	841
2	182	719	401	1720	617	331	403	588	2640	4840	360	2240
3	164	643	377	1640	601	321	409	442	7320	3080	343	2780
4	150	542	354	1620	593	711	426	360	10900	2150	1280	3400
5	145	410	351	1510	548	5000	424	302	6280	1860	4470	1510
6	140	332	347	1480	525	4900	410	253	5680	1610	8920	1430
7	135	289	335	1400	508	3510	403	227	6740	1330	6880	4430
8	124	257	330	1290	494	2070	402	200	8480	1130	3110	5230
9	124	247	317	1190	474	1530	371	179	6850	969	2140	1880
10	122	232	303	1120	472	1170	330	203	8000	849	1660	1400
11	121	223	296	1050	513	980	312	775	8070	758	1230	1260
12	122	215	1050	984	532	850	5600	622	7300	690	7420	995
13	119	212	1140	988	489	1330	e4500	902	7770	726	10500	870
14	113	207	3200	968	508	1060	3440	548	3490	755	3880	718
15	108	206	2430	947	517	810	1660	373	9450	814	1960	640
16	104	763	1110	944	476	679	915	262	8760	1160	1400	573
17	101	1670	776	881	470	629	753	293	7470	1950	1100	521
18	101	3340	607	809	456	597	743	1030	3790	3720	963	482
19	93	4440	680	759	413	549	1250	749	4500	2500	874	451
20	87	5920	15200	749	380	530	938	2300	13900	1540	815	444
21	90	3320	29900	720	359	522	2040	1390	7560	1350	791	435
22	87	2810	19600	705	346	550	3600	1200	3350	1150	761	436
23	84	1830	11800	682	332	504	2150	757	2140	1450	719	455
24	84	1110	9100	655	357	483	1640	457	1650	1470	659	428
25	84	821	6690	666	401	484	1200	378	2510	855	645	398
26	499	663	4770	640	417	466	888	320	5710	660	1470	375
27	349	569	3720	629	441	441	670	244	6590	559	3420	357
28	1410	510	3020	623	416	435	973	420	3220	518	4580	342
29	1060	466	2540	630	377	473	1550	583	7550	491	2760	331
30	1660	433	2230	662	---	433	888	584	13700	456	1400	321
31	1300	---	2000	701	---	406	---	711	---	419	988	---
TOTAL	9259	34360	125384	31212	13688	33104	39702	18392	192352	51149	77881	35973
MEAN	299	1145	4045	1007	472	1068	1323	593	6412	1650	2512	1199
MAX	1660	5920	29900	1850	656	5000	5600	2300	13900	9340	10500	5230
MIN	84	206	296	623	332	321	312	179	982	419	343	321
AC-FT	18370	68150	248700	61910	27150	65660	78750	36480	381500	101500	154500	71350

e Estimated

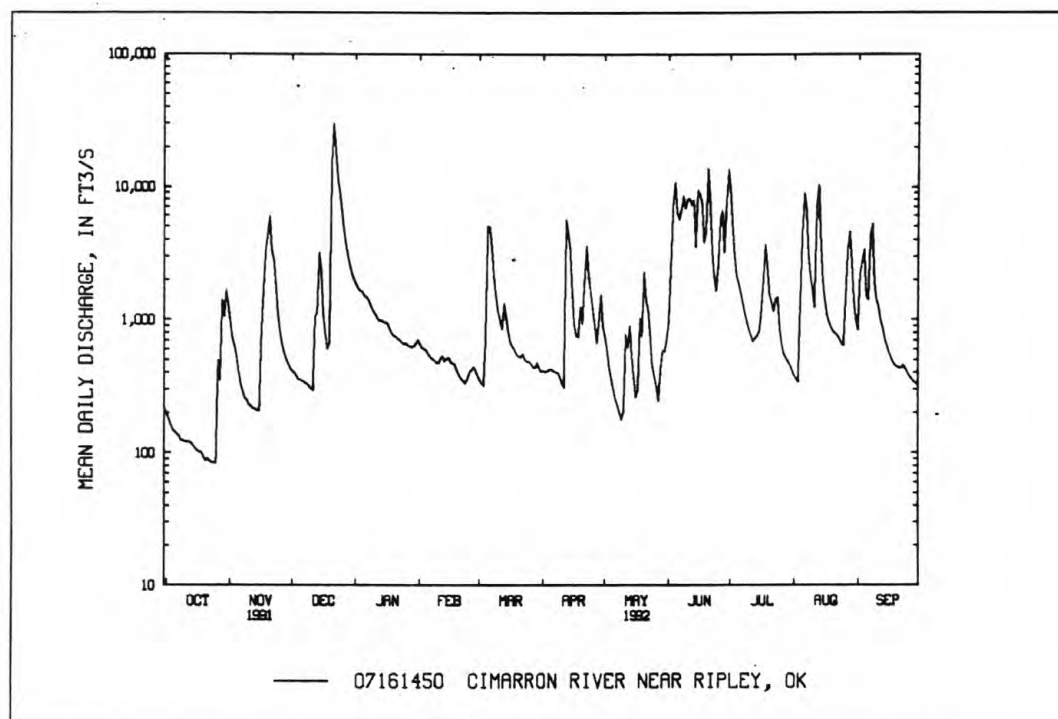
ARKANSAS RIVER BASIN
07161450 CIMARRON RIVER NEAR RIPLEY, OK--Continued

97

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	614	720	1468	1210	757	3854	3473	2030	3324	1205	1387	2012
MAX	939	1145	4045	3378	1391	9824	7456	5090	7176	2973	3587	4554
(WY)	1990	1992	1992	1988	1990	1990	1988	1990	1989	1989	1989	1989
MIN	193	238	233	287	244	234	402	593	967	251	209	263
(WY)	1991	1991	1991	1991	1991	1991	1991	1992	1991	1990	1991	1990

SUMMARY STATISTICS	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1988-92
ANNUAL TOTAL	308365	662456	
ANNUAL MEAN	845	1810	1840
HIGHEST ANNUAL MEAN			2383 1990
LOWEST ANNUAL MEAN			437 1991
HIGHEST DAILY MEAN	29900	Dec 21 29900	Dec 21 48400 Apr 2 1988
LOWEST DAILY MEAN	84	Oct 23-25 84	Oct 23-25 84 Oct 23-25 1991
ANNUAL SEVEN-DAY MINIMUM	87	Oct 19 87	Oct 19 87 Oct 19 1991
INSTANTANEOUS PEAK FLOW		33100	Dec 21 55200 Mar 11 1990
INSTANTANEOUS PEAK STAGE		18.46	Dec 21 21.43 Mar 11 1990
ANNUAL RUNOFF (AC-FT)	611600	1314000	1333000
10 PERCENT EXCEEDS	1660	4860	4550
50 PERCENT EXCEEDS	300	723	643
90 PERCENT EXCEEDS	122	246	215



ARKANSAS RIVER BASIN

07163000 COUNCIL CREEK NEAR STILLWATER, OK

LOCATION.--Lat 36°06'58", long 96°52'03", in NE 1/4 NW 1/4 sec.22, T.19 N., R.4 E., Payne County, Hydrologic Unit 11050003, on right bank downstream side of bridge on State Highway 51, 10.0 mi east of Stillwater, and at mile 10.0.

DRAINAGE AREA.--31 mi².

PERIOD OF RECORD.--March 1934 to current year.

REVISED RECORDS.--WSP 1211: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 828.28 ft above National Geodetic Vertical Datum of 1929. Prior to May 4, 1934, nonrecording gage at same site and datum. Prior to Nov. 9, 1982, gage 200 ft upstream at 10.00 ft higher datum.

REMARKS.--Records good.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 27, 1912, reached a stage of 16.6 ft at gage, based on floodmarks set by local resident at site 900 ft downstream.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft³/s.

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Dec. 20	0715	2,380	15.41	June 20	0145	4,550	20.00
June 6	0615	1,620	13.31	Aug. 4	1045	2,780	16.39
June 14	1715	1,810	13.88	Aug. 5	1015	4,230	19.43

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	13	e.44	1.6	1.6	1.9	e1.1	8.4	4.5	7.9	3.5	2.0
2	.00	1.5	e.42	1.8	1.5	1.9	e1.0	5.7	23	7.0	6.2	2.1
3	.00	.81	e.41	1.8	1.5	1.9	1.0	5.2	21	6.3	4.1	2.2
4	.00	.62	e.40	1.5	1.4	18	1.1	4.6	7.6	5.8	741	2.1
5	.00	.69	e.40	1.2	1.4	11	1.2	4.7	4.8	5.8	1210	1.9
6	.00	.83	.39	1.2	1.7	4.3	1.1	4.5	400	5.3	145	20
7	.00	.61	.39	1.1	1.8	2.8	1.0	4.1	28	4.9	52	3.0
8	.00	.68	.39	1.1	1.7	2.2	1.1	4.3	12	4.4	15	1.9
9	.00	.69	.48	1.0	1.6	1.7	1.2	4.2	14	4.0	8.0	1.7
10	.00	.87	.48	.87	1.8	1.2	1.2	8.1	97	3.8	5.6	1.4
11	.00	.73	.51	.85	2.5	e1.0	1.2	11	24	3.6	6.0	1.6
12	.00	.86	65	.85	10	e1.1	76	8.2	11	3.5	5.0	1.5
13	.00	1.1	6.9	1.1	6.6	e1.0	6.4	4.6	8.0	3.3	3.7	1.4
14	.00	1.3	1.3	2.2	26	e1.1	2.9	3.9	441	45	3.1	1.3
15	.00	3.8	.39	2.7	10	e1.0	2.2	3.6	95	7.8	3.0	1.3
16	.00	193	.40	2.2	3.9	e1.0	2.3	3.4	26	157	3.0	1.2
17	.00	88	.39	1.8	3.0	e1.1	4.0	5.0	13	27	2.9	1.1
18	.00	10	.39	1.8	2.2	e1.2	4.7	10	8.5	8.9	2.7	.98
19	.00	4.0	57	1.5	1.9	e1.2	18	5.2	80	5.9	2.8	.95
20	.00	2.9	1220	1.2	1.8	e1.2	7.3	5.6	1050	4.6	2.9	1.1
21	.00	e2.0	59	1.2	1.6	e1.1	3.0	7.4	41	4.4	2.8	1.5
22	.00	e1.6	37	1.2	1.5	e1.1	2.2	4.6	21	4.8	2.5	1.9
23	.00	e1.3	30	1.5	1.7	e1.2	2.0	3.7	14	4.2	2.3	1.8
24	.00	e1.0	7.3	1.8	1.8	e1.2	1.5	3.6	11	3.7	2.1	1.5
25	.00	e.80	3.7	1.7	2.3	e1.3	1.5	3.2	80	3.6	1.9	1.2
26	69	e.65	2.6	1.6	2.6	e1.3	1.6	3.1	24	3.4	24	1.1
27	1.9	e.55	2.0	1.5	2.2	e1.2	1.6	3.1	12	3.1	6.8	1.2
28	67	e.48	2.0	1.7	2.1	e1.2	124	3.6	10	3.1	2.4	1.1
29	4.1	e.44	1.6	1.8	2.0	e1.0	113	5.3	10	3.1	1.9	1.1
30	.65	e.42	1.4	1.5	---	e1.0	15	4.6	9.2	2.9	1.8	1.2
31	28	---	1.2	1.6	---	e1.1	---	3.7	---	2.8	1.9	---

e Estimated

ARKANSAS RIVER BASIN
07163000 COUNCIL CREEK NEAR STILLWATER, OK--Continued

99

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
TOTAL	170.65	335.23	1504.28	46.47	101.7	70.5	401.4	160.2	2600.6	360.9	2275.9	64.33
MEAN	5.50	11.2	48.5	1.50	3.51	2.27	13.4	5.17	86.7	11.6	73.4	2.14
MAX	69	193	1220	2.7	26	18	124	11	1050	157	1210	20
MIN	.00	.42	.39	.85	1.4	1.0	1.0	3.1	4.5	2.8	1.8	.95
AC-FT	338	665	2980	92	202	140	796	318	5160	716	4510	128

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 1992, BY WATER YEAR (WY)

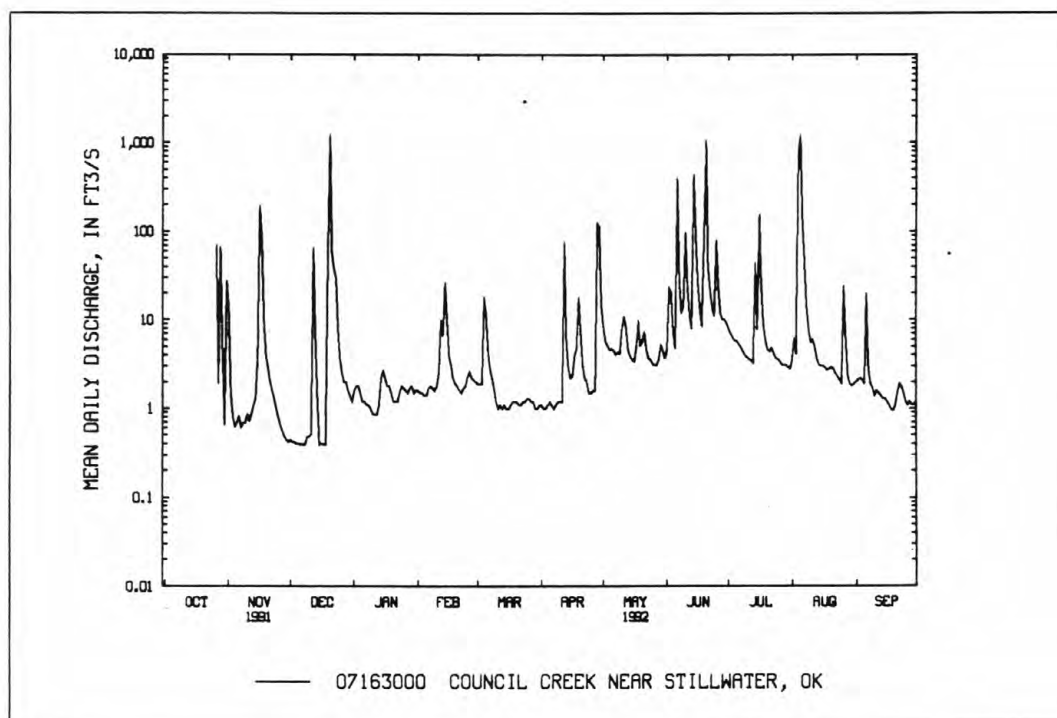
MEAN	16.0	9.23	5.00	4.00	8.41	14.8	17.3	25.6	19.2	8.35	6.22	10.9
MAX	429	186	60.8	34.8	122	133	158	202	95.8	110	129	113
(WY)	1960	1975	1985	1973	1985	1990	1942	1943	1957	1959	1942	1959
MIN	.000	.000	.000	.000	.000	.000	.000	.001	.037	.000	.000	.000
(WY)	1939	1937	1940	1940	1955	1940	1955	1940	1954	1934	1936	1939

SUMMARY STATISTICS	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1935-92
ANNUAL TOTAL	3159.37	8092.16	
ANNUAL MEAN	8.66	22.1	12.1
HIGHEST ANNUAL MEAN			48.9 1960
LOWEST ANNUAL MEAN			.68 1956
HIGHEST DAILY MEAN	1220 Dec 20	1220 Dec 20	11000 Oct 2 1959
LOWEST DAILY MEAN	.00 at times	.00 Oct 1-25	^a .00 Oct 1 1934
ANNUAL SEVEN-DAY MINIMUM	.00 Jul 12	.00 Oct 1	.00 Oct 1 1934
INSTANTANEOUS PEAK FLOW		4550 Jun 20	^b 25000 Oct 2 1959
INSTANTANEOUS PEAK STAGE		20.00 Jun 20	^c 18.9 Oct 2 1959
ANNUAL RUNOFF (AC-FT)	6270	16050	8800
10 PERCENT EXCEEDS	4.5	22	8.1
50 PERCENT EXCEEDS	1.2	2.0	.50
90 PERCENT EXCEEDS	.00	.42	.00

^aNo flow at time in most years.

^bFrom rating curve extended above 2,500 ft³/s on basis of slope-area measurement.

^cFrom floodmark, at former site and datum.



LOCATION.--Lat 36°09'05", long 96°15'05", in SW 1/4 SE 1/4 sec.4, T.19 N., R.10 E., Tulsa County, Hydro-logic Unit 11110101, in stair tower of intake structure near left end of Keystone Dam on Arkansas River, 8.5 mi west of Sand Springs, and at mile 538.8.

DRAINAGE AREA.--74,506 mi², of which 12,541 mi² is probably noncontributing.

PERIOD OF RECORD.--September 1964 to current year. Prior to October 1970, published as Keystone Reservoir near Sand Springs.

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

REMARKS.--Reservoir is formed by rolled-fill earth dam. Spillway is concrete ogee-type weir controlled by 18 40-foot taintor gates. Outlet works consist of nine sluices. Regulated storage began Sept. 11, 1964; power pool was first filled Nov. 20, 1964. Capacity, 1,738,000 acre-ft, at elevation 754.0 ft, top of flood control pool, 557,600 acre-ft, at elevation 723.0 ft, top of power pool, 260,900 acre-ft, at elevation 706.0 ft, minimum power pool. Figures given herein represent total contents. Reservoir is designed for flood control, power development, and conservation. Revised capacity table, based on survey in 1977, used since Oct. 1, 1983.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,886,000 acre-ft, Nov. 6, 1974, elevation, 754.86 ft; maximum elevation, 755.85 ft, Oct. 6, 1986; minimum since power pool was first filled, 297,800 acre-ft, Jan. 19, 1965, elevation, 705.07 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 902,400 acre-ft, Aug. 9, elevation 734.86 ft; minimum, 489,700 acre-ft, Oct. 23, elevation, 719.96 ft.

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

715	395,300	730	745,800
720	490,500	735	907,200
725	606,700	740	1,088,000

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	524800	530900	553000	665400	553700	533800	548100	565800	552000	887200	692300	660700
2	522100	534000	539800	652600	555700	533500	545300	562900	557800	894300	692600	652600
3	518100	536100	543000	649300	555100	537200	543500	559800	552000	882400	692900	646900
4	516300	536500	542800	649300	553400	540200	548100	555100	550900	863600	696600	643100
5	515900	539100	544900	649600	550700	545300	552500	551100	555700	843700	740800	639900
6	515900	535400	545300	643700	548300	548300	555500	550000	583200	820700	788600	631900
7	513400	529100	548800	634800	546000	550000	557600	550700	588900	796200	857000	624600
8	511600	525700	553200	622800	549500	547400	557800	550400	601200	770900	898000	623000
9	508000	524800	553200	607700	552700	547400	555700	550200	610600	747100	901700	626200
10	508200	525900	554800	593700	553700	535100	555100	553000	629500	732800	896000	627500
11	506000	523200	554400	590400	554600	532900	558300	555700	641500	723600	887500	626200
12	506200	524100	558300	587900	554100	527900	562900	554600	649300	715600	871300	620700
13	507100	519700	564300	577100	548300	528800	558100	553700	655300	716800	869600	612400
14	504100	519700	563100	559800	554400	532400	547600	552500	679300	718300	883400	604200
15	504100	518800	567500	548300	553400	536300	537200	550900	701200	724800	885800	595200
16	499600	532900	567200	541200	548100	537000	534900	549700	726600	731000	873600	588400
17	499300	546900	569900	545100	548100	540700	536500	549700	749800	739900	851700	582700
18	496300	552300	567000	554600	541800	542300	537000	555500	769100	740800	826200	578300
19	496100	558100	566500	564300	542100	543700	542800	559000	779500	743500	799300	580000
20	496300	564600	635300	573700	542800	543200	541600	556700	845400	740500	778300	579500
21	493300	580700	710100	574200	544200	549500	540200	554100	869900	734300	764800	575900
22	493100	593700	777300	573300	548100	556400	541800	552700	872600	727800	752600	566500
23	489700	600900	798400	570600	551600	561000	553400	548300	865600	719100	739300	560500
24	491600	604200	788600	566500	549300	560700	551800	545100	854000	712700	730100	556900
25	491400	596900	770300	569900	544200	556400	549300	538400	844100	712700	725700	554400
26	500400	586200	754400	573500	532900	553900	546900	538100	836200	709800	710700	552700
27	504100	572500	743200	570800	525000	548800	546000	534900	842700	704400	705800	551100
28	519000	560200	729800	567200	525900	554100	547400	542500	855300	702900	703200	549700
29	519700	556700	714200	562400	530200	560500	555100	546700	859000	702400	697800	552300
30	520600	557400	699200	559300	---	552700	565800	550700	872300	697200	688200	553200
31	527900	---	681500	556400	---	552000	---	555500	---	692300	675700	---

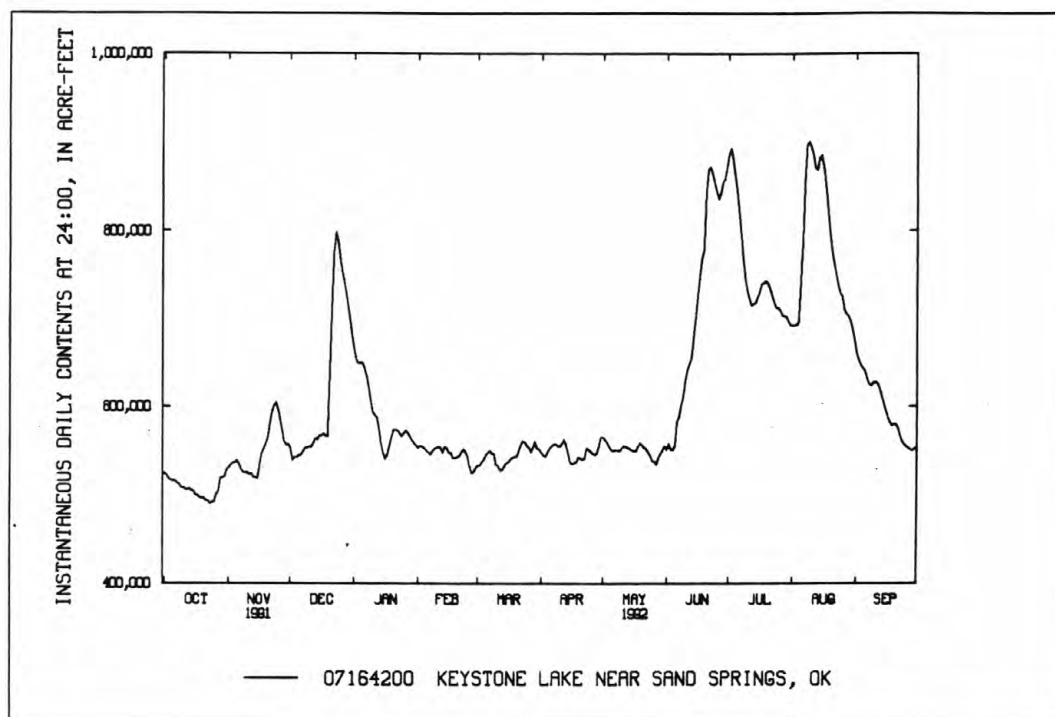
ARKANSAS RIVER BASIN
07164200 KEYSTONE LAKE NEAR SAND SPRINGS, OK--Continued

101

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MAX	527900	604200	798400	665400	555700	561000	565800	565800	872600	894300	901700	660700
MIN	489700	518800	539800	541200	525000	527900	534900	534900	550900	692300	675700	549700
(+)	721.71	722.99	727.79	722.95	721.81	722.76	723.34	722.91	733.97	728.17	727.58	722.81
(++)	+4,300	+29,500	+124,100	-125,100	-26,200	+21,800	+13,800	-10,300	+316,800	-180,000	-16,600	-122,500
CAL YR 1991	MAX 798400		MIN 489700		(++) 142,700							
WTR YR 1992	MAX 901700		MIN 489700		(++) 29,600							

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

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



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 National Geodetic Vertical Datum of 1929 (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 below 5.0 ft gage height and good above. 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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3350	1440	3140	13000	3640	999	e4000	2310	750	21700	6170	11500
2	2340	2450	7600	12700	1470	1940	4700	4370	5790	21700	e6000	11600
3	e2000	1620	2460	7310	2920	1640	1790	e4000	6290	21600	e6000	11600
4	3080	1370	429	4320	4340	1790	1510	e4100	8960	21600	e12000	11600
5	2540	619	1510	5280	2070	2480	333	4010	7220	21400	21300	11600
6	1680	1270	991	6320	3910	2380	616	2100	2940	21200	21600	11600
7	e1120	e3100	1310	7750	2250	4100	846	503	6260	21100	21900	11600
8	e1400	2470	362	9880	1290	4370	1230	1360	9890	21000	22000	11000
9	e1800	1420	213	10800	227	4730	2470	1710	5450	20400	22100	9860
10	2890	987	1490	9830	1070	5760	1330	1070	7570	16800	22000	9920
11	2220	451	513	6040	2930	5370	2090	917	5880	11800	22500	9780
12	2300	1220	1440	4370	3620	e2500	e1000	2700	7560	11900	22100	9790
13	e1500	e1900	2770	e9200	4420	3820	e5500	1710	6700	11800	22200	9770
14	e1200	1770	2620	11500	e3600	1610	8970	e3000	7740	8280	22300	9740
15	e1500	1050	3130	9030	4600	893	e7000	e3300	13300	7060	22300	9720
16	2190	1200	2930	7400	e3500	1210	5550	3160	12700	8370	22300	8780
17	e1500	923	2610	4030	e3800	1540	4460	e2700	15500	9970	22100	7090
18	e2000	391	3840	1660	e4000	1860	2820	e3000	21400	11700	21700	7040
19	e2000	e4500	3890	294	1500	1450	4160	e4500	20500	11800	21600	e3500
20	e1200	e7000	6340	161	1030	1520	3940	5850	e10000	11900	20100	e3500
21	1740	4500	4760	e3600	1180	1840	3950	6200	22100	11800	12500	e3900
22	e1500	3990	11700	4390	1520	1190	3540	5550	22100	11400	11400	e6000
23	2070	e3900	15700	4440	1240	1480	789	6010	21900	11600	11400	5010
24	3290	e3600	22700	4050	3230	3560	e3000	5910	22000	11800	10900	e3700
25	2440	e6500	22800	1690	e3900	5590	4830	7390	22200	e6900	7140	e3000
26	3280	e8000	20400	262	6040	6440	3730	3440	21700	7280	11100	3060
27	1670	e8300	12600	e3300	6710	5980	3790	e3800	21600	e8500	11400	e2600
28	2370	7800	12600	3880	3540	3200	3550	1460	21700	6950	11400	e3000
29	3780	6690	12700	3440	1460	1390	2820	101	24300	e6300	11500	577
30	2600	2920	12600	4080	---	4250	231	87	22000	6030	11500	97
31	2580	---	12800	4770	---	e3800	---	84	---	e5900	11500	---
TOTAL	67130	93351	210948	178777	85007	90682	94545	96402	404000	407540	502010	221534
MEAN	2165	3112	6805	5767	2931	2925	3151	3110	13470	13150	16190	7384
MAX	3780	8300	22800	13000	6710	6440	8970	7390	24300	21700	22500	11600
MIN	1120	391	213	161	227	893	231	84	750	5900	6000	97
AC-FT	133200	185200	418400	354600	168600	179900	187500	191200	801300	808400	995700	439400

e Estimated

ARKANSAS RIVER BASIN
07164500 ARKANSAS RIVER AT TULSA, OK--Continued

103

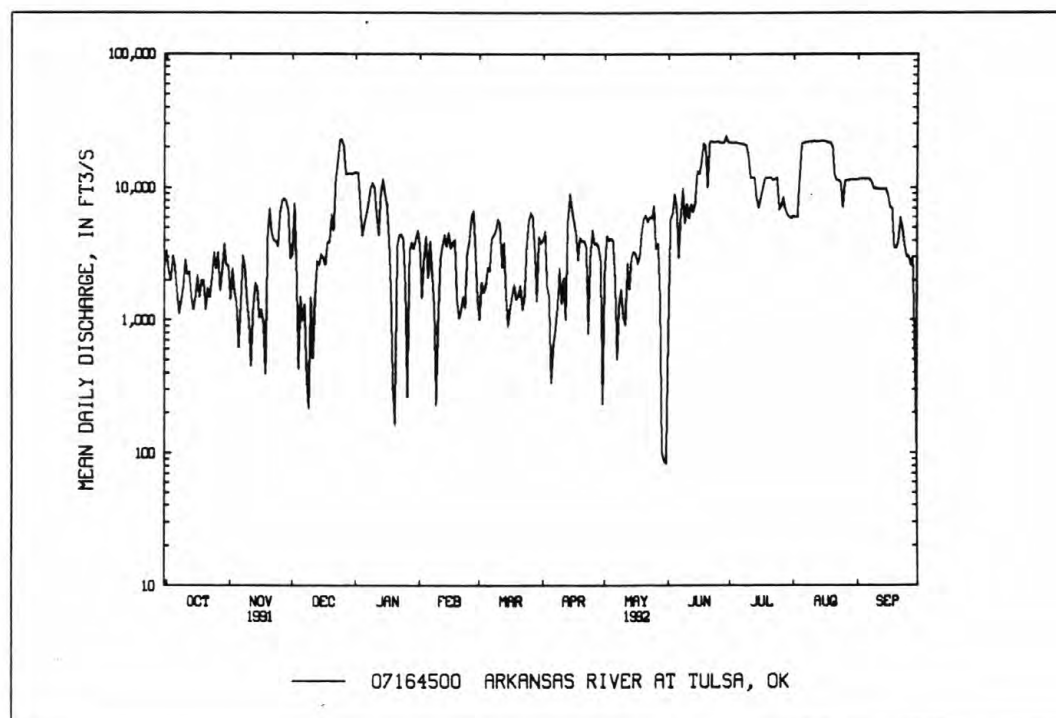
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7901	6653	4256	4514	4840	10090	11710	11130	12820	7630	4195	5496
MAX	72720	39390	12260	14940	19450	42890	44460	26890	38930	19450	16190	23280
(WY)	1987	1975	1974	1988	1987	1987	1973	1973	1975	1987	1992	1989
MIN	491	457	582	483	494	490	557	881	2595	1314	1129	1219
(WY)	1965	1983	1983	1967	1967	1977	1981	1967	1966	1991	1980	1970

SUMMARY STATISTICS	1991 CALENDAR YEAR		1992 WATER YEAR		WATER YEARS 1965-92	
ANNUAL TOTAL	962296		2451926			
ANNUAL MEAN	2636		6699		^a 7606	
HIGHEST ANNUAL MEAN					22840	
LOWEST ANNUAL MEAN					1813	
HIGHEST DAILY MEAN	22800		Dec 25		261000	
LOWEST DAILY MEAN	72		Jun 14		^b 33	
ANNUAL SEVEN-DAY MINIMUM	442		Mar 23		277	
INSTANTANEOUS PEAK FLOW			26900		307000	
INSTANTANEOUS PEAK STAGE			7.35		25.21	
ANNUAL RUNOFF (AC-FT)	1909000		4863000		5510000	
10 PERCENT EXCEEDS	5590		20600		19300	
50 PERCENT EXCEEDS	1740		4040		3750	
90 PERCENT EXCEEDS	364		1190		619	

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

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



07164500 ARKANSAS RIVER AT TULSA, OK--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1977 to July 1985, October 1987 to current year.

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

INSTRUMENTATION.--Water-quality monitor since March 1977.

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

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. Samples were collected bimonthly 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, 7,820 microsiemens, Feb. 16, 1978; minimum, 450 microsiemens, Apr. 26, 27, 28, 1990, Dec. 20, 1992.

WATER TEMPERATURE: Maximum, 33.5°C, Aug. 27, 1990, July 7, 1991; minimum, 0.0°C on many days during winter periods.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY	AGENCY	DIS-		PH				BARO-		
		COL-	ANA-	CHARGE,	SPE-	WATER				METRIC		OXYGEN,
		LECTING	LYZING	INST.	CIFIC	WHOLE				PRES-		DIS-
		SAMPLE	SAMPLE	(CUBIC	CON-	FIELD	TEMPER-	TEMPER-	TUR-	SURE	OXYGEN,	(PER-
		(CODE	(CODE	FEET	DUCT-	(STAND-	ATURE	ATURE	BID-	(MM	DIS-	CENT
NUMBER)	NUMBER)	PER	ANCE	(US/CM	AIR	WATER	ITY	OF	SOLVED	SATUR-		
(00027)	(00028)	(00061)	(00095)	(00400)	(00020)	(00010)	(00076)	(00025)	(00300)	(00301)		
NOV												
18...	1315	1028	80020	231	780	8.0	21.5	14.5	55	750	9.8	98
DEC												
17...	1300	1028	80020	1250	*2130	8.1	10.0	9.0	7.0	760	11.5	100
FEB												
03...	1415	1028	80020	3840	3130	8.0	14.0	9.5	22	755	11.2	100
APR												
07...	1330	1028	80020	469	2720	8.4	13.0	14.0	2.2	750	11.6	115
AUG												
06...	1545	1028	80020	20700	1410	8.0	25.0	27.0	5.6	750	8.2	105

	COLI- FORM, FECAL, 0.7 UM-MF	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER	HARD- NESS TOTAL (MG/L AS	HARD- NESS NONCARB DISSOLV FLD. AS	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	POTAS- SIUM, DIS- TION SOLVED (MG/L AS K)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3)	
DATE	(COLS./ 100 ML) (31625)	(PER 100 ML) (31673)	(AS CACO3) (00900)	(AS CACO3) (00904)	(AS (MG/L AS CA) (00915)	(AS (MG/L AS MG) (00925)	(AS (MG/L AS NA) (00930)	(00932)	(00931)	(00935)	(00453)	(00452)

NOV	18...	3600	5900	120	38	33	8.1	86	60	3	8.0	95	0
DEC	17...	210	K36	250	120	65	20	330	74	9	7.4	154	0
FEB	03...	200	110	300	150	77	25	490	78	12	1.6	175	0
APR	07...	54	43	270	140	68	25	420	76	11	11	166	1
AUG	06...	54	100	200	75	56	15	200	67	6	6.8	155	0

*SPECIFIC CONDUCTANCE, LAB (US/CM)

ARKANSAS RIVER BASIN

105

07164500 ARKANSAS RIVER AT TULSA, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	ALKA- LITY WAT DISS TOT IT FIELD (MG/L AS CACO3) AS (39086)	DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00620)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)
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NOV												
18...	78	47	130	1.6	6.1	390	369	0.53	243	0.230	0.260	1.2
DEC												
17...	126	120	480	0.80	3.1	1120	1110	1.52	3780	--	0.490	2.2
FEB												
03...	143	170	810	1.0	6.6	1640	1670	2.23	17000	--	0.910	4.0
APR												
07...	139	140	670	2.1	2.4	1370	1420	1.86	1730	--	--	--
AUG												
06...	127	89	310	0.30	7.9	782	765	1.06	43700	0.470	0.460	2.0

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71845)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)
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NOV												
18...	0.040	0.020	0.07	0.270	0.280	0.080	0.060	0.10	0.08	0.72	0.80	1.1
DEC												
17...	0.070	0.060	0.20	--	0.550	0.150	0.140	0.19	0.18	0.45	0.60	--
FEB												
03...	0.050	0.030	0.10	--	0.940	0.140	0.130	0.18	0.17	0.46	0.60	--
APR												
07...	0.020	<0.010	--	--	0.400	0.030	0.020	0.04	0.03	0.87	0.90	--
AUG												
06...	0.020	0.020	0.07	0.490	0.480	0.090	0.080	0.12	0.10	0.41	0.50	0.99

DATE	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHATE, TOTAL (MG/L AS PO4) (00650)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTH TOTAL (MG/L AS P) (70507)	PHOS- PHORUS ORTH DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTH DIS- SOLVED (MG/L AS PO4) (00660)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
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NOV											
18...	4.7	0.170	0.31	0.060	0.100	0.070	0.21	100	66	<3	110
DEC											
17...	--	0.080	0.21	0.060	0.070	0.070	0.21	<10	200	1	10
FEB											
03...	--	0.170	0.43	0.110	0.140	0.100	0.31	40	200	<1	30
APR											
07...	--	0.130	0.21	0.070	0.070	0.070	0.21	<10	100	<1	<10
AUG											
06...	4.4	0.170	0.43	0.150	0.140	0.130	0.40	<10	110	<3	7

ARKANSAS RIVER BASIN

07164500 ARKANSAS RIVER AT TULSA, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	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)	SEDI- MENT, DIS- SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- SUS- PENDEDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV											
18...	5	32	<10	1	<1	<1.0	280	<6	51	32	88
DEC											
17...	10	10	2	2	<1	<1.0	750	11	13	44	66
FEB											
03...	10	30	2	1	<1	<1.0	900	14	302	3130	100
APR											
07...	20	<10	3	2	1	<1.0	910	13	286	362	100
AUG											
06...	9	8	<10	1	<1	<1.0	570	8	1470	81900	97

ARKANSAS RIVER BASIN

107

07164500 ARKANSAS RIVER AT TULSA, OK--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	2510	2510	2400	1750	1510	1610	2110	1920	2000	1690	1640	1660
2	2440	2100	2260	1980	1410	1840	2070	1890	2020	1660	1550	1600
3	2470	2210	2340	1940	1870	1910	2010	1860	1920	1640	1540	1590
4	2390	2160	2320	2030	1860	1930	1900	1790	1850	1630	1540	1580
5	2370	2130	2240	---	---	---	2010	1770	1880	1620	1540	1580
6	2310	2110	2170	---	---	---	1890	1800	1840	1640	1540	1580
7	2260	2050	2190	2220	2070	2110	1890	1800	1840	1870	1540	1610
8	2300	2110	2240	2140	2060	2100	1890	1800	1860	2020	1640	1810
9	2320	2100	2240	2150	2110	2130	1880	1800	1840	1910	1470	1670
10	2310	2100	2220	---	---	---	2060	1800	1970	1900	1640	1730
11	2260	2020	2110	---	---	---	2010	1820	1940	2080	1660	1800
12	2100	2020	2080	---	---	---	2070	1800	1920	2180	2090	2130
13	2080	2010	2060	---	---	---	2030	1820	1920	2170	1880	2040
14	2110	1960	2010	2070	1850	1900	2080	1810	1930	2100	1740	1890
15	2210	2080	2130	1860	1800	1840	1890	1800	1840	2190	1720	1960
16	2140	2050	2140	---	---	---	2050	1800	1860	2380	1720	2000
17	2200	2140	2180	---	---	---	2010	1680	1830	2490	2210	2350
18	2210	2120	2170	---	---	---	1850	1610	1730	2480	2090	2280
19	2260	2120	2170	1870	1750	1780	1870	1800	1830	2270	2000	2120
20	2210	2080	2150	2100	1680	1900	1870	450	1130	2090	1820	2030
21	2120	1960	2060	2120	2040	2090	2030	1220	1590	2880	1800	2250
22	2150	2050	2120	2140	2080	2110	2050	1850	2000	3020	2640	2900
23	2150	2050	2110	2130	2070	2110	2090	1860	1980	2850	2450	2650
24	2160	2050	2130	2110	2070	2100	2050	1830	1920	2690	2490	2650
25	2140	2010	2080	2110	2070	2100	2000	1800	1850	2680	2460	2640
26	2000	1560	1710	2130	2080	2110	1850	1490	1700	2590	2420	2490
27	1650	1540	1600	2200	1980	2110	1680	1400	1530	---	---	---
28	---	---	---	2120	2040	2080	1820	1400	1490	---	---	---
29	2000	1700	1810	2150	1970	2100	1630	1400	1480	---	---	---
30	2000	1880	1960	2160	1980	2030	1670	1430	1550	---	---	---
31	1980	1770	1850	---	---	---	1680	1430	1530	---	---	---
MONTH	---	---	---	---	---	---	2110	450	1790	---	---	---

ARKANSAS RIVER BASIN

07164500 ARKANSAS RIVER AT TULSA, OK--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	2690	2470	2630	2370	2250	2320	---	---	---
2	---	---	---	3050	2400	2630	2330	2240	2280	2210	2060	2100
3	---	---	---	3080	3000	3040	2720	2220	2310	2260	2020	2120
4	---	---	---	3060	2470	2880	2890	2310	2420	2370	2230	2280
5	---	---	---	2880	2600	2730	2480	2330	2370	2350	2280	2320
6	---	---	---	3040	2410	2740	2610	2240	2310	2320	2240	2280
7	---	---	---	3020	2600	2840	2620	2280	2400	2270	2170	2220
8	---	---	---	3050	2600	2730	2760	2470	2590	2290	2170	2270
9	---	---	---	3090	2610	2900	2850	2620	2750	2350	2230	2320
10	---	---	---	2630	2040	2340	2850	2810	2830	2390	2300	2370
11	---	---	---	2280	2060	2170	2860	2810	2830	---	---	---
12	---	---	---	2770	2200	2350	---	---	---	2190	2080	2140
13	---	---	---	2840	2360	2530	3230	2510	2800	2190	2040	2120
14	---	---	---	2790	2420	2520	2790	2550	2700	2140	2040	2090
15	---	---	---	2670	2350	2450	2790	2560	2650	2140	2050	2100
16	---	---	---	3530	2250	2530	2580	2500	2540	2150	1910	2100
17	---	---	---	4170	2540	2830	2720	2380	2430	2160	2070	2120
18	---	---	---	3260	2350	2550	2640	2440	2500	2240	1960	2100
19	---	---	---	2440	2370	2400	---	---	---	2220	1950	2080
20	---	---	---	2410	2330	2370	---	---	---	2340	2180	2260
21	---	---	---	2440	2340	2410	2420	2210	2310	2340	2250	2300
22	---	---	---	2430	2330	2400	2480	2240	2340	2280	2150	2230
23	---	---	---	2370	2240	2300	2680	2410	2480	2200	2090	2160
24	3090	2430	2660	2500	2260	2440	2490	2310	2400	2140	2050	2100
25	2690	2460	2610	2500	2350	2460	2410	2310	2380	2130	2020	2070
26	2670	2400	2540	2400	2270	2320	2360	2240	2280	2140	2070	2100
27	2810	2480	2620	2390	2280	2330	2310	2240	2270	2160	2070	2120
28	2820	2440	2550	2410	2340	2380	---	---	---	2140	2020	2030
29	2820	2640	2690	2410	2290	2320	---	---	---	---	---	---
30	---	---	---	2710	2220	2330	---	---	---	2110	1920	2020
31	---	---	---	2300	2230	2260	---	---	---	---	---	---
MONTH	---	---	---	4170	2040	2520	---	---	---	---	---	---

ARKANSAS RIVER BASIN

109

07164500 ARKANSAS RIVER AT TULSA, OK--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	1800	1420	1510	1620	1530	1570	---	---	---
2	2590	1900	2300	1690	1370	1520	1670	1550	1590	---	---	---
3	2530	1840	2100	1390	1260	1320	1660	1520	1590	---	---	---
4	2580	2340	2510	1350	1270	1300	1640	1360	1520	---	---	---
5	2590	2440	2530	1440	1270	1320	1590	1320	1460	---	---	---
6	2570	1900	2270	1320	1230	1270	1550	1360	1470	---	---	---
7	2570	1580	2050	1270	1240	1260	1640	1490	1550	---	---	---
8	2610	2560	2590	1260	1200	1240	---	---	---	---	---	---
9	2650	2500	2570	1250	1150	1230	---	---	---	---	---	---
10	2570	2370	2480	1250	1110	1240	1180	991	1110	---	---	---
11	2530	2320	2410	1270	1120	1220	1080	961	1020	1190	1150	1180
12	2470	2390	2430	1280	1120	1250	1130	1090	1110	1210	1160	1180
13	2470	2360	2430	1280	1140	1230	1100	1080	1090	1240	1190	1220
14	2440	981	2080	1280	1120	1230	1120	1070	1100	1220	1180	1200
15	2310	1780	2140	1300	1150	1220	1110	1050	1080	1190	1160	1170
16	2300	2190	2230	1250	1110	1200	1090	991	1030	1180	1150	1170
17	2220	2110	2170	1300	1110	1200	1000	950	980	1190	1160	1180
18	---	---	---	1380	1260	1310	1040	1010	1020	1210	1170	1190
19	---	---	---	1520	1330	1450	1060	1010	1030	1160	1110	1140
20	---	---	---	1600	1310	1530	1080	1040	1060	1270	1140	1200
21	---	---	---	1610	1420	1530	---	---	---	1240	1160	1220
22	2010	1970	1990	1840	1610	1710	---	---	---	1200	1160	1180
23	1980	1840	1920	1840	1790	1820	---	---	---	1170	1110	1140
24	1860	1760	1810	1840	1770	1800	---	---	---	1220	1170	1190
25	1850	1780	1800	1880	1710	1790	---	---	---	1210	1170	1190
26	1820	1630	1700	1860	1660	1780	---	---	---	1190	1070	1170
27	1800	1690	1750	1750	1660	1710	---	---	---	1220	1180	1200
28	1850	1630	1740	1710	1570	1630	---	---	---	1280	1190	1220
29	---	---	---	1700	1580	1620	---	---	---	1280	1240	1260
30	1490	1390	1430	1710	1610	1640	---	---	---	1290	1280	1290
31	---	---	---	1710	1530	1610	---	---	---	---	---	---
MONTH	---	---	---	1880	1110	1440	---	---	---	---	---	---

ARKANSAS RIVER BASIN

07164500 ARKANSAS RIVER AT TULSA, OK--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	22.5	20.0	21.5	9.5	4.0	6.5	8.0	4.5	6.5	7.5	7.0	7.0
2	24.5	21.5	23.0	6.5	3.5	5.5	8.5	7.0	8.0	7.0	6.0	6.5
3	24.5	21.0	22.5	5.5	2.5	4.0	8.0	6.5	7.5	7.5	5.0	6.0
4	22.0	18.5	20.5	---	---	---	7.5	5.5	6.5	8.0	6.0	6.5
5	19.0	16.5	17.5	---	---	---	8.5	6.0	7.5	8.5	6.5	7.5
6	19.5	15.0	17.0	---	---	---	10.0	7.0	9.0	8.0	7.0	7.0
7	19.5	15.0	17.0	12.0	6.0	8.5	14.0	10.0	11.5	8.5	6.5	7.5
8	20.0	17.0	18.5	9.5	7.5	9.0	16.0	13.5	14.5	7.5	6.0	7.0
9	22.0	18.0	19.5	---	---	---	14.5	12.0	13.0	7.0	5.0	6.0
10	21.0	19.0	20.0	---	---	---	12.0	9.0	10.5	7.5	5.0	6.0
11	23.5	19.0	21.0	---	---	---	12.5	10.5	11.5	7.0	5.0	6.0
12	22.0	19.0	20.5	---	---	---	13.5	12.0	13.0	7.0	6.0	6.5
13	21.5	18.5	20.0	---	---	---	12.5	9.0	10.0	6.5	5.0	5.5
14	19.5	16.5	18.0	14.0	12.0	13.0	10.5	7.5	8.5	6.5	5.0	5.5
15	18.5	16.5	17.5	15.0	13.5	14.0	9.5	7.0	8.0	5.5	3.5	4.5
16	20.0	16.0	17.5	---	---	---	9.5	7.0	8.5	5.5	3.0	4.5
17	20.0	17.0	18.5	---	---	---	9.0	7.5	8.0	5.5	4.0	4.5
18	22.0	18.0	20.0	---	---	---	8.5	6.5	7.5	4.5	3.0	3.5
19	19.0	15.0	16.0	14.0	11.5	12.5	8.0	6.0	7.0	5.5	2.0	3.5
20	17.5	15.0	16.0	12.5	11.0	11.5	7.5	5.0	6.0	7.0	2.0	4.5
21	19.5	14.5	17.0	12.0	9.5	11.0	8.0	7.0	7.5	8.5	3.0	5.5
22	20.5	17.5	19.0	11.5	9.5	10.5	8.5	8.0	8.0	6.5	5.0	5.5
23	24.0	20.0	21.5	9.0	6.5	8.0	8.5	7.0	8.0	6.5	4.0	5.0
24	22.5	20.0	21.0	10.0	8.0	9.0	8.5	7.0	7.5	6.0	3.5	4.5
25	20.5	17.0	18.5	10.0	7.5	9.0	8.0	6.0	7.0	7.5	4.0	5.5
26	19.5	17.5	18.5	11.0	8.0	9.5	7.5	7.0	7.0	---	---	---
27	21.5	19.0	20.0	11.0	10.0	10.5	7.0	6.5	6.5	---	---	---
28	---	---	---	14.0	10.5	12.0	6.5	6.0	6.5	---	---	---
29	---	---	---	14.0	10.5	12.0	7.0	6.0	6.5	---	---	---
30	15.0	10.0	12.5	10.5	7.0	9.0	7.5	6.0	7.0	---	---	---
31	12.5	9.0	11.0	---	---	---	7.5	6.5	7.0	---	---	---
MONTH	---	---	---	---	---	---	16.0	4.5	8.4	---	---	---

ARKANSAS RIVER BASIN

111

07164500 ARKANSAS RIVER AT TULSA, OK--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

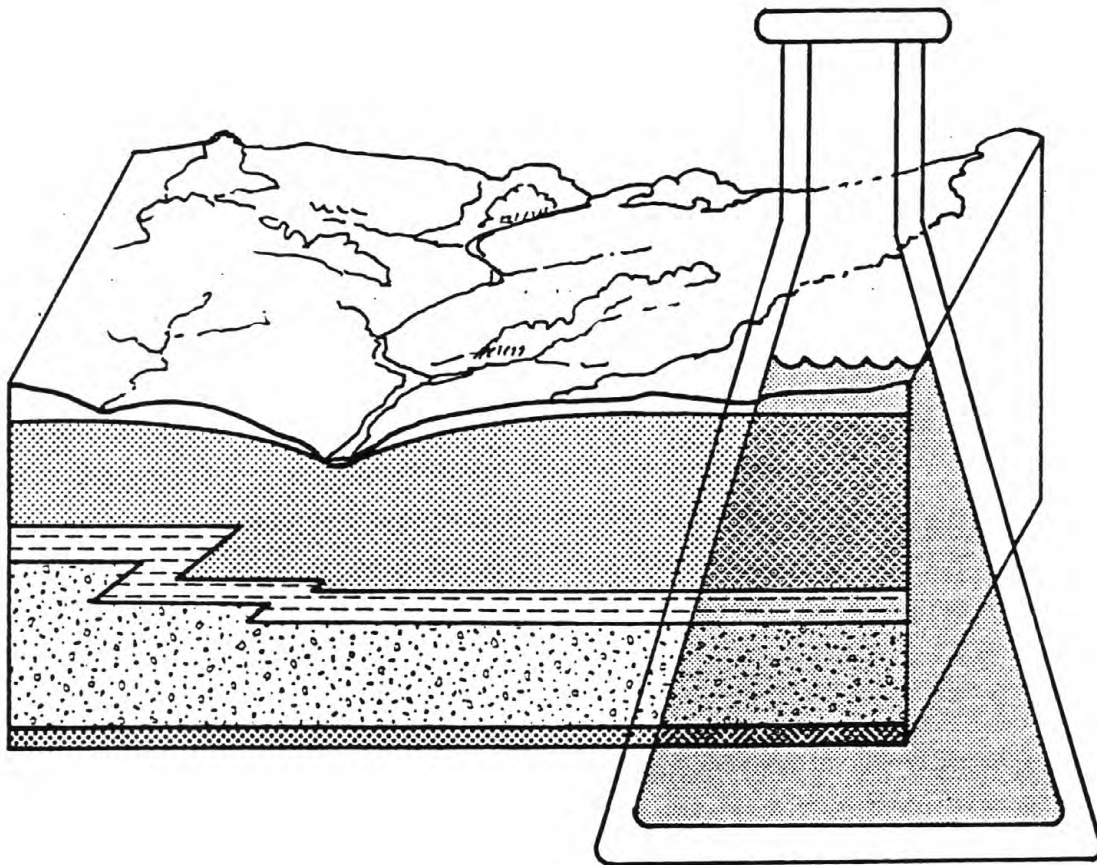
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	16.5	11.0	13.5	---	---	---	25.5	20.0	21.5
2	---	---	---	18.5	13.0	15.0	---	---	---	19.5	17.5	18.5
3	---	---	---	15.5	13.0	14.5	---	---	---	22.5	16.0	18.5
4	---	---	---	16.5	14.5	15.5	---	---	---	22.5	16.5	19.0
5	---	---	---	15.5	11.0	13.5	---	---	---	21.5	17.0	19.0
6	---	---	---	18.0	13.0	15.0	---	---	---	21.0	15.5	18.0
7	---	---	---	15.5	11.0	13.0	---	---	---	20.5	16.0	18.5
8	---	---	---	14.5	11.0	12.5	---	---	---	21.0	17.0	19.0
9	---	---	---	14.5	10.5	12.5	---	---	---	21.5	17.0	19.5
10	---	---	---	11.5	7.0	9.5	---	---	---	22.0	18.0	20.0
11	---	---	---	12.5	8.5	10.5	---	---	---	21.0	19.0	19.5
12	---	---	---	12.5	10.5	11.5	---	---	---	23.5	17.5	20.5
13	---	---	---	15.0	9.5	11.5	---	---	---	25.0	19.5	22.0
14	---	---	---	16.0	11.5	13.5	---	---	---	24.0	20.5	22.0
15	---	---	---	17.0	12.0	14.0	---	---	---	26.0	19.5	21.5
16	---	---	---	17.5	12.0	14.0	---	---	---	23.0	19.0	20.5
17	---	---	---	17.0	14.0	15.5	---	---	---	21.0	19.5	20.0
18	---	---	---	19.0	13.5	16.5	19.0	15.5	17.0	21.5	19.0	20.0
19	---	---	---	14.5	10.5	12.5	16.5	15.5	16.0	22.0	19.5	20.5
20	---	---	---	16.0	10.0	13.0	15.5	14.0	15.0	22.0	19.5	21.0
21	---	---	---	15.0	12.0	14.0	17.0	12.5	14.5	24.0	19.5	21.5
22	---	---	---	13.5	9.5	11.5	19.5	14.0	16.5	23.5	19.5	21.5
23	---	---	---	15.0	8.5	11.5	21.0	16.0	18.5	22.0	20.5	21.0
24	---	---	---	17.5	11.0	13.5	22.0	17.0	20.0	20.0	19.0	19.5
25	7.5	6.0	6.5	16.0	14.0	15.0	19.0	14.5	16.5	22.0	19.0	20.5
26	9.5	6.0	7.5	18.5	13.0	16.0	19.0	14.5	16.5	20.5	18.0	19.5
27	10.5	8.0	9.5	---	---	---	19.5	14.0	16.5	19.0	17.5	18.5
28	13.0	7.5	10.0	---	---	---	17.0	14.0	15.0	17.5	15.0	16.0
29	14.0	10.0	12.0	---	---	---	19.5	14.5	16.5	19.0	14.5	17.0
30	---	---	---	---	---	---	22.5	17.5	20.0	23.0	16.5	20.0
31	---	---	---	---	---	---	---	---	---	20.5	18.5	19.5
MONTH	---	---	---	---	---	---	---	---	---	26.0	14.5	19.8

ARKANSAS RIVER BASIN

07164500 ARKANSAS RIVER AT TULSA, OK--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	19.5	18.0	19.0	27.0	24.0	25.5	27.5	25.0	26.5	25.5	24.5	25.0
2	20.0	19.0	19.5	27.5	25.0	26.0	30.0	26.0	27.5	25.5	24.0	25.0
3	24.0	18.5	20.5	28.0	25.0	26.5	28.0	26.5	27.5	27.5	24.0	25.5
4	22.5	19.5	21.0	28.5	25.5	27.0	28.0	25.0	26.5	27.0	24.0	25.5
5	21.5	20.0	20.5	29.0	25.5	27.0	28.5	26.0	27.5	27.0	24.0	25.5
6	24.0	20.5	22.0	29.0	26.0	27.5	28.0	26.5	27.0	26.5	23.5	25.0
7	24.5	21.5	23.0	28.5	26.0	27.0	29.0	27.0	27.5	27.0	24.0	25.5
8	23.5	20.0	21.5	29.0	26.0	27.5	---	---	---	26.0	24.0	25.0
9	24.0	21.5	22.5	29.0	26.0	27.5	---	---	---	27.5	24.5	26.0
10	24.0	20.5	22.0	29.5	26.0	28.0	28.5	26.0	27.0	25.5	23.5	24.5
11	26.5	21.0	23.0	28.5	26.5	27.5	27.0	25.0	26.0	26.0	23.0	24.5
12	23.5	21.0	22.5	29.5	26.5	27.5	28.0	25.5	26.5	26.0	23.5	24.5
13	25.5	21.0	23.0	29.5	26.0	27.5	27.5	25.5	26.5	26.5	23.5	25.0
14	22.5	20.5	21.5	29.5	26.0	27.5	27.5	25.0	26.0	27.0	24.0	25.5
15	23.0	20.5	21.5	30.0	26.5	28.0	27.5	25.0	26.0	27.0	24.0	25.5
16	24.0	21.0	22.5	28.0	25.5	26.5	27.0	25.0	26.0	26.5	24.0	25.5
17	24.0	21.5	22.5	29.5	25.5	27.5	27.0	24.5	26.0	27.0	23.5	25.5
18	---	---	---	29.5	26.0	27.5	26.0	25.0	25.5	25.5	23.0	24.5
19	---	---	---	29.5	25.5	27.5	27.5	25.5	26.5	24.0	22.0	22.5
20	---	---	---	28.5	26.5	27.5	27.5	25.0	26.5	27.0	23.0	24.5
21	---	---	---	29.0	26.0	27.5	27.5	24.5	26.0	27.0	24.0	25.0
22	25.5	22.0	23.5	29.5	26.5	28.0	27.5	24.5	26.0	25.0	23.0	24.0
23	26.0	23.0	24.5	30.0	26.5	28.0	27.5	24.5	26.0	24.5	21.5	23.0
24	26.5	23.0	24.5	30.0	26.5	28.0	27.5	24.5	26.0	24.0	20.5	22.5
25	25.0	23.5	24.5	30.0	27.0	28.5	28.0	24.5	26.0	23.0	21.0	22.0
26	26.0	24.0	24.5	29.5	27.0	28.5	26.5	25.0	25.5	23.0	21.0	22.0
27	27.0	23.5	25.0	29.5	27.0	28.0	26.0	24.0	25.0	25.0	20.5	22.5
28	26.0	24.0	25.0	30.5	26.5	28.0	27.0	23.5	25.0	24.0	21.0	22.5
29	25.5	23.5	24.5	30.5	26.0	28.0	27.0	24.0	25.5	22.0	19.5	21.0
30	26.5	24.0	25.0	30.5	26.5	28.0	26.5	24.0	25.0	22.5	19.0	20.5
31	---	---	---	29.5	26.0	28.0	25.5	24.5	25.0	---	---	---
MONTH	---	---	---	30.5	24.0	27.5	---	---	---	27.5	19.0	24.2



ARKANSAS RIVER BASIN

07164600 JOE CREEK AT 61ST STREET AT TULSA, OK

LOCATION.--Lat 36°04'32", long 95°57'37", in SE 1/4 SE 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 National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair.

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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	11	25	15	2.6	4.5	28	3.6	30	3.9	3.4	.73
2	3.3	4.6	62	4.3	2.6	4.5	8.3	3.0	337	73	2.5	.86
3	3.5	5.4	11	3.5	2.6	4.5	6.9	2.6	22	6.4	2.0	1.1
4	3.4	5.4	5.6	3.0	2.2	89	6.3	2.6	11	2.4	50	.91
5	3.9	3.2	4.4	3.0	2.0	9.9	6.8	2.6	9.1	52	413	.90
6	3.8	3.0	3.5	2.7	2.0	3.6	10	2.6	250	2.3	2.4	2.6
7	3.5	2.5	3.7	2.6	2.0	3.3	12	2.6	9.8	2.3	1.8	.60
8	4.0	3.2	3.7	2.9	2.0	3.0	11	2.6	7.1	2.3	1.4	.60
9	3.7	2.3	3.0	2.4	2.0	5.9	11	3.0	7.1	2.3	1.3	.60
10	2.6	1.9	3.0	2.3	25	2.4	17	4.0	176	2.3	1.3	165
11	2.6	1.7	20	2.3	38	2.6	129	764	6.9	2.3	158	5.1
12	2.6	1.7	63	2.6	31	2.6	136	13	6.3	2.5	1.7	.90
13	2.7	1.7	4.5	22	4.5	2.6	4.8	4.8	6.3	3.0	1.2	.90
14	2.6	6.4	3.0	3.9	17	2.4	3.8	11	359	13	1.1	.90
15	2.6	2.5	3.0	3.5	4.1	2.6	3.9	3.3	15	3.8	1.1	.90
16	2.6	298	3.0	12	3.3	3.2	102	79	6.2	173	.92	.60
17	2.8	44	2.5	3.5	3.7	4.1	65	45	4.5	4.5	.90	.60
18	3.2	6.0	2.3	2.7	3.5	17	8.8	11	4.0	1.9	.90	.60
19	2.4	21	104	4.2	2.7	3.3	348	261	95	1.7	.90	78
20	2.3	21	387	3.6	2.6	3.0	63	10	55	35	.90	44
21	2.4	3.9	23	15	3.0	3.1	6.8	6.2	4.0	4.4	.90	1.1
22	4.0	3.3	41	20	3.0	17	4.1	4.6	3.9	2.5	.90	.90
23	3.9	3.0	11	2.9	3.0	4.3	3.2	3.9	12	2.0	.90	.60
24	38	2.8	5.9	2.3	3.0	7.1	2.5	3.5	4.2	2.0	.90	.90
25	263	2.6	5.1	2.3	3.0	4.7	2.3	3.5	4.2	2.0	.98	.90
26	150	2.6	4.2	1.9	3.0	4.5	2.3	3.5	4.9	21	.90	4.4
27	4.6	2.6	8.8	3.9	4.8	4.2	2.3	3.5	3.9	2.5	.90	1.5
28	323	2.6	9.4	2.7	3.6	4.3	246	177	27	1.5	.90	.60
29	6.3	25	7.2	2.6	4.0	5.2	21	16	66	1.5	.90	.60
30	3.4	2.7	3.5	2.6	---	5.6	4.6	8.1	4.0	1.5	.90	.54
31	147	---	24	2.6	---	12	---	53	---	1.5	.90	---
TOTAL	1006.7	497.6	860.3	160.8	185.8	246.0	1276.7	1514.1	1551.4	432.3	656.70	318.44
MEAN	32.5	16.6	27.8	5.19	6.41	7.94	42.6	48.8	51.7	13.9	21.2	10.6
MAX	323	298	387	22	38	89	348	764	359	173	413	165
MIN	2.3	1.7	2.3	1.9	2.0	2.4	2.3	2.6	3.9	1.5	.90	.54
AC-FT	2000	987	1710	319	369	488	2530	3000	3080	857	1300	632
CFSM	2.66	1.36	2.27	.43	.53	.65	3.49	4.00	4.24	1.14	1.74	.87
IN.	3.07	1.52	2.62	.49	.57	.75	3.89	4.62	4.73	1.32	2.00	.97

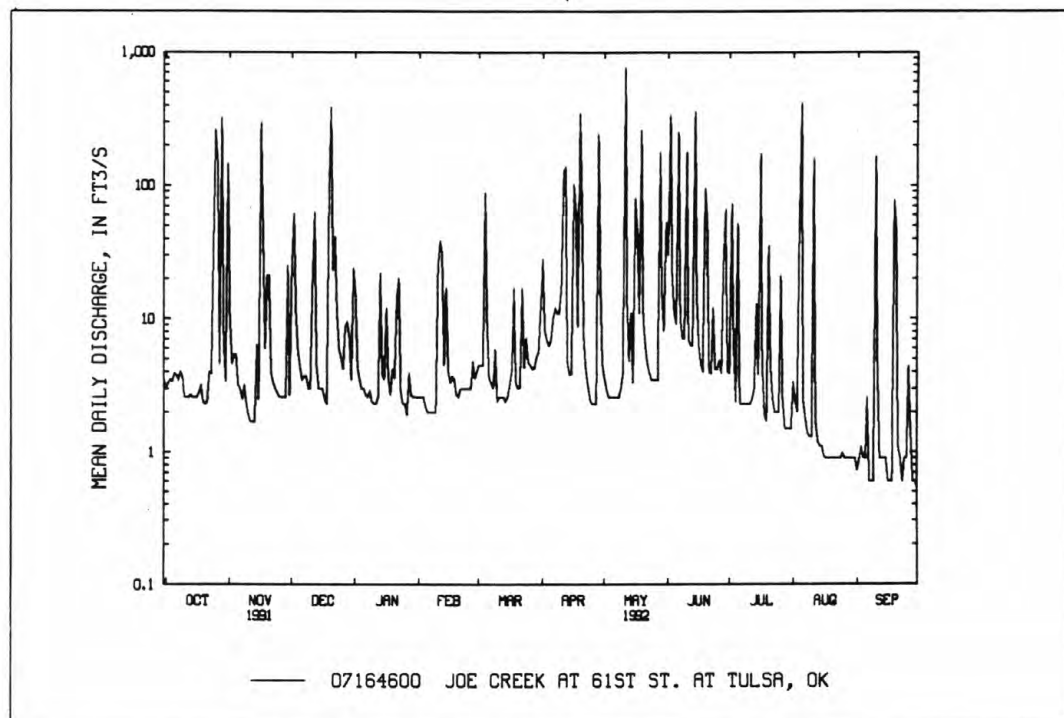
ARKANSAS RIVER BASIN
07164600 JOE CREEK AT 61ST STREET AT TULSA, OK--Continued

115

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	13.7	12.6	13.0	10.4	13.4	25.6	24.9	31.4	25.7	7.90	16.8	21.8
MAX	32.5	21.3	27.8	13.7	29.1	56.2	42.6	48.8	51.7	13.9	33.2	36.7
(WY)	1992	1989	1992	1990	1990	1990	1992	1992	1992	1992	1989	1991
MIN	3.38	2.02	2.36	5.19	2.71	7.94	2.85	13.9	9.48	3.22	4.59	10.6
(WY)	1989	1990	1990	1992	1991	1992	1989	1989	1990	1990	1990	1992

SUMMARY STATISTICS	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1989-92
ANNUAL TOTAL	6685.32	8706.84	
ANNUAL MEAN	18.3	23.8	18.1
HIGHEST ANNUAL MEAN			23.8 1992
LOWEST ANNUAL MEAN			14.3 1991
HIGHEST DAILY MEAN	387 Dec 20	764 May 11	906 Aug 20 1989
LOWEST DAILY MEAN	.90 Jun 13	.54 Sep 30	.51 Aug 9 1989
ANNUAL SEVEN-DAY MINIMUM	.97 Jun 24	.77 Sep 12	.77 Sep 12 1992
INSTANTANEOUS PEAK FLOW		5250 May 11	7990 Aug 20 1989
INSTANTANEOUS PEAK STAGE		5.98 May 11	7.81 Aug 20 1989
ANNUAL RUNOFF (AC-FT)	13260	17270	13120
ANNUAL RUNOFF (CFSM)	1.50	1.95	1.48
ANNUAL RUNOFF (INCHES)	20.38	26.55	20.17
10 PERCENT EXCEEDS	36	51	35
50 PERCENT EXCEEDS	3.5	3.5	2.6
90 PERCENT EXCEEDS	1.3	.96	1.2



ARKANSAS RIVER BASIN

07165000 HEYBURN LAKE NEAR HEYBURN, OK

LOCATION.--Lat 35°56'49", long 96°17'54", in SE 1/4 SE 1/4 sec.13, T.17 N., R.9 E., Creek County, Hydrologic Unit 11110101, at intake structure at right abutment of Heyburn Dam on Polecat Creek, 2.5 mi northwest of Heyburn, 3.5 mi upstream from bridge on U.S. Highway 66, 11.0 mi southwest of Sapulpa, and at mile 48.6.

DRAINAGE AREA.--123 mi².

PERIOD OF RECORD.--October 1950 to current year. Prior to October 1970, published as Heyburn Reservoir near Heyburn.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by an earth dam. Outlet works consist of an 8-foot, 3-inch diameter concrete conduit extending from an uncontrolled concrete drop inlet at the upstream side of dam at a concrete stilling basin near downstream toe of dam and three, 36-inch gated lowflow pipes which drain into the conduit below the drop inlet. Spillway is 200-foot channel in a natural saddle about 1,000 ft west of right abutment. Storage began Sept. 29, 1950; conservation pool was first filled Mar. 10, 1951. Capacity, 147,600 acre-ft, at elevation 802.0 ft maximum pool, 55,400 acre-ft, at elevation 784.0 ft, spillway crest and top of flood control pool, and 7,105 acre-ft, at elevation 761.5, conservation pool. Dead storage, 293 acre-ft, below elevation 740.0 ft, invert of lowflow sluices. Reservoir was designed for flood control and conservation. Figures given herein represent total contents. Revised capacity table, based on survey in 1978, used since Oct. 1, 1984.

COOPERATION.--Records provided and computed by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 32,210 acre-ft, Nov. 4, 1974, elevation, 776.85 ft; minimum since conservation pool was first filled, 4,070 acre-ft, May 8, 9, 1981, elevation 757.95 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 16,820 acre-ft, Aug. 5, elevation, 769.37 ft; minimum, 6,590 acre-ft, Oct. 24, elevation 760.90 ft.

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

760	5,880	770	17,820
765	10,770	775	27,970

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY OBSERVATION AT 24:00 VALUES

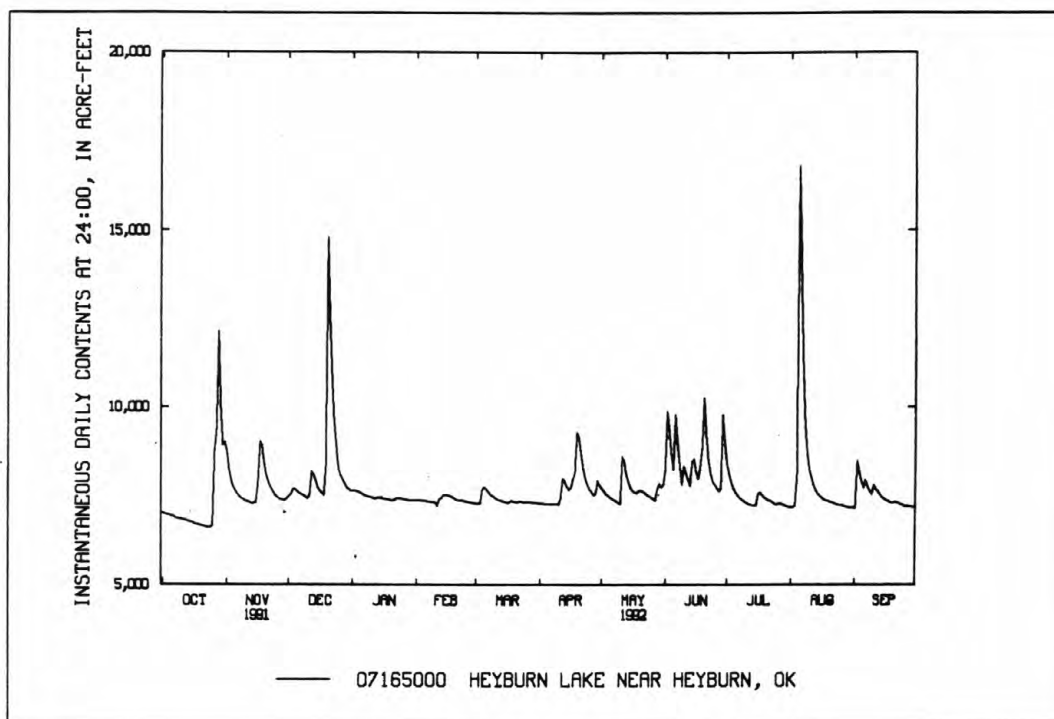
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7010	8760	7500	7650	7380	7290	7290	7720	8250	8420	7180	7150
2	6990	8270	7550	7650	7380	7290	7290	7640	9870	8120	7180	8480
3	6970	7940	7700	7630	7370	7310	7280	7560	9400	7900	7240	8190
4	6960	7760	7690	7610	7370	7680	7270	7510	8680	7720	8140	7920
5	6940	7650	7640	7580	7360	7750	7270	7460	8240	7610	16820	7740
6	6930	7550	7580	7540	7350	7690	7270	7420	9790	7520	14240	7930
7	6880	7480	7540	7510	7340	7610	7270	7380	8980	7450	11370	7780
8	6860	7430	7510	7490	7330	7540	7270	7350	8420	7400	9600	7630
9	6850	7390	7470	7470	7320	7500	7270	7310	7810	7360	8700	7550
10	6840	7360	7430	7460	7320	7460	7260	7280	8350	7320	8230	7800
11	6830	7340	7510	7440	7230	7410	7440	8600	8150	7290	8030	7680
12	6820	7320	8190	7420	7410	7380	7990	8500	7950	7260	7810	7630
13	6780	7290	8100	7450	7440	7370	7920	8120	7780	7240	7660	7520
14	6770	7300	7940	7450	7530	7350	7780	7920	8460	7240	7560	7460
15	6760	7310	7740	7450	7520	7330	7680	7730	8540	7240	7490	7410
16	6730	7890	7640	7410	7520	7310	7730	7640	8160	7550	7440	7380
17	6700	9030	7580	7410	7500	7320	7980	7600	7980	7600	7390	7350
18	6690	8930	7510	7400	7480	7370	8140	7580	8330	7520	7370	7310
19	6670	8420	8390	7390	7440	7350	9290	7640	8860	7460	7350	7310
20	6660	8100	14800	7380	7400	7330	9150	7650	10270	7410	7330	7320
21	6640	7900	12580	7380	7380	7320	8680	7630	9190	7380	7310	7320
22	6620	7750	10960	7420	7380	7350	8270	7580	8520	7360	7290	7290
23	6610	7650	9600	7440	7380	7340	8010	7520	8160	7320	7260	7260
24	6610	7540	8970	7430	7360	7320	7820	7490	7910	7290	7240	7240
25	6680	7480	8340	7420	7340	7330	7690	7460	7820	7250	7240	7200
26	8770	7430	8090	7400	7330	7330	7610	7410	7720	7290	7230	7210
27	9410	7400	7980	7400	7320	7320	7520	7370	7630	7290	7200	7200
28	12160	7380	7870	7380	7310	7320	7550	7700	7710	7250	7180	7200
29	10000	7380	7750	7380	7300	7310	7930	7850	9780	7240	7170	7180
30	8940	7430	7700	7380	---	7300	7810	7750	9020	7200	7170	7170
31	9000	---	7650	7380	---	7300	---	7820	---	7190	7170	---

ARKANSAS RIVER BASIN
07165000 HEYBURN LAKE NEAR HEYBURN, OK--Continued

117

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MAX	12160	9030	14800	7650	7530	7750	9290	8600	10270	8420	16820	8480
MIN	6610	7290	7430	7380	7230	7290	7260	7280	7630	7190	7170	7150
(+)	763.45	761.86	762.10	761.80	761.71	761.71	762.27	762.28	763.47	761.59	761.56	761.57
(++)	+1,970	-1,570	+220	-270	-80	0	+510	+10	+1,200	-1,830	-20	0
CAL YR 1991	MAX 14820		MIN 6040		(++) +610							
WTR YR 1992	MAX 16820		MIN 6610		(++) +140							

+ELEVATION, IN FEET, AT END OF MONTH
++CHANGE IN CONTENTS, IN ACRE-FEET



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 right by 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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair at low flow, good at high flows.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	66	15	46	1.7	11	27	11	57	.78	e.04	3.9
2	.00	5.2	105	13	1.8	9.7	22	9.6	607	6.5	e.05	5.5
3	.00	1.4	35	8.0	1.3	8.1	19	9.1	84	36	e.18	3.2
4	.00	1.0	19	6.3	1.6	22	19	7.8	19	1.8	e5.0	.01
5	.00	1.5	8.3	6.0	1.8	26	21	7.8	10	26	535	.31
6	.31	1.5	5.6	5.4	1.9	11	20	7.9	397	2.6	16	58
7	.58	2.9	4.1	4.9	3.3	8.2	21	8.2	27	.01	4.3	3.6
8	.34	3.2	4.1	5.3	e3.9	9.8	22	8.2	12	.00	1.3	.08
9	.07	3.5	12	4.5	3.9	19	22	8.4	8.6	.00	.07	.00
10	.00	3.5	14	3.9	8.9	12	23	7.8	45	.00	.00	193
11	.00	3.3	16	6.4	16	11	64	461	13	.00	122	6.0
12	.00	3.7	75	2.8	86	11	345	45	5.5	.00	4.9	.44
13	.00	3.9	9.0	9.9	14	13	24	14	3.5	.00	.49	.00
14	.00	5.9	2.1	15	12	14	15	11	567	.00	.00	.00
15	.00	14	.67	6.0	9.3	16	13	7.6	113	.00	.00	.00
16	.00	208	.24	3.0	6.4	17	22	7.1	19	140	.00	.00
17	.00	313	.19	e2.9	5.7	17	65	19	10	58	.00	.00
18	.00	19	1.2	e2.6	8.5	26	17	30	7.2	1.6	.00	.00
19	.00	16	50	1.8	8.9	16	318	56	91	.00	.00	14
20	.00	25	872	2.0	9.2	14	158	15	127	162	.00	14
21	.00	8.2	87	2.1	10	15	29	8.1	11	155	.00	3.5
22	.00	3.6	88	30	12	22	16	3.3	5.2	4.3	.28	.00
23	.00	3.8	45	11	13	21	12	5.9	13	e.53	.69	.00
24	153	7.6	17	4.7	12	15	10	4.3	5.3	e.07	.50	.00
25	90	7.1	12	3.2	11	18	8.5	2.6	1.6	e.08	.05	.00
26	576	8.0	9.1	2.3	8.3	17	8.2	2.4	1.2	e.06	.00	7.6
27	12	9.5	9.1	2.3	12	17	8.8	2.9	.40	e.85	.00	4.2
28	367	13	23	4.2	11	20	86	105	.76	e.05	.00	2.2
29	18	16	11	2.8	9.9	17	183	38	9.4	e.04	.00	.06
30	2.0	21	7.6	2.0	---	17	16	8.0	5.3	e.04	.00	.00
31	237	---	6.7	1.7	---	20	---	7.6	---	e.04	36	---
TOTAL	1456.30	799.3	1564.00	222.0	305.3	490.8	1634.5	939.6	2275.96	596.35	726.85	319.60
MEAN	47.0	26.6	50.5	7.16	10.5	15.8	54.5	30.3	75.9	19.2	23.4	10.7
MAX	576	313	872	46	86	26	345	461	607	162	535	193
MIN	.00	1.0	.19	1.7	1.3	8.1	8.2	2.4	.40	.00	.00	.00
AC-FT	2890	1590	3100	440	606	974	3240	1860	4510	1180	1440	634
CFSM	2.64	1.50	2.83	.40	.59	.89	3.06	1.70	4.26	1.08	1.32	.60
IN.	3.04	1.67	3.27	.46	.64	1.03	3.42	1.96	4.76	1.25	1.52	.67

e Estimated

ARKANSAS RIVER BASIN

119

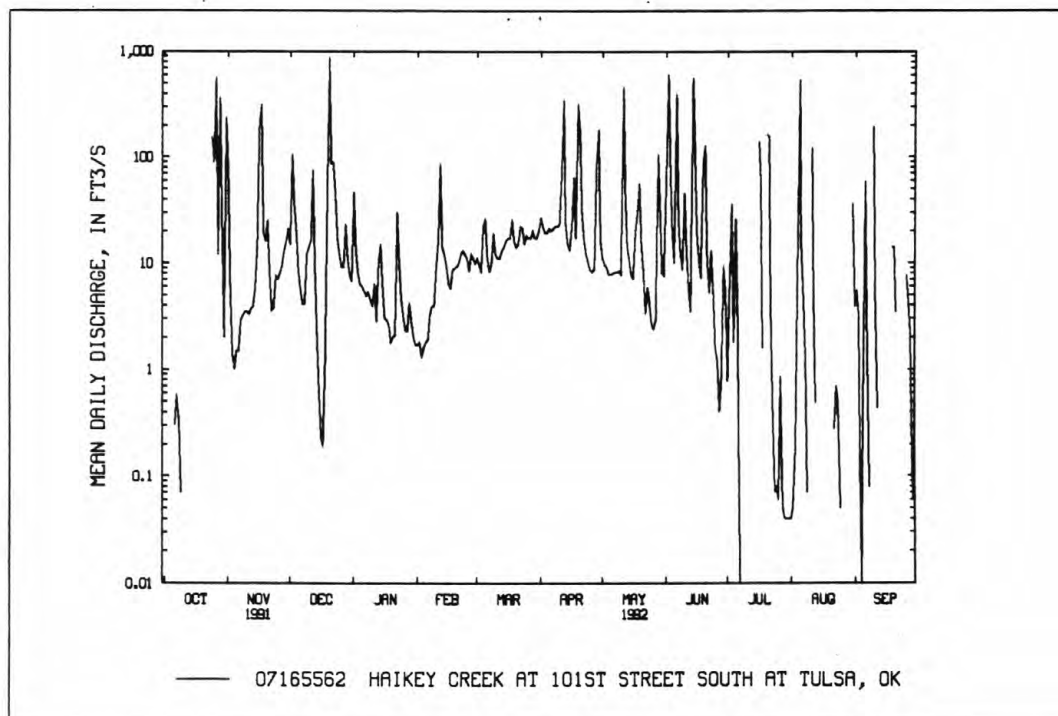
07165562 HAIKEY CREEK AT 101ST STREET SOUTH AT TULSA, OK--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	15.0	13.8	18.9	13.8	17.5	43.0	37.4	23.9	34.1	8.48	18.5	19.8
MAX	47.0	26.6	50.5	18.3	29.4	120	82.3	31.2	75.9	19.2	49.6	31.9
(WY)	1992	1992	1992	1990	1990	1990	1990	1990	1992	1992	1989	1991
MIN	.74	.76	1.67	7.16	1.67	6.22	5.07	14.0	3.63	.47	.36	10.7
(WY)	1989	1990	1990	1992	1991	1991	1989	1989	1990	1990	1991	1992

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1989-92

ANNUAL TOTAL	7115.45	11330.56	
ANNUAL MEAN	19.5	31.0	22.0
HIGHEST ANNUAL MEAN			31.0 1992
LOWEST ANNUAL MEAN			11.0 1991
HIGHEST DAILY MEAN	872 Dec 20	872 Dec 20	1620 Mar 14 1990
LOWEST DAILY MEAN	.00 Jan 1	.00 at times	.00 at times
ANNUAL SEVEN-DAY MINIMUM	.00 Jun 28	.00 Oct 10	.00 Oct 12 1988
INSTANTANEOUS PEAK FLOW		2220 Oct 26	5890 Aug 20 1989
INSTANTANEOUS PEAK STAGE		15.59 Oct 26	17.28 Aug 20 1989
ANNUAL RUNOFF (AC-FT)	14110	22470	15950
ANNUAL RUNOFF (CFSM)	1.10	1.74	1.24
ANNUAL RUNOFF (INCHES)	14.87	23.68	16.81
10 PERCENT EXCEEDS	33	60	29
50 PERCENT EXCEEDS	2.6	7.7	2.7
90 PERCENT EXCEEDS	.00	.00	.00



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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair.

REVISIONS.--The maximum discharge for the water years 1988 and 1989 have been revised to 773 ft³/s, Mar. 29, 1988, gage height 13.51 ft and 1,380 ft³/s, Aug. 20, 1989, gage height 16.20 ft, superseding figures published in reports for 1988 and 1989.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	8.4	5.5	8.3	1.1	1.0	4.0	2.5	6.3	1.4	.28	.17
2	.00	1.9	18	2.4	1.1	1.0	1.9	1.8	121	5.7	.30	1.2
3	.00	1.1	9.5	2.0	.95	1.0	2.0	1.6	10	3.4	.30	.50
4	.00	.77	3.4	1.8	1.0	13	3.7	1.6	3.3	1.5	3.2	.25
5	.00	.70	2.9	2.2	.98	6.2	4.2	1.4	2.1	5.2	252	.07
6	.00	.45	3.5	1.5	.96	2.9	3.0	1.3	120	1.1	3.8	5.4
7	.00	.47	1.7	1.5	.91	2.5	2.2	1.3	4.7	.71	1.5	.24
8	.00	.33	1.5	1.4	.96	2.5	1.9	1.3	2.6	.85	.84	.13
9	.00	1.8	1.3	1.2	.92	6.1	2.0	1.3	1.8	.99	.79	.08
10	.00	1.3	.96	1.1	3.0	2.5	1.8	1.3	6.2	.90	.64	38
11	.00	1.3	1.4	1.1	3.5	2.4	3.9	121	2.4	1.0	26	.73
12	.00	1.3	18	1.2	14	2.4	53	6.4	1.7	.95	1.1	.26
13	.00	1.3	2.5	3.5	2.3	2.3	4.6	2.5	1.5	.79	.71	.25
14	.00	1.8	1.7	2.2	2.1	2.2	3.2	1.9	169	1.4	.66	.14
15	.00	2.3	1.4	1.4	1.5	2.3	2.8	1.5	14	.86	.52	.17
16	.00	64	1.3	e1.3	1.2	2.2	7.8	9.8	4.3	19	.35	.12
17	.00	47	2.1	e1.2	1.2	2.4	7.6	6.4	2.0	3.6	.20	.11
18	.00	6.2	.85	e1.1	1.2	4.0	3.5	4.8	1.8	1.7	.25	.11
19	.00	4.2	19	e1.1	1.2	2.1	76	41	23	1.1	.25	7.3
20	.00	6.3	187	e1.1	1.1	1.8	31	5.0	23	82	.27	2.9
21	.00	4.2	15	1.2	1.5	1.8	6.3	2.4	3.2	7.0	.28	.26
22	.00	1.7	16	6.7	1.0	4.9	3.9	1.7	2.5	1.1	.23	.13
23	.00	1.5	7.7	2.0	1.0	2.6	3.1	1.6	2.8	.99	.21	.08
24	24	1.5	3.8	1.4	1.0	2.6	2.8	1.3	1.9	.49	.25	.03
25	56	1.5	2.7	1.3	1.0	2.6	2.4	1.2	1.8	.51	.24	.00
26	104	1.5	2.3	1.1	.98	2.0	2.1	1.2	1.4	.46	.19	1.8
27	4.0	1.3	2.4	1.7	.96	1.9	2.1	1.0	1.2	.89	.30	.14
28	119	1.2	3.8	1.4	1.1	2.0	47	25	1.6	.40	.35	.04
29	4.6	8.1	2.3	1.1	1.0	2.0	29	4.8	3.9	.32	.29	.01
30	2.0	4.3	1.8	1.1	---	2.1	3.6	1.9	1.7	.30	.17	.00
31	53	---	2.2	1.1	---	2.0	---	2.7	---	.28	1.9	---
TOTAL	366.60	179.72	343.51	58.7	50.72	89.3	322.4	260.5	542.7	146.89	298.37	60.62
MEAN	11.8	5.99	11.1	1.89	1.75	2.88	10.7	8.40	18.1	4.74	9.62	2.02
MAX	119	64	187	8.3	14	13	76	121	169	82	252	38
MIN	.00	.33	.85	1.1	.91	1.0	1.8	1.0	1.2	.28	.17	.00
AC-FT	727	356	681	116	101	177	639	517	1080	291	592	120
CFSM	2.17	1.10	2.03	.35	.32	.53	1.97	1.54	3.32	.87	1.77	.37
IN.	2.50	1.23	2.34	.40	.35	.61	2.20	1.78	3.70	1.00	2.04	.41

e Estimated

ARKANSAS RIVER BASIN

121

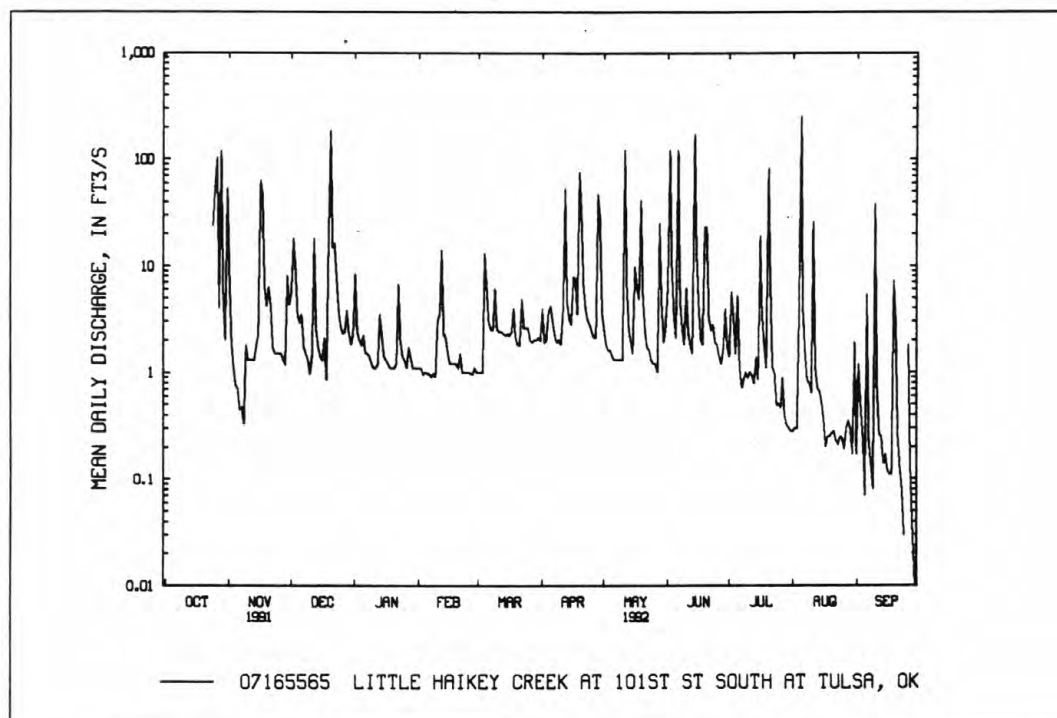
07165565 LITTLE HAIKEY CREEK AT 101ST STREET SOUTH AT TULSA, OK--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.26	4.24	7.25	2.96	3.67	12.5	7.51	6.02	6.61	2.54	3.71	5.98
MAX	11.8	7.20	19.1	3.81	7.68	28.3	17.8	9.95	18.1	4.74	9.62	9.89
(WY)	1992	1989	1988	1988	1990	1990	1990	1990	1992	1992	1992	1991
MIN	.12	.27	.40	1.89	.37	1.61	1.44	3.00	.15	.042	.26	2.02
(WY)	1989	1990	1990	1992	1991	1991	1989	1988	1988	1990	1988	1992

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1988-92

ANNUAL TOTAL	1688.73	2720.03	
ANNUAL MEAN	4.63	7.43	5.53
HIGHEST ANNUAL MEAN			7.43 1992
LOWEST ANNUAL MEAN			2.73 1991
HIGHEST DAILY MEAN	187	Dec 20	252 Aug 5 374 Mar 14 1990
LOWEST DAILY MEAN	.00	Jan 17	.00 at times .00 at times
ANNUAL SEVEN-DAY MINIMUM	.00	May 9	.00 Oct 1 .00 Sep 5 1988
INSTANTANEOUS PEAK FLOW			1120 Aug 5 1380 Aug 20 1989
INSTANTANEOUS PEAK STAGE			15.22 Aug 5 16.20 Aug 20 1989
ANNUAL RUNOFF (AC-FT)	3350	5400	4000
ANNUAL RUNOFF (CFSM)	.85	1.36	1.01
ANNUAL RUNOFF (INCHES)	11.53	18.57	13.77
10 PERCENT EXCEEDS	8.1	9.6	7.7
50 PERCENT EXCEEDS	.21	1.6	.72
90 PERCENT EXCEEDS	.00	.14	.00



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 National Geodetic Vertical Datum of 1929.

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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1500	4910	e3100	13900	4570	2050	4520	2450	1340	22700	6010	13300
2	3380	3220	e3500	14100	e3950	1530	4110	2250	4250	21600	6490	13500
3	1770	2800	8670	12300	e1680	1630	5030	3870	13300	21500	6070	13900
4	2220	2050	4640	7960	e3200	2060	2950	4190	9450	21100	6370	13900
5	2790	1680	2490	5880	e4500	1650	2780	4320	8790	21100	14100	13500
6	2370	1960	2750	6070	e2100	2550	1620	4250	11100	20700	25600	13900
7	1550	1520	2350	7370	e4000	2160	1200	3180	8750	20400	23100	13600
8	1170	3190	2460	8600	e2500	4140	1290	2180	9310	20300	21700	13500
9	1370	3900	e1080	10800	e1350	4580	1390	1580	9730	20100	21800	12000
10	1560	3210	1530	11600	e1100	6070	2450	1930	6760	19500	21600	12500
11	2720	2180	1910	11000	1770	6660	2340	2520	8410	14500	22700	12300
12	1570	1650	3310	8870	3710	5890	6550	6760	7100	12400	22500	11200
13	1580	1980	4970	6920	4670	3180	4880	6440	7810	12100	22100	10900
14	1250	1630	e3000	9930	5300	3780	5210	3610	7860	10700	22200	10800
15	953	2410	e2700	12800	3620	2200	8620	3260	14500	7970	22300	10700
16	1370	3170	e3100	e9800	5290	1510	6360	3670	15700	6830	22200	10600
17	1260	5270	e2800	e8200	3630	1320	5340	4300	13700	8530	22300	8550
18	1930	6450	e2600	e5800	4420	1580	4230	2910	18500	9880	22000	6840
19	1900	3480	e3800	e3100	4990	1390	3450	3990	22200	11700	21900	6750
20	2160	5510	e9800	e1050	3600	1890	7460	5330	24300	12000	21800	4280
21	1420	7640	22700	e2500	2670	1380	7250	6200	16000	13200	18200	3910
22	1090	6260	18600	3270	2000	1780	5880	5790	23500	12000	14400	3910
23	1510	6030	16700	5680	1750	1440	4890	5450	22500	11300	13400	6310
24	1790	4580	20500	e5900	1400	1300	2750	6080	22100	11500	13200	5990
25	2770	4910	23000	e5300	2600	2500	2770	6260	21900	10300	11100	3700
26	5370	6840	22300	e2500	3870	5300	4990	6860	22600	6980	8300	3310
27	5180	8210	18000	e1200	6180	6320	4380	5090	21500	7930	13100	4060
28	3490	8720	14100	3550	6470	5640	4450	3580	21500	8770	13100	2830
29	6290	8620	13900	3200	3820	3400	5880	4210	23200	6990	13100	3140
30	5560	7190	13700	3560	---	1860	5340	2150	25500	6490	13100	1950
31	4100	---	13600	3700	---	3290	---	1560	---	6340	13300	---
TOTAL	74943	131170	267660	216410	100710	92030	130360	126220	443160	417410	519140	265630
MEAN	2418	4372	8634	6981	3473	2969	4345	4072	14770	13460	16750	8854
MAX	6290	8720	23000	14100	6470	6660	8620	6860	25500	22700	25600	13900
MIN	953	1520	1080	1050	1100	1300	1200	1560	1340	6340	6010	1950
AC-FT	148600	260200	530900	429200	199800	182500	258600	250400	879000	827900	1030000	526900

e Estimated

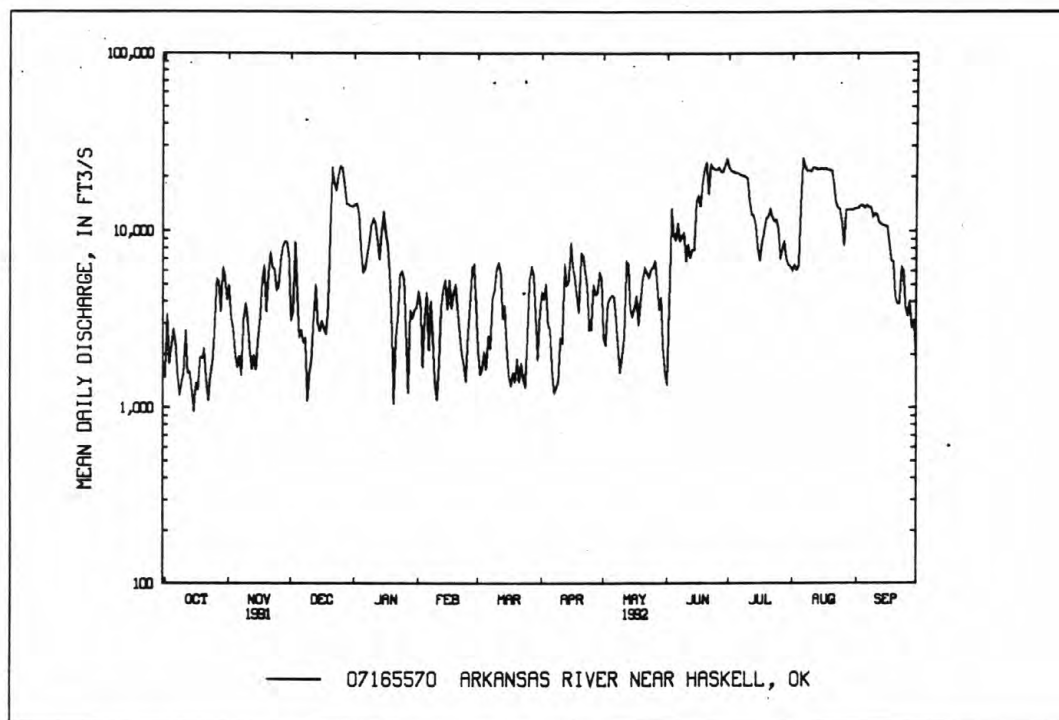
ARKANSAS RIVER BASIN
07165570 ARKANSAS RIVER NEAR HASKELL, OK--Continued

123

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10220	7971	5163	5780	6718	14030	15040	13890	15380	8320	4583	5517
MAX	75500	42220	14070	16980	24200	50990	46910	29560	40940	21960	16750	23690
(WY)	1987	1975	1974	1988	1987	1987	1973	1973	1975	1987	1992	1989
MIN	576	646	802	567	549	722	638	2472	5074	1671	1171	1108
(WY)	1979	1981	1981	1981	1977	1977	1977	1981	1988	1991	1984	1983

SUMMARY STATISTICS	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1973-92
ANNUAL TOTAL	1176488	2784843	
ANNUAL MEAN	3223	7609	9387
HIGHEST ANNUAL MEAN			25440 1987
LOWEST ANNUAL MEAN			2097 1981
HIGHEST DAILY MEAN	23000	Dec 25 25600	Aug 6 243000 Oct 5 1986
LOWEST DAILY MEAN	359	Apr 2 953	Oct 15 87 Sep 13 1988
ANNUAL SEVEN-DAY MINIMUM	716	Mar 27 1420	Oct 12 369 Feb 25 1977
INSTANTANEOUS PEAK FLOW		28800	Jun 20 259000 Oct 5 1986
INSTANTANEOUS PEAK STAGE		11.20	Jun 20 22.82 Oct 5 1986
ANNUAL RUNOFF (AC-FT)	2334000	5524000	6801000
10 PERCENT EXCEEDS	6350	20400	23800
50 PERCENT EXCEEDS	1940	5300	5170
90 PERCENT EXCEEDS	819	1610	743



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, 4.5 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 National Geodetic Vertical Datum of 1929.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	315	229	9170	351	636	1310	657	258	1820	13200	1020
2	13	341	130	e4000	322	549	1360	573	2120	1790	8570	1080
3	14	203	100	1630	267	514	1250	485	8990	1750	8250	1090
4	13	126	113	1200	207	510	957	426	3780	1720	16700	1070
5	11	90	100	1000	188	908	848	370	3920	2620	17900	965
6	9.7	73	86	754	180	2110	693	282	5600	4050	9800	653
7	9.2	58	76	679	170	2330	709	225	4870	2950	6920	661
8	8.8	50	71	742	161	1980	769	211	3910	1890	7180	783
9	8.0	43	67	845	153	1930	630	207	3280	1700	7490	2190
10	7.6	37	60	864	144	1810	427	201	3030	1350	7070	1930
11	7.8	33	56	687	153	1450	430	187	6450	19500	6850	1830
12	7.6	30	391	477	1570	1100	1510	166	4220	32000	10100	1590
13	7.3	27	1160	460	1180	681	676	131	3450	24800	8040	1690
14	6.4	26	361	472	6170	570	652	156	3490	10500	5530	1640
15	5.6	26	275	443	4630	533	501	179	8030	e3000	3860	1120
16	5.9	49	253	402	1570	422	431	165	6770	e10500	2200	470
17	7.1	1060	181	375	1320	357	1740	191	3150	21200	1290	273
18	7.5	1060	135	342	1090	328	1930	374	2700	15800	1250	208
19	6.5	1110	112	271	1040	1000	2360	429	2410	5200	1190	168
20	6.5	595	e5500	220	1460	3610	6530	680	2270	5240	927	143
21	6.9	357	e8500	187	1880	3530	8670	1100	2190	6290	855	181
22	6.7	248	e8000	182	1580	3580	5880	908	1960	3980	699	680
23	6.4	163	e3000	219	1020	3410	5150	767	2760	4820	534	550
24	6.4	122	1400	235	863	3500	4740	538	5480	12200	465	295
25	5.7	99	1290	408	848	3550	3100	362	2630	15400	368	196
26	8.4	82	1700	674	939	3530	2050	240	2050	14100	197	216
27	35	72	1660	657	942	2870	1470	200	1920	6410	186	476
28	64	67	1620	682	948	2160	1390	236	1840	6280	1080	1520
29	150	72	1610	683	792	1760	1260	252	1840	6890	989	993
30	185	344	1580	673	---	1310	782	218	1860	8150	1010	869
31	190	---	6200	559	---	1280	---	236	---	13600	992	---
TOTAL	840.0	6978	46016	30192	32138	53808	60205	11352	107228	267500	151692	26550
MEAN	27.1	233	1484	974	1108	1736	2007	366	3574	8629	4893	885
MAX	190	1110	8500	9170	6170	3610	8670	1100	8990	32000	17900	2190
MIN	5.6	26	56	182	144	328	427	131	258	1350	186	143
AC-FT	1670	13840	91270	59890	63750	106700	119400	22520	212700	530600	300900	52660

e Estimated

ARKANSAS RIVER BASIN
07171000 VERDIGRIS RIVER NEAR LENAPAH, OK--Continued

125

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2558	2725	1754	1600	2200	4550	4008	3512	4816	2156	909	1146
MAX	27970	15440	6757	7998	8983	17130	16300	8369	12500	13920	5364	5614
(WY)	1987	1975	1974	1973	1985	1973	1988	1990	1969	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

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1967-92

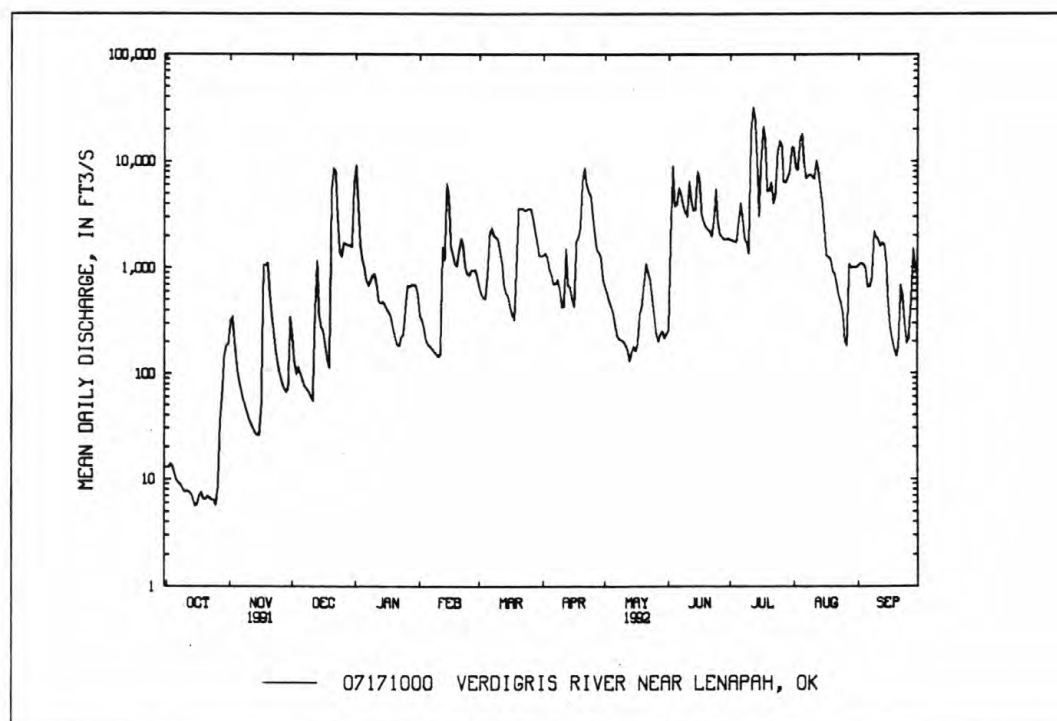
ANNUAL TOTAL	190658.6	794499.0	
ANNUAL MEAN	522	2171	^a 2659
HIGHEST ANNUAL MEAN			5906 1987
LOWEST ANNUAL MEAN			329 1981
HIGHEST DAILY MEAN	8500 Dec 21	32000 Jul 12	76200 Oct 5 1986
LOWEST DAILY MEAN	5.5 Jul 12	5.6 Oct 15	^b 5.5 Sep 30 1980
ANNUAL SEVEN-DAY MINIMUM	6.4 Oct 19	6.4 Oct 19	5.7 Sep 26 1980
INSTANTANEOUS PEAK FLOW		32900 Jul 12	^c 78400 Jul 4 1976
INSTANTANEOUS PEAK STAGE		30.02 Jul 12	^d 38.60 Jul 4 1976
ANNUAL RUNOFF (AC-FT)	378200	1576000	1926000
10 PERCENT EXCEEDS	1720	6330	8290
50 PERCENT EXCEEDS	75	787	614
90 PERCENT EXCEEDS	13	54	38

^aPrior to regulation, water years 1939-49, 2,599 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 floodmarks.)



ARKANSAS RIVER BASIN
07171300 OOLOGAH LAKE NEAR OOLOGAH, OK

LOCATION.--Lat 36°25'23", long 95°40'44", in NE 1/4 NW 1/4 sec.2, T.22 N., R.15 E., Rogers County, Hydrologic Unit 11070103, in control tower 1,000 ft from left end of dam on Verdigris River, 2.0 mi southeast of Oologah, and at mile 90.3.

DRAINAGE AREA.--4,339 mi².

PERIOD OF RECORD.--May 1963 to current year. Prior to October 1970, published as Oologah Reservoir near Oologah.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by earth dam. Spillway is concrete ogee-type weir controlled by 7 tainter gates. Storage began May 15, 1963, conservation pool was first filled Apr. 4, 1964. Capacity 1,519,000 acre-ft at elevation 661.0 ft, top of flood control pool, 553,400 acre-ft at elevation 638.0 ft, conservation pool. Dead storage 9,260 acre-ft below elevation 592.0 ft. Figures given herein represent total contents. Reservoir is used for flood control and conservation. U.S. Army Corps of Engineers' satellite telemeter at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,751,000 acre-ft, Oct. 9, 1986, elevation, 664.90 ft; minimum since conservation pool first filled 33,750 acre-ft, Aug. 28, and Oct. 27, 1969, elevation, 602.87 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 777,900 acre-ft, July 14, elevation, 644.52 ft; minimum, 469,000 acre-ft, Oct. 24, elevation, 635.09 ft.

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

635	469,400	655	1,203,000
640	614,100	660	1,462,000
645	782,400	665	1,757,000
650	978,000		

RESERVOIR STORAGE (ACRE-Feet), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	490600	489000	516300	645400	552200	551900	551600	556600	557300	674500	743200	571200
2	489000	489200	516900	645400	553200	552500	551900	561700	574400	672000	743600	573400
3	487600	489200	516900	645800	553500	554400	551000	561100	603200	665800	745800	571500
4	488400	488400	515200	643400	555100	556000	554100	560400	601900	662000	754700	571800
5	489200	488400	515200	642700	552200	557000	552900	558500	599000	662000	769800	569900
6	488400	490100	515200	639400	552200	560400	554400	556600	615700	659500	767900	574400
7	485500	490100	514900	631600	552200	560400	555100	553800	621800	657500	748400	572500
8	485700	488200	518300	623100	551000	558500	554800	551900	625800	658800	724400	577900
9	486500	488200	517700	612400	551900	557000	554100	551900	628200	657100	701400	586500
10	484900	488400	516900	598600	552500	553800	553800	550700	630200	656100	685600	590800
11	486000	487900	518000	588100	555400	551000	563300	557300	640000	671700	687000	592100
12	484100	487600	523500	579800	563900	552200	568400	558500	644400	720000	690600	593400
13	484100	485200	526200	570300	570300	550400	568400	557000	647100	760700	688800	595700
14	485700	488700	528100	559200	593700	552500	566800	558500	662300	774400	684600	598000
15	483300	490900	528400	552500	606500	551900	560100	556300	677300	759500	679700	599600
16	479000	493600	529300	551300	601900	549200	556000	556300	686000	751700	671000	599300
17	479500	498700	531100	555400	599300	552900	552500	555400	689500	766400	662300	590400
18	482200	501500	530200	554400	598000	555400	552500	555700	692800	770200	657800	570900
19	480100	508100	533800	553800	590100	554100	559200	555700	695300	751400	654000	553200
20	479300	509500	596300	554100	581000	550400	568400	557300	696000	731800	651200	553500
21	476800	509500	634300	554100	576600	552200	572200	558200	693100	718200	647500	558200
22	476000	511500	651200	556000	569900	552500	564200	556600	689200	711400	643100	558900
23	473300	510900	656800	556000	562300	549500	558900	556000	692400	712500	638300	558900
24	480600	510900	650500	555700	556600	549200	556000	557300	699600	721400	634600	557900
25	480300	510600	645400	557600	549200	549800	553800	556600	702100	731800	629900	558500
26	481700	510900	643700	558500	546800	550100	551000	555100	699200	736900	627800	559200
27	483000	510900	644400	559200	549200	548600	547700	553500	692800	732100	620100	559800
28	484900	511200	644400	556300	551000	547100	551000	555400	688500	731800	608500	561400
29	488200	512600	643700	554800	551000	552500	555700	555400	685600	728800	599300	558500
30	488400	517500	643100	552900	---	548300	555700	556000	680400	727000	590400	555400
31	487100	---	642700	552200	---	550400	---	557000	---	734400	578800	---

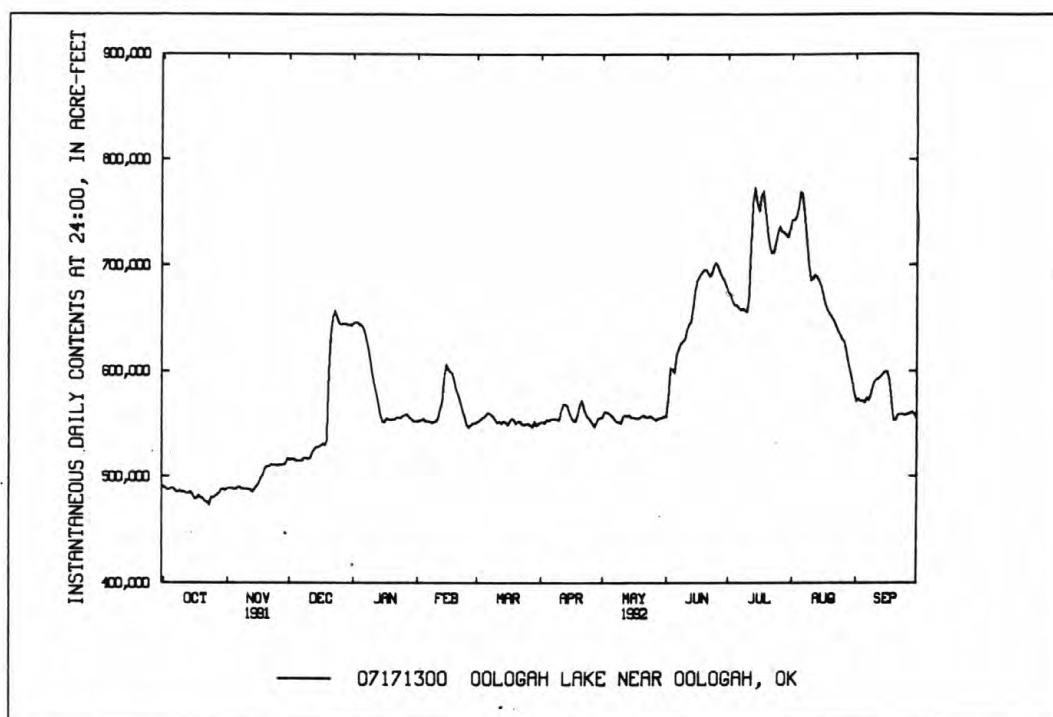
ARKANSAS RIVER BASIN
07171300 OOLOGAH LAKE NEAR OOLOGAH, OK--Continued

127

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MAX	490600	517500	656800	645800	606500	560400	572200	561700	702100	774400	769800	599600
MIN	473300	485200	514900	551300	546800	547100	547700	550700	557300	656100	578800	553200
(+)	635.76	636.84	640.77	638.00	637.96	637.94	638.11	638.15	641.86	643.36	638.84	638.10
(++)	-4,300	+30,400	+125,200	-90,500	-1,200	-600	+5,300	+1,300	+123,400	+54,000	-155,600	-23,400
CAL YR 1991	MAX	686000		MIN	473300	(++)	+76,600					
WTR YR 1992	MAX	774400		MIN	473300	(++)	+64,000					

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

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



ARKANSAS RIVER BASIN
07171400 VERDIGRIS RIVER NEAR OOLOGAH, OK

LOCATION.--Lat 36°25'14", long 95°41'03", in NW 1/4 NW 1/4 sec.2, T.22 N., R.15 E., Rogers County, Hydrologic Unit 11070105, on right bank 0.2 mi downstream from Oologah Dam, 1.2 mi upstream from Fourmile Creek, 2 mi southeast of Oologah, and at mile 90.0.

DRAINAGE AREA.--4,339 mi².

PERIOD OF RECORD.--June 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 552.00 ft above National Geodetic Vertical Datum of 1929. The datum published in WSP 1921 was in error; the datum is unchanged for period of record.

REMARKS.--Records fair. Some regulation by several dams in Kansas prior to May 1963, and completely regulated thereafter by Oologah Lake (station 07171300). U.S. Army Corps of Engineers' satellite telemeter at station.

COOPERATION.--Gage-height record and seven discharge measurements provided by U.S. Army Corps of Engineers; records computed by U.S. Geological Survey.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1943 reached a stage of 65.2 ft, from floodmarks. Flood of May 9, 1961, reached a stage of 52.8 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	e7.1	12	2190	272	118	564	131	95	4120	8110	3410
2	4.5	6.8	17	2140	270	118	563	125	800	4200	8130	1560
3	3.1	5.7	17	2120	268	118	562	124	1940	4170	8120	1110
4	2.3	5.6	16	2120	266	118	546	778	5810	4170	9670	373
5	4.8	7.3	16	2110	266	118	547	1030	5730	4220	12200	291
6	5.8	5.4	16	2110	265	1240	549	1010	3230	4190	12100	285
7	5.8	5.0	16	3660	182	3070	549	992	3220	3250	14100	285
8	6.9	5.0	16	6280	120	3070	553	383	3210	2250	17800	283
9	6.3	5.4	16	6240	120	3060	555	120	3220	2240	17700	321
10	6.0	5.3	15	6230	120	3040	391	119	2740	2240	15300	266
11	5.8	5.0	15	6210	121	2050	269	119	2260	4370	10300	267
12	5.8	5.0	e15	6200	e125	1070	268	120	2230	7240	7890	268
13	6.3	5.0	e14	6160	129	636	272	759	2230	7320	7860	271
14	6.7	5.0	14	6160	1570	248	2080	1030	2450	7820	7120	274
15	6.7	5.0	13	2600	3420	245	3310	785	2470	8680	6040	e183
16	6.7	e20	13	108	3360	250	3290	511	2270	9090	6020	e95
17	6.7	e16	12	105	3360	252	2700	509	2250	11300	5000	e4990
18	6.7	14	13	104	3710	243	2150	509	2280	14900	3000	e11700
19	6.0	12	12	104	4230	1490	2140	671	3850	14900	2130	e6570
20	3.0	19	e12	102	4900	3720	3820	300	3420	14800	2130	e1380
21	2.3	17	e12	101	5310	3710	7950	670	3110	13100	2130	e528
22	1.8	17	32	101	5290	3700	9100	1000	3090	8370	2130	e118
23	3.0	17	e2160	101	5270	3700	9090	985	2720	5160	2130	89
24	e5.0	17	e4120	102	5250	3690	6760	987	2260	7220	2130	e78
25	7.0	15	e4110	102	3640	3680	4030	976	2260	10700	2130	e65
26	e6.5	13	e3180	101	1010	3680	4020	968	2820	10700	2110	e64
27	6.1	13	e2160	327	120	2940	1830	387	4030	8500	2110	e62
28	e7.0	12	2150	1400	118	2060	132	98	4010	6150	4080	e660
29	e7.5	11	2140	1730	118	2050	132	96	4110	6790	6080	e1600
30	8.1	11	2130	1730	---	1420	132	96	4000	8100	6060	e1600
31	e7.5	---	2120	789	---	564	---	97	---	8110	6110	---
TOTAL	173.8	307.6	24604	69637	53200	55468	68854	16485	88115	228370	217920	39046
MEAN	5.61	10.3	794	2246	1834	1789	2295	532	2937	7367	7030	1302
MAX	8.1	20	4120	6280	5310	3720	9100	1030	5810	14900	17800	11700
MIN	1.8	5.0	12	101	118	118	132	96	95	2240	2110	62
AC-FT	345	610	48800	138100	105500	110000	136600	32700	174800	453000	432200	77450

e Estimated

ARKANSAS RIVER BASIN
07171400 VERDIGRIS RIVER NEAR OOLOGAH, OK--Continued

129

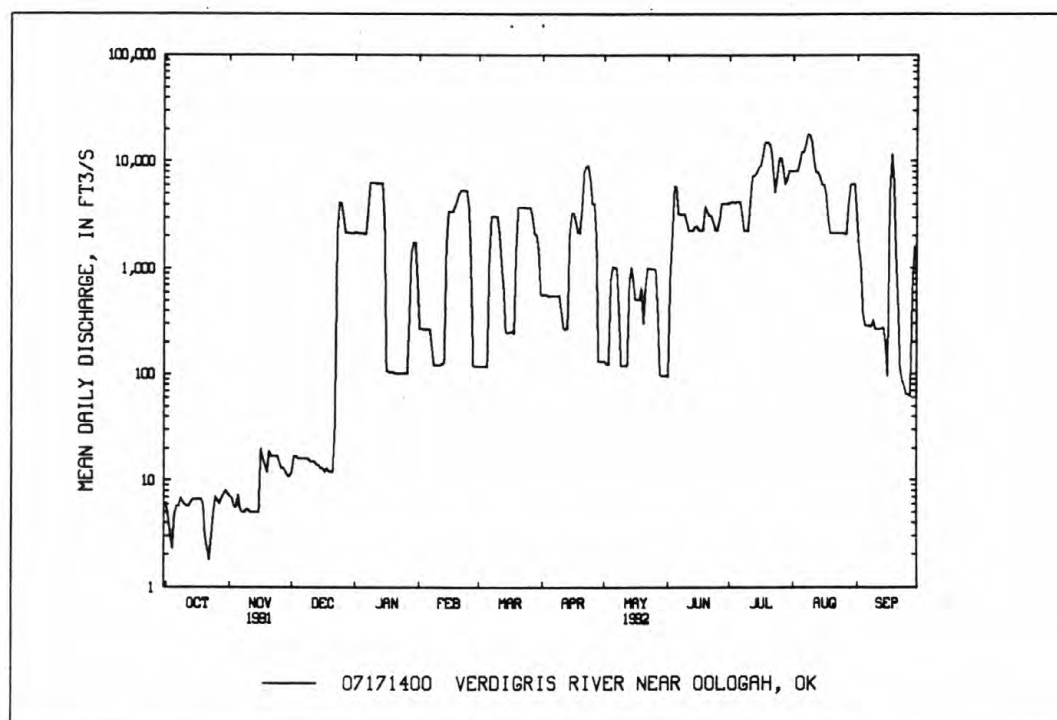
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2266	2962	2159	2329	2003	4311	5372	3737	4999	3072	932	995
MAX	27500	14870	10020	11120	6863	19100	17990	19430	12830	16630	7030	4095
(WY)	1987	1975	1986	1974	1973	1985	1988	1973	1982	1976	1992	1989
MIN	5.61	1.87	1.14	4.06	.71	.89	28.0	25.5	51.7	13.7	12.0	2.63
(WY)	1992	1966	1966	1976	1967	1967	1971	1971	1972	1988	1988	1979

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1965-92

ANNUAL TOTAL	198708.0	862180.4	
ANNUAL MEAN	544	2356	2928
HIGHEST ANNUAL MEAN			6679 1987
LOWEST ANNUAL MEAN			218 1981
HIGHEST DAILY MEAN	9180	May 29	17800 Aug 8 50100 Oct 14 1986
LOWEST DAILY MEAN	1.8	Oct 22	1.8 Oct 22 .00 at times
ANNUAL SEVEN-DAY MINIMUM	4.0	Oct 18	4.0 Oct 18 .00 Mar 16 1967
INSTANTANEOUS PEAK FLOW			17900 Aug 8 53700 Oct 14 1986
INSTANTANEOUS PEAK STAGE			27.35 Aug 8 ^a 38.23 Oct 8 1986
ANNUAL RUNOFF (AC-FT)	394100	1710000	2121000
10 PERCENT EXCEEDS	2150	6770	9190
50 PERCENT EXCEEDS	91	787	590
90 PERCENT EXCEEDS	6.5	6.7	12

^aBackwater from Caney River.



ARKANSAS RIVER BASIN

07172500 HULAH LAKE NEAR HULAH, OK

LOCATION.--Lat 36°55'39", long 96°05'18", in SW 1/4 SE 1/4 sec.2, T.28 N., R.11 E., Osage County, Hydrologic Unit 11070106, in stair tower at right end of Hulah Dam on Caney River, 0.5 mi downstream from Hickory Creek, 2.0 mi west of Hulah, 15.7 mi upstream from Little Caney River, and at mile 96.2.

DRAINAGE AREA.--732 mi².

PERIOD OF RECORD.--April 1950 to current year. Prior to October 1970, published as Hulah Reservoir near Hulah.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Feb. 15, 1951, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by an earth dam. Spillway is 472-foot concrete ogee-type weir controlled by 10 taintor gates. Outlet works consist of nine rectangular sluices, two 24-inch gated pipes, and one 10-inch water-supply pipe. Closure for diversion made Feb. 6, 1950; regulated storage began Oct. 25, 1950; conservation pool was first filled Sept. 24, 1951. Capacity, 289,000 acre-ft, at elevation 765.0 ft, top of taintor gates, 61,360 acre-ft, at elevation 740.0 ft, crest of spillway, and 31,120 acre-ft, at elevation 733.0 ft, conservation pool. Figures given herein represent total contents. Reservoir is used for flood control, conservation, and municipal water supply. Revised capacity table, based on survey in 1973, used since Oct. 1, 1977. U.S. Army Corps of Engineers' satellite telemeter at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 350,100 acre-ft, Oct. 3, 1986, elevation, 769.41 ft; minimum since conservation pool was first filled, 11,250 acre-ft, Mar. 20, 1957, elevation, 723.22 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 55,150 acre-ft, June 21, elevation 738.74 ft; minimum, 19,760 acre-ft, Dec. 11, elevation 729.40 ft.

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

725	9,940	745	90,970
730	21,400	750	128,700
735	38,680	755	174,200
740	61,360	760	227,400

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23490	21740	20380	32960	31450	32410	32440	32180	31160	30880	31630	32080
2	23400	21390	20270	32810	31490	32590	32700	32300	37750	31270	31670	31630
3	23250	21220	20180	32520	31560	32630	32700	32370	43240	31340	32080	31410
4	23040	21160	20150	32330	31670	33360	32260	32410	44050	31340	32080	31490
5	23010	21050	20040	31960	31630	33440	31780	32370	43020	31520	32590	31410
6	22860	20910	20040	31710	31630	33100	31380	32300	46720	31490	32590	31380
7	22740	20830	19990	31270	31710	32520	31120	32300	46630	31490	32590	31340
8	22650	20740	19930	31230	31710	32000	31300	32260	45690	31490	32590	31380
9	22530	20660	19880	31160	31670	31740	31300	32150	45130	31490	32590	31340
10	22470	20600	19790	31270	31740	30810	31300	32110	44360	32770	32630	31300
11	22380	20520	19850	31410	33470	30570	33510	32110	44830	32590	33470	31230
12	22230	20460	20600	31490	34360	30640	32480	32110	43970	32660	33550	31160
13	22170	20380	20460	31820	34690	30670	32410	32080	41870	33360	33330	31160
14	22040	20380	20320	31890	39410	30810	32410	32220	47560	33330	33070	31160
15	21920	20490	20240	32080	39210	30950	32370	32180	52860	33250	32850	31120
16	21800	20460	20240	32110	38140	31020	32260	32260	52770	34140	32590	31120
17	21650	21300	20130	32150	37510	31160	32080	32410	51360	34430	32370	30980
18	21590	21160	20040	32180	36810	32810	31820	32300	49370	34020	32150	30980
19	21410	21160	20550	32300	35770	34280	32630	32000	50860	33510	32040	30910
20	21270	21110	31380	32300	34720	33990	32480	31710	54580	33070	31890	30980
21	21160	21020	35800	32330	33800	33550	31820	31380	53910	32550	31780	30910
22	21080	21110	37630	32080	32880	32630	31020	31270	51680	32550	31740	30880
23	20990	20910	38170	31780	31820	31710	30810	34540	49100	32440	31670	30980
24	20970	20740	37440	31670	31230	30780	30980	34830	46420	32410	31600	31050
25	20970	20690	36500	31450	31160	30740	31160	35300	43580	32180	31600	30980
26	21160	20600	35420	31190	31380	30840	31230	34470	40680	32080	32370	31340
27	20990	20570	34650	31050	31710	31160	31300	33360	37510	32000	32660	31270
28	21860	20550	34280	31160	32000	31380	31740	32260	34830	31960	32740	31230
29	21590	20550	33800	31230	32260	31780	31780	31560	32330	31890	32740	31160
30	21390	20460	33440	31300	---	31930	32040	31340	30740	31820	32660	31120
31	22040	---	33180	31410	---	32260	---	31230	---	31710	32550	---

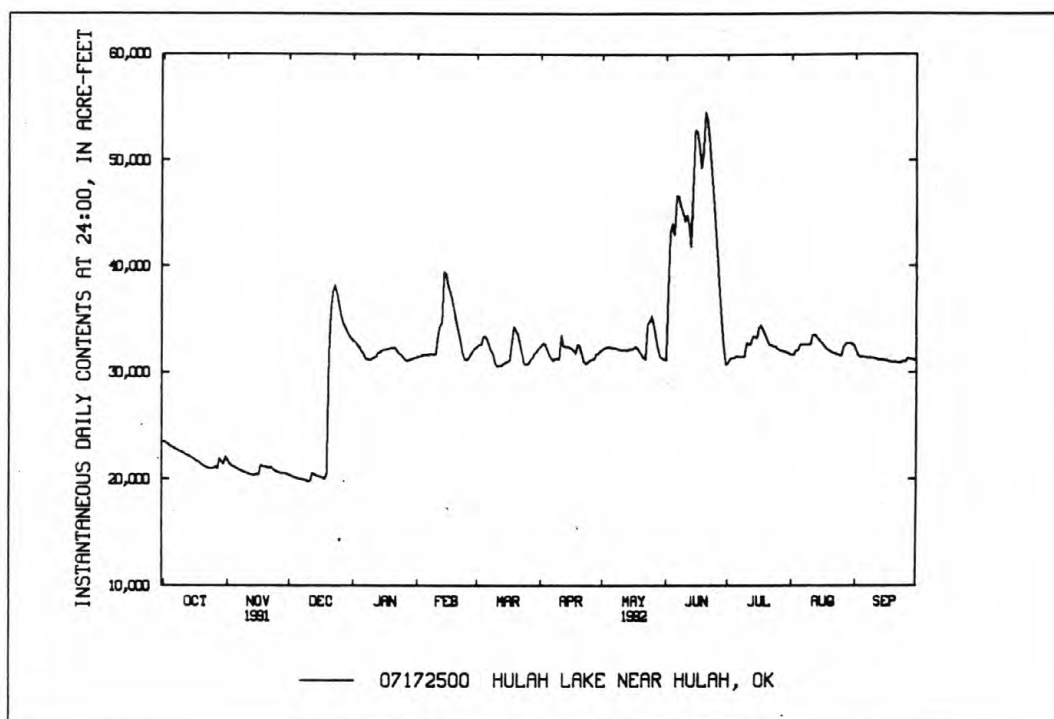
ARKANSAS RIVER BASIN
07172500 HULAH LAKE NEAR HULAH, OK--Continued

131

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MAX	23490	21740	38170	32960	39410	34280	33510	35300	54580	34430	33550	32080
MIN	20970	20380	19790	31050	31160	30570	30810	31230	30740	30880	31600	30880
(+)	730.20	729.65	733.55	733.07	733.30	733.30	733.24	733.02	732.88	733.15	733.38	732.99
(++)	-1,430	-1,580	+12,720	-1,770	+850	0	-220	-810	-490	+970	+840	-1,430
CAL YR 1991	MAX 47780		MIN 19790		(++) 9,040							
WTR YR 1992	MAX 54580		MIN 19790		(++) 7,650							

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

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



ARKANSAS RIVER BASIN
07173000 CANEY RIVER NEAR HULAH, OK

LOCATION.--Lat 36°55'37", long 96°05'06", in SW 1/4 SE 1/4 sec.2, T.28 N., R.11 E., Osage County, Hydrologic Unit 11070106, on left bank 1,200 ft downstream from Hulah Dam, 2.1 mi upstream from Opossum Creek, 2.5 mi west of Hulah, and at mile 95.9.

DRAINAGE AREA.--733 mi².

PERIOD OF RECORD.--October 1937 to current year.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 694.00 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 18, 1939, nonrecording gage. Feb. 18, 1939 to Sept. 30, 1948, water-stage recorder at county road bridge, 0.2 mi upstream at datum 9.04 ft lower. Oct. 1, 1948 to Sept. 30, 1972, at site 0.6 mi downstream at datum 12.04 ft lower. Oct. 1, 1972, to Sept. 30, 1989, at same site and datum 5.00 ft higher.

REMARKS.--Records fair. Flow completely regulated since February 1950 by Hulah Lake (station 07172500). About 5 to 9 ft³/s is diverted from gage pool for municipal water supply by the city of Bartlesville.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 40.2 ft occurred at original site and datum, date unknown, from floodmark, information provided by U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	20	17	308	63	63	57	27	90	e200	19	205
2	28	19	17	310	63	63	56	27	30	e90	19	206
3	21	19	17	312	62	132	162	27	26	e90	27	99
4	26	19	18	309	62	169	259	25	609	e90	27	13
5	20	19	16	312	63	256	260	24	1110	e90	25	13
6	20	19	14	312	63	303	258	24	1110	e45	25	13
7	20	19	15	310	63	309	135	23	1120	23	25	11
8	21	19	15	223	63	305	72	23	1130	21	25	10
9	21	19	15	164	63	301	72	23	1140	18	25	10
10	21	19	15	110	65	298	73	23	1150	20	26	10
11	21	19	16	61	66	151	75	23	1180	34	33	10
12	21	19	16	60	67	62	72	23	1340	34	74	10
13	21	20	15	60	67	44	73	23	1410	23	110	10
14	21	e20	15	60	199	30	75	23	1400	54	111	10
15	21	e19	15	60	301	30	75	23	1430	82	112	10
16	21	e18	15	60	288	30	158	23	1460	83	112	10
17	22	e18	15	60	286	31	199	23	1460	184	114	16
18	21	e18	18	60	285	32	199	120	1450	320	112	17
19	25	e18	20	60	291	229	196	201	1180	315	61	9.3
20	37	e18	31	61	311	406	277	203	495	317	36	9.3
21	29	e17	32	128	316	411	407	202	1080	229	25	9.6
22	23	e17	32	215	316	407	382	96	1440	104	10	9.1
23	23	e17	122	211	315	415	153	21	1460	104	10	8.9
24	23	e17	331	211	301	411	24	21	1450	101	10	9.4
25	22	17	352	213	141	193	24	21	1420	98	10	9.3
26	23	17	374	212	60	55	24	270	1400	98	10	9.3
27	22	17	351	121	60	54	25	446	1400	54	9.8	9.7
28	30	17	308	61	61	54	26	440	1380	25	9.5	19
29	20	18	307	62	62	54	26	336	1370	24	11	12
30	20	17	307	62	---	55	26	184	1110	23	11	9.4
31	20	---	309	62	---	55	---	181	---	22	108	---
TOTAL	722	549	3160	4830	4423	5408	3920	3149	33830	3015	1342.3	807.3
MEAN	23.3	18.3	102	156	153	174	131	102	1128	97.3	43.3	26.9
MAX	38	20	374	312	316	415	407	446	1460	320	114	206
MIN	20	17	14	60	60	30	24	21	26	18	9.5	8.9
AC-FT	1430	1090	6270	9580	8770	10730	7780	6250	67100	5980	2660	1600

e Estimated

ARKANSAS RIVER BASIN
07173000 CANEY RIVER NEAR HULAH, OK--Continued

133

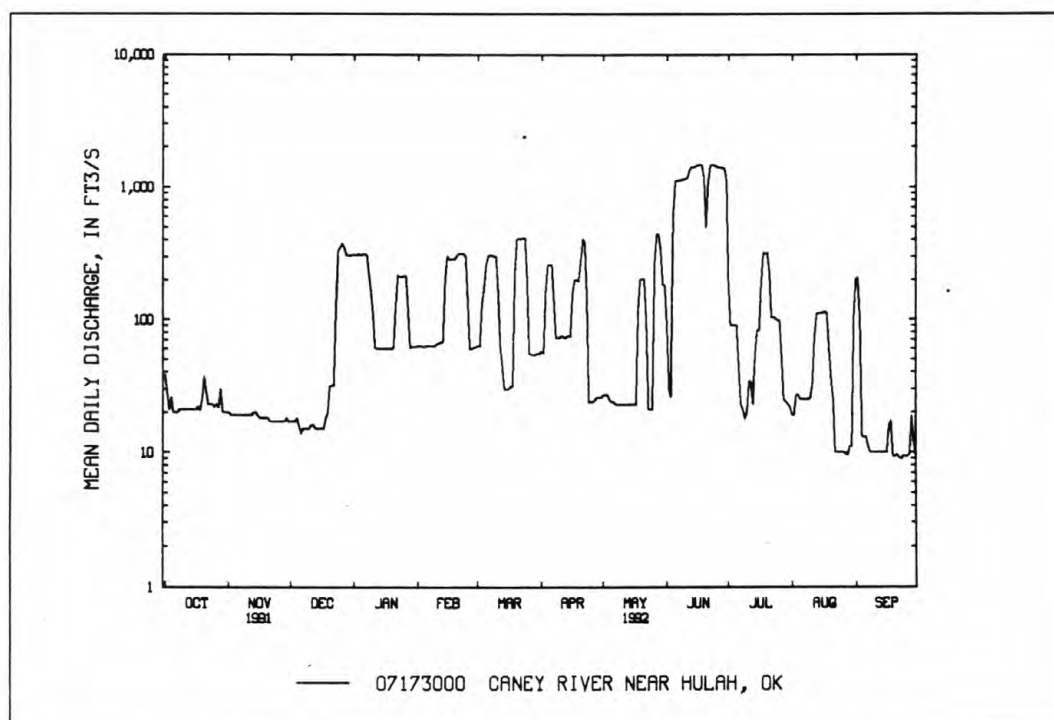
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	414	354	283	215	208	572	638	632	693	415	97.1	164
MAX	7673	2476	1416	1566	1643	3031	2740	2869	3240	2922	1384	2055
(WY)	1987	1962	1987	1973	1975	1987	1988	1973	1982	1957	1959	1989
MIN	2.94	5.36	1.40	.38	5.14	.47	1.92	3.31	1.06	2.83	2.64	5.29
(WY)	1988	1981	1981	1951	1981	1981	1953	1981	1981	1984	1984	1984

SUMMARY STATISTICS	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1951-92
ANNUAL TOTAL	36078.6	65155.6	
ANNUAL MEAN	98.8	178	^a 391
HIGHEST ANNUAL MEAN			1512 1987
LOWEST ANNUAL MEAN			5.10 1981
HIGHEST DAILY MEAN	2190	Jun 11	1460 Jun 16 54300 Oct 4 1986
LOWEST DAILY MEAN	6.2	Jan 4	8.9 Sep 23 .00 at times
ANNUAL SEVEN-DAY MINIMUM	6.2	Jan 4	9.3 Sep 19 .08 Dec 25 1980
INSTANTANEOUS PEAK FLOW			1500 Jun 14, 23 ^b 58000 Oct 3 1986
INSTANTANEOUS PEAK STAGE			5.50 Jun 14, 23 26.80 Oct 3 1986
ANNUAL RUNOFF (AC-FT)	71560	129200	283300
10 PERCENT EXCEEDS	252	376	1130
50 PERCENT EXCEEDS	18	54	23
90 PERCENT EXCEEDS	12	15	7.2

^aPrior to regulation by Hulah Lake, water years 1938-50, 413 ft³/s.

^bMaximum discharge for period of record, from rating curve extended above 7,000 ft³/s on basis of relating stage to release records at maximum and lower stages.



ARKANSAS RIVER BASIN
07174300 COPAN LAKE NEAR COPAN, OK

LOCATION.--Lat 36°53'13", long 95°57'10", in NW 1/4, NW 1/4 sec.29, T.28 N., R.13 E., Washington County, Hydrologic Unit 11070106, 600 ft northwest of project office, 1.5 mi southwest of Copan and at mile 7.4.

DRAINAGE AREA.--505 mi².

PERIOD OF RECORD.--April 1983 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by earth dam. Spillway is concrete ogee-type weir controlled by 4 tainter gates. A 36-inch diameter low-flow pipe and a 12-inch diameter future water-supply pipe extend through the spillway. Storage began Apr. 1, 1983, conservation pool was first filled Apr. 23, 1983. Capacity 227,700 acre-feet at elevation 732.0 ft, top of flood control pool; 43,400 acre-ft at elevation, 710.0 ft, top of conservation pool. Dead storage 600 acre-ft below elevation 687.5 ft. Figures given herein represent total contents. Reservoir is used for flood control, water conservation, and future water supply. U.S. Army Corps of Engineers' satellite telemeter at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 278,700 acre-ft, Oct. 4, 1986, elevation, 735.35 ft; minimum since conservation pool first filled, 30,830 acre-ft, Oct. 14, 1983, elevation, 707.17 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 65,310 acre-ft, July 1, elevation, 714.04 ft; minimum, 31,830 acre-ft, Oct. 23, elevation, 707.40 ft.

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

705	22,830	725	148,400
710	43,400	730	203,200
715	71,170	735	273,200
720	105,900	740	359,600

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33810	33400	34920	43920	43920	43920	45060	43420	44660	43620	44560	43560
2	33720	33270	34830	44010	43920	43860	45010	43720	45910	43860	44560	43760
3	33680	33230	34790	43920	43920	43820	44760	43720	50360	43620	45160	43820
4	33680	33150	34650	43860	43920	44160	44510	43720	51470	43920	45910	43660
5	33480	33190	34740	43820	43820	45160	44060	43760	51360	44160	46160	43660
6	33350	33350	34650	43560	43820	45560	43820	43560	52780	44160	46310	43560
7	33230	33110	34610	43420	43760	44910	43460	43420	53470	43960	46410	43620
8	33480	33020	34830	43660	43720	44310	43420	43420	53100	43920	46410	43320
9	33480	32980	34830	43560	43660	44110	43370	43320	52840	43760	46610	43820
10	33560	33190	34740	43620	43760	43180	43320	43230	52360	44410	46410	43620
11	33350	32980	34740	43370	44160	43040	43660	42990	51780	52780	46660	43560
12	33270	32900	35620	43620	46160	42850	43560	43130	50890	54460	46410	43420
13	33400	32900	35800	43760	46960	42660	43460	43090	49620	51940	46110	43420
14	33060	32980	35760	43820	48060	42660	43420	43230	50150	47660	45760	43420
15	32900	33190	35710	43820	48930	42660	43620	43270	53210	46060	45410	43370
16	32780	33760	35620	43920	48930	42660	43620	43270	54240	49090	45160	43270
17	32780	34610	35710	44060	49250	42760	43660	43230	54520	49990	44660	43180
18	32940	35100	35620	43860	48780	43040	43660	43180	53680	49620	44410	43230
19	32530	35450	35840	43860	47910	43180	44110	43270	52940	48880	44410	43040
20	32450	35270	42850	43820	47610	43320	44510	43320	53470	48310	44360	43270
21	32280	35270	49300	43820	46760	44410	44410	43320	52520	47460	44310	43320
22	32240	35400	51040	43860	45960	44160	44010	43420	50780	46360	44160	43090
23	32160	35050	51570	43920	45510	44310	43860	43760	49360	45760	44010	42940
24	32370	35230	50460	43920	44910	44560	43820	43760	47510	48260	43920	42800
25	32320	35140	49200	43920	44010	44660	43720	44210	45760	48010	44010	42710
26	32450	35050	47160	43960	43660	44810	43620	43920	44560	48260	44010	42940
27	32490	34960	46110	43960	43820	44760	43520	44060	44160	48110	43820	42900
28	33350	35050	45560	43960	43860	44710	43460	44210	44110	47160	43860	42850
29	33600	35010	44910	43960	43860	45060	43620	44310	44060	46060	43820	42710
30	33350	35100	44160	43920	---	44960	43520	44410	43820	45260	43820	42620
31	33270	---	43860	43920	---	45160	---	44410	---	44510	43920	---

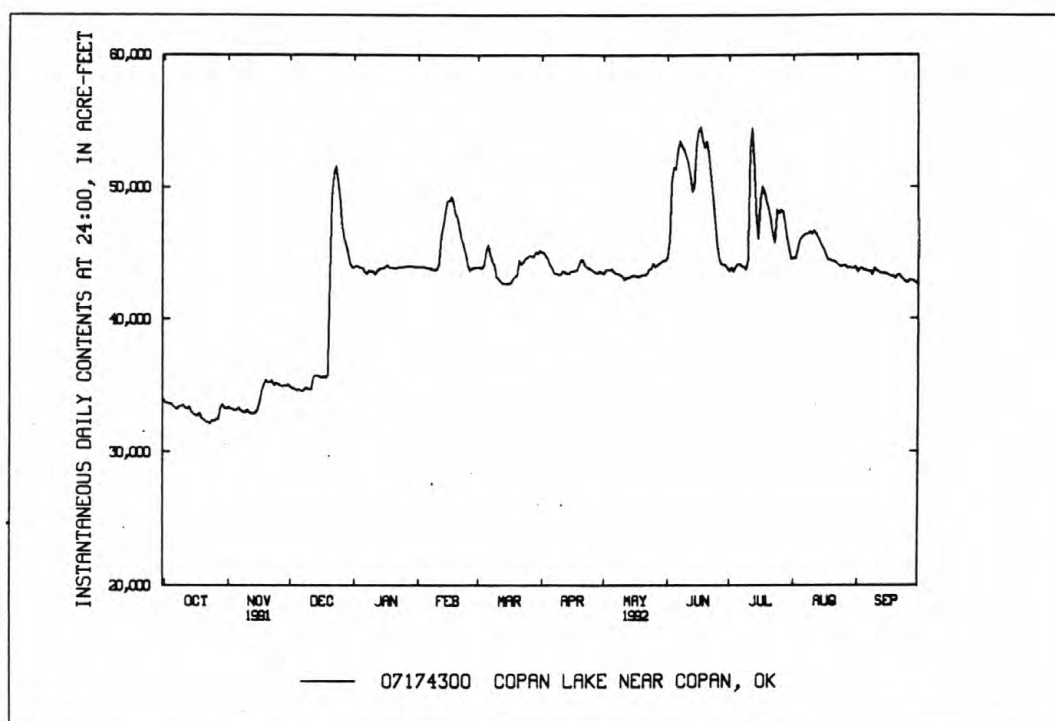
ARKANSAS RIVER BASIN
07174300 COPAN LAKE NEAR COPAN, OK--Continued

135

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MAX	33810	35450	51570	44060	49250	45560	45060	44410	54520	54460	46660	43820
MIN	32160	32900	34610	43370	43660	42660	43320	42990	43820	43620	43820	42620
(+)	707.75	708.18	710.09	710-.10	710.09	710.35	710.02	710.20	710.08	710.22	710.10	709.83
(++)	-840	+1,830	+8,760	+60	-60	+1,300	-1,640	+890	-590	+690	-590	-1,300
CAL YR 1991	MAX	51570		MIN	32160		(++)	5,350				
WTR YR 1992	MAX	437400		MIN	32160		(++)	8,510				

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

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



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 11070103, 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 69.2.

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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. 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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	51	31	587	78	86	e80	94	181	798	150	136
2	42	29	31	541	78	85	e80	69	202	169	55	216
3	36	24	30	529	80	79	e330	53	855	88	75	218
4	24	23	30	507	80	161	e500	52	446	82	96	122
5	25	24	29	496	76	227	e500	48	1990	88	167	47
6	25	24	29	490	78	479	e500	46	2660	86	170	44
7	25	26	30	486	78	806	e390	44	2600	68	78	41
8	25	26	30	411	78	830	e190	44	2460	38	67	41
9	26	26	29	224	77	824	e140	43	2530	36	65	38
10	26	27	28	166	80	823	e101	40	2360	37	63	36
11	27	26	31	117	83	795	e101	39	2310	73	647	33
12	28	27	112	80	259	246	e101	39	2320	102	200	31
13	27	28	118	82	277	90	e101	39	2600	228	198	28
14	27	30	56	81	828	64	e101	41	2780	2920	256	25
15	28	33	40	81	1380	44	101	39	3300	2030	257	24
16	28	123	34	78	1240	44	104	39	2890	547	241	24
17	30	343	30	80	1150	45	227	39	2790	726	235	24
18	32	97	28	78	1120	49	277	38	2760	898	229	24
19	32	46	42	78	1090	53	293	112	2750	951	147	26
20	32	43	2700	78	1060	642	394	202	1050	945	71	26
21	44	33	1440	78	1050	786	732	215	309	1090	50	27
22	46	28	412	160	1030	792	922	205	2520	858	47	25
23	34	25	274	242	1030	792	904	95	2710	744	37	24
24	34	24	1250	247	1020	791	443	74	2710	709	35	24
25	33	25	1660	247	992	749	141	69	2680	648	34	23
26	51	25	1630	243	559	e200	101	60	2620	712	34	32
27	36	26	1550	241	163	e80	101	522	2020	714	36	29
28	208	26	951	155	91	e80	122	701	1840	688	41	25
29	74	29	831	78	89	e80	265	683	1840	655	44	24
30	36	30	815	78	---	e80	126	350	1810	648	44	24
31	44	---	794	78	---	e80	---	188	---	600	44	---
TOTAL	1225	1347	15095	7117	15294	10982	8468	4322	62893	18976	3913	1461
MEAN	39.5	44.9	487	230	527	354	282	139	2096	612	126	48.7
MAX	208	343	2700	587	1380	830	922	701	3300	2920	647	218
MIN	24	23	28	78	76	44	80	38	181	36	34	23
AC-FT	2430	2670	29940	14120	30340	21780	16800	8570	124700	37640	7760	2900

e Estimated

ARKANSAS RIVER BASIN

137

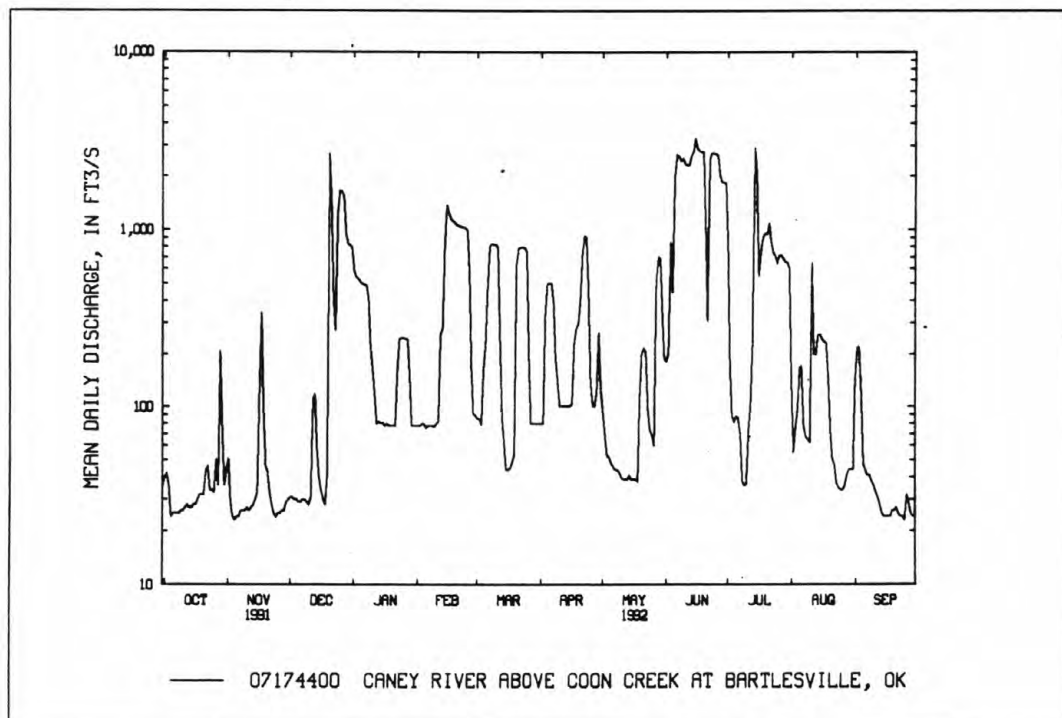
07174400 CANEY RIVER ABOVE COON CREEK AT BARTLESVILLE, OK--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2498	1086	996	743	754	1854	1815	1304	2260	920	172	619
MAX	14800	3096	2663	2702	2721	4606	5185	2652	4367	2899	511	2635
(WY)	1987	1987	1987	1988	1987	1990	1988	1990	1989	1989	1986	1989
MIN	13.2	44.9	27.7	27.4	29.1	29.4	175	139	49.9	29.4	22.5	12.8
(WY)	1988	1992	1991	1991	1991	1991	1991	1992	1988	1988	1988	1987

SUMMARY STATISTICS	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1986-92
ANNUAL TOTAL	88392	151093	
ANNUAL MEAN	242	413	1253
HIGHEST ANNUAL MEAN			2888 1987
LOWEST ANNUAL MEAN			204 1991
HIGHEST DAILY MEAN	3360 May 2	3300 Jun 15	64900 Oct 5 1986
LOWEST DAILY MEAN	18 Jan 1, 8	23 ^a Nov 4	6.6 Oct 5-10 1987
ANNUAL SEVEN-DAY MINIMUM	20 Jan 3	25 Nov 3	6.7 Oct 4 1987
INSTANTANEOUS PEAK FLOW		4510 Dec 20	94500 Oct 4 1986
INSTANTANEOUS PEAK STAGE		7.26 Dec 20	27.70 Oct 4 1986
ANNUAL RUNOFF (AC-FT)	175300	299700	908000
10 PERCENT EXCEEDS	820	1100	3880
50 PERCENT EXCEEDS	33	85	193
90 PERCENT EXCEEDS	25	27	22

^aAlso occurred Sept. 25.



ARKANSAS RIVER BASIN
07174600 SAND CREEK AT OKESA, OK

LOCATION.--Lat 36°43'10", long 96°07'56", in SW 1/4 NW 1/4 sec.21, T.26 N., R.11 E., Osage County, Hydrologic Unit 11070106, on downstream side of left abutment of county road bridge, 0.5 mi northeast of Okesa, 9 mi southwest of Bartlesville, and at mile 17.2.

DRAINAGE AREA.--139 mi².

PERIOD OF RECORD.--October 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is 689.20 ft above National Geodetic Vertical Datum of 1929. Prior to May 25, 1960, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. 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:

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Dec. 20	1200	5,070	13.47	June 19	2130	6,130	14.57

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	26	3.9	32	9.8	32	13	60	25	23	3.9	12
2	1.3	18	3.1	39	9.8	28	13	34	531	21	3.3	9.9
3	1.8	15	3.0	39	9.8	27	14	24	608	17	3.7	9.6
4	2.3	11	2.8	31	9.6	28	17	19	182	15	5.1	8.3
5	3.5	8.6	2.4	26	9.2	121	17	16	94	12	6.0	7.7
6	4.0	8.4	2.1	22	8.3	104	15	13	555	10	6.4	8.6
7	4.0	14	2.1	21	8.2	61	14	11	251	8.6	6.1	8.3
8	3.8	12	2.1	19	7.6	43	12	9.7	107	7.3	5.7	7.2
9	3.6	10	2.7	18	7.7	35	11	8.7	62	6.6	6.7	6.3
10	3.6	9.5	2.8	16	8.1	29	10	7.8	48	5.6	11	6.0
11	3.4	11	2.8	15	9.3	25	24	7.3	46	5.0	243	6.0
12	3.0	14	89	15	134	22	118	7.3	33	4.7	172	5.9
13	3.7	15	65	14	157	21	46	7.2	25	3.9	60	5.1
14	4.0	15	26	16	895	21	24	7.0	468	4.7	30	4.3
15	4.1	14	14	15	361	20	23	9.6	726	4.8	21	3.8
16	4.1	93	8.9	14	154	20	30	9.9	157	22	17	3.5
17	4.1	222	6.8	12	107	19	29	8.1	71	90	14	3.4
18	4.1	62	5.3	11	91	20	34	7.3	33	70	11	3.6
19	3.9	24	8.5	10	65	22	96	7.3	1880	34	9.9	4.1
20	3.8	20	2910	9.2	48	21	159	7.6	1090	22	8.3	4.3
21	4.2	12	545	9.3	40	24	104	8.2	200	22	7.1	4.6
22	5.2	8.1	190	11	35	22	61	7.8	104	31	6.4	4.7
23	4.4	6.0	145	13	31	21	37	90	67	22	5.5	4.5
24	4.1	4.5	88	13	30	19	27	152	49	17	4.8	3.9
25	4.3	4.0	53	15	62	19	21	54	36	13	4.4	3.5
26	7.0	3.8	37	14	64	17	18	27	27	11	4.1	3.7
27	6.1	4.0	30	12	43	17	16	19	22	8.7	144	3.7
28	85	4.3	28	12	38	16	25	18	19	7.1	47	3.1
29	15	6.3	26	11	37	16	196	37	21	5.8	24	2.5
30	12	8.4	25	11	---	16	117	61	24	5.1	17	2.0
31	17	---	21	9.9	---	14	---	34	---	4.3	15	---
OTAL	232.0	683.9	4351.3	525.4	2489.4	920	1341	789.8	7561	534.2	923.4	164.1
MEAN	7.48	22.8	140	16.9	85.8	29.7	44.7	25.5	252	17.2	29.8	5.47
MAX	85	222	2910	39	895	121	196	152	1880	90	243	12
MIN	1.3	3.8	2.1	9.2	7.6	14	10	7.0	19	3.9	3.3	2.0
AC-FT	460	1360	8630	1040	4940	1820	2660	1570	15000	1060	1830	325

ARKANSAS RIVER BASIN
07174600 SAND CREEK AT OKESA, OK--Continued

139

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	64.3	87.7	55.1	45.2	78.9	162	134	146	106	25.1	18.0	64.1
MAX	565	467	258	256	518	858	512	611	833	286	228	570
(WY)	1987	1975	1988	1973	1987	1974	1988	1982	1985	1976	1961	1986
MIN	.000	.000	.000	.000	.000	.026	.69	1.85	.63	.000	.000	.000
(WY)	1964	1964	1964	1964	1964	1964	1981	1971	1963	1963	1963	1963

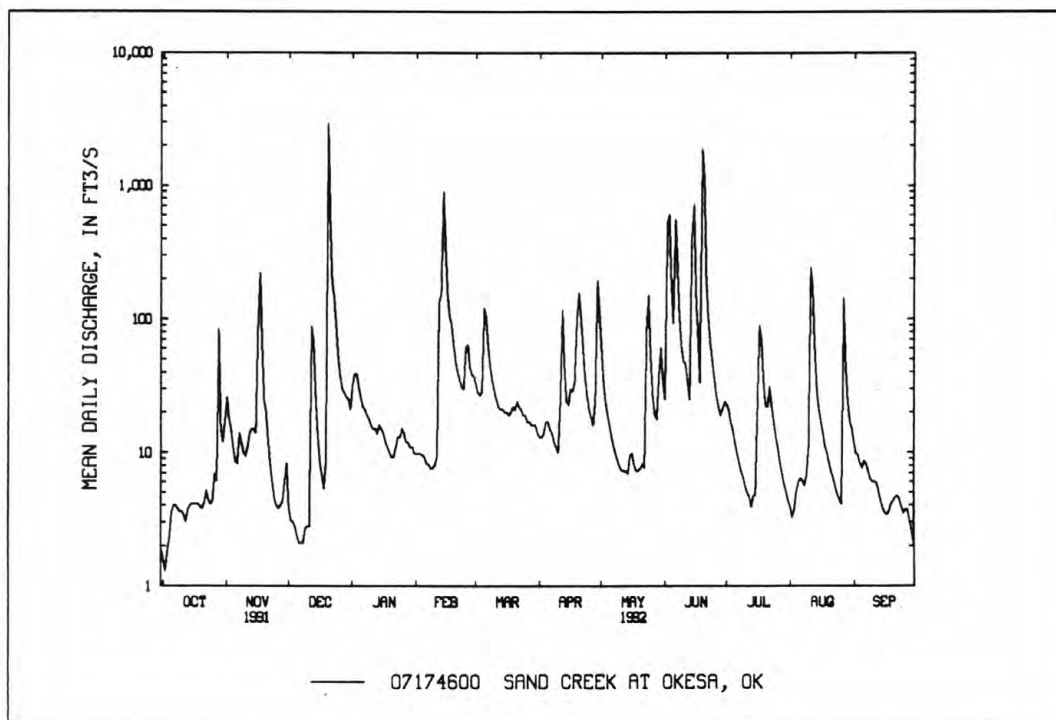
SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1960-92

ANNUAL TOTAL	26177.26	20515.5	
ANNUAL MEAN	71.7	56.1	82.1
HIGHEST ANNUAL MEAN			194 1985
LOWEST ANNUAL MEAN			5.52 1981
HIGHEST DAILY MEAN	7140 Jun 5	2910 Dec 20	13200 Mar 10 1974
LOWEST DAILY MEAN	.00 Aug 9	1.3 Oct 2	^a .00 Sep 17 1960
ANNUAL SEVEN-DAY MINIMUM	.00 Aug 9	2.4 Dec 4	.00 Sep 17 1960
INSTANTANEOUS PEAK FLOW		6130 Jun 19	^b 19500 Mar 10 1974
INSTANTANEOUS PEAK STAGE		14.57 Jun 19	^c 28.60 Mar 10 1974
ANNUAL RUNOFF (AC-FT)	51920	40690	59450
10 PERCENT EXCEEDS	112	95	121
50 PERCENT EXCEEDS	6.8	14	8.5
90 PERCENT EXCEEDS	.58	3.9	.00

^aNo flow at times in many years.

^bFrom rating curve extended above 14,400 ft³/s on basis of slope-area measurement of peak flow.

^cFrom flood marks.



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.

WATER-DISCHARGE RECORDS

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 National Geodetic Vertical Datum of 1929. Sept. 1, 1945 to Feb. 15, 1946, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharge. Records good. 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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	187	165	1060	145	228	119	413	290	1610	573	85
2	48	192	144	985	142	215	123	269	968	737	245	144
3	52	120	144	793	141	202	113	189	4360	366	164	194
4	51	94	139	700	139	201	119	142	1990	286	254	194
5	43	78	124	631	137	342	362	121	1160	275	389	125
6	34	65	111	584	133	519	424	105	4250	358	508	79
7	33	58	106	558	131	704	423	93	5320	298	268	70
8	33	52	100	525	129	837	400	85	3790	247	158	73
9	32	51	92	420	127	808	259	79	4160	194	136	75
10	31	45	82	286	135	766	151	73	3180	171	106	70
11	33	41	77	243	172	753	120	82	2590	164	1530	58
12	32	44	541	203	975	637	504	107	2240	198	1360	51
13	31	43	828	180	954	255	891	93	2180	241	589	47
14	33	46	397	228	3900	174	347	87	3340	951	367	48
15	31	42	243	228	5240	147	240	131	6660	2520	310	47
16	30	144	184	194	2280	122	201	96	4790	1460	266	47
17	30	2420	153	176	1530	117	244	90	3050	1070	230	42
18	32	1260	128	165	1300	123	460	91	2700	1030	213	42
19	31	419	125	158	1170	126	536	183	3860	1090	203	40
20	31	313	5920	154	1090	134	880	330	7710	1040	144	49
21	31	307	11300	151	1040	559	850	288	3530	1280	98	51
22	35	221	6370	159	1000	645	965	266	1720	1200	74	46
23	48	167	1720	269	977	638	890	367	2810	908	69	42
24	56	132	1180	322	954	634	722	202	2730	832	60	36
25	39	110	1720	306	947	632	349	259	2630	795	53	32
26	47	97	1690	288	884	539	194	173	2560	778	53	35
27	77	90	1590	280	543	208	157	156	2330	783	51	50
28	188	88	1370	277	295	122	163	600	1800	771	93	50
29	767	83	987	212	240	117	1400	738	1870	734	122	34
30	218	165	907	155	---	115	961	630	1900	731	96	31
31	127	---	873	148	---	113	---	345	---	704	89	---
TOTAL	2349	7174	39510	11038	26850	11732	13567	6883	92468	23822	8871	1987
MEAN	75.8	239	1275	356	926	378	452	222	3082	768	286	66.2
MAX	767	2420	11300	1060	5240	837	1400	738	7710	2520	1530	194
MIN	30	41	77	148	127	113	113	73	290	164	51	31
AC-FT	4660	14230	78370	21890	53260	23270	26910	13650	183400	47250	17600	3940

ARKANSAS RIVER BASIN
07175500 CANEY RIVER NEAR RAMONA, OK

141

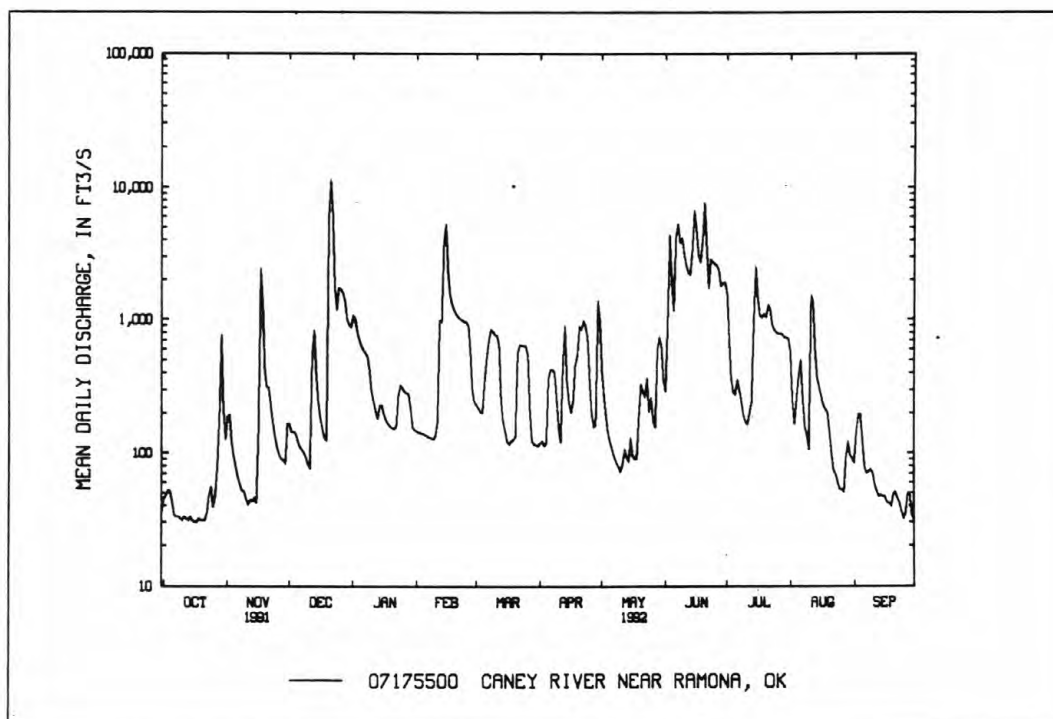
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2831	1443	1398	955	1296	3370	3063	1955	2815	1008	217	800
MAX	19540	4390	3231	2756	4208	7228	6989	3970	5098	2892	792	3178
(WY)	1987	1987	1987	1988	1987	1990	1988	1985	1985	1989	1986	1989
MIN	40.3	98.2	76.1	134	81.0	71.9	452	222	70.1	30.2	34.9	48.7
(WY)	1988	1991	1991	1984	1991	1991	1992	1992	1988	1984	1984	1984

SUMMARY STATISTICS	1991 CALENDAR YEAR		1992 WATER YEAR		WATER YEARS 1984-92	
ANNUAL TOTAL	176231		246251		^a 1763	
ANNUAL MEAN	483		673		3887	
HIGHEST ANNUAL MEAN					1987	
LOWEST ANNUAL MEAN					370	
HIGHEST DAILY MEAN	11300	Dec 21	11300	Dec 21	71700	Oct 5 1986
LOWEST DAILY MEAN	30	Oct 16	30	Oct 16	^b 13	Sep 16 1984
ANNUAL SEVEN-DAY MINIMUM	31	Oct 15	31	Oct 15	16	Jul 31 1984
INSTANTANEOUS PEAK FLOW			11600	Dec 21	85600	Oct 5 1986
INSTANTANEOUS PEAK STAGE			26.13	Dec 21	31.16	Oct 5 1986
ANNUAL RUNOFF (AC-FT)	349600		488400		1277000	
10 PERCENT EXCEEDS	1450		1720		5080	
50 PERCENT EXCEEDS	80		203		411	
90 PERCENT EXCEEDS	42		47		42	

^aAverage discharge since regulation by the Hulah Lake and before regulation by Copan Lake, 32 years (water years 1951-82), 925 ft³/s.

^bNo flow Sept. 11 to Nov. 3, 1956.



ARKANSAS RIVER BASIN

07175500 CANEY RIVER NEAR RAMONA, OK--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952-53, 1955-62, 1965 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1966 to April 1982.

WATER TEMPERATURE: October 1966 to April 1982.

REMARKS.--Samples were collected bimonthly and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, (PER- CENT SATUR- ATION) (00301)
NOV												
18...	1430	1028	80020	1220	315	7.6	21.0	13.5	82	740	11.0	109
DEC												
17...	1230	1028	80020	156	461	8.0	17.0	7.0	26	762	11.2	92
FEB												
04...	1200	1028	80020	144	553	8.2	8.5	12.0	6.2	757	12.3	115
APR												
01...	1200	1028	80020	118	551	*8.1	10.5	14.5	13	757	12.0	119
JUN												
09...	1200	1028	80020	4380	316	8.0	27.0	23.5	84	745	--	--
JUL												
29...	1325	1028	80020	734	343	8.2	33.0	28.5	52	744	6.9	91
DATE		COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL AS CACO3 (MG/L) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	MAGNE- SIUM, DIS- SOLVED (MG/L) AS MG (00925)	SODIUM, DIS- SOLVED (MG/L) AS NA (00930)	SODIUM SOLVED (MG/L) AS NA (00932)	SODIUM RATIO (MG/L) AS K (00931)	POTAS- SIUM, DIS- SOLVED (MG/L) AS K (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)
NOV												
18...	7600	13000	100	36	31	5.6	20	29	0.9	4.0	79	0
DEC												
17...	<4	290	140	38	42	7.7	33	34	1	3.0	120	0
FEB												
04...	K18	K16	190	52	60	9.6	35	28	1	2.6	168	0
APR												
01...	K25	94	190	43	61	10	33	27	1	2.5	184	0
JUN												
09...	1400	3500	110	21	35	5.6	17	25	0.7	2.7	109	0
JUL												
29...	120	310	120	19	37	5.6	20	27	0.8	3.1	118	0

*PH, LAB (STANDARD UNITS)

ARKANSAS RIVER BASIN

143

07175500 CANEY RIVER NEAR RAMONA, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

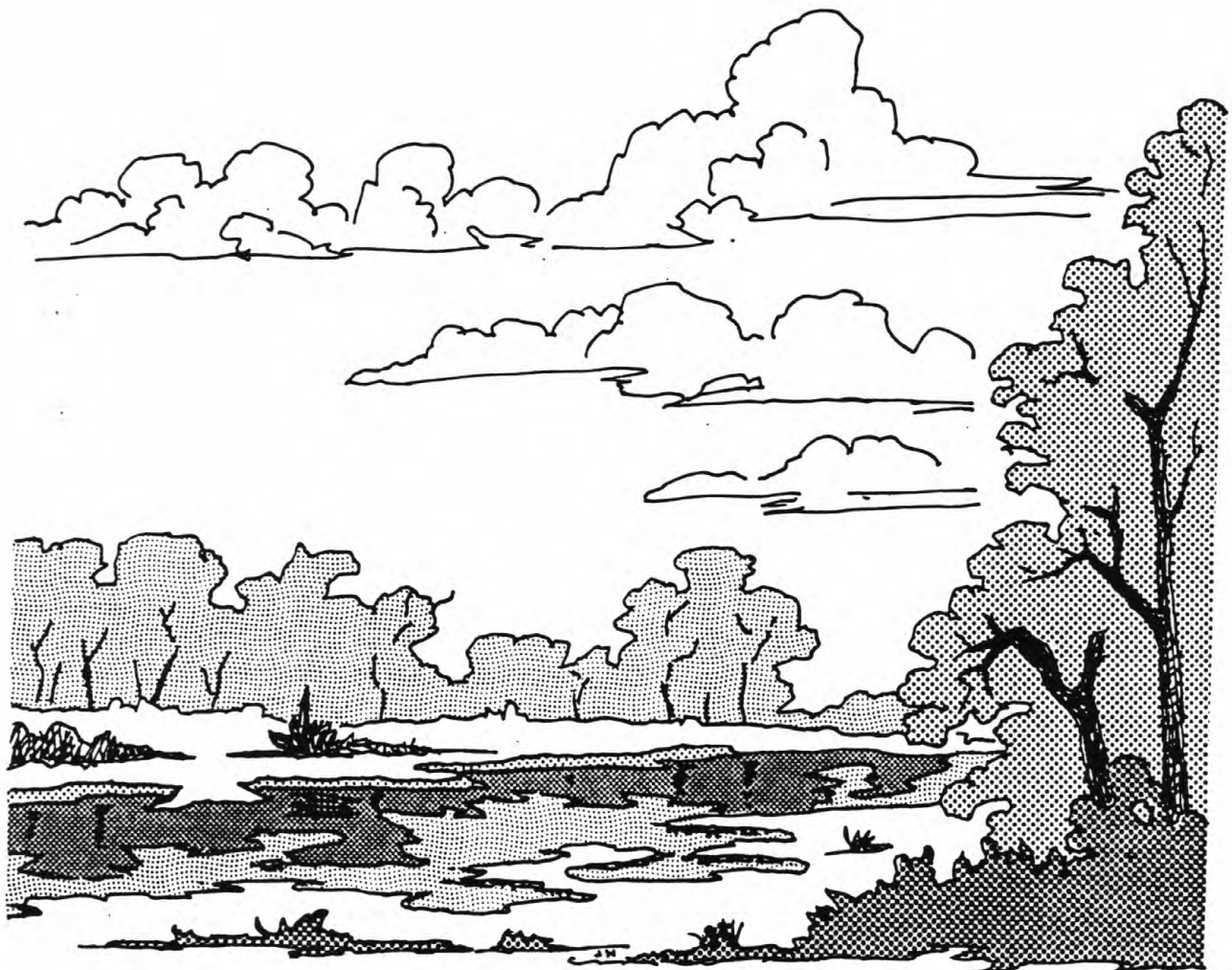
DATE	ALKALINITY			CHLORIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUORIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N) (00620)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITROGEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)
	WAT DIS TOT IT	SULFATE DIS-SOLVED											
	FIELD	SOLVED											
	(MG/L AS CACO3) (39086)	(MG/L AS SO4) (00945)											
NOV 18...	64	22	40	0.20	7.0	185	171	0.25	609	--	0.410	1.8	
DEC 17...	98	36	60	0.20	6.0	288	249	0.39	121	--	0.300	1.3	
FEB 04...	137	39	71	0.20	4.2	303	307	0.41	118	--	0.390	1.7	
APR 01...	151	37	63	0.20	2.8	306	301	0.42	97.5	0.150	--	--	
JUN 09...	90	23	32	0.20	5.5	183	176	0.25	2160	--	0.190	0.84	
JUL 29...	96	17	37	0.20	4.3	197	184	0.27	390	--	--	--	
DATE	NITROGEN, NITRITE TOTAL (MG/L AS N) (00615)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS NO2) (71856)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS NH4) (71846)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N) (00605)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N) (00625)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N) (00600)	
NOV 18...	0.030	0.010	0.03	--	0.420	0.040	0.020	0.05	0.03	0.66	0.70	--	
DEC 17...	0.010	0.020	0.07	--	0.320	0.020	0.020	0.03	0.03	0.58	0.60	--	
FEB 04...	0.010	0.010	0.03	--	0.400	--	0.090	--	0.12	--	0.40	--	
APR 01...	0.020	<0.010	--	0.170	0.170	0.020	<0.010	0.03	--	0.28	0.30	0.47	
JUN 09...	0.050	0.010	0.03	--	0.200	0.080	0.040	0.10	0.05	0.42	0.50	--	
JUL 29...	<0.010	<0.010	--	0.180	0.180	0.050	0.050	0.06	0.06	0.65	0.70	0.88	
DATE	NITROGEN, TOTAL (MG/L AS NO3) (71887)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHATE, TOTAL (MG/L AS PO4) (00650)	PHOSPHORUS, DIS-SOLVED (MG/L AS P) (00666)	PHOSPHORUS, ORTHO TOTAL (MG/L AS P) (70507)	PHOSPHORUS, ORTHO DIS-SOLVED (MG/L AS P) (00671)	PHOSPHATE, ORTHO DIS-SOLVED (MG/L AS PO4) (00660)	ALUMINUM, DIS-SOLVED (UG/L AS AL) (01106)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	IRON, DIS-SOLVED (UG/L AS FE) (01046)		
NOV 18...	--	0.200	0.25	0.050	0.080	0.070	0.21	130	53	<3	180		
DEC 17...	--	0.140	0.25	0.060	0.080	0.060	0.18	--	--	--	--		
FEB 04...	--	0.170	0.37	0.120	0.120	0.110	0.34	10	71	<3	28		
APR 01...	2.1	0.070	0.12	0.020	0.040	0.030	0.09	<10	78	<3	8		
JUN 09...	--	0.080	0.28	0.040	0.090	0.020	0.06	--	--	--	--		
JUL 29...	3.9	0.150	0.15	0.050	0.050	0.050	0.15	30	64	<3	7		

ARKANSAS RIVER BASIN

07175500 CANEY RIVER NEAR RAMONA, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	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)	SEDI- MENT, DIS- SUS- MENT, SUS- PENDEDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN (70331)
NOV 18...	<4	30	<10	2	<1	<1.0	260	<6	--	--	--
DEC 17...	--	--	--	--	--	--	--	--	35	15	99
FEB 04...	9	59	<10	1	<1	<1.0	480	<6	24	9.3	92
APR 01...	5	22	<10	1	<1	<1.0	490	<6	86	27	95
JUN 09...	--	--	--	--	--	--	--	--	28	331	94
JUL 29...	<4	2	<10	<1	<1	<1.0	330	<6	139	275	95



ARKANSAS RIVER BASIN

07176000 VERDIGRIS RIVER NEAR CLAREMORE, OK

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.

DRAINAGE AREA.--6,534 mi².

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 538.62 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 24, 1939, and May 17 to Aug. 24, 1967, nonrecording gage at same site and datum.

REMARKS.--Records fair. 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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	943	213	3420	413	473	744	e1300	515	5660	8340	4200
2	56	435	234	3530	409	444	726	e500	1360	5180	8140	1650
3	61	286	316	3210	396	402	702	e350	5710	4570	7920	1530
4	63	175	286	3010	389	392	679	e750	8330	4260	8760	726
5	60	128	227	2930	381	594	713	e900	7490	4550	12400	562
6	54	103	185	2790	379	1540	1080	e880	5740	4310	12500	486
7	46	85	161	3520	352	3870	1110	e850	8910	3650	13200	410
8	42	75	148	6530	221	4060	1120	e450	7530	2400	16600	426
9	40	66	139	6450	210	3990	1060	228	7520	2330	16500	965
10	40	62	128	6320	204	4040	839	243	6710	2280	15400	757
11	41	56	120	6130	222	3330	490	e230	5620	3620	11200	533
12	42	55	776	6050	1760	2030	624	e240	4830	6830	9490	432
13	39	52	1560	6030	1700	1450	1480	742	4550	6930	8600	398
14	39	51	998	6030	4110	526	2300	e1200	5370	7400	7610	379
15	37	53	553	3840	9290	467	3830	e900	9960	10100	6130	340
16	36	156	360	450	6750	400	3720	e700	8280	10900	6050	e184
17	39	3260	268	367	5780	369	3290	e650	5950	11200	5390	2710
18	38	2970	220	336	e5230	375	2630	e640	5730	15000	3510	11000
19	35	1100	201	318	e4600	772	3060	723	8710	15000	2350	8110
20	35	610	6380	310	e5450	3810	4350	1300	13400	15000	2330	1120
21	36	566	11600	312	6200	3900	8130	884	9620	14100	2260	1470
22	37	438	10100	322	6250	4390	9510	1400	4900	10300	2200	354
23	37	292	5530	345	6240	4430	9500	1560	5170	5880	2160	224
24	58	212	5650	514	6150	4390	8150	1430	4950	6670	2140	e190
25	257	170	5510	559	5110	4410	4750	1240	4830	10600	2130	e180
26	255	140	5330	513	2680	4380	4360	1260	5020	10900	2130	e170
27	254	124	3910	686	1120	3800	e2300	870	6200	9710	2130	e185
28	930	114	3860	2060	741	2300	e400	367	5760	6480	3300	341
29	1050	110	3460	2030	504	2240	e350	966	5610	6740	5870	1660
30	747	111	3220	1930	---	1970	e1500	970	5730	8340	5910	1630
31	356	---	3130	1280	---	752	---	771	---	8330	5990	---
TOTAL	4913	12998	74773	82122	83241	70296	83497	25494	190005	239220	218640	43322
MEAN	158	433	2412	2649	2870	2268	2783	822	6333	7717	7053	1444
MAX	1050	3260	11600	6530	9290	4430	9510	1560	13400	15000	16600	11000
MIN	35	51	120	310	204	369	350	228	515	2280	2130	170
AC-FT	9740	25780	148300	162900	165100	139400	165600	50570	376900	474500	433700	85930

e Estimated

ARKANSAS RIVER BASIN
07176000 VERDIGRIS RIVER NEAR CLAREMORE, OK--Continued

147

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3559	4404	3289	3177	3175	6682	7787	5770	7271	3888	1128	1509
MAX	47570	23150	12570	14290	11470	23920	25200	23480	19150	19960	7053	7538
(WY)	1987	1975	1986	1973	1975	1985	1988	1973	1969	1976	1992	1989
MIN	24.1	18.0	47.4	37.9	31.3	23.2	107	87.2	84.0	42.5	52.7	57.4
(WY)	1967	1967	1979	1981	1967	1967	1971	1971	1972	1966	1965	1979

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1965-92

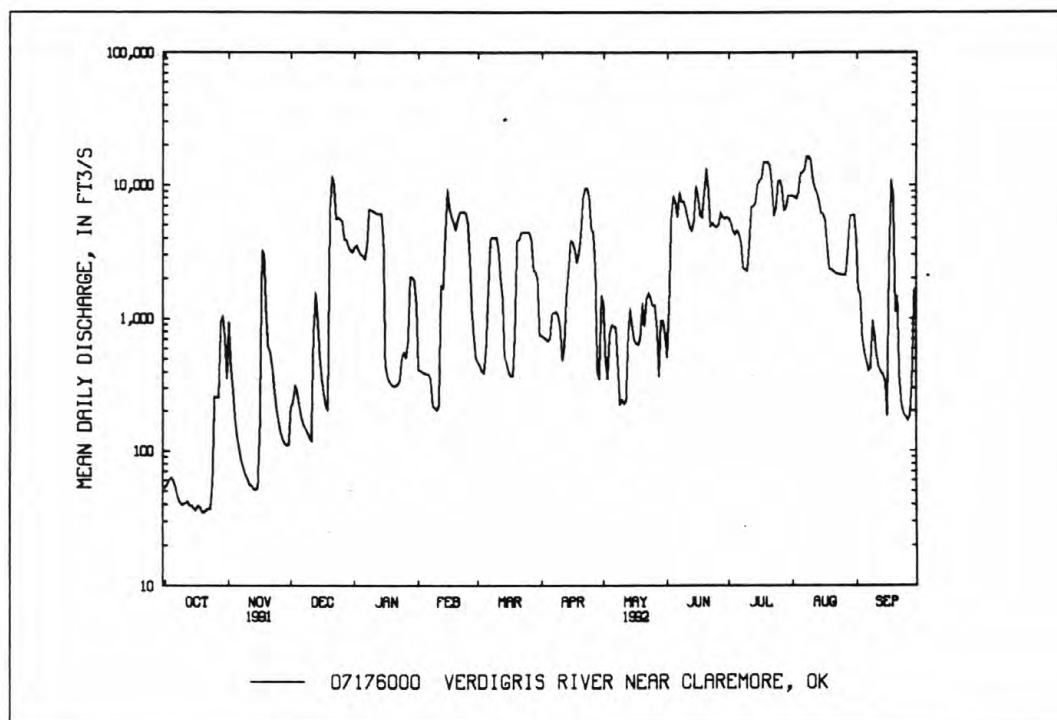
ANNUAL TOTAL	419618	1128521	
ANNUAL MEAN	1150	3083	^a 4301
HIGHEST ANNUAL MEAN			10870 1987
LOWEST ANNUAL MEAN			365 1981
HIGHEST DAILY MEAN	11600	Dec 21 16600	Aug 8 77700 Oct 13 1986
LOWEST DAILY MEAN	35	Oct 19, 20 35	Oct 19, 20 ^b 6.2 Jul 17 1966
ANNUAL SEVEN-DAY MINIMUM	37	Oct 15 37	Oct 15 8.6 Jul 12 1966
INSTANTANEOUS PEAK FLOW		16700	Aug 8 ^c 78400 Oct 12 1986
INSTANTANEOUS PEAK STAGE		17.69	Aug 8 ^d 44.99 Oct 12 1986
ANNUAL RUNOFF (AC-FT)	832300	2238000	3116000
10 PERCENT EXCEEDS	4300	8290	12700
50 PERCENT EXCEEDS	235	1440	1020
90 PERCENT EXCEEDS	70	113	60

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

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

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

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



ARKANSAS RIVER BASIN
07176460 BIRCH LAKE NEAR BARNSDALL, OK

LOCATION.--Lat 36°32'05", long 96°09'53", in NW 1/4 NE 1/4 sec.30, T.24 N., R.11 E., Osage County, Hydrologic Unit 11070107, 450 ft north of dam on Birch Creek, 1.5 mi south of Barnsdall and at mile 0.8.

DRAINAGE AREA.--66.0 mi².

PERIOD OF RECORD.--March 1977 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 31, 1977 nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by earth dam with uncontrolled concrete spillway. Storage began Mar. 18, 1977; conservation pool was first filled Mar. 23, 1978. The outlet work is a gated intake structure. Capacity, 59,030 acre-ft at elevation 774.0 ft, crest of uncontrolled spillway and 19,220 acre-ft at elevation 750.5 ft, top of conservation pool. Dead storage, 3,420 acre-ft below elevation 730.0 ft. Figures given herein represent total contents, based on 1989 resurvey, used since Oct. 1, 1991. Reservoir is used for flood control, water supply, water quality, recreation, and fish and wildlife.

COOPERATION.--Record provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 47,400 acre-ft, Oct. 6, 1986, elevation, 769.04 ft; minimum since conservation pool was first filled, 13,080 acre-ft, Oct. 26-29, 1977, elevation, 744.68 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 23,300 acre-ft, Dec. 23, elevation, 753.89 ft; minimum, 13,900 acre-ft, Oct. 25, elevation, 745.43 ft.

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

735	5,860	755	24,720
740	9,190	760	31,750
745	13,490	765	40,200
750	18,650	770	50,050

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14720	14750	16370	19250	19130	19010	18510	19020	18820	19900	18960	18180
2	14690	14750	16540	19300	19130	18930	18510	19010	20760	19900	18920	18160
3	14670	14720	16540	19330	19140	18900	18480	19000	21030	19650	18930	18120
4	14620	14710	16520	19340	19120	18940	18480	18970	20800	19530	18900	18100
5	14570	14710	16520	19350	19110	18960	18470	18930	20280	19420	18940	18060
6	14530	14690	16510	19350	19110	18950	18460	18880	22040	19350	18930	18060
7	14490	14680	16520	19350	19120	18930	18440	18850	21600	19300	18870	18010
8	14530	14670	16540	19350	19120	18920	18430	18800	21120	19250	18820	18000
9	14420	14670	16540	19330	19120	18880	18440	18780	20680	19200	18780	18020
10	14400	14660	16520	19330	19130	18840	18430	18780	20260	19170	18740	18020
11	14380	14650	16520	19300	19240	18800	18420	18790	19750	19120	18860	17980
12	14360	14640	16940	19280	19510	18770	18430	18780	19350	19080	18860	17950
13	14310	14630	17000	19270	19570	18730	18430	18770	19280	19060	18840	17920
14	14260	14640	17000	19270	20930	18710	18420	18770	21970	19060	18800	17890
15	14220	14740	16990	19270	20780	18660	18520	18740	22220	19050	18760	17880
16	14190	16020	17020	19260	20710	18640	18560	18730	21970	19510	18700	17840
17	14160	16350	17040	19250	20270	18630	18650	18730	21180	19540	18650	17800
18	14120	16370	17030	19200	20150	18630	18700	18730	20620	19530	18620	17790
19	14080	16460	17220	19130	20120	18620	18770	18760	22590	19530	18580	17800
20	14040	16500	22750	19060	19380	18600	18820	18820	23020	19840	18550	17810
21	14020	16520	23060	19050	19130	18580	18850	18860	22250	19880	18480	17790
22	14030	16550	23220	19170	19120	18570	18860	18840	21290	19880	18470	17750
23	13970	16510	23150	19170	19120	18560	18850	18820	20260	19760	18460	17720
24	13920	16500	22590	19160	19100	18550	18820	18800	19490	19660	18430	17680
25	13940	16500	22060	19140	19020	18550	18800	18780	19170	19530	18400	17650
26	13970	16500	21570	19120	19020	18550	18760	18740	19120	19410	18350	17650
27	14060	16490	20950	19120	19020	18540	18730	18700	19060	19300	18310	17650
28	14730	16500	20400	19110	19020	18530	18810	18740	19040	19190	18270	17630
29	14710	16390	19820	19110	19010	18530	18970	18770	19810	19160	18250	17590
30	14670	16380	19290	19120	---	18520	19010	18800	19900	19080	18220	17560
31	14710	---	19210	19130	---	18510	---	18810	---	19020	18210	---

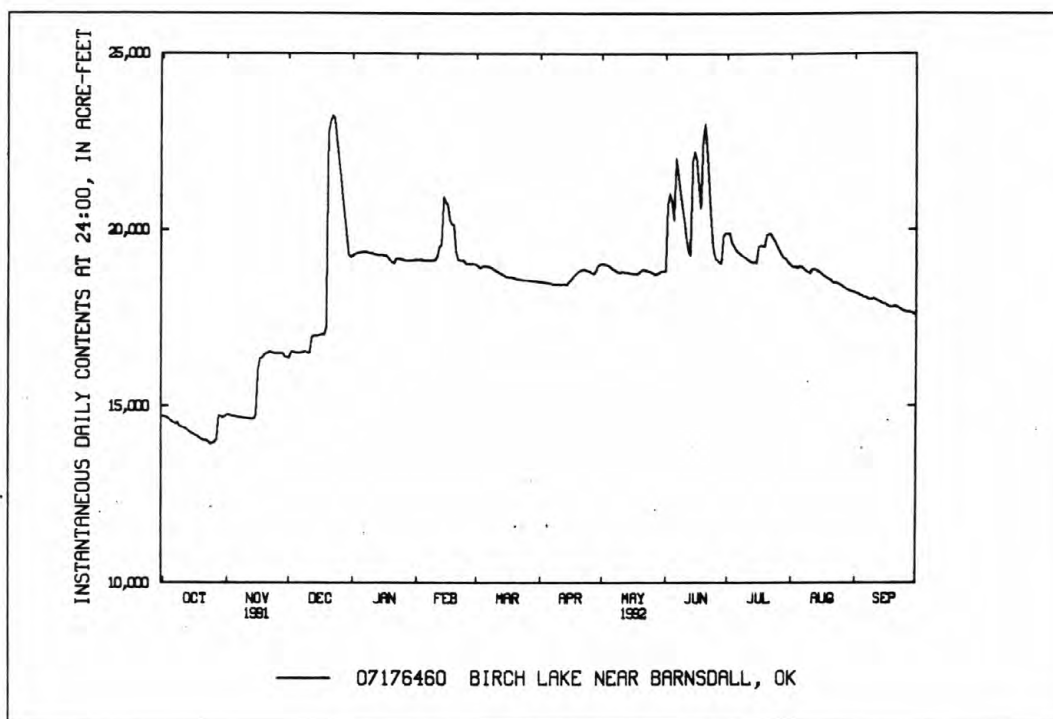
ARKANSAS RIVER BASIN
07176460 BIRCH LAKE NEAR BARNSDALL, OK--Continued

149

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MAX	14730	16550	23220	19350	20930	19010	19010	19020	23020	19900	18960	18180
MIN	13920	14630	16370	19050	19010	18510	18420	18700	18820	19020	18210	17560
(+)	746.27	747.91	750.49	750.42	750.31	749.87	750.31	750.14	751.09	750.32	749.60	749.02
(++)	+20	+1,670	+2,830	-80	-120	-500	+500	-200	+1,090	-880	-810	-650
CAL YR 1991	MAX 23220		MIN 13920		(++) +2,200							
WTR YR 1992	MAX 23220		MIN 13920		(++) +2,870							

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

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



ARKANSAS RIVER BASIN

07176465 BIRCH CREEK BELOW BIRCH LAKE NEAR BARNSDALL, OK

LOCATION.--Lat 36°32'00", long 96°09'43", NW 1/4 NE 1/4 sec.30, T.24 N., R.11 E., Osage County, Hydrologic Unit 11070107, on right bank 300 ft downstream from Birch Dam, 1.5 mi south of Barnsdall, and at mile 0.7.

DRAINAGE AREA.--66.0 mi².

PERIOD OF RECORD.--February 1977 to current year.

REVISED RECORDS.--WDR OK-86-1: 1984-85.

GAGE.--Water-stage recorder. Datum of gage is 690.00 ft, National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Flow completely regulated since March 1977 by Birch Lake (station 07176460).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	e8.0	2.2	16	1.8	14	7.7	7.7	7.4	e50	16	6.8
2	14	e2.6	2.4	16	1.8	14	8.4	7.7	e7.5	e65	16	6.3
3	15	e2.6	2.5	14	2.0	14	8.4	7.7	7.5	e60	17	6.4
4	14	e2.6	2.5	14	1.8	14	8.5	7.7	156	e50	16	6.8
5	15	e2.6	2.5	14	1.8	14	8.7	7.7	255	e35	15	6.5
6	15	e2.5	2.5	14	1.8	14	8.7	7.7	260	20	15	6.5
7	14	e2.5	2.6	15	1.9	14	8.6	7.7	259	8.1	15	6.9
8	13	e2.5	2.9	15	2.0	14	7.7	7.9	255	8.1	16	6.8
9	14	e2.5	2.9	15	2.0	14	7.7	8.4	254	8.1	16	6.3
10	14	e2.4	2.9	15	1.6	12	7.7	8.4	254	8.1	13	6.5
11	14	e2.4	2.9	15	1.6	12	8.1	8.4	250	8.1	8.8	6.8
12	14	e2.4	2.9	15	1.6	12	8.4	8.4	173	8.0	8.4	6.5
13	14	e2.4	2.9	15	1.5	12	8.1	8.0	33	8.1	8.6	6.2
14	14	e2.3	2.9	15	65	13	7.7	7.7	e35	8.7	9.1	6.2
15	14	e2.3	2.9	15	146	13	7.9	7.7	36	8.4	9.1	6.1
16	14	e2.3	2.9	15	147	13	8.4	7.7	163	9.3	9.1	6.0
17	15	e2.3	2.9	15	145	13	8.4	7.7	400	9.1	9.1	6.2
18	15	e2.2	3.0	15	143	12	8.4	7.7	399	9.1	9.1	6.2
19	14	e2.2	3.4	15	143	12	8.4	7.7	e280	9.1	7.3	6.2
20	14	e2.2	e3.6	15	144	8.5	8.4	8.0	e270	8.8	6.4	6.2
21	14	2.2	4.3	15	66	3.1	8.4	7.6	386	8.4	6.8	6.2
22	14	2.2	4.4	15	14	3.1	8.4	7.6	380	21	6.8	6.2
23	15	2.2	132	15	14	3.1	8.3	7.4	378	47	6.8	6.4
24	15	2.5	275	15	14	3.1	7.7	7.4	e220	47	6.8	6.8
25	15	2.5	271	15	14	3.1	7.7	7.4	e90	47	6.8	6.8
26	15	2.5	268	15	14	3.1	7.7	7.4	e14	47	6.8	6.9
27	15	2.5	265	14	14	3.1	7.7	7.4	e14	47	6.8	6.8
28	17	2.5	265	6.1	14	3.1	7.7	7.4	e14	28	6.8	6.4
29	15	2.2	258	1.8	14	3.1	7.7	7.4	e13	16	6.8	6.8
30	15	2.2	229	1.8	---	3.1	7.7	7.4	e13	16	6.8	6.8
31	15	---	79	1.8	---	5.5	---	7.4	---	16	6.8	---
TOTAL	448	77.3	2106.9	413.5	1134.2	295.0	243.3	239.4	5276.4	739.5	314.8	194.5
MEAN	14.5	2.58	68.0	13.3	39.1	9.52	8.11	7.72	176	23.9	10.2	6.48
MAX	17	8.0	275	16	147	14	8.7	8.4	400	65	17	6.9
MIN	13	2.2	2.2	1.8	1.5	3.1	7.7	7.4	7.4	8.0	6.4	6.0
AC-FT	889	153	4180	820	2250	585	483	475	10470	1470	624	386

e Estimated

ARKANSAS RIVER BASIN

151

07176465 BIRCH CREEK BELOW BIRCH LAKE NEAR BARNSDALL, OK--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1992, BY WATER YEAR (WY)

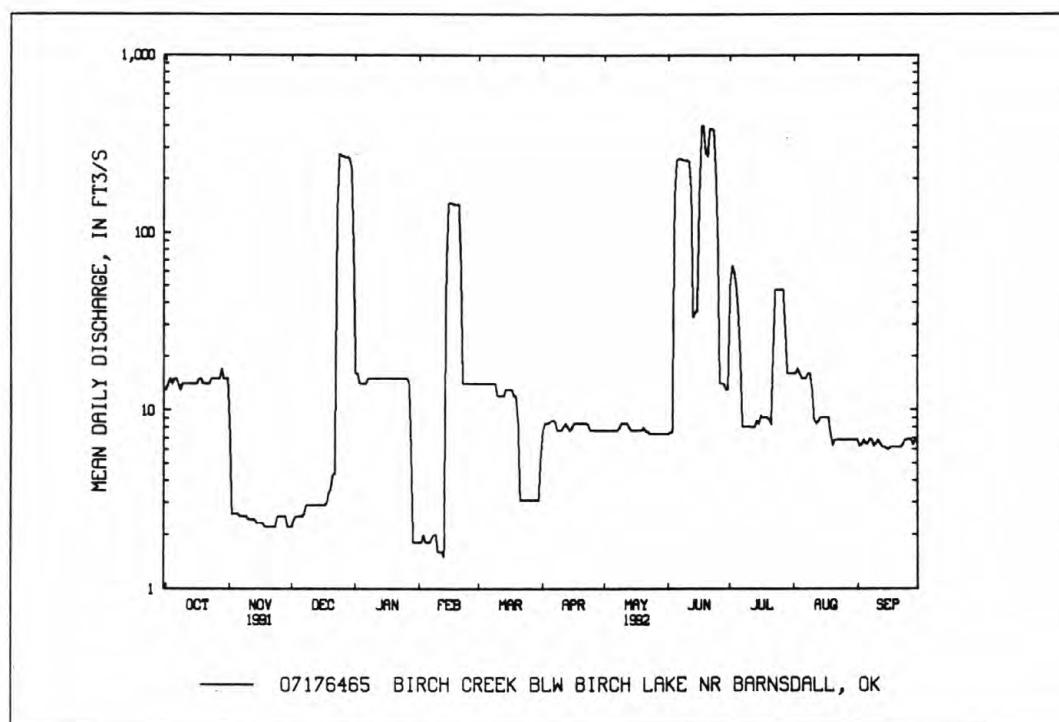
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	50.3	27.4	29.6	20.4	38.5	95.8	64.9	89.2	95.7	18.6	10.5	14.5
MAX	484	205	122	93.9	153	420	243	209	503	86.1	57.7	127
(WY)	1987	1986	1988	1985	1987	1990	1988	1990	1985	1985	1989	1989
MIN	2.37	.27	.087	.17	.17	1.00	2.55	2.34	5.27	.97	1.04	1.29
(WY)	1985	1991	1991	1991	1991	1991	1981	1981	1981	1984	1984	1985

SUMMARY STATISTICS	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1979-92
ANNUAL TOTAL	11461.35	11482.8	
ANNUAL MEAN	31.4	31.4	46.3
HIGHEST ANNUAL MEAN			118 1985
LOWEST ANNUAL MEAN			3.86 1981
HIGHEST DAILY MEAN	677 Jun 11	400 Jun 17	1990 Oct 7 1986
LOWEST DAILY MEAN	.08 Feb 12	1.5 Feb 13	.00 many years
ANNUAL SEVEN-DAY MINIMUM	.13 Jan 1	1.7 Feb 7	.03 Mar 16 1983
INSTANTANEOUS PEAK FLOW		^a 413 Jun 16	^b 2070 Oct 7 1986
INSTANTANEOUS PEAK STAGE		^c 11.91 Jun 19	^c 26.40 Jun 10 1985
ANNUAL RUNOFF (AC-FT)	22730	22780	33550
10 PERCENT EXCEEDS	70	65	125
50 PERCENT EXCEEDS	11	8.4	5.5
90 PERCENT EXCEEDS	.15	2.5	1.3

^aGage height, 9.05 ft.

^bGage height, 13.37 ft.

^cBackwater from Bird Creek.



ARKANSAS RIVER BASIN
07176500 BIRD CREEK NEAR AVANT, OK

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.

GAGE.--Water-stage recorder. Datum of gage is 651.28 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow slightly regulated since 1958 by Bluestem Lake. Some regulation since March 1977 by Birch Lake (station 07176460), 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.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Dec. 20	1900	12,100	15.00	June 19	2100	14,000	16.75
June 15	0100	6,560	9.68				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	117	51	142	26	63	12	115	71	223	55	15
2	18	81	38	128	24	58	14	73	1130	177	55	13
3	18	39	37	104	23	58	15	50	1250	142	56	13
4	18	23	37	86	23	75	16	37	416	126	62	11
5	18	20	37	74	21	121	16	31	429	119	78	17
6	17	19	31	65	18	146	17	27	2390	111	90	26
7	17	17	28	59	17	107	17	25	972	64	102	27
8	19	15	32	57	17	81	17	23	503	55	115	36
9	20	14	30	50	17	73	16	23	458	55	91	30
10	21	14	27	47	18	62	16	21	563	51	58	38
11	20	14	27	40	45	55	73	27	417	47	128	39
12	20	14	349	39	371	55	269	32	355	47	426	39
13	20	17	230	40	217	55	123	28	137	47	126	41
14	21	20	106	58	2040	55	73	27	2030	60	60	46
15	25	24	61	66	805	55	56	27	2710	68	35	46
16	27	998	39	53	348	47	81	28	534	135	25	47
17	27	1260	30	46	264	44	209	31	721	541	20	46
18	27	221	24	39	237	52	191	31	674	215	17	44
19	27	101	31	36	208	76	167	35	4500	121	15	44
20	27	98	7110	35	189	62	256	44	4580	110	13	46
21	27	78	1450	35	150	45	199	83	1250	243	11	47
22	28	45	421	39	46	42	114	60	823	106	9.0	47
23	31	31	362	58	39	36	80	63	661	103	9.0	44
24	34	26	465	61	47	34	58	153	569	111	9.3	45
25	34	21	398	55	55	31	44	79	408	102	9.3	47
26	48	20	356	50	79	29	35	54	120	102	9.3	49
27	50	21	331	47	76	27	30	45	98	101	127	52
28	860	26	317	45	67	22	26	45	85	94	146	52
29	177	33	313	35	67	17	403	89	958	61	57	52
30	66	41	300	29	---	14	219	103	658	55	29	52
31	54	---	199	28	---	11	---	77	---	55	20	---
TOTAL	1834	3468	13267	1746	5554	1708	2862	1586	30470	3647	2062.9	1151
MEAN	59.2	116	428	56.3	192	55.1	95.4	51.2	1016	118	66.5	38.4
MAX	860	1260	7110	142	2040	146	403	153	4580	541	426	52
MIN	17	14	24	28	17	11	12	21	71	47	9.0	11
AC-FT	3640	6880	26320	3460	11020	3390	5680	3150	60440	7230	4090	2280

ARKANSAS RIVER BASIN
07176500 BIRD CREEK NEAR AVANT, OK--Continued

153

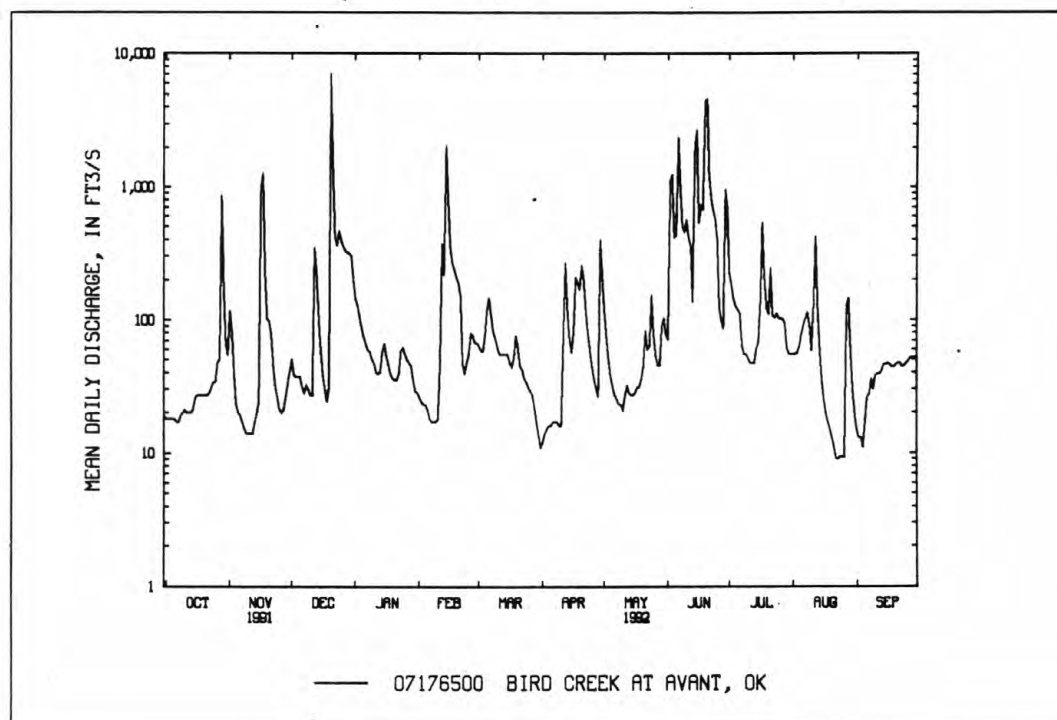
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	185	195	125	102	173	368	332	470	382	136	76.8	169
MAX	1940	1677	863	827	1376	2264	1235	2266	2648	832	980	1585
(WY)	1987	1975	1972	1973	1985	1990	1973	1957	1957	1959	1950	1961
MIN	.000	.000	.000	.000	.000	.000	.000	.000	1.07	.000	.000	.000
(WY)	1949	1953	1953	1953	1957	1956	1956	1956	1963	1954	1952	1952

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1946-92

ANNUAL TOTAL	79773	69355.9	
ANNUAL MEAN	219	189	226
HIGHEST ANNUAL MEAN			639 1975
LOWEST ANNUAL MEAN			5.50 1956
HIGHEST DAILY MEAN	9820	Jun 6 7110	Dec 20 28500 Mar 11 1974
LOWEST DAILY MEAN	13	Aug 20 9.0	Aug 22, 23 .00 at times
ANNUAL SEVEN-DAY MINIMUM	13	Aug 19 10	Aug 20 .00 Jul 19 1946
INSTANTANEOUS PEAK FLOW		14000	Jun 19 ^a 32400 Oct 2 1959
INSTANTANEOUS PEAK STAGE		16.75	Jun 19 32.03 Mar 11 1974
ANNUAL RUNOFF (AC-FT)	158200	137600	163800
10 PERCENT EXCEEDS	407	399	391
50 PERCENT EXCEEDS	28	50	a18
90 PERCENT EXCEEDS	15	17	.00

^aGage height, 31.40 ft.



ARKANSAS RIVER BASIN
07177400 SKIATOOK LAKE NEAR SKIATOOK, OK

LOCATION.--Lat 36°21'02", long 96°05'18", in NE 1/4 SE 1/4 sec.26, T.22 N., R.11 E., Osage County, Hydrologic Unit 11070107, near right end of dam, 5.0 mi west of Skiatook and at mile 14.3.

DRAINAGE AREA.--354 mi².

PERIOD OF RECORD.--October 1984 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by rolled earthfill dam. Spillway is a concrete uncontrolled structure in right abutment. Outlet works consists of a controlled intake structure with a 10-foot, 6-inch diameter tunnel, a 2-foot, 6-inch by 5-foot low-flow sluice and a 36-inch water-supply pipe. Regulated storage began Oct. 31, 1984. Conservation pool was first filled Aug. 20, 1989. Capacity, 893,000 acre-ft, at elevation 750.8 ft, maximum pool; 513,500 acre-ft at elevation 729.0 ft, top of flood control pool; 331,200 acre-ft, at elevation 714.0 ft, top of conservation pool; 11,800 acre-ft, at elevation 657.0 ft, top of inactive pool. Figures given herein represent total contents. Reservoir is designed for flood control, water supply, water quality, recreation and conservation. U.S. Army Corps of Engineers' satellite telemeter at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 427,100 acre-ft, Mar. 15, 1990, elevation 723.31 ft; minimum since conservation pool was first filled, 290,500 acre-ft, Sept. 19, 1990.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 364,700 acre-ft, June 21, elevation 717.97 ft; minimum, 279,100 acre-ft, Oct. 23, elevation 709.60 ft.

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

700	197,600	715	333,000
705	237,800	720	387,600
710	282,800	725	448,200

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	286900	288100	299700	325100	323000	322800	321700	323600	318900	329400	318700	310000
2	286600	287700	299900	323500	323000	322800	321500	323100	325500	327000	318500	310000
3	286200	287400	299900	322700	323000	322700	321200	322900	327200	325600	317900	309600
4	285800	287300	299800	322800	323000	323200	321000	322700	326600	324200	318000	309300
5	285200	287100	299900	322800	322800	323600	320700	322300	325700	323100	318600	309400
6	284800	286900	299800	322800	322700	323900	320400	322000	332000	322400	318600	308800
7	284000	286700	299800	323000	322700	323900	320200	321600	331600	321900	318200	308400
8	283800	286400	299900	323000	322600	324000	320200	321200	332000	321600	318200	308000
9	283500	286200	299900	323000	322400	324000	320000	320800	332300	321100	317900	308100
10	283100	286100	299800	322800	322500	323500	319600	320500	334700	320600	317800	308400
11	282800	285900	299900	322700	323600	323500	321000	321100	334000	320200	317800	308100
12	282500	285900	302500	322900	325300	323100	321400	321100	332900	319800	317500	307700
13	282300	285700	303000	323100	325700	323100	321600	320700	331600	320400	317300	307200
14	281600	285900	302900	323000	331500	322900	321500	320400	340200	320400	316900	306900
15	281100	285700	303000	322900	331000	322900	321600	320200	347100	320600	316500	306700
16	281000	295400	303100	322800	329700	322800	321500	319800	347600	321700	316200	306300
17	280400	298200	303100	322700	328900	322800	322200	319900	347800	322100	315800	306000
18	280400	299100	302900	322700	327500	323000	322400	319500	347700	322000	315500	305800
19	280000	299200	304700	322700	326100	322900	323000	320200	356900	321600	315100	305400
20	279800	299400	333500	322700	324900	322700	323700	320700	364600	322200	314800	305800
21	279600	299500	336200	322700	323900	322700	323700	320600	363600	322500	314400	305800
22	279500	300000	337600	323000	323600	322500	323600	320400	361300	322400	313900	305300
23	279100	299600	338300	323000	323100	322500	323600	320200	359200	322100	313500	304900
24	279600	299400	338200	323100	322900	322300	323200	319900	357700	322000	313000	304500
25	279400	299200	337400	322900	322700	322300	322900	320000	353900	321600	312700	304800
26	280800	299300	336400	322800	322700	322200	322600	319300	349500	321300	312200	304600
27	281300	299200	334400	322800	322900	321900	322200	318900	344600	320900	311600	304200
28	286800	299300	332200	322900	323000	322000	322700	319200	339500	320400	311100	304000
29	286900	299800	329800	322900	322800	322100	323200	319100	337800	320200	310900	303600
30	286600	299600	327700	323000	---	321800	323100	318900	333500	319700	310500	303200
31	287800	---	325900	323000	---	322000	---	319000	---	319200	310200	---

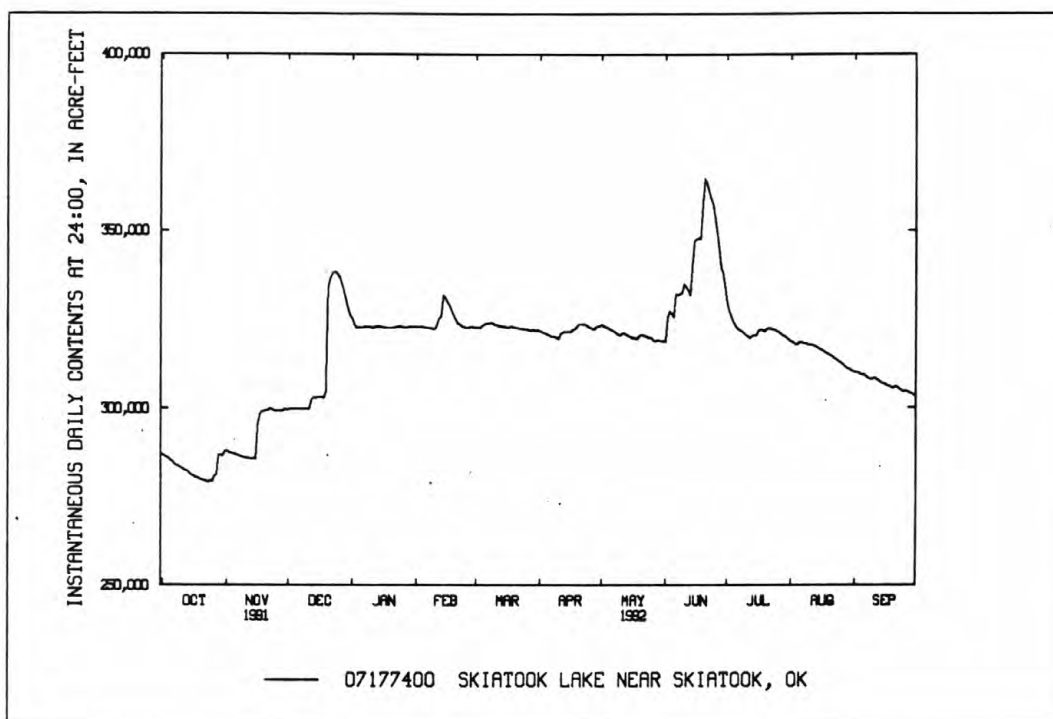
ARKANSAS RIVER BASIN
07177400 SKIATOOK LAKE NEAR SKIATOOK, OK--Continued

155

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MAX	287800	300000	338300	325100	331500	324000	323700	323600	364600	329400	318700	310000
MIN	279100	285700	299700	322700	322400	321800	319600	318900	318900	319200	310200	303200
(+)	710.52	711.72	714.31	714.03	714.01	713.93	714.04	713.63	715.05	713.65	712.77	712.08
(++)	+600	+11,800	+26,300	-2,900	-200	-800	+1,100	-4,100	+14,500	-14,300	-9,000	-7,000
CAL YR 1991	MAX 338300		MIN 272200		(++) +47,600							
WTR YR 1992	MAX 364600		MIN 279100		(++) +16,000							

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

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



ARKANSAS RIVER BASIN

07177410 HOMINY CREEK BELOW SKIATOOK LAKE NEAR SKIATOOK, OK

LOCATION.--Lat 36°21'09", long 96°05'18", in NE 1/4 SE 1/4 sec.26, T.22 N., R.11 E., Osage County, Hydrologic Unit 11070107, located 300 ft downstream from Skiatook Lake stilling basin on the left bank of outlet channel, 1.6 mi above Quapaw Creek, about 5.0 mi west of Skiatook, and at mile 14.0.

DRAINAGE AREA.--354 mi².

PERIOD OF RECORD.--October 1984 to current year. Published as Hominy Creek near Skiatook, October 1984 to September 1986.

GAGE.--Water-stage recorder. Datum of gage is 610.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Flow regulated by Skiatook Lake (07177400) since October 1984.

COOPERATION.--Gage height record and five discharge measurements provided by U.S. Army Corps of Engineers; records computed by U.S. Geological Survey.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	125	e.10	e29	1000	25	24	94	100	87	2280	127	92
2	125	e.10	e13	997	25	24	94	100	e87	1390	127	101
3	123	e.10	e2.0	442	25	24	94	100	89	660	126	109
4	120	e15	e1.8	37	25	24	94	100	458	662	127	114
5	119	e35	1.7	37	24	24	94	100	764	661	128	123
6	118	e35	11	37	24	24	95	100	e764	e330	111	123
7	119	e35	21	37	25	24	95	115	769	e130	79	124
8	119	e41	21	36	25	24	95	128	761	e130	79	118
9	119	e48	21	36	25	23	94	128	759	e130	79	110
10	120	e48	21	36	25	22	95	128	e758	e130	96	110
11	120	e48	22	36	25	22	95	129	e763	e130	86	110
12	e120	e44	15	36	e25	21	103	129	763	e130	67	110
13	e120	e40	1.7	36	25	21	104	129	758	e130	67	110
14	e120	e40	1.7	36	e350	22	104	128	e551	e130	67	110
15	e120	e40	1.7	35	829	21	100	130	4.9	e130	67	95
16	e74	e40	1.7	35	807	22	100	128	242	e130	68	82
17	e48	e41	1.7	30	807	21	101	128	e681	e130	106	81
18	45	e41	1.7	25	799	21	100	128	e695	e130	115	81
19	e37	e15	e1.7	25	796	22	100	103	e600	e130	114	81
20	e37	e.50	e1.8	25	796	22	100	88	e3.5	e110	114	81
21	e37	e.30	e1.8	25	589	22	100	88	882	e79	116	82
22	e37	e1.0	1.8	26	251	22	100	88	1380	e71	138	82
23	e37	e2.0	199	25	251	22	100	88	1370	e53	138	83
24	e38	e2.0	400	25	149	21	100	90	1370	e83	138	83
25	e38	e14	396	25	24	21	100	90	1690	e102	138	83
26	e39	e29	822	25	24	21	100	89	2260	e102	134	83
27	e41	e29	1350	25	24	21	100	88	2490	116	121	83
28	e18	e29	1340	25	24	21	101	88	2480	128	96	84
29	e2.0	e29	1340	26	24	20	100	87	e2470	127	59	84
30	e1.0	e29	1330	25	---	19	100	87	2470	127	85	83
31	e.20	---	1150	25	---	44	---	88	---	127	92	---
TOTAL	2336.20	771.10	8523.8	3291	6867	706	2952	3290	29219.4	8898	3205	2895
MEAN	75.4	25.7	275	106	237	22.8	98.4	106	974	287	103	96.5
MAX	125	48	1350	1000	829	44	104	130	2490	2280	138	124
MIN	.20	.10	1.7	25	24	19	94	87	3.5	53	59	81
AC-FT	4630	1530	16910	6530	13620	1400	5860	6530	57960	17650	6360	5740

e Estimated

ARKANSAS RIVER BASIN

157

07177410 HOMINY CREEK BELOW SKIATOOK LAKE NEAR SKIATOOK, OK--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	83.6	42.7	120	58.5	140	550	416	352	400	179	117	118
MAX	94.3	52.1	275	106	237	1576	1094	914	974	287	126	136
(WY)	1990	1990	1992	1992	1992	1990	1990	1990	1992	1992	1990	1990
MIN	75.4	25.7	35.9	19.3	51.2	22.8	54.3	36.6	53.2	125	103	96.5
(WY)	1992	1992	1990	1990	1991	1992	1991	1991	1991	1991	1992	1992

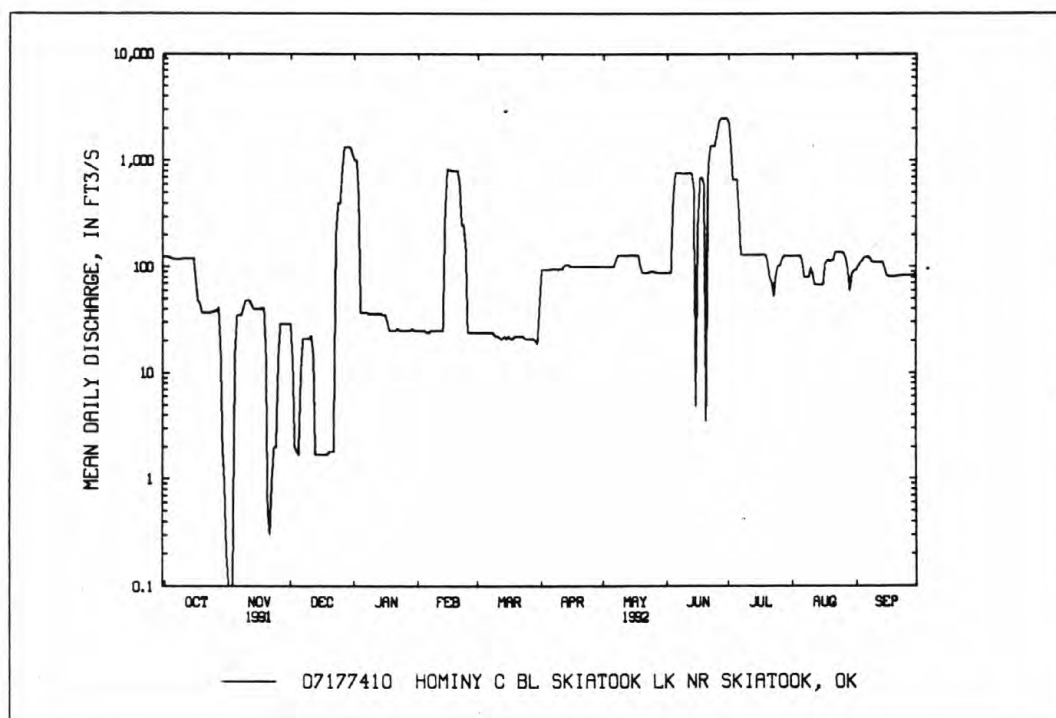
SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1990-92

ANNUAL TOTAL	31870.70	72954.50	
ANNUAL MEAN	87.3	199	215
HIGHEST ANNUAL MEAN			375 1990
LOWEST ANNUAL MEAN			70.7 1991
HIGHEST DAILY MEAN	1350	Dec 27	2490 Jun 27 3130 Mar 22 1990
LOWEST DAILY MEAN	.10	Nov 1-3	.10 Nov 1-3 ^a .10 Nov 1-3 1991
ANNUAL SEVEN-DAY MINIMUM	1.7	Dec 13	1.7 Dec 13 1.7 Jan 23 1990
INSTANTANEOUS PEAK FLOW			2500 Jun 26 ^b 3140 Mar 22 1990
INSTANTANEOUS PEAK STAGE		^c 17.25	Jun 29 ^c 25.44 Apr 30 1985
ANNUAL RUNOFF (AC-FT)	63220	144700	155700
10 PERCENT EXCEEDS	126	685	649
50 PERCENT EXCEEDS	51	88	83
90 PERCENT EXCEEDS	2.0	21	2.5

^aMinimum daily discharge for period of record, .03 ft³/s, Nov. 10-14, 1984, and Feb. 22-24, 1986.

^bMaximum discharge for period of record, 4,330 ft³/s, Oct. 29, 1986, gage height 22.80 ft.

^cBackwater from Quapaw and/or Bird Creeks.



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 National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow slightly regulated since March 1977 by Birch Lake (station 07176460). Flow slightly regulated since October 1984 by Skiatook Lake (station 07177400). 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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	159	302	117	1370	83	157	128	431	213	2750	198	138
2	159	190	122	1330	81	149	140	293	588	1860	195	136
3	160	105	115	1040	79	143	145	233	3760	882	199	145
4	155	65	91	259	77	175	146	206	1050	822	230	142
5	155	70	77	215	71	343	147	186	1230	801	258	148
6	155	72	64	195	70	328	150	172	3180	662	248	158
7	156	60	70	180	68	274	147	165	3400	268	208	163
8	155	57	76	170	65	207	146	185	1610	227	204	164
9	155	65	73	156	64	169	144	183	1710	219	210	160
10	152	67	66	146	68	149	137	179	1870	212	183	164
11	152	64	64	140	81	133	210	191	1610	206	360	165
12	156	65	819	137	1270	123	1410	227	1230	204	507	165
13	155	58	888	137	834	118	779	193	1070	201	336	170
14	152	58	318	150	3050	119	360	156	1830	224	207	171
15	152	61	163	164	3520	112	258	154	7160	223	159	170
16	148	809	110	143	1480	108	229	152	1700	271	136	145
17	78	5200	85	125	1280	101	304	167	1280	586	144	143
18	67	981	66	106	1210	98	821	171	2000	550	171	141
19	56	350	69	95	1170	103	960	694	2270	349	162	146
20	50	341	6250	92	1140	115	1000	577	8800	281	162	158
21	49	268	9890	91	1070	105	749	281	4980	408	157	155
22	49	147	2030	99	503	92	458	217	2290	281	169	134
23	51	96	992	127	388	87	322	204	1920	196	176	132
24	67	68	1170	136	360	85	252	210	1770	188	170	129
25	66	55	1060	127	165	82	215	241	1800	230	172	136
26	155	62	1080	114	157	81	194	176	2130	231	168	155
27	79	74	1640	104	177	77	180	156	2420	230	154	148
28	1520	70	1640	104	167	73	174	151	2410	245	286	146
29	882	73	1630	102	160	71	683	177	3820	242	187	142
30	179	137	1620	92	---	65	797	226	4200	218	152	139
31	139	---	1520	86	---	61	---	208	---	205	149	---
TOTAL	5963	10090	33975	7532	18908	4099	11785	7162	75301	14472	6417	4508
MEAN	192	336	1096	243	652	132	393	231	2510	467	207	150
MAX	1520	5200	9890	1370	3520	343	1410	694	8800	2750	507	171
MIN	49	55	64	86	64	61	128	151	213	188	136	129
AC-FT	11830	20010	67390	14940	37500	8130	23380	14210	149400	28710	12730	8940

ARKANSAS RIVER BASIN
07177500 BIRD CREEK NEAR SPERRY, OK--Continued

159

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	194	207	417	200	516	1721	1035	983	1421	264	176	178
MAX	251	336	1096	243	811	4949	2212	2232	2510	467	207	215
(WY)	1990	1992	1992	1992	1990	1990	1990	1990	1992	1992	1992	1990
MIN	138	109	61.9	161	81.2	80.4	393	231	512	155	156	150
(WY)	1991	1991	1990	1991	1991	1991	1992	1992	1990	1990	1990	1992

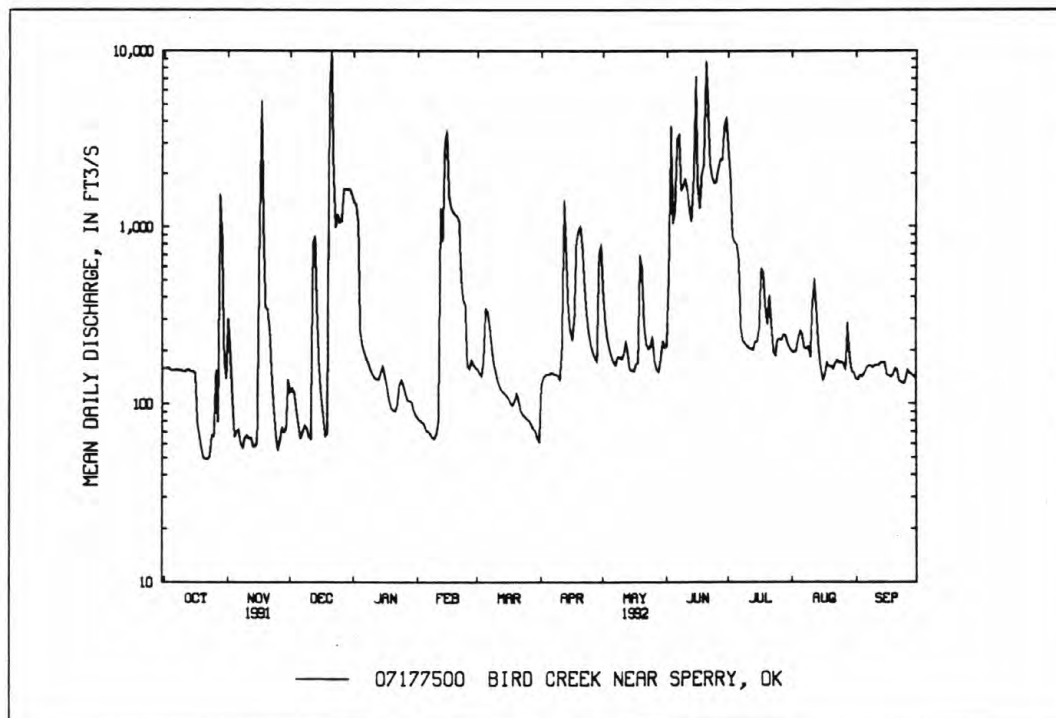
SUMMARY STATISTICS	1991 CALENDAR YEAR		1992 WATER YEAR		WATER YEARS 1990-92	
ANNUAL TOTAL	142628		200212			
ANNUAL MEAN	391		547		^a 609	
HIGHEST ANNUAL MEAN					998	
LOWEST ANNUAL MEAN					282	
HIGHEST DAILY MEAN	9890	Dec 21	9890	Dec 21	18300	Mar 12 1990
LOWEST DAILY MEAN	49	Oct 21	49	Oct 21, 22	^b 45	Dec 25 1989
ANNUAL SEVEN-DAY MINIMUM	55	Oct 19	55	Oct 19	46	Dec 23 1989
INSTANTANEOUS PEAK FLOW			11300	Dec 21	^c 20300	Mar 12 1990
INSTANTANEOUS PEAK STAGE			23.82	Dec 21	^d 28.66	Mar 12 1990
ANNUAL RUNOFF (AC-FT)	282900		397100		441200	
10 PERCENT EXCEEDS	848		1520		1750	
50 PERCENT EXCEEDS	157		168		161	
90 PERCENT EXCEEDS	70		71		72	

^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.



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, 1840 microsiemens, May 25, 1987; minimum, 80 microsiemens, Aug. 20, 1989.

pH: Maximum, 8.6 units, Aug. 27, 1988, Mar. 5, 1991; 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, 15.0 mg/l, Feb. 9, 1992; minimum, 2.0 mg/l, June 29, 1987.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 715 microsiemens, Mar. 5; minimum, 108 microsiemens, Dec. 20, June 20.

pH: Maximum, 8.4 units, May 30; minimum, 7.1 units, June 29.

WATER TEMPERATURE: Maximum, 30.5°C, July 24, 25, 26, 27; minimum, 2.0°C, Jan. 19.

DISSOLVED OXYGEN: Maximum recorded (more than 20 percent missing record), 15.0 mg/l, Feb. 9; minimum recorded, 3.9 mg/l, Oct. 27.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	328	324	326	348	204	258	366	340	354	452	284	308
2	328	326	328	272	222	242	358	324	336	312	288	298
3	330	328	329	300	280	294	386	348	369	314	298	304
4	330	326	330	316	298	309	384	372	381	344	318	334
5	330	326	328	310	304	307	390	368	377	376	344	357
6	358	326	340	533	310	386	394	390	392	396	362	376
7	340	330	332	352	314	339	456	392	419	412	396	406
8	332	328	330	348	344	346	462	414	448	422	412	419
9	332	328	331	352	346	349	470	406	426	424	416	420
10	332	328	330	352	346	348	466	412	424	420	414	417
11	334	328	331	350	348	350	430	420	426	420	416	418
12	334	330	332	354	350	352	539	198	347	424	418	422
13	334	330	332	354	352	353	338	238	299	430	422	426
14	332	328	330	360	354	358	360	306	335	490	432	456
15	330	328	329	366	358	362	382	362	372	507	462	495
16	334	328	332	505	234	357	404	382	393	456	436	441
17	366	334	346	218	148	175	428	406	416	464	438	447
18	384	368	379	210	188	202	452	428	441	462	452	456
19	384	378	381	228	208	216	464	452	458	474	462	470
20	396	382	388	310	226	249	539	108	243	480	468	473
21	398	394	396	238	230	234	158	112	128	480	470	476
22	402	396	400	262	240	257	214	132	174	513	479	491
23	408	400	403	278	260	269	216	192	203	579	509	541
24	408	390	400	300	278	287	254	208	244	581	562	573
25	527	412	447	310	300	305	260	252	256	558	504	522
26	595	396	463	342	310	322	274	258	265	507	499	505
27	509	398	428	410	352	383	276	268	274	499	492	496
28	450	128	318	448	354	398	286	274	279	506	498	504
29	268	210	243	366	352	357	286	280	283	511	503	507
30	286	256	272	414	342	368	280	278	279	513	508	511
31	312	284	295	---	---	---	282	278	281	512	498	507
MONTH	595	128	350	533	148	311	539	108	333	581	284	444

ARKANSAS RIVER BASIN

161

07177500 BIRD CREEK NEAR SPERRY, OK--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	511	505	508	442	432	437	498	396	464	420	392	412
2	529	511	517	430	412	420	394	376	381	406	396	401
3	541	515	525	418	410	413	382	374	378	398	386	393
4	527	519	521	434	418	423	384	378	381	386	382	385
5	527	519	523	715	376	440	386	378	381	382	376	380
6	533	527	530	444	394	411	384	378	381	378	366	372
7	533	527	529	480	424	453	384	380	383	366	360	364
8	529	521	526	430	422	426	388	384	385	362	346	353
9	527	517	521	440	430	435	390	386	388	348	344	346
10	541	515	522	452	438	446	390	384	387	348	344	346
11	591	541	565	458	450	455	450	338	382	400	338	357
12	675	250	429	464	450	457	631	272	385	444	376	400
13	412	308	347	456	450	454	338	272	310	400	374	387
14	368	194	299	462	454	457	352	338	345	370	354	361
15	260	222	246	466	458	463	378	352	364	356	352	355
16	284	238	265	472	466	470	382	372	379	354	346	351
17	314	284	300	472	466	470	370	344	356	354	346	351
18	318	312	317	478	468	473	390	338	359	362	356	360
19	316	306	312	478	474	476	380	252	313	531	242	361
20	312	306	309	482	476	479	330	280	307	298	258	279
21	314	308	310	480	474	477	322	296	310	354	280	319
22	356	318	338	478	476	477	342	324	335	337	312	329
23	342	320	329	476	470	474	366	344	355	395	331	354
24	342	320	330	472	470	471	---	---	---	408	366	378
25	376	328	356	480	474	478	---	---	---	410	400	406
26	382	376	380	484	480	481	---	---	---	407	368	387
27	382	374	378	488	484	486	---	---	---	370	368	369
28	430	372	393	492	488	490	---	---	---	400	366	377
29	448	434	443	492	488	491	462	360	409	442	398	421
30	---	---	---	498	492	495	392	340	380	444	434	440
31	---	---	---	503	494	498	---	---	---	440	432	436
MONTH	675	194	409	715	376	461	---	---	---	531	242	372

ARKANSAS RIVER BASIN

07177500 BIRD CREEK NEAR SPERRY, OK--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	478	428	449	328	323	326	356	348	352	354	348	351
2	569	336	478	328	306	320	354	346	349	348	346	348
3	446	200	271	322	312	317	364	350	354	348	340	342
4	258	212	222	312	308	311	595	338	389	342	338	340
5	280	258	265	306	298	303	414	356	381	342	336	339
6	308	164	244	306	296	300	384	350	366	348	334	340
7	264	196	241	346	308	325	384	352	369	354	346	350
8	290	246	263	326	322	324	390	372	384	352	348	351
9	282	204	260	328	320	324	414	376	387	366	350	359
10	306	254	284	330	324	327	412	366	381	408	350	364
11	278	248	267	334	326	330	434	320	377	392	350	360
12	294	278	286	336	330	333	480	280	362	350	342	347
13	296	292	294	336	332	334	390	352	361	342	336	339
14	322	192	284	354	326	338	398	352	362	342	338	340
15	254	156	200	384	334	342	362	358	359	350	340	345
16	226	190	215	400	334	360	426	360	368	362	352	357
17	262	232	254	466	316	381	362	356	361	382	356	365
18	278	218	245	376	312	347	352	328	336	354	350	353
19	266	192	252	372	358	364	338	334	336	356	348	351
20	186	108	146	358	350	356	340	336	338	380	354	365
21	246	162	197	368	346	354	342	338	340	382	366	375
22	262	246	256	428	344	385	338	332	337	366	360	363
23	285	263	273	366	348	356	332	328	330	366	354	362
24	302	286	296	378	366	371	332	328	331	352	350	352
25	309	297	302	392	338	364	334	330	332	368	352	359
26	318	301	310	350	334	341	332	330	332	380	360	368
27	323	315	320	350	346	349	334	328	331	380	368	372
28	326	320	322	352	340	347	446	332	387	390	374	378
29	339	315	330	358	344	351	400	384	393	392	378	385
30	334	312	323	350	344	347	386	368	378	380	366	372
31	---	---	---	358	344	353	368	350	356	---	---	---
MONTH	569	108	278	466	296	341	595	280	359	408	334	356

ARKANSAS RIVER BASIN

163

07177500 BIRD CREEK NEAR SPERRY, OK--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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

ARKANSAS RIVER BASIN

07177500 BIRD CREEK NEAR SPERRY, OK--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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

ARKANSAS RIVER BASIN

165

07177500 BIRD CREEK NEAR SPERRY, OK--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	8.1	8.0	8.0	7.4	7.3	7.4	7.9	7.7	7.8	8.0	7.9	8.0
2	8.0	7.7	8.0	7.6	7.3	7.3	8.0	7.7	7.8	8.0	7.8	7.9
3	7.7	7.5	7.6	7.8	7.5	7.7	7.9	7.8	7.8	---	---	---
4	7.7	7.6	7.6	7.8	7.7	7.7	8.0	7.8	7.9	---	---	---
5	7.6	7.6	7.6	7.9	7.7	7.8	8.0	7.9	7.9	---	---	---
6	7.8	7.3	7.6	7.8	7.7	7.8	8.0	7.9	7.9	---	---	---
7	7.6	7.5	7.6	7.8	7.6	7.6	8.1	7.9	8.0	---	---	---
8	7.7	7.6	7.6	7.7	7.6	7.6	8.1	7.9	8.0	---	---	---
9	7.7	7.6	7.6	7.7	7.5	7.6	8.1	7.9	8.0	---	---	---
10	7.7	7.6	7.6	7.7	7.5	7.6	8.1	7.9	8.0	---	---	---
11	7.6	7.5	7.6	7.8	7.5	7.6	8.1	7.7	7.8	---	---	---
12	7.7	7.6	7.7	7.8	7.6	7.7	7.9	7.7	7.9	---	---	---
13	7.7	7.7	7.7	7.7	7.6	7.7	8.2	7.9	8.0	---	---	---
14	8.1	7.4	7.6	7.7	7.6	7.6	8.3	8.0	8.1	---	---	---
15	7.7	7.3	7.5	7.8	7.6	7.6	8.2	8.1	8.1	---	---	---
16	7.7	7.5	7.6	7.7	7.6	7.6	8.1	8.0	8.0	---	---	---
17	7.7	7.6	7.6	7.7	7.7	7.7	8.2	8.0	8.1	---	---	---
18	7.8	7.5	7.5	8.0	7.8	7.9	8.2	8.0	8.0	8.0	7.8	7.9
19	7.8	7.3	7.5	8.1	7.9	8.0	8.1	8.0	8.1	7.9	7.7	7.7
20	7.6	7.2	7.4	8.0	7.9	7.9	8.1	7.9	8.0	---	---	---
21	7.5	7.4	7.4	7.9	7.8	7.9	8.1	7.9	8.0	---	---	---
22	7.6	7.5	7.5	7.9	7.8	7.8	8.2	8.0	8.0	---	---	---
23	7.5	7.4	7.5	7.8	7.7	7.8	8.2	8.0	8.1	---	---	---
24	7.4	7.4	7.4	7.9	7.7	7.8	8.1	8.0	8.0	---	---	---
25	7.4	7.3	7.3	7.8	7.7	7.7	8.0	7.8	7.9	---	---	---
26	7.3	7.2	7.2	7.8	7.6	7.7	8.0	7.6	7.8	---	---	---
27	7.2	7.2	7.2	8.0	7.7	7.8	8.0	7.9	8.0	7.9	7.7	7.8
28	7.3	7.2	7.2	8.0	7.7	7.8	8.2	7.9	8.1	8.0	7.9	8.0
29	7.2	7.1	7.2	7.9	7.7	7.8	8.3	8.1	8.2	8.0	7.9	8.0
30	7.4	7.2	7.3	7.9	7.7	7.8	8.3	8.0	8.1	8.0	7.8	7.9
31	---	---	---	7.9	7.7	7.8	8.2	8.0	8.0	---	---	---
MAX	8.1	8.0	8.0	8.1	7.9	8.0	8.3	8.1	8.2	---	---	---
MIN	7.2	7.1	7.2	7.4	7.3	7.3	7.9	7.6	7.8	---	---	---

ARKANSAS RIVER BASIN

07177500 BIRD CREEK NEAR SPERRY, OK--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	21.5	20.0	20.5	10.5	7.5	8.5	10.0	7.5	8.5	8.5	8.0	8.0
2	22.0	21.0	21.5	7.5	6.5	7.0	7.5	6.5	7.0	8.5	8.0	8.0
3	23.0	21.5	22.0	6.0	5.0	5.5	6.5	4.5	5.5	8.5	7.5	8.0
4	23.0	21.0	22.0	5.5	4.5	5.0	5.0	4.0	4.5	7.5	6.5	7.0
5	21.0	19.0	19.5	6.0	4.5	5.0	5.0	4.0	4.5	7.5	7.0	7.5
6	19.0	17.5	18.0	6.0	5.0	5.5	6.5	4.5	5.5	8.0	7.5	7.5
7	18.0	17.0	17.5	6.0	5.5	6.0	8.0	5.5	7.0	9.0	7.5	8.0
8	19.5	17.5	18.5	6.0	4.5	5.5	10.5	8.0	9.5	9.0	8.0	8.5
9	20.0	18.5	19.5	5.5	4.5	5.0	10.5	10.0	10.5	8.5	7.0	7.5
10	20.0	19.0	19.5	7.0	5.0	6.0	10.0	9.5	10.0	7.0	6.0	6.5
11	19.5	19.0	19.5	8.0	7.0	7.5	11.0	9.5	10.0	6.5	5.5	6.0
12	20.0	18.5	19.5	9.0	8.0	8.0	12.5	10.5	12.0	6.5	6.0	6.5
13	20.0	18.5	19.5	10.0	8.5	9.0	12.5	10.0	11.0	6.5	5.5	6.0
14	19.5	18.5	19.0	11.5	9.5	10.5	10.0	9.0	9.5	5.5	4.5	5.0
15	19.0	17.5	18.0	12.5	11.5	12.0	9.0	7.5	8.0	5.5	3.5	4.5
16	18.0	16.5	17.0	12.5	10.5	12.0	8.0	6.5	7.0	3.5	2.5	3.0
17	18.0	17.0	17.5	13.0	12.0	12.5	7.5	6.5	7.0	3.0	2.5	3.0
18	19.5	17.5	18.5	13.0	12.0	12.5	6.5	6.0	6.5	3.0	2.5	3.0
19	18.5	17.0	18.0	12.5	12.5	12.5	6.0	5.5	6.0	2.5	2.0	2.5
20	17.0	15.5	16.5	12.5	11.0	12.0	5.5	4.5	4.5	3.5	2.5	3.0
21	16.5	15.0	16.0	11.0	10.0	10.5	5.0	4.5	5.0	4.0	3.0	3.5
22	18.0	15.5	16.5	10.0	9.5	9.5	6.0	5.0	5.5	5.0	4.0	5.0
23	19.5	17.5	18.5	9.5	8.0	8.5	6.5	6.0	6.5	5.5	4.5	5.0
24	20.5	19.0	20.0	8.0	7.0	7.5	6.5	6.5	6.5	5.5	4.5	5.0
25	19.5	18.0	19.0	7.5	6.5	7.0	6.5	6.0	6.0	6.0	5.0	5.5
26	18.0	17.5	18.0	7.5	6.0	7.0	8.0	6.0	6.5	6.0	5.0	5.5
27	18.5	17.5	18.0	8.0	7.0	7.5	8.0	8.0	8.0	6.0	5.5	6.0
28	19.0	18.0	18.5	11.0	8.0	10.0	8.0	8.0	8.0	7.0	6.0	6.5
29	18.5	16.5	18.0	13.0	11.0	12.5	8.5	8.0	8.0	7.0	6.5	6.5
30	16.5	13.5	15.0	12.5	10.0	11.5	8.5	8.0	8.0	7.5	7.0	7.0
31	13.5	11.0	12.5	---	---	---	8.5	8.5	8.5	8.0	7.0	7.5
MONTH	23.0	11.0	18.4	13.0	4.5	8.6	12.5	4.0	7.4	9.0	2.0	5.9

ARKANSAS RIVER BASIN

167

07177500 BIRD CREEK NEAR SPERRY, OK--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	8.5	7.0	8.0	14.0	11.5	12.5	13.5	12.5	13.0	22.0	19.0	20.0
2	9.5	7.5	8.5	15.5	12.5	13.5	13.0	11.5	12.0	21.5	20.5	21.0
3	10.0	8.5	9.5	15.5	14.5	15.0	13.0	10.0	11.5	21.5	19.0	20.5
4	10.0	9.0	9.5	15.5	15.0	15.0	15.5	12.5	13.5	22.0	19.0	20.0
5	9.0	8.0	8.5	16.5	14.5	15.5	16.0	14.0	15.0	21.5	19.5	20.5
6	8.0	7.5	8.0	17.0	15.0	15.5	16.0	14.0	14.5	21.0	19.0	20.0
7	8.0	7.0	7.5	17.0	15.0	16.0	14.5	13.5	14.0	20.0	17.5	19.0
8	8.0	6.5	7.0	16.5	15.5	16.0	16.5	13.5	14.5	21.0	18.0	19.5
9	7.5	6.0	6.5	16.5	15.5	16.0	18.0	15.5	16.5	21.5	19.5	20.5
10	7.0	6.0	6.5	16.0	13.5	14.0	19.0	17.0	18.0	22.0	20.5	21.0
11	7.5	6.5	7.0	13.5	11.5	12.0	20.0	17.5	18.5	22.0	20.0	20.5
12	8.0	7.5	8.0	13.0	11.5	12.0	19.0	15.0	17.0	22.0	19.0	20.5
13	8.0	7.5	7.5	12.5	10.5	11.5	17.0	15.0	16.0	23.5	21.0	22.0
14	8.0	7.5	7.5	13.0	11.5	12.5	20.0	16.5	18.0	23.0	21.5	22.5
15	8.5	8.0	8.0	13.5	12.5	13.0	20.0	18.5	19.5	24.0	21.5	22.5
16	8.5	7.5	8.0	14.0	12.5	13.5	21.0	18.5	19.5	24.0	22.5	23.0
17	9.0	8.0	8.5	15.0	14.5	14.5	20.5	19.0	19.5	22.5	21.5	22.0
18	9.0	8.0	8.5	16.0	15.0	15.5	19.0	18.0	18.5	22.0	21.0	21.5
19	9.0	8.0	8.5	16.0	14.5	15.0	18.5	17.0	18.0	22.5	21.0	21.5
20	9.0	7.5	8.5	15.0	13.5	14.0	17.0	15.5	16.5	22.0	21.0	21.5
21	9.5	8.0	9.0	15.0	14.0	14.5	16.0	15.0	15.5	24.5	21.5	22.5
22	10.5	9.5	10.0	14.5	12.0	13.5	18.0	15.0	16.5	26.0	23.0	24.0
23	10.5	9.5	10.0	12.5	11.5	12.0	20.5	17.0	18.5	24.5	23.0	23.5
24	10.0	9.0	9.5	13.0	11.5	12.0	20.5	19.0	19.5	23.0	21.5	22.0
25	9.5	9.0	9.0	12.5	11.5	12.0	19.5	18.0	18.5	21.5	20.0	21.0
26	10.0	8.0	9.0	13.5	11.5	12.5	19.0	17.0	18.0	21.0	20.0	20.0
27	10.5	8.5	9.5	14.0	12.0	13.0	18.5	16.5	17.5	19.5	18.5	19.0
28	12.5	9.5	10.5	13.5	12.5	13.0	18.5	16.0	16.5	18.5	17.0	17.5
29	13.0	10.5	12.0	14.0	12.5	13.5	17.5	15.5	16.0	18.5	16.5	17.5
30	---	---	---	14.0	13.0	13.5	19.5	16.5	18.0	20.0	17.0	18.5
31	---	---	---	14.5	12.0	13.0	---	---	---	19.5	19.0	19.0
MONTH	13.0	6.0	8.6	17.0	10.5	13.7	21.0	10.0	16.6	26.0	16.5	20.8

ARKANSAS RIVER BASIN

169

07177500 BIRD CREEK NEAR SPERRY, OK--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	8.2	7.4	7.8	9.8	8.7	9.4	9.9	9.4	9.6	12.6	12.5	12.5
2	8.1	7.5	7.8	10.3	9.8	10.1	10.5	9.9	10.1	12.5	12.4	12.5
3	7.9	7.3	7.6	10.6	10.2	10.4	11.2	10.4	10.8	12.5	12.3	12.4
4	7.7	7.1	7.3	10.7	10.5	10.6	11.4	11.1	11.2	12.4	12.1	12.2
5	8.3	7.4	7.7	10.7	10.5	10.6	11.6	11.4	11.5	12.1	11.9	12.0
6	8.6	8.0	8.2	10.6	10.3	10.4	11.5	11.2	11.4	11.8	11.6	11.7
7	8.6	8.2	8.4	10.4	9.9	10.2	11.4	10.7	11.1	11.6	11.1	11.3
8	8.6	8.1	8.3	10.4	9.9	10.1	10.7	9.9	10.5	11.2	10.9	11.1
9	8.3	7.8	8.0	10.6	10.4	10.6	10.2	9.6	10.0	11.5	10.9	11.2
10	8.2	7.8	8.0	10.6	10.1	10.4	10.3	9.6	10.0	11.8	11.3	11.5
11	8.2	7.7	8.0	10.1	9.6	9.8	10.8	9.7	10.1	11.9	11.6	11.7
12	8.2	7.7	7.9	9.8	9.5	9.7	10.6	8.9	9.5	11.8	11.4	11.6
13	8.0	7.7	7.9	9.7	9.4	9.6	10.1	9.1	9.6	11.5	11.2	11.3
14	8.1	7.7	7.9	9.4	8.2	8.8	10.8	10.1	10.5	12.0	11.4	11.7
15	8.3	7.7	8.0	8.2	7.2	7.8	10.8	10.5	10.6	12.4	11.7	12.0
16	8.3	7.9	8.2	8.9	7.5	8.1	10.4	9.3	9.8	12.8	12.3	12.4
17	8.3	7.5	8.0	8.4	7.7	7.9	9.9	9.4	9.6	---	---	---
18	7.8	7.1	7.6	8.8	8.5	8.7	10.7	9.9	10.5	13.7	13.0	13.3
19	7.8	7.1	7.4	8.7	8.1	8.5	11.8	10.6	11.2	13.8	13.5	13.6
20	8.1	7.1	7.5	9.0	8.7	8.3	12.4	11.5	12.0	14.0	13.5	13.7
21	8.5	7.4	7.8	9.3	8.8	9.2	12.3	12.1	12.2	13.8	13.2	13.5
22	8.5	7.3	7.8	9.3	9.1	9.2	12.5	12.2	12.4	13.8	12.8	13.2
23	7.8	6.6	7.3	9.7	9.2	9.5	12.5	12.4	12.4	13.8	12.7	13.1
24	6.8	5.9	6.5	9.8	9.6	9.7	12.8	12.4	12.6	---	---	---
25	5.9	5.7	5.8	10.0	9.8	9.9	13.0	12.8	12.9	---	---	---
26	6.8	6.0	6.4	10.3	10.0	10.2	13.0	12.5	12.9	---	---	---
27	6.0	3.9	5.4	10.2	10.0	10.1	12.8	12.2	12.4	---	---	---
28	6.6	4.5	5.6	10.1	9.5	9.9	12.4	12.3	12.4	---	---	---
29	7.3	5.6	6.7	9.5	8.6	9.0	12.4	12.3	12.4	---	---	---
30	7.8	7.3	7.6	9.4	8.5	8.8	12.9	12.4	12.5	---	---	---
31	8.7	7.8	8.1	---	---	---	12.8	12.5	12.7	---	---	---
MONTH	8.7	3.9	7.5	10.7	7.2	9.5	13.0	8.9	11.2	---	---	---

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

ARKANSAS RIVER BASIN

171

07177500 BIRD CREEK NEAR SPERRY, OK--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	8.7	8.2	8.4	---	---	---	---	---	---	7.6	6.9	7.2
2	8.6	7.7	8.3	---	---	---	---	---	---	7.6	6.9	7.3
3	8.9	6.1	7.8	7.5	6.4	6.8	---	---	---	8.0	7.2	7.6
4	8.9	8.3	8.6	7.2	6.7	6.9	---	---	---	8.0	7.1	7.6
5	9.4	8.8	9.2	7.2	6.6	6.8	7.1	6.5	6.7	7.8	7.0	7.4
6	9.7	6.9	8.5	7.1	6.3	6.7	7.3	6.3	6.6	7.7	6.9	7.3
7	9.1	7.9	8.7	7.0	5.8	6.3	7.6	6.4	6.9	7.7	7.0	7.4
8	9.1	8.4	8.9	6.8	5.8	6.2	7.6	6.4	6.9	7.6	6.8	7.1
9	9.1	7.8	8.7	6.7	5.8	6.2	7.7	6.2	6.8	7.8	6.9	7.4
10	9.1	7.8	8.6	6.7	5.9	6.4	7.5	6.2	6.9	7.9	6.9	7.3
11	8.8	8.0	8.4	7.6	5.8	6.4	7.2	5.9	6.3	8.4	7.5	8.0
12	8.9	8.7	8.7	7.3	5.9	6.5	6.5	5.9	6.2	8.4	7.4	8.0
13	9.1	8.5	8.8	7.2	5.9	6.2	7.4	6.5	7.1	8.2	7.3	7.8
14	9.1	6.9	8.5	6.8	5.8	6.3	7.8	6.5	6.7	8.3	7.2	7.8
15	7.5	5.6	6.3	7.2	6.0	6.4	7.7	6.4	7.0	8.2	7.3	7.8
16	7.7	6.1	7.2	6.5	5.9	6.1	7.5	6.6	7.1	8.5	7.2	7.8
17	8.7	7.3	8.3	7.5	6.2	6.5	7.8	6.7	7.2	8.5	7.4	7.9
18	9.7	7.0	8.4	7.1	6.4	6.6	7.5	6.7	7.0	8.3	7.3	7.8
19	9.3	6.8	8.7	---	---	---	7.8	6.9	7.4	8.3	7.6	7.9
20	6.5	5.1	5.7	---	---	---	7.8	6.8	7.2	8.6	7.9	8.2
21	---	---	---	---	---	---	7.4	6.5	7.0	8.5	7.5	8.0
22	---	---	---	---	---	---	7.3	6.6	6.7	8.9	7.6	8.2
23	---	---	---	---	---	---	7.2	6.5	7.0	9.2	8.1	8.6
24	---	---	---	---	---	---	7.2	6.6	6.8	9.5	8.5	9.0
25	---	---	---	---	---	---	7.1	6.3	6.8	9.5	8.5	9.1
26	---	---	---	---	---	---	---	---	---	9.5	8.4	8.8
27	---	---	---	---	---	---	---	---	---	9.5	8.4	8.9
28	---	---	---	---	---	---	8.2	7.2	7.3	9.6	8.6	9.1
29	---	---	---	---	---	---	---	---	---	10.0	8.8	9.3
30	---	---	---	---	---	---	---	---	---	10.2	9.2	9.7
31	---	---	---	---	---	---	7.3	6.7	6.9	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	10.2	6.8	8.0

ARKANSAS RIVER BASIN

07177650 FLAT ROCK CREEK AT CINCINNATI 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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.15	7.9	1.8	10	1.1	.74	.76	1.9	3.5	5.5	.03	.00
2	.18	3.1	7.4	4.9	1.2	.64	.76	1.5	63	3.3	.57	.00
3	.14	1.5	5.8	3.6	1.2	.68	.66	1.3	15	4.2	.11	.00
4	.15	1.1	3.8	3.0	1.1	10	.65	1.2	5.2	1.9	2.6	.00
5	.17	.92	2.3	2.7	1.0	8.2	.63	1.1	3.0	1.3	5.8	.00
6	.19	.90	1.7	2.2	1.1	3.1	.67	1.0	46	1.2	1.4	.04
7	.18	.63	1.4	2.1	1.1	1.9	.71	1.0	6.1	.90	.70	.00
8	.15	.56	1.3	2.0	1.1	1.5	.72	.94	17	.67	.42	.00
9	.11	.60	1.0	1.7	1.2	1.4	.74	.86	8.5	.57	.24	.06
10	.12	.56	.86	1.5	2.8	1.1	.75	.88	31	.46	.20	.10
11	.14	.50	1.0	e1.5	5.8	.91	4.2	24	7.6	.40	4.2	.00
12	.17	.57	21	e1.7	20	.90	4.7	6.1	3.9	.32	.86	.00
13	.19	.96	5.6	e4.8	6.7	.87	1.7	2.2	2.9	.32	.20	.00
14	.18	1.9	2.7	e3.2	21	.72	1.1	1.5	69	.83	.05	.00
15	.21	2.3	1.7	e2.1	6.0	.65	.84	1.2	23	.48	.00	.00
16	.22	27	1.3	e1.8	3.1	.62	.89	1.2	8.6	2.0	.00	.00
17	.20	40	1.1	e1.7	2.4	.62	1.6	1.3	4.9	1.1	.00	.00
18	.13	7.8	.89	e1.5	1.8	.94	1.6	1.2	5.8	.57	.00	.00
19	.08	4.3	6.5	e1.5	1.4	.90	30	37	97	.47	.00	.47
20	.24	9.6	224	e1.5	1.2	.69	16	6.7	40	.57	.00	.12
21	.26	4.7	15	e3.0	1.1	.58	6.2	3.1	10	.48	.00	.01
22	.23	2.4	12	e7.6	.99	.53	3.2	1.8	6.9	.92	.00	.00
23	.28	1.3	9.3	e4.0	1.0	.53	2.1	1.6	5.4	.29	.00	.00
24	.51	.88	5.1	e2.1	1.0	.61	1.6	1.3	4.6	.19	.00	.00
25	.85	.74	3.6	e1.8	1.0	.62	1.3	1.2	9.1	.19	.00	.00
26	8.0	.62	3.1	e1.6	.92	.62	.99	1.1	8.7	.19	.00	.18
27	.98	.62	2.8	e2.2	.96	.62	.92	.91	5.0	.17	.00	.07
28	8.1	.59	4.0	e1.8	.97	.62	3.8	2.9	8.8	.11	.00	.08
29	5.1	3.7	3.1	e1.5	.84	.51	16	4.1	189	.07	.00	.22
30	1.9	3.8	2.6	e1.8	---	.42	3.6	1.9	13	.05	.00	.17
31	5.4	---	3.0	e1.2	---	.55	---	1.6	---	.03	.00	---
TOTAL	34.91	132.05	356.75	83.6	91.08	43.29	109.39	115.59	721.5	29.75	17.38	1.52
MEAN	1.13	4.40	11.5	2.70	3.14	1.40	3.65	3.73	24.0	.96	.56	.051
MAX	8.1	40	224	10	21	10	30	37	189	5.5	5.8	.47
MIN	.08	.50	.86	1.2	.84	.42	.63	.86	2.9	.03	.00	.00
AC-FT	69	262	708	166	181	86	217	229	1430	59	34	3.0
CFSM	.14	.54	1.40	.33	.38	.17	.44	.45	2.93	.12	.07	.01
IN.	.16	.60	1.62	.38	.41	.20	.50	.52	3.27	.13	.08	.01

e Estimated

ARKANSAS RIVER BASIN

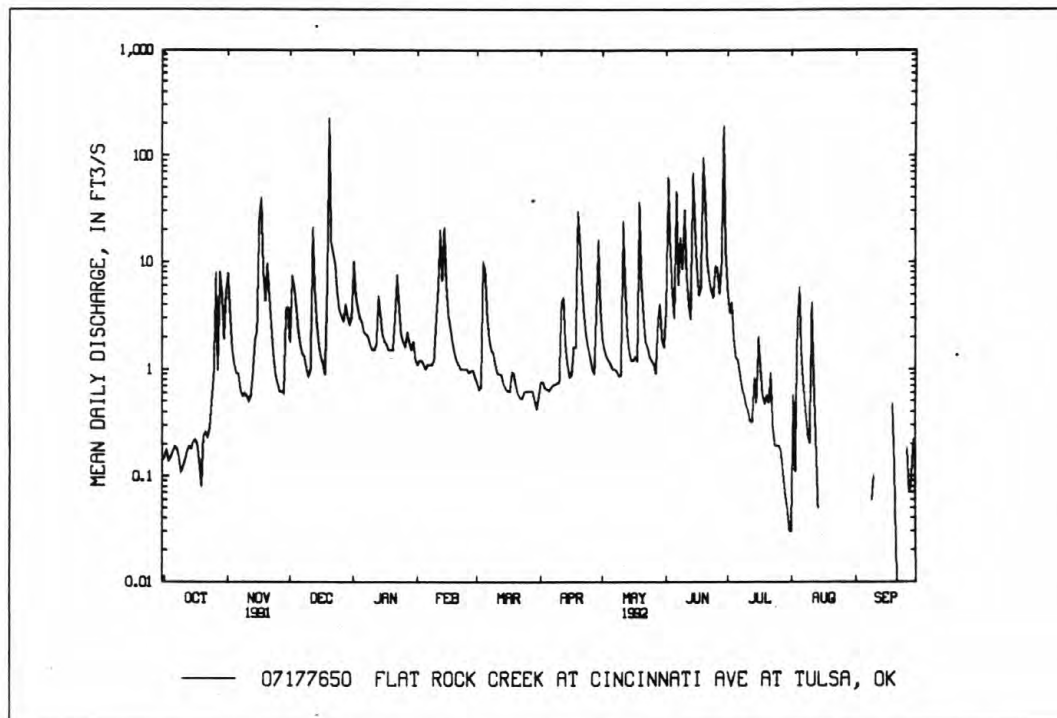
07177650 FLAT ROCK CREEK AT CINCINNATI AVENUE AT TULSA, OK.

173

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.53	2.45	3.43	3.04	5.41	12.9	5.64	6.82	7.67	1.53	3.57	.30
MAX	1.13	4.68	11.5	5.61	11.7	34.4	15.9	20.8	24.0	5.08	13.6	.50
(WY)	1992	1989	1992	1989	1990	1990	1990	1990	1992	1989	1989	1990
MIN	.23	.11	.64	1.38	.30	.37	1.15	.82	.80	.044	.031	.051
(WY)	1989	1990	1991	1990	1991	1991	1989	1989	1990	1991	1990	1992

SUMMARY STATISTICS	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1989-92
ANNUAL TOTAL	769.90	1736.81	
ANNUAL MEAN	2.11	4.75	4.44
HIGHEST ANNUAL MEAN			7.22 1990
LOWEST ANNUAL MEAN			.81 1991
HIGHEST DAILY MEAN	224 Dec 20	224 Dec 20	399 Aug 20 1989
LOWEST DAILY MEAN	.00 Jul 5	.00 several days	.00 at times
ANNUAL SEVEN-DAY MINIMUM	.00 Aug 1	.00 Aug 15	.00 Oct 14 1988
INSTANTANEOUS PEAK FLOW		1010 Dec 20	2270 Aug 20 1989
INSTANTANEOUS PEAK STAGE		8.25 Dec 20	10.61 Aug 20 1989
ANNUAL RUNOFF (AC-FT)	1530	3440	3220
ANNUAL RUNOFF (CFSM)	.26	.58	.54
ANNUAL RUNOFF (INCHES)	3.49	7.88	7.36
10 PERCENT EXCEEDS	3.8	8.0	6.1
50 PERCENT EXCEEDS	.33	1.1	.43
90 PERCENT EXCEEDS	.01	.01	.00



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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.5	3.0	e1.7	11	.62	e.65	5.4	e1.8	e4.9	1.8	.68	.55
2	e1.1	.76	e17	e5.0	e.56	e.58	e.80	e1.4	71	14	1.1	2.4
3	e.85	.51	4.0	e3.5	e.50	e.90	e.70	e1.2	19	3.7	2.6	.57
4	e.70	e.45	2.2	e2.6	e.46	17	e.58	e1.0	8.3	2.3	14	.46
5	e.58	e.38	1.6	e2.1	e.40	4.7	e.50	e.95	3.9	8.3	28	.48
6	e.45	e.33	e1.4	e1.7	e.36	1.9	e1.0	e.87	39	e1.0	1.2	15
7	.37	e.32	e1.1	e1.4	e.33	e1.2	e.70	e.82	8.0	e.75	e.60	.51
8	e.35	e.30	e.90	e1.1	e.31	e.95	e.65	e.78	6.5	e.54	e.42	.40
9	e.34	e.29	e.78	1.0	e.50	e.85	e.60	e.72	3.0	e.44	e.32	.70
10	e.33	e.27	e.70	.94	11	e.77	e.54	e.70	11	e.37	e.28	20
11	e.32	e.40	9.0	.89	12	e.70	55	198	4.2	e.32	36	e.40
12	e.31	e.30	48	1.1	15	e.66	18	18	2.2	e.27	1.2	e.30
13	e.30	e.27	2.3	6.9	3.8	e.62	e2.0	e5.0	1.4	e.24	.86	e.22
14	e.30	e5.0	e1.6	2.3	11	e.58	e1.4	e3.0	70	8.7	e.65	e.19
15	e.29	e3.0	e1.2	.98	5.3	e.56	e1.1	e2.0	14	.60	e.55	e.17
16	e.28	60	e1.0	.76	e3.0	e.54	22	e1.8	6.7	35	e.47	e.15
17	e.28	13	e.85	.89	e2.0	e2.0	20	e3.0	4.0	2.1	e.38	e.13
18	e.27	2.4	e.78	.77	e1.6	6.2	5.2	e2.0	4.3	.94	e.33	e.12
19	e.27	6.4	e6.0	.70	e1.3	e1.0	68	e50	33	.83	e.30	3.3
20	e.27	8.8	155	.82	e1.1	e.85	19	e8.0	16	7.5	e.26	2.9
21	e.27	3.2	17	2.1	e.95	e.75	7.2	e4.6	3.2	1.3	e.24	e.32
22	e.27	e2.0	18	8.8	e.85	e1.2	e5.0	e2.7	2.2	e.52	e.23	e.21
23	e.27	e1.2	e8.0	2.5	e.78	e.80	e3.0	e2.0	2.1	e.45	e.22	e.17
24	4.8	e.85	e4.5	2.0	e.90	e1.1	e2.0	e1.7	1.3	e.38	e.20	e.14
25	32	e.65	e3.2	1.1	e.80	e.85	e1.7	e1.5	4.2	e.32	e.18	e.12
26	80	e.60	e2.8	.74	e.72	e.75	e1.2	e1.4	1.5	e.30	e.17	6.6
27	.52	e.55	e3.8	1.5	e2.0	e.68	e1.0	e1.3	.66	e2.0	e.17	e.30
28	93	e.52	e5.0	1.0	e1.0	e.63	30	e6.0	7.1	e1.0	e.16	e.20
29	1.3	e1.0	e3.8	.73	e.75	e.59	11	e9.0	63	e.85	e.16	e.17
30	.49	e2.5	e3.2	1.6	---	e.56	3.6	e2.7	4.0	.74	e.16	e.15
31	31	---	e6.0	.80	---	e1.8	---	e2.3	---	.69	2.8	---
TOTAL	253.38	119.25	332.41	69.32	79.89	52.92	288.87	336.24	419.66	98.25	94.89	57.33
MEAN	8.17	3.97	10.7	2.24	2.75	1.71	9.63	10.8	14.0	3.17	3.06	1.91
MAX	93	60	155	11	15	17	68	198	71	35	36	20
MIN	.27	.27	.70	.70	.31	.54	.50	.70	.66	.24	.16	.12
AC-FT	503	237	659	137	158	105	573	667	832	195	188	114
CFSM	1.09	.53	1.42	.30	.37	.23	1.28	1.44	1.86	.42	.41	.25
IN.	1.25	.59	1.64	.34	.39	.26	1.43	1.66	2.07	.49	.47	.28

e Estimated

ARKANSAS RIVER BASIN
07177800 COAL CREEK AT TULSA, OK--Continued

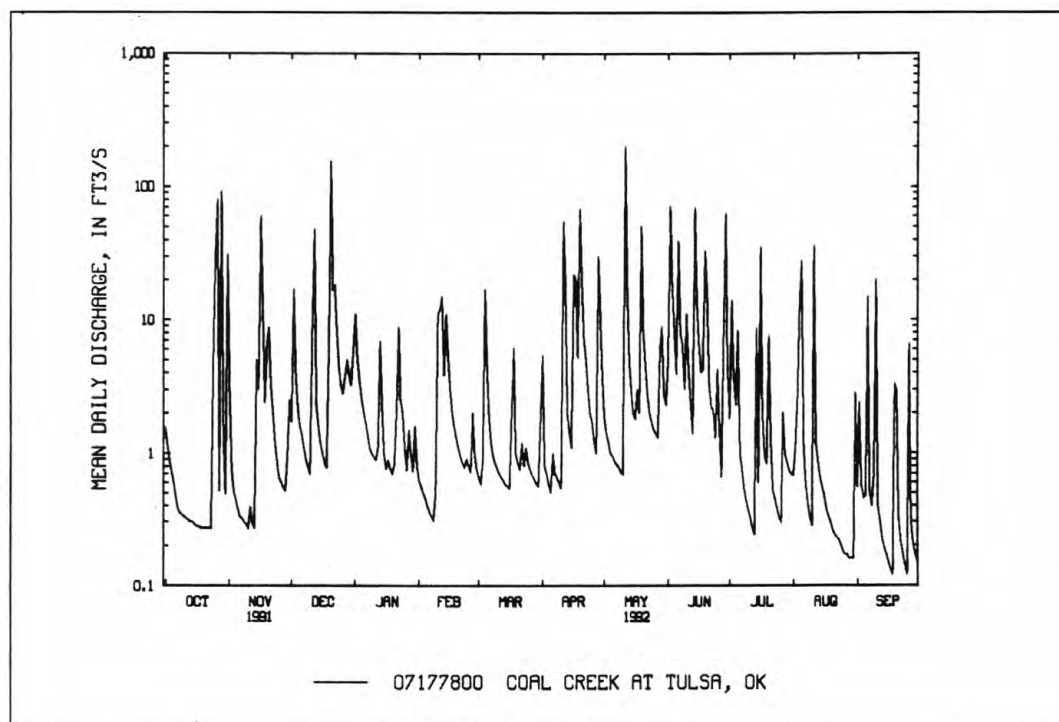
175

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.05	5.98	7.36	6.24	6.26	12.1	8.62	11.1	8.74	3.03	6.02	5.55
MAX	8.17	13.7	10.7	9.22	12.2	33.2	16.8	18.0	14.0	8.11	18.7	7.65
(WY)	1992	1989	1992	1989	1990	1990	1990	1990	1992	1989	1989	1991
MIN	3.86	2.24	3.93	2.24	2.64	1.71	1.62	6.69	2.20	.29	.75	1.91
(WY)	1991	1990	1991	1992	1991	1992	1989	1989	1990	1991	1991	1992

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1989-92

ANNUAL TOTAL	1911.80	2202.41	
ANNUAL MEAN	5.24	6.02	7.26
HIGHEST ANNUAL MEAN			9.81 1990
LOWEST ANNUAL MEAN			4.30 1991
HIGHEST DAILY MEAN	155 Dec 20	198 May 11	508 Aug 20 1989
LOWEST DAILY MEAN	.00 Jul 30	.12 Sep 18	.00 at times
ANNUAL SEVEN-DAY MINIMUM	.00 Jul 30	.17 Aug 24	.00 Jul 30 1991
INSTANTANEOUS PEAK FLOW		1220 May 11	2930 Aug 20 1989
INSTANTANEOUS PEAK STAGE		10.53 May 11	13.11 Aug 20 1989
ANNUAL RUNOFF (AC-FT)	3790	4370	5260
ANNUAL RUNOFF (CFSM)	.70	.80	.96
ANNUAL RUNOFF (INCHES)	9.44	10.88	13.10
10 PERCENT EXCEEDS	9.4	14	14
50 PERCENT EXCEEDS	1.5	1.0	1.6
90 PERCENT EXCEEDS	.21	.28	.32



ARKANSAS RIVER BASIN
07178000 BIRD CREEK NEAR OWASSO, OK

LOCATION.--Lat 36°14'55", long 95°52'06", 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.--1022 mi².

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1311: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 560.17 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1939, gage at same site and datum 1.14 ft lower.

REMARKS.--Records fair. 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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	159	615	198	1570	152	216	192	542	307	3330	204	141
2	159	341	238	1500	142	209	223	375	885	2490	206	148
3	159	188	250	1280	136	199	219	297	3550	1190	207	153
4	159	120	190	419	126	245	218	255	1550	948	353	155
5	159	92	159	296	120	505	213	229	1370	915	459	182
6	159	104	135	265	128	458	211	211	2930	851	333	191
7	159	93	128	245	120	389	204	200	4110	371	258	186
8	159	86	139	229	112	298	206	213	2020	279	227	185
9	159	89	130	212	110	252	204	220	2210	259	230	222
10	158	94	120	197	144	214	194	217	2090	251	200	204
11	157	91	115	187	168	194	213	911	2300	242	551	181
12	159	92	874	182	1530	182	1680	536	1460	236	632	181
13	159	94	1210	183	1240	177	1180	319	1250	231	490	182
14	159	99	511	204	2360	180	493	265	2360	273	260	183
15	159	114	281	218	3940	181	342	240	7710	257	177	167
16	161	691	196	216	1870	185	287	231	2850	431	144	144
17	108	6040	155	194	1500	184	425	252	1420	588	130	139
18	78	1650	129	171	1350	196	797	251	2410	717	175	147
19	74	585	139	154	1280	197	1310	886	2230	428	163	173
20	66	524	6930	150	1220	223	1590	963	8480	318	159	183
21	63	523	12600	148	1170	e190	1060	451	6490	403	155	158
22	64	295	3870	190	666	e180	629	329	2900	372	157	144
23	68	189	1330	247	463	e180	436	295	2440	220	169	138
24	85	139	1300	227	436	e170	337	252	2220	189	168	136
25	102	114	1200	212	271	e165	279	324	2150	237	168	154
26	457	106	1090	182	216	e160	247	244	2550	241	164	189
27	293	127	1790	172	240	e150	228	211	2830	234	189	160
28	1740	127	1840	172	239	e145	230	250	2820	253	318	151
29	1710	138	1830	162	222	e135	787	275	4890	251	165	143
30	361	207	1810	155	---	e130	1040	298	4760	220	151	143
31	292	---	1750	145	---	e122	---	289	---	208	155	---
TOTAL	8104	13767	42637	10084	21671	6611	15674	10831	87542	17433	7517	4963
MEAN	261	459	1375	325	747	213	522	349	2918	562	242	165
MAX	1740	6040	12600	1570	3940	505	1680	963	8480	3330	632	222
MIN	63	86	115	145	110	122	192	200	307	189	130	136
AC-FT	16070	27310	84570	20000	42980	13110	31090	21480	173600	34580	14910	9840

e Estimated

ARKANSAS RIVER BASIN
07178000 BIRD CREEK NEAR OWASSO, OK--Continued

177

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1992, BY WATER YEAR (WY)

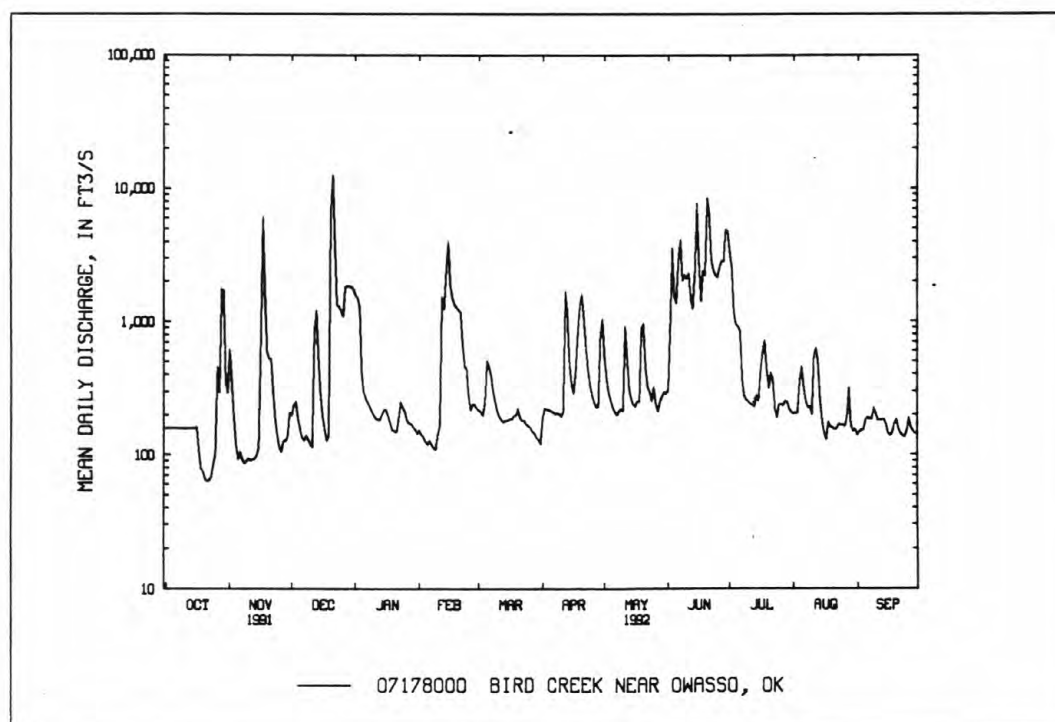
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	266	440	673	357	469	1832	1570	801	1208	328	418	473
MAX	477	959	1599	723	909	5861	3794	2563	2918	562	1317	1376
(WY)	1988	1988	1988	1988	1990	1990	1988	1990	1992	1992	1989	1989
MIN	141	151	85.7	199	94.5	91.9	347	209	166	181	162	165
(WY)	1989	1991	1990	1991	1991	1991	1989	1988	1988	1991	1988	1992

SUMMARY STATISTICS	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1988-92
ANNUAL TOTAL	163662	246834	
ANNUAL MEAN	448	674	736
HIGHEST ANNUAL MEAN			1176 1990
LOWEST ANNUAL MEAN			306 1991
HIGHEST DAILY MEAN	12600 Dec 21	12600 Dec 21	17300 Mar 13 1990
LOWEST DAILY MEAN	61 Jan 4	63 Oct 21	^a 55 Oct 21 1987
ANNUAL SEVEN-DAY MINIMUM	71 Oct 18	71 Oct 18	63 Oct 16 1988
INSTANTANEOUS PEAK FLOW		13100 Dec 21	^b 17800 Mar 13 1990
INSTANTANEOUS PEAK STAGE		19.20 Dec 21	^c 23.35 Mar 13 1990
ANNUAL RUNOFF (AC-FT)	324600	489600	533300
10 PERCENT EXCEEDS	901	1760	1960
50 PERCENT EXCEEDS	170	220	200
90 PERCENT EXCEEDS	89	130	90

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

^bMaximum discharge for period of record, 19,700 ft³/s, Mar. 29, 1938.

^cMaximum gage height for period of record 26.2 ft, Mar. 30, 1938, (from backwater).



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, 1,060 microsiemens, Feb. 12, 1992; 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, 1.3 mg/l Aug. 14, 1987.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER				NOVEMBER			DECEMBER			JANUARY		
1	337	335	336	372	260	308	439	380	408	463	302	342
2	339	335	337	466	234	302	371	333	353	322	314	319
3	343	337	338	254	240	250	432	349	383	345	324	335
4	341	336	339	272	254	263	391	366	378	358	327	340
5	343	336	340	300	274	285	403	378	391	391	358	377
6	341	334	337	318	302	312	421	403	409	409	395	405
7	336	334	335	332	316	324	443	420	426	422	409	417
8	362	334	347	334	324	331	448	402	428	446	422	437
9	351	338	343	406	324	345	409	400	406	461	448	455
10	349	338	342	416	342	371	427	403	411	473	459	468
11	338	332	335	356	346	351	445	429	439	473	459	466
12	334	330	332	356	354	356	505	331	418	459	455	458
13	334	330	332	358	352	356	396	238	305	459	455	456
14	334	332	332	356	350	353	345	313	324	498	459	466
15	334	330	333	368	356	362	356	325	340	528	482	501
16	332	328	331	474	342	369	376	358	368	536	492	518
17	332	328	330	302	160	202	387	376	382	542	510	535
18	332	330	331	222	176	208	398	387	391	508	484	492
19	334	330	333	238	222	231	408	398	402	494	484	490
20	342	334	338	322	238	266	434	128	281	500	494	498
21	352	342	346	346	260	294	156	107	132	506	494	499
22	382	352	367	268	260	264	238	142	181	518	504	510
23	398	382	393	288	268	276	252	224	235	655	513	585
24	400	392	397	306	290	300	267	234	248	655	609	639
25	406	398	403	314	306	309	275	267	271	639	602	620
26	398	204	316	330	314	322	287	274	282	640	609	628
27	372	252	336	348	330	339	292	285	288	607	563	586
28	689	134	332	362	348	357	300	290	295	561	547	551
29	256	160	229	374	362	366	307	300	304	565	545	554
30	252	234	242	411	364	385	302	298	300	553	542	546
31	268	238	257	---	---	---	302	298	301	542	538	539
MONTH	689	134	334	474	160	312	505	107	338	655	302	485

ARKANSAS RIVER BASIN

179

07178000 BIRD CREEK NEAR OWASSO, OK--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	545	538	541	491	441	464	522	518	519	413	393	401
2	582	545	549	499	475	486	611	522	561	430	417	426
3	598	549	567	475	467	472	561	442	506	422	417	420
4	555	549	552	467	453	461	438	415	424	417	415	416
5	567	551	556	621	434	531	417	413	416	417	411	414
6	573	561	565	615	469	513	420	415	418	411	407	409
7	576	565	569	488	455	464	415	413	415	407	403	406
8	613	567	597	504	461	489	420	415	417	401	395	399
9	609	578	587	477	459	465	417	415	416	395	384	391
10	582	567	575	475	461	470	422	415	419	382	376	378
11	609	567	574	484	475	478	428	420	424	374	203	308
12	1060	316	557	492	482	487	520	318	402	411	215	358
13	430	341	389	502	492	498	345	298	320	467	405	441
14	403	203	342	508	500	504	391	339	362	444	410	431
15	271	221	250	506	500	504	424	391	405	433	415	423
16	279	248	262	504	500	502	405	391	398	416	403	413
17	310	279	294	506	500	503	463	366	400	420	383	393
18	329	310	321	508	502	505	405	353	378	420	374	386
19	333	324	330	530	508	514	407	287	377	470	295	372
20	327	322	324	557	530	543	397	298	328	427	289	336
21	327	322	325	532	515	526	370	320	338	324	298	313
22	349	324	334	515	508	511	360	327	345	341	320	334
23	368	347	356	515	508	511	376	360	368	373	341	354
24	350	347	348	524	513	516	401	378	392	399	365	378
25	357	351	354	524	515	520	409	401	406	421	369	385
26	399	359	376	515	510	512	403	401	403	409	399	407
27	435	404	424	522	513	518	407	401	403	408	398	406
28	448	431	438	520	513	517	403	389	399	396	385	391
29	448	438	443	522	520	520	588	339	424	467	385	421
30	---	---	---	524	518	521	434	360	397	489	431	468
31	---	---	---	522	515	520	---	---	---	487	479	483
MONTH	1060	203	438	621	434	501	611	287	406	489	203	396

ARKANSAS RIVER BASIN

07178000 BIRD CREEK NEAR OWASSO, OK--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	304	293	301	374	368	371	405	391	399
2	---	---	---	310	304	307	380	376	378	399	389	395
3	490	244	335	343	312	331	382	372	377	391	378	384
4	248	231	243	333	329	332	438	364	377	408	382	394
5	279	244	267	327	322	325	498	333	400	396	366	377
6	322	169	274	322	312	316	467	341	409	370	358	367
7	279	180	240	331	312	321	455	415	430	392	358	376
8	300	265	279	372	331	349	426	401	412	368	356	362
9	289	221	267	372	355	361	436	411	423	370	354	368
10	347	285	303	360	353	357	434	413	425	366	356	361
11	306	258	278	362	358	361	413	281	362	388	354	369
12	298	281	288	366	362	364	442	353	403	404	366	382
13	304	296	301	370	366	368	461	304	367	394	370	379
14	316	262	295	372	364	368	382	374	381	400	360	367
15	271	159	212	459	370	399	397	380	385	366	356	360
16	246	200	227	405	322	377	399	384	388	358	356	357
17	275	240	257	444	312	391	407	389	392	364	356	360
18	283	225	256	432	335	363	413	391	400	376	366	372
19	351	248	267	401	347	381	413	372	388	388	372	381
20	248	114	161	397	391	394	372	362	365	400	364	373
21	217	163	194	486	386	405	368	364	366	392	368	373
22	279	225	266	386	366	379	368	366	368	390	372	381
23	289	279	285	409	378	393	370	366	368	396	388	393
24	296	289	292	434	391	397	382	355	360	392	372	384
25	296	283	292	444	393	403	386	353	364	402	372	381
26	291	283	288	479	391	407	389	353	358	382	362	370
27	289	281	286	389	364	373	389	351	359	390	356	373
28	298	281	294	444	366	377	376	349	356	394	360	380
29	320	207	266	422	366	374	432	345	385	394	380	387
30	293	227	268	374	372	373	477	413	440	410	384	392
31	---	---	---	380	368	376	428	405	412	---	---	---
MONTH	---	---	---	486	293	365	518	281	388	424	354	377

181

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

ARKANSAS RIVER BASIN

07178000 BIRD CREEK NEAR OWASSO, OK--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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

183

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	21.5	19.5	20.5	11.0	8.0	9.5	10.5	8.5	9.5	8.0	8.0	8.0
2	22.0	20.0	21.0	8.0	6.0	7.0	8.5	6.5	7.5	8.0	7.5	8.0
3	23.0	21.0	22.0	6.5	5.0	6.0	6.0	5.0	5.5	7.5	7.5	7.5
4	22.5	21.0	22.0	6.0	4.5	5.5	5.5	4.5	5.0	8.0	7.5	7.5
5	21.5	20.0	20.5	6.0	5.0	5.5	6.0	4.5	5.0	7.5	7.0	7.5
6	20.0	18.5	19.5	6.5	5.5	6.0	6.0	4.5	5.5	7.5	7.5	7.5
7	19.0	17.5	18.0	6.0	5.0	5.5	8.0	5.5	6.5	8.0	7.5	8.0
8	19.0	17.0	18.0	6.0	4.5	5.0	9.5	7.5	8.5	8.5	7.5	8.0
9	19.5	17.5	18.5	6.0	4.5	5.0	10.0	8.5	9.0	8.0	7.0	7.5
10	20.0	18.5	19.0	6.5	4.5	5.5	10.0	8.5	9.5	7.0	6.5	7.0
11	20.5	18.5	19.5	6.0	5.5	5.5	10.5	9.5	10.0	6.5	6.0	6.5
12	20.5	18.5	19.5	7.5	5.5	6.5	12.0	10.5	11.5	6.5	6.0	6.5
13	19.5	18.5	19.0	8.5	6.5	7.5	12.5	10.5	11.5	6.5	5.5	6.0
14	19.5	18.0	19.0	9.5	8.0	8.5	10.5	9.0	10.0	6.0	5.0	5.5
15	19.0	17.5	18.5	10.5	9.5	10.0	9.0	8.0	8.5	5.0	3.5	4.5
16	18.5	17.0	17.5	12.0	10.5	11.0	8.5	7.5	8.0	4.0	3.0	3.5
17	19.0	17.0	17.5	13.0	12.0	12.5	8.0	6.5	7.5	3.5	2.5	3.0
18	19.5	17.0	18.0	12.5	12.5	12.5	7.5	6.5	7.0	3.0	2.5	2.5
19	17.5	16.0	16.5	12.5	12.0	12.5	6.5	6.0	6.5	3.5	2.0	2.5
20	17.0	16.0	16.5	12.0	11.0	12.0	6.0	4.0	5.0	3.5	2.0	3.0
21	18.0	15.5	17.0	11.0	10.0	11.0	5.0	4.5	4.5	4.0	2.5	3.5
22	19.0	16.5	17.5	10.0	9.5	10.0	6.0	5.0	5.5	4.5	4.0	4.0
23	19.5	17.5	18.5	9.0	8.0	9.0	6.5	6.0	6.0	5.5	4.0	4.5
24	19.5	18.0	18.5	8.5	7.5	8.0	6.5	6.0	6.0	5.5	4.5	5.0
25	18.5	17.5	17.5	8.0	7.0	7.5	6.0	5.5	6.0	6.0	4.5	5.0
26	18.0	17.5	17.5	8.0	6.5	7.5	6.5	5.5	6.0	5.5	4.5	5.5
27	18.0	17.5	17.5	8.5	7.0	8.0	8.0	6.5	7.5	6.0	5.5	5.5
28	18.5	18.0	18.0	10.5	8.5	9.5	8.0	7.5	8.0	7.0	5.5	6.0
29	18.5	16.5	17.5	11.5	10.0	10.5	8.0	7.5	8.0	7.0	5.5	6.0
30	16.5	14.0	15.0	10.5	10.0	10.5	8.0	8.0	8.0	7.5	6.0	7.0
31	13.5	11.0	12.5	---	---	---	8.0	8.0	8.0	8.0	6.5	7.0
MONTH	23.0	11.0	18.3	13.0	4.5	8.3	12.5	4.0	7.4	8.5	2.0	5.8

ARKANSAS RIVER BASIN

185

07178000 BIRD CREEK NEAR OWASSO, OK--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	8.5	7.0	7.5	13.0	10.5	12.0	14.0	12.0	13.0	20.5	18.5	19.5
2	9.0	7.5	8.0	14.5	12.0	13.0	13.0	12.0	12.5	21.5	20.5	21.0
3	10.0	8.5	9.0	14.5	13.5	14.0	13.5	11.5	12.5	22.0	20.0	21.0
4	10.0	8.5	9.0	15.0	14.5	14.5	14.5	12.0	13.0	22.5	20.5	21.5
5	9.0	8.0	8.5	15.5	14.5	15.0	15.0	13.0	14.0	22.5	20.5	21.5
6	8.5	8.0	8.0	16.5	15.0	15.5	15.5	14.5	15.0	22.0	19.5	21.0
7	9.0	7.0	8.0	16.5	15.0	16.0	16.5	15.0	15.5	22.0	19.0	20.5
8	8.0	6.5	7.5	16.0	15.5	16.0	17.0	14.5	15.5	21.5	19.5	20.5
9	8.0	6.5	7.0	17.0	15.0	16.0	18.0	15.5	16.5	22.0	19.5	21.0
10	7.0	6.5	7.0	15.0	13.0	14.0	19.5	16.5	18.0	23.0	20.5	21.5
11	7.5	6.5	7.0	14.0	12.0	13.0	21.0	18.5	19.5	22.0	19.0	20.5
12	8.5	7.0	8.0	13.0	11.5	12.5	19.5	15.5	18.0	22.0	19.0	20.5
13	8.0	7.5	7.5	13.5	11.0	12.0	16.5	15.0	16.0	24.0	21.5	22.5
14	8.0	7.5	7.5	14.0	11.5	12.5	19.0	16.5	17.5	25.0	23.0	23.5
15	8.5	7.5	8.0	14.0	12.0	13.0	20.0	18.5	19.5	26.0	23.5	24.5
16	8.0	7.5	8.0	15.0	12.0	13.5	21.5	19.5	20.5	25.0	24.0	24.5
17	8.5	8.0	8.0	14.5	13.5	14.0	20.5	19.5	20.0	24.0	23.0	24.0
18	8.5	8.5	8.5	15.5	14.0	14.5	19.5	19.0	19.0	23.0	22.5	22.5
19	8.5	8.0	8.5	15.5	13.5	14.5	19.0	17.5	18.5	22.5	21.5	22.0
20	8.5	8.0	8.0	15.5	13.5	14.0	17.5	16.0	17.0	22.5	21.5	22.0
21	9.0	8.5	8.5	15.0	13.5	14.0	16.0	15.0	15.5	24.0	22.5	23.0
22	10.0	9.0	9.5	14.0	12.5	13.5	17.0	15.5	16.0	25.0	23.0	24.0
23	11.0	10.0	10.5	14.0	11.5	13.0	19.5	16.5	18.0	25.0	24.0	24.5
24	10.5	9.5	10.0	13.5	12.0	12.5	20.0	18.5	19.0	24.0	22.5	23.5
25	9.5	8.0	9.0	13.5	11.5	12.5	20.5	18.5	19.5	22.0	21.5	22.0
26	9.5	7.5	8.5	14.5	11.5	12.5	20.0	18.5	19.0	21.5	20.5	21.0
27	10.5	8.5	9.5	14.5	11.5	13.0	19.5	17.0	18.5	20.5	19.0	20.0
28	12.0	9.0	10.5	13.5	12.0	12.5	18.0	16.5	17.0	19.0	17.5	18.5
29	12.5	10.0	11.0	14.0	13.0	13.5	17.0	15.0	16.0	18.0	16.5	17.5
30	---	---	---	14.0	12.0	13.0	18.5	16.0	17.0	20.0	17.5	18.5
31	---	---	---	14.5	12.0	13.0	---	---	---	---	---	---
MONTH	12.5	6.5	8.5	17.0	10.5	13.6	21.5	11.5	16.9	26.0	16.5	21.5

ARKANSAS RIVER BASIN

07178000 BIRD CREEK NEAR OWASSO, OK--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	20.5	19.0	19.5	27.5	27.0	27.0	26.0	25.0	25.5
2	---	---	---	19.5	19.0	19.5	27.5	26.0	27.0	26.0	24.5	25.0
3	19.0	18.5	19.0	26.5	20.0	22.5	27.0	26.0	26.5	26.0	24.0	25.5
4	20.5	19.0	19.5	27.5	26.5	27.0	26.0	24.5	25.5	26.5	24.5	25.5
5	20.5	18.0	19.0	28.5	27.0	27.5	25.5	24.0	24.5	27.5	25.0	26.0
6	20.5	18.0	19.0	29.0	27.0	28.0	25.0	24.0	24.5	27.0	26.0	26.5
7	20.5	19.5	20.0	29.5	28.0	29.0	26.0	25.0	25.5	27.5	25.5	26.5
8	20.5	19.5	20.0	30.5	28.5	29.5	27.5	25.5	26.0	26.5	25.0	26.0
9	20.5	20.0	20.5	31.0	29.0	30.0	27.5	26.0	27.0	27.5	24.5	26.0
10	21.0	19.5	20.0	31.0	29.0	30.0	29.0	26.5	28.0	25.5	24.5	25.0
11	21.5	20.5	21.0	30.5	29.0	29.5	---	---	---	25.5	23.5	24.5
12	20.5	20.0	20.0	30.5	28.5	29.5	---	---	---	25.0	23.0	24.0
13	20.0	19.5	20.0	30.5	28.5	29.5	---	---	---	25.0	23.5	24.0
14	20.0	18.5	19.5	30.5	28.5	29.5	---	---	---	25.5	24.0	24.5
15	21.5	20.0	21.0	30.5	28.5	29.5	28.0	26.0	27.0	26.5	24.0	25.5
16	23.5	21.0	22.0	29.5	26.0	28.5	28.0	25.0	26.5	26.0	25.0	25.5
17	24.5	22.0	23.5	28.0	26.0	27.0	27.0	23.5	25.5	27.0	25.0	26.0
18	24.0	21.5	23.0	28.0	26.5	27.5	25.0	23.5	24.5	26.0	24.5	25.5
19	23.0	22.0	22.5	29.5	28.0	28.5	26.0	23.0	24.5	24.5	23.5	24.0
20	23.5	22.5	23.5	29.0	28.0	28.5	27.0	24.5	25.5	24.5	23.0	23.5
21	24.0	23.5	23.5	28.5	27.5	28.0	27.0	24.5	26.0	24.0	23.0	23.5
22	23.0	19.5	20.5	29.0	27.5	28.0	27.5	25.5	26.5	24.5	23.0	23.5
23	21.0	20.0	20.5	29.5	27.5	28.5	27.5	26.0	27.0	24.0	22.5	23.0
24	21.0	20.0	21.0	30.0	28.0	29.0	28.0	26.0	27.0	24.5	21.5	22.5
25	21.5	20.5	21.0	31.0	29.0	29.5	28.5	26.5	27.0	22.5	20.5	21.5
26	20.0	18.0	18.5	31.0	29.0	30.0	28.0	26.5	27.0	21.0	19.5	20.0
27	18.0	17.0	17.5	30.5	29.0	30.0	27.0	25.5	26.5	21.5	19.5	20.5
28	18.0	17.0	17.5	30.5	28.5	29.5	26.0	23.5	25.0	21.5	19.5	20.5
29	21.5	17.5	19.5	29.5	28.0	29.0	26.0	23.5	25.0	21.5	18.0	20.5
30	21.5	20.5	21.0	29.5	28.0	28.5	26.5	24.5	25.5	21.0	19.0	20.0
31	---	---	---	29.5	27.5	28.5	25.5	24.5	25.0	---	---	---
MONTH	---	---	---	31.0	19.0	28.0	---	---	---	27.5	18.0	24.0

ARKANSAS RIVER BASIN

187

07178000 BIRD CREEK NEAR OWASSO, OK--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	8.1	7.4	7.6	9.4	8.1	8.8	9.3	7.4	8.5	11.2	11.1	11.1
2	8.2	7.2	7.7	9.9	9.4	9.6	10.3	9.3	9.8	11.2	11.1	11.1
3	8.2	7.1	7.5	10.3	9.9	10.1	11.0	10.0	10.8	11.3	11.1	11.2
4	7.3	6.8	7.1	10.3	10.2	10.3	11.3	11.0	11.2	11.2	11.0	11.1
5	7.6	6.9	7.2	10.3	10.1	10.2	11.4	11.1	11.2	11.1	11.0	11.0
6	7.9	7.0	7.4	10.1	9.9	10.0	11.4	11.1	11.2	11.0	10.8	10.9
7	8.5	7.5	7.8	10.1	9.9	10.0	11.1	10.8	11.0	10.9	10.7	10.8
8	8.6	7.9	8.2	10.3	10.0	10.1	10.9	10.3	10.6	10.8	10.6	10.7
9	8.5	7.8	8.1	10.2	10.0	10.1	10.4	9.8	10.2	11.0	10.6	10.8
10	8.2	7.6	7.9	10.3	10.0	10.2	10.2	9.5	9.8	11.3	10.7	11.0
11	8.2	7.4	7.7	10.2	10.1	10.2	10.0	9.2	9.5	11.6	11.1	11.3
12	8.2	7.4	7.7	10.2	9.9	10.1	9.5	8.4	9.0	11.5	11.3	11.4
13	8.1	7.4	7.7	10.0	9.5	9.8	9.6	8.2	9.0	11.6	11.3	11.5
14	8.2	7.4	7.7	9.6	9.0	9.3	9.8	9.5	9.7	11.9	11.4	11.6
15	8.3	7.4	7.8	9.0	8.2	8.7	10.1	9.8	10.0	12.3	11.6	11.9
16	8.4	7.6	7.9	8.3	6.4	7.8	10.4	9.9	10.2	12.8	12.2	12.5
17	8.6	7.6	8.0	7.5	7.0	7.2	10.7	10.2	10.4	13.2	12.5	12.8
18	8.5	7.5	7.9	8.0	7.4	7.8	10.9	10.4	10.5	13.3	12.8	13.0
19	8.6	7.6	8.0	8.2	8.0	8.1	10.8	10.3	10.5	13.3	12.9	13.0
20	8.3	7.4	7.8	8.9	8.0	8.2	11.4	10.7	11.0	13.5	13.0	13.2
21	8.4	7.3	7.7	9.9	9.1	9.5	11.2	10.7	11.0	13.6	13.0	13.2
22	8.2	7.0	7.5	10.0	9.9	10.0	11.0	10.7	10.8	13.1	12.7	12.9
23	8.1	6.8	7.3	10.3	10.0	10.1	11.0	10.9	10.9	12.6	11.9	12.3
24	7.7	6.6	7.0	10.3	10.0	10.2	11.3	11.0	11.1	12.8	11.8	12.2
25	6.9	6.6	6.7	10.5	10.3	10.4	11.4	11.2	11.3	13.1	12.2	12.6
26	7.1	5.3	6.2	10.4	9.9	10.1	11.5	11.3	11.4	12.9	12.2	12.5
27	6.4	5.5	5.9	10.1	9.8	9.9	11.4	10.9	11.2	12.7	12.0	12.3
28	6.4	4.4	5.7	10.0	9.6	9.8	11.3	11.2	11.2	13.2	12.1	12.5
29	6.6	4.8	5.8	9.6	9.2	9.5	11.3	11.2	11.3	13.4	12.0	12.5
30	7.1	6.6	6.9	9.2	8.3	9.1	11.4	11.3	11.3	13.7	12.0	12.6
31	8.1	7.1	7.5	---	---	---	11.3	11.2	11.3	13.8	12.0	12.7
MONTH	8.6	4.4	7.4	10.5	6.4	9.5	11.5	7.4	10.5	13.8	10.6	11.9

ARKANSAS RIVER BASIN

07178000 BIRD CREEK NEAR OWASSO, OK--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	13.7	12.0	12.7	---	---	---	11.4	9.4	10.4	7.9	7.4	7.7
2	13.6	12.0	12.6	---	---	---	11.1	9.8	10.3	7.4	6.8	7.2
3	13.6	11.6	12.4	10.7	9.4	9.8	11.1	9.6	10.2	7.5	6.8	7.1
4	13.5	11.6	12.3	9.5	8.6	9.2	12.1	9.6	10.5	7.9	6.8	7.3
5	13.5	11.3	12.2	8.7	8.2	8.5	11.3	9.6	10.3	8.3	6.9	7.4
6	12.9	11.2	11.9	8.7	8.0	8.2	10.6	9.1	9.8	9.2	7.0	7.9
7	13.5	11.1	12.2	9.7	8.2	8.9	10.5	9.0	9.5	9.0	7.2	8.0
8	13.4	11.1	12.2	9.9	8.7	9.2	10.8	9.0	9.8	9.2	7.3	8.0
9	13.3	11.6	12.4	10.8	8.4	9.4	11.0	9.1	9.9	8.9	7.4	8.0
10	12.5	11.7	12.0	11.4	9.0	10.0	10.7	8.9	9.6	8.5	7.1	7.7
11	12.2	11.2	11.7	11.4	9.4	10.3	10.1	8.2	9.1	7.2	5.7	6.7
12	11.2	10.5	10.8	11.4	9.7	10.5	8.5	5.0	6.9	6.5	6.3	6.3
13	11.2	10.8	11.0	11.5	10.0	10.6	8.2	7.3	7.5	7.3	6.3	6.7
14	11.1	10.6	11.0	11.5	10.1	10.6	7.7	7.4	7.6	7.0	6.3	6.5
15	10.9	10.7	10.8	11.5	10.2	10.7	7.4	6.8	7.2	6.9	5.8	6.3
16	11.1	10.9	11.0	11.4	10.1	10.6	7.4	6.6	6.9	7.1	5.9	6.4
17	10.9	10.9	10.9	10.5	9.4	10.0	6.8	5.8	6.5	---	---	---
18	11.1	10.9	11.0	10.4	9.1	9.6	7.4	6.4	7.0	---	---	---
19	10.9	10.1	10.5	10.9	8.9	9.7	7.3	6.4	7.1	7.7	6.6	7.2
20	10.1	10.0	10.1	11.1	8.9	9.8	7.7	6.9	7.2	6.8	6.3	6.5
21	10.2	9.9	10.1	11.1	9.2	10.0	8.1	7.7	7.9	6.4	5.9	6.2
22	10.5	9.9	10.2	11.0	9.3	10.0	8.1	7.8	8.0	6.4	5.8	6.0
23	11.5	10.4	10.9	11.8	9.4	10.5	7.8	7.2	7.6	6.2	5.6	5.9
24	11.3	10.7	11.1	11.5	9.7	10.4	7.6	6.9	7.2	6.4	5.7	6.0
25	---	---	---	11.9	9.8	10.7	7.7	6.8	7.2	7.5	5.9	6.8
26	---	---	---	12.7	10.0	11.0	8.3	6.9	7.5	8.1	7.1	7.5
27	---	---	---	12.1	10.0	10.9	9.2	7.3	8.1	8.2	7.3	7.7
28	---	---	---	11.4	10.0	10.6	8.4	7.7	8.0	8.2	7.5	7.8
29	---	---	---	11.1	9.6	10.3	8.4	7.6	8.1	8.6	7.8	8.1
30	---	---	---	11.4	9.3	10.2	8.4	7.9	8.2	9.0	7.9	8.4
31	---	---	---	11.6	9.4	10.4	---	---	---	8.5	7.2	7.9
MONTH	---	---	---	---	---	---	12.1	5.0	8.4	---	---	---

ARKANSAS RIVER BASIN

189

07178000 BIRD CREEK NEAR OWASSO, OK--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	8.6	7.1	8.0	8.7	8.1	8.4	6.9	5.8	6.2	7.3	6.1	6.5
2	8.1	7.6	7.9	8.6	8.3	8.5	7.4	5.7	6.4	---	---	---
3	8.0	5.5	6.7	8.2	6.9	7.7	7.9	6.0	6.7	---	---	---
4	7.5	7.2	7.3	7.9	6.8	7.3	7.3	4.6	6.3	7.7	6.5	7.0
5	8.2	7.3	8.0	7.4	6.7	7.0	7.1	4.5	5.6	7.7	6.5	7.0
6	8.5	6.1	7.8	7.2	6.6	6.9	6.3	5.6	5.9	7.4	6.4	6.8
7	7.5	6.6	7.0	7.0	6.3	6.6	6.5	5.7	6.0	7.4	6.3	6.8
8	7.9	7.5	7.8	7.1	5.8	6.4	7.1	5.9	6.4	7.2	6.1	6.5
9	7.8	7.0	7.6	7.1	5.7	6.4	7.7	5.9	6.6	8.7	6.1	7.0
10	8.3	7.5	8.2	7.0	5.8	6.3	9.1	5.7	6.9	7.3	6.3	6.6
11	8.2	7.2	7.8	6.8	5.7	6.2	6.7	4.3	5.7	7.0	5.5	6.2
12	8.6	8.2	8.4	7.4	5.7	6.4	6.2	5.3	5.8	7.9	6.4	7.0
13	8.9	8.4	8.6	7.1	5.8	6.3	6.7	6.0	6.4	8.2	6.7	7.4
14	8.8	7.2	8.3	6.5	5.7	6.2	7.0	6.2	6.6	8.4	6.9	7.6
15	7.0	5.5	6.1	6.0	4.6	5.5	7.4	6.0	6.6	8.1	6.8	7.4
16	6.7	5.8	6.3	5.6	3.4	5.2	8.1	6.2	7.0	8.1	6.6	7.2
17	8.1	6.7	7.3	5.6	4.1	4.9	8.2	6.3	7.1	8.2	6.6	7.2
18	8.0	6.5	7.3	5.5	5.2	5.4	7.1	6.4	6.7	8.2	6.7	7.3
19	7.9	7.0	7.6	5.7	5.0	5.4	7.8	6.3	6.9	7.4	7.0	7.1
20	8.2	5.7	7.3	---	---	---	7.5	6.3	6.8	7.9	6.7	7.2
21	6.7	5.0	5.5	---	---	---	7.5	6.3	6.8	7.8	6.5	7.0
22	8.6	6.9	8.2	---	---	---	7.3	6.1	6.7	8.2	6.9	7.4
23	8.4	8.2	8.3	6.6	5.8	6.2	7.1	6.0	6.5	8.4	7.0	7.3
24	8.2	8.1	8.2	7.0	5.6	6.1	7.4	6.1	6.6	---	---	---
25	8.2	8.0	8.1	7.5	5.6	6.3	7.3	6.1	6.6	---	---	---
26	8.7	8.4	8.5	7.4	5.8	6.4	6.9	6.1	6.4	---	---	---
27	8.8	8.6	8.7	6.7	5.3	6.0	7.0	6.0	6.4	---	---	---
28	8.8	8.7	8.8	7.8	5.6	6.4	7.1	6.1	6.5	---	---	---
29	---	---	---	7.4	5.9	6.5	8.1	6.8	7.3	---	---	---
30	8.1	7.6	8.0	7.3	5.9	6.5	8.4	6.7	7.4	---	---	---
31	---	---	---	8.0	5.8	6.6	7.4	6.5	6.8	---	---	---
MONTH	---	---	---	---	---	---	9.1	4.3	6.5	---	---	---

ARKANSAS RIVER BASIN

07178040 MINGO CREEK AT 46TH STREET NORTH AT TULSA, OK.

LOCATION.--Lat 36°13'14", long 95°51'30", in SW 1/4 SE 1/4 sec.7, T.20 N., R.14 E., Tulsa County, Hydrologic Unit 11070107, near left downstream abutment of 46th Street North bridge, 0.1 mi downstream from small left bank tributary, 0.2 mi upstream from small right bank tributary, 9.0 mi northeast of downtown Tulsa post office, and at mile 1.9.

DRAINAGE AREA.--59.9 mi².

WATER DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 562.60 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--Records fair, no estimated daily discharges. U.S. Geological Survey satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	212	48	115	14	11	53	21	121	22	2.0	14
2	3.0	48	264	55	14	9.9	10	15	1250	58	4.4	22
3	3.0	32	100	43	13	10	7.0	12	289	163	2.9	12
4	3.0	26	65	37	13	164	6.2	10	80	26	114	3.2
5	2.7	25	44	34	13	109	5.7	9.6	49	121	755	2.3
6	2.4	21	36	32	14	23	5.9	8.1	718	22	38	125
7	2.1	17	33	31	13	14	6.8	7.0	97	12	13	9.9
8	2.7	14	30	27	12	12	6.3	7.1	54	7.4	6.9	4.0
9	2.9	14	24	22	11	22	5.7	7.1	41	5.7	4.4	4.0
10	2.9	12	21	20	71	11	5.4	6.5	357	4.6	3.6	283
11	3.1	11	20	20	62	8.3	191	1510	73	3.8	574	16
12	3.2	12	373	20	240	7.4	693	183	39	5.3	30	4.9
13	2.8	13	67	49	49	8.2	53	42	29	3.9	12	3.0
14	2.5	18	41	51	66	7.0	23	47	1140	36	5.4	2.5
15	2.8	31	32	27	33	6.4	16	24	393	7.7	3.6	2.2
16	3.2	392	29	18	23	6.2	39	19	83	203	3.1	1.9
17	2.9	805	27	18	21	6.2	248	91	49	122	2.8	1.8
18	3.0	89	22	16	18	27	40	43	35	12	2.8	1.7
19	2.9	92	150	15	16	11	843	251	232	5.6	2.7	23
20	2.6	141	2260	15	15	8.0	262	53	282	46	2.7	56
21	2.3	58	346	17	14	6.9	80	27	37	117	2.6	13
22	2.6	41	232	94	13	14	40	16	28	10	2.4	4.1
23	2.9	32	149	39	13	14	27	27	32	5.8	2.3	4.5
24	32	26	72	23	12	8.5	20	21	23	6.6	2.1	3.9
25	72	24	55	18	15	9.5	16	12	16	3.7	1.9	2.4
26	1050	24	47	16	12	8.1	15	9.8	17	2.8	1.9	48
27	48	21	48	17	14	5.7	13	8.8	11	40	1.9	14
28	905	21	80	25	15	5.1	139	267	12	6.0	1.8	3.3
29	87	36	52	19	12	5.0	377	109	466	2.9	1.9	2.8
30	37	72	42	16	---	4.7	38	30	78	2.3	1.8	3.3
31	202	---	39	15	---	5.9	---	26	---	2.1	45	---
TOTAL	2497.8	2380	4848	964	851	569.0	3285.0	2920.0	6131	1086.2	1648.9	691.7
MEAN	80.6	79.3	156	31.1	29.3	18.4	109	94.2	204	35.0	53.2	23.1
MAX	1050	805	2260	115	240	164	843	1510	1250	203	755	283
MIN	2.1	11	20	15	11	4.7	5.4	6.5	11	2.1	1.8	1.7
AC-FT	4950	4720	9620	1910	1690	1130	6520	5790	12160	2150	3270	1370
CFSM	1.35	1.32	2.61	.52	.49	.31	1.83	1.57	3.41	.58	.89	.38
IN.	1.55	1.48	3.01	.60	.53	.35	2.04	1.81	3.81	.67	1.02	.43

ARKANSAS RIVER BASIN
07178040 MINGO CREEK AT 46TH STREET NORTH AT TULSA, OK--Continued

191

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1992, BY WATER YEAR (WY)

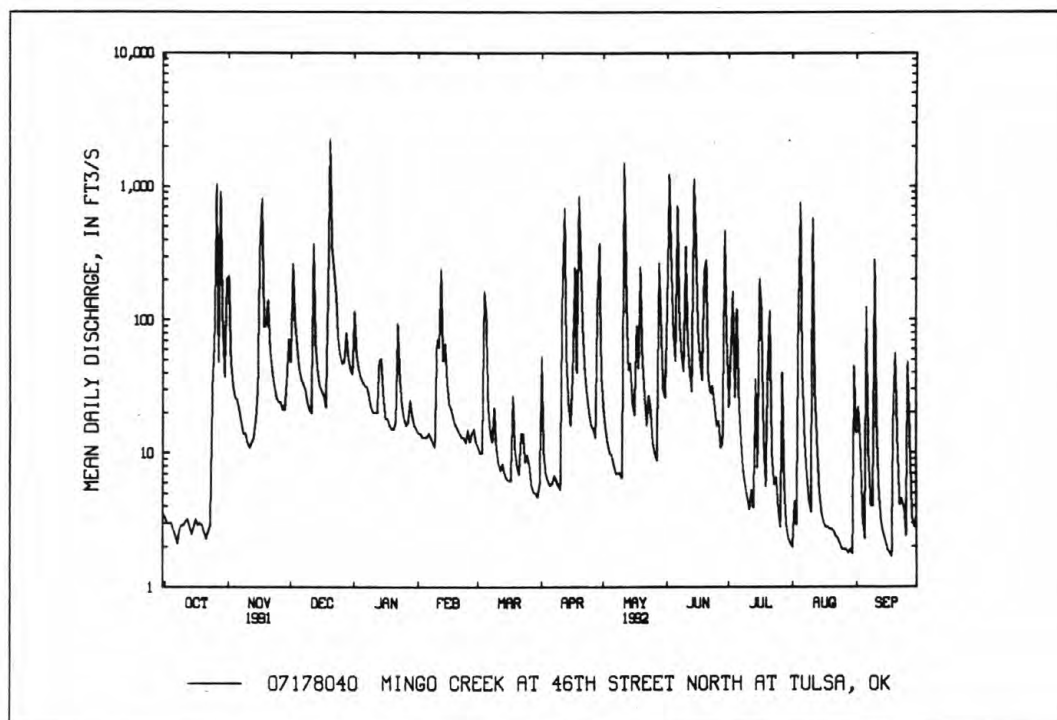
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	35.2	63.0	113	64.1	54.4	143	98.1	90.7	89.8	33.5	54.2	69.4
MAX	80.6	107	302	82.7	128	288	242	179	204	63.7	166	110
(WY)	1992	1989	1988	1990	1989	1988	1990	1990	1992	1988	1989	1988
MIN	17.4	5.50	4.31	31.1	11.0	16.4	16.0	32.7	6.23	4.69	5.80	23.1
(WY)	1989	1990	1990	1992	1991	1991	1989	1988	1988	1991	1991	1992

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1988-92

ANNUAL TOTAL	22750.8	27872.6	
ANNUAL MEAN	62.3	76.2	75.8
HIGHEST ANNUAL MEAN			97.7 1988
LOWEST ANNUAL MEAN			43.4 1991
HIGHEST DAILY MEAN	2260 Dec 20	2260 Dec 20	4000 Aug 20 1989
LOWEST DAILY MEAN	1.3 Aug 7	1.7 Sep 18	1.3 Aug 7 1991
ANNUAL SEVEN-DAY MINIMUM	1.7 Aug 2	1.9 Aug 24	1.6 Oct 15 1989
INSTANTANEOUS PEAK FLOW		4590 Dec 20	9920 Aug 20 1989
INSTANTANEOUS PEAK STAGE		^a 14.89 Dec 20	^b 21.92 Aug 20 1989
ANNUAL RUNOFF (AC-FT)	45130	55290	54930
ANNUAL RUNOFF (CFMS)	1.04	1.27	1.27
ANNUAL RUNOFF (INCHES)	14.13	17.31	17.20
10 PERCENT EXCEEDS	118	163	145
50 PERCENT EXCEEDS	12	18	13
90 PERCENT EXCEEDS	2.4	2.9	2.6

^aSome backwater discharge computed from auxiliary gage.

^bFrom high-water mark.



07178040 MINGO CREEK AT 46TH STREET NORTH AT TULSA, 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. Specific conductance record for July 8 to Sept. 30 fell outside the expected range of values. These data are available for further analysis upon request at the District Office.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,560 microsiemens, May 13, 1990; minimum, 60 microsiemens, Aug. 20, 1989.

pH: Maximum, 9.4 units, Jan. 14, 1989; minimum, 5.9 units, Oct. 25, 1988.

WATER TEMPERATURE: Maximum, 34.0°C, July 5, 1990; minimum, 0.0°C, several days during winter months.

DISSOLVED OXYGEN: Maximum, 16.8 mg/l, Dec. 19, 1988; minimum, 0.2 mg/l, Aug. 24, 1990.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	590	570	579	419	226	341	532	392	493	630	380	459
2	590	580	584	516	430	475	472	281	396	550	470	506
3	600	580	587	580	516	550	501	392	452	630	560	597
4	610	590	600	654	579	612	552	511	537	660	620	644
5	610	600	608	685	643	667	602	552	579	680	650	668
6	650	600	623	728	685	704	642	602	622	690	670	680
7	670	630	649	727	705	714	681	641	664	711	691	702
8	646	618	630	751	715	730	701	681	687	716	709	712
9	665	639	649	761	751	753	701	691	693	713	694	706
10	675	654	663	771	760	764	701	690	696	711	694	702
11	675	653	663	770	760	766	710	630	697	721	694	709
12	665	654	657	790	750	775	650	240	357	718	711	715
13	666	644	658	800	789	794	550	420	494	765	648	707
14	667	645	656	809	779	797	620	560	589	648	503	532
15	678	646	661	779	749	766	660	620	641	589	535	576
16	766	668	709	779	202	386	690	650	672	623	586	599
17	734	702	717	434	172	319	710	680	698	667	623	642
18	703	681	697	566	444	502	720	710	712	687	667	677
19	704	692	697	646	515	574	730	270	590	723	682	708
20	715	694	703	556	424	466	240	140	191	721	709	714
21	717	705	708	555	454	510	470	260	374	738	718	726
22	751	717	730	625	555	587	560	390	484	690	410	515
23	807	740	760	655	615	637	510	410	451	500	460	472
24	962	797	845	665	645	660	600	510	556	560	500	537
25	666	316	436	705	665	685	640	590	620	600	570	589
26	327	109	201	715	705	710	670	640	658	650	600	624
27	446	338	401	724	704	715	740	670	686	680	650	661
28	424	119	245	724	694	706	680	580	631	680	670	674
29	465	314	391	724	603	713	620	570	600	710	680	695
30	518	454	489	513	392	447	650	620	638	690	680	685
31	529	183	379	---	---	---	710	400	641	690	661	679
MONTH	962	109	599	809	172	628	740	140	574	765	380	639

ARKANSAS RIVER BASIN

193

07178040 MINGO CREEK AT 46TH STREET NORTH AT TULSA, OK--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	682	651	662	740	730	733	700	400	595	550	470	516
2	694	683	689	730	700	715	520	480	500	580	560	571
3	716	694	704	720	700	705	510	480	496	620	580	601
4	728	706	720	700	230	489	510	490	502	620	600	613
5	748	728	737	360	230	293	550	500	529	640	620	630
6	751	739	743	460	360	416	590	550	573	640	620	631
7	752	732	742	530	460	487	630	590	617	640	620	634
8	755	734	747	600	530	551	680	630	658	660	630	645
9	757	736	750	640	590	616	690	670	681	660	650	654
10	747	420	608	650	620	636	700	680	691	680	660	667
11	503	349	463	650	640	646	750	130	643	790	110	244
12	442	288	345	660	650	654	310	150	220	470	260	380
13	527	422	475	670	650	662	430	320	382	560	470	522
14	580	485	553	670	660	665	520	430	481	650	550	578
15	580	538	560	690	670	681	600	530	560	590	560	575
16	634	580	605	700	680	693	750	310	607	670	550	582
17	677	634	655	700	690	696	330	230	280	630	330	478
18	720	677	695	750	680	710	450	340	394	490	350	402
19	743	710	725	770	720	743	450	130	289	550	200	338
20	766	732	744	750	680	711	410	320	354	460	330	396
21	766	720	748	680	660	675	520	360	442	540	460	507
22	740	710	724	670	650	617	600	520	562	600	530	561
23	730	720	725	690	650	622	660	590	624	620	600	610
24	730	710	716	700	660	688	670	620	654	650	462	598
25	740	720	724	660	590	633	670	650	661	468	434	446
26	740	720	731	590	580	585	670	650	661	566	469	506
27	750	740	742	630	590	614	670	640	652	615	577	594
28	760	730	745	660	630	645	730	290	583	720	251	415
29	740	720	728	660	640	652	370	150	263	436	282	356
30	---	---	---	650	640	647	480	380	438	505	435	478
31	---	---	---	710	420	639	---	---	---	652	407	518
MONTH	766	288	673	770	230	630	750	130	523	790	110	524

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

ARKANSAS RIVER BASIN

195

07178040 MINGO CREEK AT 46TH STREET NORTH AT TULSA, OK--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

197

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

ARKANSAS RIVER BASIN

07178040 MINGO CREEK AT 46TH STREET NORTH AT TULSA, OK--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	21.0	18.5	20.0	7.5	5.5	7.0	9.0	2.5	7.0	8.0	7.0	7.5
2	22.5	19.5	21.0	5.5	4.0	5.0	3.5	2.5	3.0	7.5	7.0	7.5
3	23.5	20.5	22.0	3.5	2.5	3.0	4.5	3.0	3.5	7.5	5.5	6.5
4	22.5	19.0	21.5	4.0	2.5	3.5	5.0	3.5	4.5	8.0	5.5	6.5
5	19.0	16.5	17.5	5.0	3.5	4.5	6.5	3.5	5.0	8.5	7.5	8.0
6	17.5	14.5	16.0	7.0	5.0	6.0	8.5	5.0	6.5	9.0	8.5	8.5
7	17.5	13.5	15.5	7.0	4.0	5.5	11.5	8.5	9.5	9.5	8.5	9.0
8	19.0	15.0	17.0	5.0	3.0	4.0	13.5	11.5	12.5	9.5	8.0	9.0
9	20.5	16.5	18.0	6.0	3.5	4.5	13.0	12.0	12.5	8.0	6.5	7.5
10	20.0	17.5	18.5	6.5	4.0	5.5	12.0	10.5	11.5	7.0	5.5	6.0
11	20.5	17.0	18.5	6.0	5.5	6.0	12.0	10.5	11.5	6.0	5.0	5.5
12	20.5	17.0	18.5	8.0	5.5	6.5	14.5	11.5	14.0	6.5	6.0	6.0
13	19.5	17.0	18.5	10.5	6.5	8.5	13.5	11.5	12.5	6.5	3.5	5.5
14	19.0	16.5	18.0	12.0	10.0	10.5	13.0	8.5	10.5	3.5	2.5	3.0
15	18.0	15.5	16.5	13.5	11.5	12.5	9.0	7.0	7.5	3.0	1.5	2.0
16	17.5	14.0	15.5	16.0	12.0	13.0	7.5	6.0	7.0	3.0	1.0	2.0
17	19.0	14.5	16.5	16.5	15.0	15.5	7.5	6.5	7.0	3.0	1.0	2.0
18	20.0	16.5	18.0	15.0	13.0	14.0	6.5	5.5	6.0	2.5	1.0	2.0
19	16.5	14.0	15.5	14.5	13.0	14.0	6.5	4.5	5.5	3.0	1.0	1.5
20	16.0	14.0	15.0	13.0	10.5	11.5	5.5	4.0	4.5	4.0	2.0	2.5
21	17.0	14.0	15.0	11.0	9.5	10.5	7.0	6.0	6.0	5.0	2.5	3.5
22	19.5	15.5	17.0	10.5	8.5	9.5	8.5	7.0	7.5	7.0	4.5	6.5
23	21.0	18.0	19.0	9.5	7.0	8.0	8.5	7.5	8.0	7.0	5.5	6.5
24	21.0	19.0	19.5	7.5	6.0	6.5	7.5	5.0	6.5	6.0	4.5	5.5
25	20.5	17.5	19.0	6.5	5.5	6.0	6.5	4.5	5.5	7.5	5.0	6.0
26	18.5	17.0	17.5	7.5	5.0	6.5	6.5	4.5	5.5	6.0	5.0	5.5
27	19.5	18.0	18.5	9.5	7.5	8.0	7.5	6.0	6.5	6.5	5.5	6.0
28	20.0	18.5	19.0	13.0	9.5	11.5	7.5	7.0	7.0	7.5	6.0	7.0
29	19.0	14.0	16.5	14.5	13.0	14.0	7.5	7.0	7.5	8.0	6.5	7.0
30	14.0	10.0	11.5	14.5	9.5	12.0	8.0	7.0	7.5	9.0	7.0	8.0
31	10.0	8.0	8.5	---	---	---	8.5	7.5	8.0	9.5	7.0	8.0
MONTH	23.5	8.0	17.4	16.5	2.5	8.4	14.5	2.5	7.6	9.5	1.0	5.7

ARKANSAS RIVER BASIN

199

07178040 MINGO CREEK AT 46TH STREET NORTH AT TULSA, OK--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	10.0	7.0	8.5	14.5	11.0	13.0	12.5	11.0	12.0	22.5	19.0	21.0
2	11.0	8.5	9.5	16.5	13.0	14.5	11.0	9.5	10.5	22.0	20.5	21.5
3	11.5	9.5	10.5	16.5	15.5	16.0	13.5	8.5	11.0	22.5	18.5	20.5
4	10.5	9.0	10.0	16.5	15.0	15.5	16.5	11.5	14.0	23.0	19.5	21.5
5	9.0	7.5	8.5	17.0	14.5	15.5	17.5	13.5	15.5	22.0	19.5	21.0
6	8.5	7.0	7.5	18.0	14.0	16.0	16.5	15.0	16.0	21.0	17.5	19.5
7	8.5	6.0	7.5	18.5	15.5	17.0	16.5	14.5	15.5	20.5	17.0	19.0
8	7.5	6.0	6.5	17.0	15.5	16.5	19.0	14.5	17.0	21.0	18.0	19.5
9	7.5	5.0	6.5	17.5	14.5	16.0	21.5	17.5	19.5	22.0	19.0	20.5
10	7.0	5.5	6.5	14.0	10.5	12.0	22.5	18.5	20.5	23.0	20.0	21.5
11	9.5	6.5	8.0	12.0	8.5	10.5	23.5	18.0	21.0	21.5	18.5	19.5
12	10.5	9.5	10.0	11.5	10.0	11.0	17.5	14.0	15.5	22.0	18.5	20.0
13	9.5	9.0	9.5	13.0	9.0	11.0	18.5	15.5	16.5	27.0	22.0	24.5
14	12.0	8.5	10.0	13.5	10.0	12.0	22.0	16.5	19.0	26.0	22.0	24.0
15	13.5	10.0	12.0	14.0	11.0	12.5	22.0	20.5	21.0	26.5	22.0	24.0
16	12.5	10.0	11.0	15.0	11.0	13.0	23.5	20.0	21.5	25.5	23.5	24.5
17	13.0	10.5	11.5	15.5	13.5	14.5	20.0	17.5	18.5	23.0	22.0	22.5
18	12.0	10.0	11.0	16.0	14.5	15.0	19.5	17.5	18.5	22.0	21.5	21.5
19	11.5	9.5	10.5	14.5	12.5	13.5	18.5	17.0	17.5	22.0	20.5	21.5
20	12.0	9.5	10.5	15.0	11.0	13.0	16.5	14.0	15.5	24.0	22.0	23.0
21	13.0	10.0	11.0	15.0	12.0	14.0	15.0	13.0	14.0	26.0	21.5	23.5
22	13.0	11.0	12.0	14.0	10.5	12.0	20.0	13.0	16.5	25.0	23.5	24.5
23	14.0	11.5	13.0	12.5	9.0	11.0	22.0	16.0	19.0	24.5	22.5	23.5
24	13.0	10.5	12.0	12.0	9.5	10.5	21.5	19.0	20.0	22.5	20.5	21.0
25	10.0	8.0	9.0	12.0	10.0	11.0	20.0	18.0	19.0	21.5	20.0	20.5
26	10.5	7.0	8.5	14.0	9.5	11.5	19.0	16.5	18.0	20.5	18.0	19.0
27	11.5	9.0	10.0	14.0	10.5	12.5	18.5	15.5	17.0	18.5	17.0	17.5
28	12.5	9.5	11.0	13.0	12.0	12.5	17.5	13.0	15.5	16.5	13.5	14.5
29	13.5	10.0	11.5	14.5	13.0	13.5	16.5	13.0	14.5	16.5	14.0	15.0
30	---	---	---	13.0	11.5	12.5	23.0	16.0	19.5	21.5	15.5	18.5
31	---	---	---	14.0	10.5	12.5	---	---	---	20.5	18.5	19.0
MONTH	14.0	5.0	9.8	18.5	8.5	13.3	23.5	8.5	17.0	27.0	13.5	20.9

ARKANSAS RIVER BASIN

201

07178040 MINGO CREEK AT 46TH STREET NORTH AT TULSA, OK--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	10.3	7.0	8.5	10.7	10.3	10.5	12.7	9.1	10.2	11.3	11.0	11.1
2	10.8	6.9	8.6	11.2	10.7	10.8	---	---	---	11.3	11.0	11.1
3	10.8	6.5	8.2	11.7	11.2	11.6	---	---	---	11.7	11.0	11.3
4	8.5	6.1	7.2	11.7	11.6	11.7	---	---	---	12.0	11.0	11.4
5	11.0	6.3	8.2	11.6	11.0	11.2	---	---	---	11.4	10.7	10.9
6	11.8	7.2	9.0	11.0	9.9	10.5	---	---	---	10.9	10.2	10.5
7	12.5	7.5	9.6	10.5	9.9	10.2	---	---	---	11.0	10.1	10.6
8	12.2	7.9	9.5	11.0	10.6	10.7	---	---	---	11.6	10.1	10.7
9	13.1	7.3	9.6	10.8	10.3	10.7	---	---	---	11.9	10.5	11.1
10	13.4	7.5	9.9	10.7	10.3	10.5	---	---	---	12.7	11.1	11.7
11	12.9	7.4	9.4	10.7	10.3	10.5	---	---	---	13.1	11.6	12.1
12	12.6	7.0	9.1	10.6	10.0	10.4	---	---	---	12.1	11.2	11.7
13	13.2	7.0	9.5	10.2	9.4	10.0	8.7	8.5	8.6	12.0	11.0	11.4
14	12.8	6.7	9.2	9.3	8.3	8.9	9.9	8.5	9.3	12.5	11.9	12.2
15	---	---	---	8.4	7.7	8.2	10.7	9.7	10.3	13.0	12.0	12.5
16	---	---	---	10.2	7.3	9.2	11.1	10.5	10.8	13.1	12.1	12.6
17	11.6	6.7	8.5	9.4	8.6	9.1	11.3	10.3	10.9	13.6	12.5	12.9
18	10.9	6.2	8.0	9.4	8.8	9.1	11.6	10.8	11.1	13.9	12.7	13.1
19	11.6	6.5	8.6	9.4	8.6	8.9	12.0	10.8	11.2	14.2	12.8	13.3
20	11.7	6.8	8.6	9.8	8.8	9.3	12.2	12.0	12.1	13.9	12.6	13.0
21	11.0	6.7	8.6	9.8	9.2	9.5	12.1	11.6	11.9	14.0	12.1	13.0
22	11.2	6.8	8.5	10.1	9.4	9.7	11.7	11.1	11.4	11.9	10.5	11.2
23	9.7	5.6	7.2	10.7	9.4	10.2	11.2	11.0	11.1	11.3	10.8	11.1
24	---	---	---	10.9	10.3	10.6	11.9	11.2	11.6	12.9	11.3	11.9
25	---	---	---	11.3	10.8	11.1	11.9	11.7	11.8	12.8	11.6	12.2
26	9.0	7.8	8.6	11.9	10.6	11.3	12.0	11.5	11.8	13.7	11.6	12.5
27	7.7	6.5	7.3	10.6	9.7	10.1	11.8	10.9	11.5	13.0	11.6	12.2
28	8.5	7.1	7.9	11.2	9.7	10.5	11.3	10.8	11.2	13.7	11.4	12.2
29	7.3	6.9	7.1	9.7	8.3	9.3	11.1	10.9	11.0	13.7	10.8	12.3
30	8.8	7.4	8.2	9.2	8.2	8.6	11.3	10.8	11.0	13.6	11.2	12.1
31	10.4	8.7	9.7	---	---	---	11.3	10.8	11.0	13.8	10.9	12.1
MONTH	---	---	---	11.9	7.3	10.1	---	---	---	14.2	10.1	11.9

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

ARKANSAS RIVER BASIN

203

07178040 MINGO CREEK AT 46TH STREET NORTH AT TULSA, OK--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	8.1	7.2	7.6	6.8	5.2	5.9	6.1	3.9	4.8	4.8	3.9	4.3
2	8.8	7.7	8.1	7.3	5.1	6.0	6.1	3.9	4.9	5.8	3.6	4.4
3	9.2	7.4	8.5	6.0	5.2	5.6	6.3	3.9	4.9	7.7	5.7	6.6
4	8.3	6.7	7.5	7.2	5.1	5.9	6.0	4.0	5.1	8.4	5.2	6.5
5	7.0	6.0	6.5	6.2	4.7	5.5	6.9	4.8	6.0	9.8	4.8	6.7
6	---	---	---	6.1	4.3	5.0	5.6	4.7	5.1	7.9	5.8	7.2
7	---	---	---	6.8	4.3	5.3	5.4	4.6	4.9	7.3	5.9	6.6
8	---	---	---	7.5	4.3	5.7	6.1	4.5	5.2	7.4	4.5	5.7
9	---	---	---	7.5	4.1	5.7	6.0	3.9	5.0	8.0	5.0	6.2
10	6.6	5.1	5.9	7.3	4.2	5.7	6.8	3.9	5.3	8.8	5.6	7.9
11	6.1	5.4	5.7	7.3	4.4	5.7	---	---	---	8.3	7.3	7.8
12	6.5	5.3	5.7	7.5	4.4	5.9	5.5	4.4	4.9	8.8	6.7	7.6
13	7.1	5.0	5.9	7.6	4.3	5.9	6.0	4.4	5.1	9.1	6.2	7.6
14	6.8	5.0	5.9	7.1	4.1	5.9	7.0	4.8	5.8	9.8	6.0	7.5
15	---	---	---	6.5	2.7	4.4	7.5	4.9	6.2	9.9	5.8	7.4
16	---	---	---	6.6	3.2	5.3	8.6	5.1	6.7	8.6	4.8	6.0
17	7.5	6.1	6.6	6.6	5.5	6.2	8.3	5.2	6.8	8.1	4.4	5.6
18	7.7	5.8	6.4	6.7	5.2	5.8	7.6	5.4	6.5	8.1	4.1	5.6
19	7.6	5.5	6.3	6.7	4.2	5.3	9.2	5.7	7.2	6.9	4.5	5.5
20	7.2	6.2	6.9	7.2	3.9	5.3	8.4	5.5	6.8	6.2	4.9	5.4
21	6.8	5.6	6.2	5.9	4.6	5.3	8.2	5.0	6.4	5.2	4.4	4.9
22	8.2	6.1	7.0	5.3	4.0	4.6	8.3	5.0	6.5	5.8	3.8	4.7
23	8.1	6.1	6.9	6.0	3.9	4.9	8.3	5.0	6.5	5.9	4.2	5.1
24	8.6	5.4	6.8	6.5	4.1	5.2	8.1	4.9	6.3	6.9	4.9	5.8
25	7.5	5.0	6.0	6.8	3.9	5.3	8.0	4.4	6.0	8.4	5.3	6.4
26	7.9	5.2	6.3	7.2	3.9	5.4	8.0	4.2	5.8	6.7	5.7	6.3
27	8.3	5.4	6.7	4.5	3.1	3.6	8.4	5.0	6.5	6.2	5.1	5.5
28	8.0	5.3	6.5	5.2	2.8	3.7	8.6	5.6	6.8	6.5	4.7	5.4
29	7.3	5.6	6.5	6.0	3.1	4.3	8.5	5.5	6.7	6.8	5.2	5.9
30	6.7	5.7	6.3	6.3	3.1	4.5	8.5	5.0	6.5	7.2	5.5	6.3
31	---	---	---	7.2	3.3	4.9	6.6	4.9	5.6	---	---	---
MONTH	---	---	---	7.6	2.7	5.3	---	---	---	9.9	3.6	6.1

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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. U.S. Geological Survey's satellite telemeter at station. Some regulation by Skiatook Lake (station 07177400).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	187	1110	313	1950	214	274	253	654	513	3500	242	210
2	188	521	641	1700	200	261	251	449	2550	2620	246	193
3	186	319	530	1460	191	251	243	346	5060	1620	248	210
4	183	223	381	623	177	464	240	299	1910	1040	533	190
5	182	174	295	448	177	757	236	267	1500	1090	1310	188
6	178	e170	244	403	168	563	238	243	3740	957	481	353
7	180	163	224	379	170	470	240	231	5010	456	335	232
8	180	152	227	353	157	368	240	239	2240	323	284	216
9	178	149	203	327	152	327	237	246	2380	292	274	218
10	178	152	187	310	264	275	223	238	2430	282	249	568
11	177	149	176	288	315	242	262	2680	2640	267	1170	252
12	177	149	1400	278	2040	221	2640	1130	1620	260	727	210
13	176	144	1500	301	1550	214	1420	477	1370	257	577	210
14	174	142	710	371	2330	206	623	422	3110	340	320	207
15	172	172	427	332	5200	200	442	335	8680	287	222	210
16	176	1150	313	319	2160	199	372	298	3770	618	179	185
17	130	7460	255	287	1620	192	1030	393	1520	755	162	170
18	98	2400	211	258	1450	225	1130	358	2440	782	211	168
19	88	826	320	230	1370	205	2640	1280	2410	469	199	206
20	81	778	8150	223	1300	217	2420	1250	9070	364	198	275
21	98	726	13100	222	1260	204	1330	598	7570	580	195	235
22	112	448	5360	369	806	182	786	417	2920	443	190	189
23	113	299	1780	387	575	189	540	377	2460	274	203	176
24	137	223	1520	334	541	171	415	320	2270	274	205	169
25	188	183	1380	308	377	171	339	390	2170	275	203	168
26	1610	168	1240	264	286	162	300	301	2510	276	199	253
27	420	188	1930	248	314	150	276	260	2780	312	190	232
28	3220	183	2100	260	314	153	343	559	2790	297	263	191
29	2210	185	2040	239	283	148	1360	503	5390	291	303	180
30	508	364	1990	226	---	132	1230	395	5840	264	189	176
31	949	---	1920	211	---	128	---	362	---	249	226	---
TOTAL	12834	19470	51067	13908	25961	7921	22299	16317	100663	20114	10533	6640
MEAN	414	649	1647	449	895	256	743	526	3355	649	340	221
MAX	3220	7460	13100	1950	5200	757	2640	2680	9070	3500	1310	568
MIN	81	142	176	211	152	128	223	231	513	249	162	168
AC-FT	25460	38620	101300	27590	51490	15710	44230	32360	199700	39900	20890	13170

e Estimated

ARKANSAS RIVER BASIN

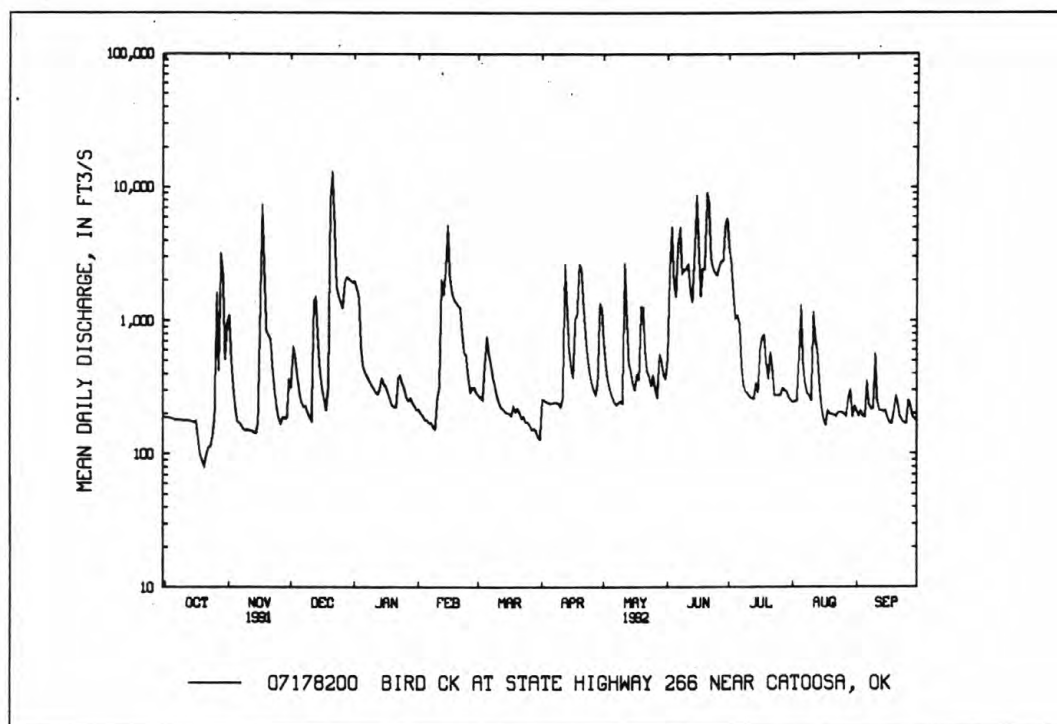
205

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	328	430	582	416	655	1936	1236	1186	1763	449	628	668
MAX	414	649	1647	449	1214	6393	3071	2909	3355	720	1735	1758
(WY)	1992	1992	1992	1990	1990	1990	1990	1990	1992	1989	1989	1989
MIN	229	226	152	367	144	151	489	526	627	214	208	221
(WY)	1991	1991	1990	1991	1991	1991	1989	1992	1990	1991	1991	1992

SUMMARY STATISTICS	1991 CALENDAR YEAR		1992 WATER YEAR		WATER YEARS 1989-92	
ANNUAL TOTAL	215925		307727			
ANNUAL MEAN	592		841		856	
HIGHEST ANNUAL MEAN					1366	
LOWEST ANNUAL MEAN					418	
HIGHEST DAILY MEAN	13100		Dec 21		17600	
LOWEST DAILY MEAN	81		Oct 20		81	
ANNUAL SEVEN-DAY MINIMUM	103		Oct 17		95	
INSTANTANEOUS PEAK FLOW			13600		Dec 20	
INSTANTANEOUS PEAK STAGE			24.45		Dec 20	
ANNUAL RUNOFF (AC-FT)	428300		610400		620200	
10 PERCENT EXCEEDS	1230		2250		2260	
50 PERCENT EXCEEDS	211		293		284	
90 PERCENT EXCEEDS	135		172		142	



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, greater than 1,000 microsiemens (monitor overscale), Jan. 6, 10, 1991; minimum, 56 microsiemens, July 18, 1989.

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

WATER TEMPERATURE: Maximum, 31.5°C, several days in July 1990; minimum, 1.5°C, Dec. 23, 1989.

DISSOLVED OXYGEN: Maximum, 14.4 mg/l, Jan. 20, 1992; minimum, 2.6 mg/l, Apr. 18, 1991.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum 837 microsiemens, Feb. 12; minimum 124 microsiemens, June 20.

pH: Maximum 8.4 units, Oct. 26; minimum 6.7 units, Oct. 1, 3.

WATER TEMPERATURE: Maximum 30°C, several days in July; minimum 3.5°C, Jan. 18, 19.

DISSOLVED OXYGEN: Maximum recorded (more than 20 percent missing record) 14.4 mg/L, Jan. 20; minimum recorded, 4.6 mg/L, Aug. 11.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	412	384	404	358	238	304	522	465	490	453	337	376
2	417	387	408	469	348	390	541	426	493	378	345	353
3	421	390	412	387	344	351	508	421	457	378	354	369
4	424	392	416	416	352	403	517	482	501	448	368	405
5	424	388	413	463	416	451	544	509	522	489	448	460
6	431	383	413	---	---	---	579	544	560	519	487	499
7	421	384	409	496	478	487	598	579	587	525	486	510
8	419	388	410	510	478	501	608	594	601	526	503	512
9	444	405	428	515	477	505	609	551	585	544	522	530
10	431	401	423	518	477	507	580	557	569	549	523	536
11	442	405	428	528	470	506	586	563	577	555	536	547
12	434	394	420	510	472	500	595	365	478	557	528	545
13	435	389	417	517	486	507	439	282	339	556	526	545
14	426	392	415	523	486	512	389	360	375	595	523	555
15	429	396	418	547	495	533	436	389	403	550	514	531
16	432	397	422	623	330	450	476	436	449	639	528	541
17	430	411	425	389	194	245	497	475	483	585	558	571
18	483	411	459	261	209	236	516	497	505	585	544	570
19	488	450	475	---	---	---	595	507	532	571	547	559
20	498	447	477	---	---	---	561	158	262	579	558	570
21	495	436	466	---	---	---	172	132	152	593	573	585
22	439	408	426	410	341	367	286	154	223	649	556	602
23	457	419	439	435	393	405	293	269	279	596	535	548
24	528	438	466	450	433	442	296	243	280	652	596	639
25	746	505	609	487	450	477	328	265	299	661	624	642
26	505	136	277	519	475	506	333	311	321	660	645	655
27	445	265	341	529	480	510	336	305	313	662	631	648
28	447	191	333	512	491	505	323	313	320	636	606	623
29	301	163	252	531	494	514	324	313	319	628	606	617
30	343	298	311	614	454	519	325	314	320	639	611	627
31	431	240	353	---	---	---	337	322	328	627	608	620
MONTH	746	136	412	---	---	---	609	132	417	662	337	545

ARKANSAS RIVER BASIN

207

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

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	627	604	619	529	490	514	637	591	617	449	411	430
2	631	606	621	561	533	542	611	565	584	489	447	467
3	646	610	630	565	541	556	641	581	610	491	465	480
4	651	621	636	627	509	560	581	482	529	498	468	487
5	655	622	636	595	388	478	511	468	493	502	474	492
6	655	631	646	601	521	553	501	470	491	505	475	495
7	651	636	643	539	498	512	501	470	491	508	478	499
8	660	633	652	555	501	516	504	473	493	508	474	497
9	672	633	660	555	517	540	502	475	495	498	462	484
10	676	635	657	549	525	537	509	480	496	495	446	474
11	664	575	608	559	541	550	538	482	498	477	198	306
12	837	364	496	571	549	560	538	279	360	444	260	348
13	443	336	404	581	561	571	397	318	350	515	439	462
14	411	278	374	585	561	576	424	357	393	508	457	489
15	278	220	251	591	559	579	497	424	459	512	489	503
16	314	280	293	587	559	577	501	446	465	506	483	499
17	---	---	---	589	565	582	557	365	438	520	484	499
18	---	---	---	615	577	591	472	390	424	498	450	465
19	366	356	363	615	581	602	456	267	376	463	312	401
20	362	348	357	621	589	599	---	---	---	461	342	382
21	360	350	357	621	585	603	---	---	---	404	345	375
22	400	360	374	609	571	595	---	---	---	430	395	410
23	424	402	411	607	575	594	---	---	---	450	415	432
24	416	394	410	601	577	591	---	---	---	474	450	466
25	472	414	431	601	583	596	495	463	476	474	428	451
26	490	454	475	609	581	598	496	467	484	484	457	465
27	519	476	496	613	581	597	498	469	489	493	466	482
28	525	496	515	611	581	601	541	466	492	535	378	472
29	529	501	519	613	581	603	543	278	379	461	371	418
30	---	---	---	611	583	602	543	389	424	522	451	483
31	---	---	---	615	589	607	---	---	---	532	518	525
MONTH---	---	---	627	388	570	---	---	---	535	198	456	

ARKANSAS RIVER BASIN

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

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	543	476	512	---	---	---	462	422	446	565	464	510
2	529	247	399	342	320	325	456	426	445	482	456	472
3	458	278	337	372	340	354	458	430	449	507	442	478
4	312	275	291	368	356	364	466	382	435	470	442	456
5	320	283	306	402	344	361	448	214	329	472	420	453
6	---	---	---	356	340	350	460	366	407	454	364	417
7	---	---	---	406	354	378	496	460	481	420	374	395
8	---	---	---	444	398	415	484	460	472	444	394	424
9	---	---	---	452	432	445	480	454	466	450	412	429
10	405	301	321	474	420	448	482	462	474	442	282	355
11	311	281	300	474	438	460	484	232	362	442	332	389
12	328	311	318	478	436	461	460	324	409	436	398	421
13	341	327	333	476	442	463	470	368	419	468	416	443
14	342	219	307	474	460	468	452	372	422	450	396	433
15	282	175	226	511	448	471	460	432	447	438	404	422
16	298	220	258	480	374	441	470	440	461	434	410	424
17	307	281	296	454	306	375	476	450	469	440	416	433
18	309	255	284	448	376	404	482	438	466	450	426	441
19	337	256	294	442	376	398	476	450	469	460	432	448
20	268	124	176	452	430	444	474	426	457	498	420	439
21	235	171	204	474	360	408	462	428	451	498	416	438
22	291	233	273	498	402	436	460	428	450	444	424	432
23	309	293	300	470	428	446	460	418	443	460	438	450
24	317	301	311	501	432	465	450	418	439	466	440	458
25	319	311	316	496	436	459	444	414	436	460	430	450
26	319	307	312	507	442	471	442	412	433	454	426	446
27	337	311	315	507	436	462	442	412	433	432	406	420
28	317	311	315	507	422	446	442	400	431	444	420	436
29	354	219	290	448	420	438	422	384	396	454	434	442
30	302	237	273	454	434	444	494	422	470	458	432	450
31	---	---	---	462	432	448	529	460	489	---	---	---
MONTH	---	---	---	---	---	---	529	214	441	565	282	437

ARKANSAS RIVER BASIN

209

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

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	7.0	6.7	6.9	7.9	7.8	7.8	7.7	7.7	7.7	7.9	7.8	7.8
2	7.2	6.8	6.9	7.8	7.8	7.8	7.9	7.7	7.9	7.8	7.8	7.8
3	7.5	6.7	7.2	7.9	7.8	7.8	7.9	7.9	7.9	7.8	7.8	7.8
4	7.6	7.1	7.5	7.9	7.9	7.9	7.9	7.9	7.9	7.8	7.8	7.8
5	7.6	7.4	7.6	7.9	7.9	7.9	7.9	7.8	7.9	7.8	7.8	7.8
6	7.9	7.4	7.7	---	---	---	7.9	7.8	7.8	7.8	7.8	7.8
7	7.9	7.9	7.9	7.9	7.9	7.9	7.8	7.8	7.8	8.1	7.8	7.9
8	7.9	7.8	7.9	7.9	7.9	7.9	7.8	7.8	7.8	8.1	8.0	8.1
9	7.9	7.8	7.9	7.9	7.9	7.9	7.8	7.7	7.8	8.1	8.0	8.1
10	7.9	7.8	7.9	7.9	7.9	7.9	7.8	7.8	7.8	8.1	7.9	8.1
11	7.9	7.8	7.9	7.9	7.9	7.9	7.8	7.8	7.8	8.0	7.9	7.9
12	7.9	7.8	7.9	7.9	7.9	7.9	8.0	7.8	7.8	7.9	7.8	7.9
13	7.9	7.8	7.9	7.9	7.9	7.9	7.8	7.7	7.7	7.8	7.8	7.8
14	7.8	7.3	7.6	8.0	7.8	7.9	7.8	7.8	7.8	7.9	7.7	7.8
15	7.7	7.1	7.6	7.9	7.8	7.8	7.8	7.8	7.8	7.7	7.6	7.7
16	7.7	7.6	7.7	8.0	7.7	7.8	7.8	7.7	7.8	7.8	7.5	7.6
17	7.7	7.6	7.6	---	---	---	7.8	7.7	7.7	7.9	7.8	7.8
18	7.7	7.4	7.6	---	---	---	7.7	7.7	7.7	7.8	7.8	7.8
19	7.5	7.3	7.4	---	---	---	8.0	7.6	7.7	7.8	7.6	7.7
20	7.6	7.2	7.4	---	---	---	---	---	---	7.7	7.6	7.7
21	7.7	7.3	7.5	---	---	---	---	---	---	7.8	7.7	7.8
22	7.7	7.3	7.4	7.8	7.7	7.8	---	---	---	7.9	7.7	7.8
23	7.6	7.4	7.5	7.8	7.8	7.8	---	---	---	7.9	7.8	7.8
24	7.7	7.2	7.6	7.8	7.8	7.8	---	---	---	7.9	7.8	7.8
25	7.8	7.6	7.7	7.8	7.8	7.8	---	---	---	7.9	7.8	7.9
26	8.4	7.6	7.7	7.8	7.8	7.8	---	---	---	7.9	7.8	7.8
27	7.7	7.6	7.7	7.8	7.7	7.8	---	---	---	8.0	7.8	7.9
28	7.9	7.3	7.7	7.8	7.7	7.7	---	---	---	8.0	7.8	7.9
29	7.6	7.2	7.5	7.7	7.7	7.7	---	---	---	8.1	7.9	8.0
30	7.7	7.6	7.7	7.9	7.7	7.8	---	---	---	8.0	7.9	7.9
31	8.1	7.7	7.7	---	---	---	7.8	7.7	7.8	8.0	7.9	7.9
MAX	8.4	7.9	7.9	---	---	---	---	---	---	8.1	8.0	8.1
MIN	7.0	6.7	6.9	---	---	---	---	---	---	7.7	7.5	7.6

ARKANSAS RIVER BASIN

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

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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

ARKANSAS RIVER BASIN

211

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

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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

ARKANSAS RIVER BASIN

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

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	21.5	21.0	21.0	10.0	9.5	9.5	11.5	9.5	10.5	8.5	8.0	8.0
2	22.0	21.5	21.5	9.0	7.5	8.0	9.5	5.0	7.0	8.5	8.0	8.0
3	22.5	22.0	22.0	8.0	6.5	7.0	6.5	5.5	6.0	8.0	7.5	8.0
4	23.0	21.5	22.5	7.5	6.5	7.0	7.0	5.5	6.0	9.0	7.5	8.0
5	21.5	20.0	20.5	8.5	7.5	8.0	8.0	6.5	7.0	9.5	8.5	9.0
6	---	---	---	---	---	---	9.0	7.5	8.0	9.5	8.5	9.0
7	---	---	---	9.0	7.5	8.5	11.0	9.0	9.5	9.5	9.0	9.5
8	---	---	---	7.5	6.5	7.5	12.0	11.0	12.0	9.0	8.5	8.5
9	---	---	---	8.0	7.0	7.5	12.5	11.5	12.0	8.5	7.5	8.0
10	---	---	---	9.0	7.0	8.5	12.0	11.0	11.5	---	---	---
11	20.5	18.5	20.0	9.0	7.5	8.5	12.5	11.5	12.0	8.0	7.0	7.5
12	21.0	20.0	20.5	9.5	8.0	9.0	13.5	12.5	13.0	8.0	7.0	7.5
13	21.0	19.5	20.5	10.5	9.0	10.0	12.5	11.5	12.5	8.0	6.5	7.5
14	20.5	17.5	19.5	12.0	10.0	11.5	12.0	10.5	11.0	6.5	5.5	6.0
15	19.5	19.0	19.5	13.0	11.5	12.5	10.0	9.0	9.5	6.5	5.0	5.5
16	19.5	18.0	18.5	13.5	12.0	13.0	10.0	8.5	9.0	5.0	4.0	5.0
17	19.0	18.0	18.5	14.0	13.0	13.5	10.0	9.0	9.5	5.0	4.0	4.5
18	21.0	18.0	19.5	13.5	13.0	13.5	9.0	8.0	8.5	4.5	3.5	4.0
19	20.5	19.0	19.5	13.5	13.0	13.5	9.0	7.0	8.5	4.5	3.5	4.0
20	19.0	17.5	18.0	13.5	12.5	13.0	7.0	4.5	5.0	5.0	4.5	4.5
21	19.0	17.5	18.0	---	---	---	5.5	5.0	5.0	6.0	5.0	5.5
22	20.0	18.5	19.0	11.5	10.5	11.0	7.5	5.5	6.5	6.5	5.5	6.0
23	21.0	19.5	20.0	11.0	9.5	10.0	8.0	7.5	7.5	6.5	5.5	6.0
24	21.5	20.5	21.0	10.0	9.0	9.5	7.5	6.5	7.0	6.5	5.5	6.0
25	21.0	19.5	20.0	10.0	8.5	9.5	7.0	6.0	6.5	7.5	6.5	7.0
26	19.5	17.5	18.5	10.0	9.0	9.5	7.5	6.5	7.0	7.5	6.0	7.0
27	18.5	15.5	17.5	10.5	9.5	10.5	9.0	7.5	8.0	8.0	7.0	7.5
28	18.0	15.5	17.0	12.5	11.0	12.0	9.0	8.5	8.5	8.5	8.0	8.5
29	19.0	17.5	18.5	14.0	13.0	14.0	8.5	7.0	8.0	9.0	8.0	8.5
30	17.5	15.0	16.0	14.0	11.5	12.5	8.5	8.0	8.0	9.5	9.0	9.0
31	14.5	9.5	13.0	---	---	---	8.0	8.0	8.0	10.0	9.0	9.5
MONTH	---	---	---	---	---	---	13.5	4.5	8.6	10.0	3.5	7.1

ARKANSAS RIVER BASIN

213

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

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	10.0	9.5	10.0	14.0	12.0	13.0	14.5	14.0	14.0	22.0	17.5	20.0
2	10.5	10.0	10.5	15.5	13.5	14.5	14.0	13.0	13.5	21.5	20.5	21.0
3	11.5	10.5	11.0	16.0	15.5	15.5	14.5	12.5	13.5	22.5	20.0	21.0
4	11.5	10.5	11.5	16.0	15.5	15.5	15.5	14.0	14.5	23.0	20.0	21.5
5	10.5	9.5	10.5	17.0	15.0	16.0	16.0	15.0	15.5	---	---	---
6	10.0	9.5	10.0	17.0	15.5	16.0	16.5	15.5	16.0	---	---	---
7	9.5	8.0	9.0	17.5	15.5	16.5	17.0	16.0	16.5	---	---	---
8	8.5	7.5	8.5	17.5	16.5	17.0	18.0	16.5	17.0	---	---	---
9	9.0	7.5	8.0	17.5	16.5	17.0	19.0	17.5	18.0	---	---	---
10	7.5	6.5	7.0	17.0	14.0	15.0	19.5	18.5	19.0	---	---	---
11	7.5	6.5	7.0	14.0	12.5	13.0	21.5	19.5	20.0	---	---	---
12	7.5	7.0	7.5	14.0	13.0	13.5	19.5	16.0	17.5	---	---	---
13	7.0	6.5	7.0	13.5	12.5	13.0	17.0	15.5	16.5	23.5	21.0	22.0
14	8.0	4.0	6.5	14.0	13.5	14.0	20.0	17.0	18.0	23.5	22.0	22.5
15	9.0	8.0	8.5	14.5	13.5	14.0	20.5	19.0	19.5	24.0	22.5	23.5
16	9.0	8.5	8.5	14.5	14.0	14.5	22.0	20.0	21.0	---	---	---
17	9.5	8.0	9.0	15.5	14.5	15.0	21.5	19.5	20.0	---	---	---
18	9.5	8.5	9.0	16.5	15.5	16.0	20.0	19.5	19.5	---	---	---
19	9.0	8.0	8.5	16.0	14.5	15.5	19.5	17.0	18.0	22.0	20.0	21.0
20	9.0	8.0	8.5	15.0	14.5	14.5	17.5	16.0	17.0	21.0	20.0	20.5
21	10.0	8.5	9.0	15.5	14.5	15.0	16.0	15.0	15.5	22.5	20.5	21.5
22	11.0	9.0	10.0	15.0	13.0	14.5	17.5	15.0	16.5	23.0	21.0	22.0
23	12.5	10.5	11.5	13.0	13.0	13.0	19.5	17.0	18.0	23.0	22.0	22.5
24	12.0	10.5	11.0	14.0	13.0	13.5	20.0	18.5	19.0	21.5	20.0	21.0
25	10.5	9.0	9.5	14.0	13.0	13.5	20.0	16.0	18.5	20.5	17.0	19.0
26	10.0	8.5	9.0	14.5	13.5	14.0	---	---	---	20.0	18.0	19.0
27	11.5	9.5	10.5	15.0	13.5	14.5	19.0	17.5	18.0	18.5	18.0	18.5
28	12.5	10.5	11.0	14.5	13.5	14.0	19.0	16.0	17.0	18.5	17.0	17.5
29	13.0	11.5	12.0	15.0	13.5	14.5	16.5	13.0	14.5	20.0	17.0	18.0
30	---	---	---	14.5	14.0	14.5	17.5	15.0	16.5	21.5	18.5	19.5
31	---	---	---	14.5	13.5	14.0	---	---	---	21.5	19.0	20.5
MONTH	13.0	4.0	9.3	17.5	12.0	14.6	22.0	12.5	17.2	---	---	---

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

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	21.0	17.0	19.5	---	---	---	29.5	27.5	28.0	24.5	24.0	24.5
2	20.5	19.5	20.0	20.5	19.5	20.0	29.0	27.5	28.0	24.5	23.5	24.5
3	---	---	---	26.0	20.5	22.5	29.0	27.5	28.0	25.0	24.0	24.5
4	---	---	---	28.0	26.0	27.0	27.5	25.5	26.5	25.5	25.0	25.5
5	---	---	---	28.5	26.5	27.5	26.5	23.5	25.0	26.0	25.5	26.0
6	---	---	---	29.0	27.5	28.0	25.5	24.5	25.0	26.5	24.5	25.5
7	---	---	---	29.0	27.5	28.5	26.5	25.0	26.0	27.0	25.0	26.0
8	---	---	---	29.5	27.5	28.5	28.0	26.0	26.5	27.0	26.0	26.5
9	---	---	---	30.0	28.0	29.0	28.0	27.0	27.5	27.0	26.0	26.5
10	21.0	20.0	20.5	30.0	28.0	29.0	29.0	27.0	28.0	27.5	23.5	24.5
11	21.0	19.0	20.0	30.0	28.0	29.0	29.5	24.5	27.0	24.0	23.0	23.5
12	20.5	19.0	20.0	29.0	27.5	28.5	27.5	26.0	26.5	24.5	23.5	24.0
13	21.0	18.5	19.5	29.5	27.5	28.5	27.0	26.0	26.5	24.5	23.5	24.0
14	19.5	17.0	18.5	29.0	27.0	28.0	26.5	25.0	26.0	25.5	24.5	25.0
15	21.5	17.5	19.5	29.5	27.5	28.5	26.5	25.0	25.5	26.0	25.0	25.5
16	23.5	21.0	22.5	29.5	26.0	27.5	26.0	25.0	25.0	26.5	25.5	26.0
17	25.0	22.5	23.5	27.5	24.5	25.5	25.5	24.5	25.0	26.5	26.0	26.5
18	24.0	22.0	23.0	27.5	26.0	27.0	25.0	24.0	24.5	27.0	26.0	26.5
19	23.5	21.0	23.0	28.5	26.5	27.5	25.0	23.5	24.0	25.5	24.0	24.5
20	22.0	20.0	20.5	28.5	27.0	27.5	25.5	24.5	25.0	25.0	23.5	24.5
21	23.5	20.5	21.5	28.0	26.5	27.0	25.5	25.0	25.5	25.0	24.5	24.5
22	23.0	19.0	20.0	28.5	27.0	27.5	26.0	25.5	26.0	25.0	24.0	24.5
23	---	---	---	28.5	27.0	28.0	26.5	25.5	26.0	24.0	23.0	23.5
24	---	---	---	29.0	27.0	28.0	26.5	26.0	26.5	23.0	22.5	22.5
25	21.0	18.0	19.5	30.0	28.0	29.0	27.0	26.5	27.0	22.5	22.0	22.0
26	20.5	18.0	19.0	30.0	28.5	29.5	27.5	26.5	27.0	22.0	21.5	22.0
27	18.0	16.5	17.5	30.0	28.5	29.5	26.5	25.5	26.0	21.5	20.5	21.0
28	17.5	17.0	17.5	30.0	28.0	29.0	26.0	24.5	25.0	22.0	21.0	21.5
29	21.0	17.5	19.0	29.5	27.5	29.0	25.5	24.0	25.0	21.5	20.5	21.0
30	19.0	18.0	18.5	30.0	28.0	29.0	25.5	24.5	25.0	21.0	20.5	20.5
31	---	---	---	30.0	28.5	29.0	25.5	24.5	25.0	---	---	---
MONTH	---	---	---	---	---	---	29.5	23.5	26.0	27.5	20.5	24.2

215

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

ARKANSAS RIVER BASIN

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

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	11.6	10.3	10.9	10.0	9.2	9.5	---	---	---
2	---	---	---	11.7	10.2	10.8	10.5	9.2	9.8	8.2	7.7	7.8
3	---	---	---	11.5	9.5	10.2	10.6	9.6	10.2	8.2	7.4	7.8
4	---	---	---	10.0	8.6	9.2	10.5	9.4	10.0	8.5	7.5	7.9
5	---	---	---	9.2	8.4	8.8	10.4	9.4	9.9	8.5	7.5	8.0
6	---	---	---	9.2	8.6	8.8	10.4	9.2	9.6	8.8	7.7	8.2
7	10.7	10.4	10.6	10.0	8.5	9.1	9.7	8.6	9.1	9.0	8.1	8.5
8	11.0	10.5	10.7	10.0	8.8	9.3	9.7	8.7	9.2	9.2	8.0	8.6
9	11.0	10.6	10.8	10.3	8.8	9.4	9.7	8.6	9.1	9.2	7.9	8.6
10	11.0	10.0	10.5	11.2	9.1	10.0	9.5	8.4	8.8	9.1	7.9	8.5
11	10.3	9.7	9.9	11.3	10.2	10.7	9.1	8.0	8.3	8.8	6.8	7.5
12	9.9	9.3	9.6	11.3	10.0	10.5	7.6	5.9	7.0	7.3	7.0	7.2
13	9.9	9.6	9.8	11.1	10.3	10.7	7.8	7.4	7.6	8.0	6.9	7.3
14	---	---	---	11.1	10.0	10.5	7.8	7.4	7.7	7.8	7.1	7.4
15	---	---	---	11.0	10.0	10.4	7.5	7.2	7.3	8.2	7.1	7.6
16	---	---	---	11.1	10.0	10.5	---	---	---	8.7	7.2	7.9
17	---	---	---	11.0	9.5	10.0	---	---	---	8.7	7.7	8.0
18	---	---	---	10.0	9.3	9.6	---	---	---	7.9	7.0	7.4
19	12.8	11.4	11.9	10.3	8.9	9.5	---	---	---	7.7	7.0	7.3
20	13.1	11.2	11.9	10.7	9.8	10.2	---	---	---	7.8	7.2	7.5
21	11.8	10.7	11.1	10.9	9.7	10.1	---	---	---	7.6	7.4	7.5
22	11.3	10.6	10.8	10.4	9.2	9.7	---	---	---	7.6	7.2	7.4
23	10.8	10.3	10.5	10.5	10.1	10.3	---	---	---	7.7	7.2	7.4
24	10.5	10.1	10.3	10.8	9.9	10.2	---	---	---	7.9	7.4	7.5
25	11.3	10.3	10.6	10.5	10.1	10.3	---	---	---	8.3	7.3	7.8
26	11.6	10.7	11.2	10.7	10.3	10.5	---	---	---	9.0	8.0	8.3
27	11.6	10.6	11.1	10.7	10.2	10.4	---	---	---	9.0	8.3	8.6
28	11.5	10.4	11.0	10.6	9.5	10.1	---	---	---	8.8	8.1	8.3
29	11.6	10.3	10.9	9.8	9.0	9.5	---	---	---	8.4	8.0	8.2
30	---	---	---	9.5	9.0	9.2	---	---	---	8.8	7.8	8.2
31	---	---	---	10.2	9.2	9.7	---	---	---	8.6	7.6	7.8
MONTH	---	---	---	11.7	8.4	10.0	---	---	---	---	---	---

217

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

ARKANSAS RIVER BASIN

07185000 NEOSHO RIVER NEAR COMMERCE, OK

LOCATION.--Lat 36°55'43", long 94°57'26", in SW 1/4 SE 1/4 sec.5, T.28 N., R.22 E., Ottawa County, Hydrologic Unit 11070206, on downstream side of right pier of county road bridge, 1.3 mi upstream from Mud Creek, 2.2 mi downstream from Four Mile Creek, 4.5 mi west of Commerce, and at mile 153.4.

DRAINAGE AREA.--5,876 mi².

PERIOD OF RECORD.--June 1939 to current year.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 748.97 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers' datum). Since February 1989, supplementary water-stage recorder 1000 ft to the left at same datum used when flow exceeds 21 ft GH.

REMARKS.--No estimated daily discharges. Records good. Flow regulated to some extent since 1963 by John Redmond Reservoir in Kansas, 190 mi upstream. U.S. Army Corps of Engineers' satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Apr. 21	1800	21,600	15.03	July 18	1700	30,300	18.47
July 8	1900	23,300	15.90	July 28	1800	34,200	19.43
July 14	0200	39,600	20.25	Aug. 1	0200	26,500	17.30

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	295	159	456	161	440	2020	2000	526	1420	25900	823
2	21	341	221	632	153	408	1620	1480	794	1400	21000	670
3	20	225	200	660	147	385	1580	1110	6140	1370	13700	613
4	20	158	145	1040	147	357	1700	876	8320	1410	15900	599
5	20	132	115	978	141	385	1640	617	7170	3330	11800	615
6	17	119	100	737	137	761	1440	454	4230	15900	8630	740
7	16	96	89	588	133	4930	1300	361	2600	21800	10100	920
8	16	74	91	496	124	4430	1260	313	1830	23000	11700	1210
9	16	59	89	412	118	2570	1130	285	3610	12200	15000	7680
10	16	51	76	350	116	1860	1000	284	3400	6220	12800	8490
11	16	43	69	309	124	1530	990	353	12500	20100	10400	5660
12	16	36	526	291	857	1370	2570	407	10700	31500	11400	2470
13	15	32	811	280	1010	1260	2400	365	4590	37100	11900	1390
14	14	29	611	275	6350	1210	1740	378	4660	34800	10400	1010
15	13	29	327	259	8970	1160	1130	472	8490	11800	10100	785
16	13	66	255	233	3860	1120	1080	521	9850	10800	9630	653
17	12	799	222	218	2610	1090	3890	1070	6980	25400	7770	578
18	11	645	226	200	1700	1120	4580	836	5480	29600	6190	512
19	11	438	199	188	1100	1180	3740	674	4590	21900	5790	446
20	11	1300	5820	175	809	3980	11600	792	4310	9800	5290	425
21	10	1010	13500	162	678	6050	20900	1310	3790	9220	4490	1320
22	9.6	561	8940	158	589	5470	17300	1190	2390	7940	4150	1900
23	9.5	359	5290	172	508	5190	5800	1010	1910	8730	3780	1250
24	11	253	2400	170	433	4940	3180	1140	1890	20300	2760	807
25	11	193	1410	164	372	4700	2680	874	1800	26800	2360	575
26	16	150	973	159	351	4700	2360	878	1740	29800	2270	455
27	14	122	746	170	324	5650	2120	828	1590	32200	2220	1330
28	19	102	593	184	491	5040	1960	791	1500	33900	2270	2060
29	28	96	497	187	531	4230	2260	739	1470	29800	2680	1010
30	19	198	423	186	---	2720	2860	610	1440	15900	1790	684
31	21	---	370	176	---	2110	---	532	---	24600	1250	---
TOTAL	483.1	8011	45493	10665	33044	82346	109830	23550	130290	560040	265420	47680
MEAN	15.6	267	1468	344	1139	2656	3661	760	4343	18070	8562	1589
MAX	28	1300	13500	1040	8970	6050	20900	2000	12500	37100	25900	8490
MIN	9.5	29	69	158	116	357	990	284	526	1370	1250	425
AC-FT	958	15890	90240	21150	65540	163300	217800	46710	258400	1111000	526500	94570

ARKANSAS RIVER BASIN
07185000 NEOSHO RIVER NEAR COMMERCE, OK--Continued

219

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1992, BY WATER YEAR (WY)

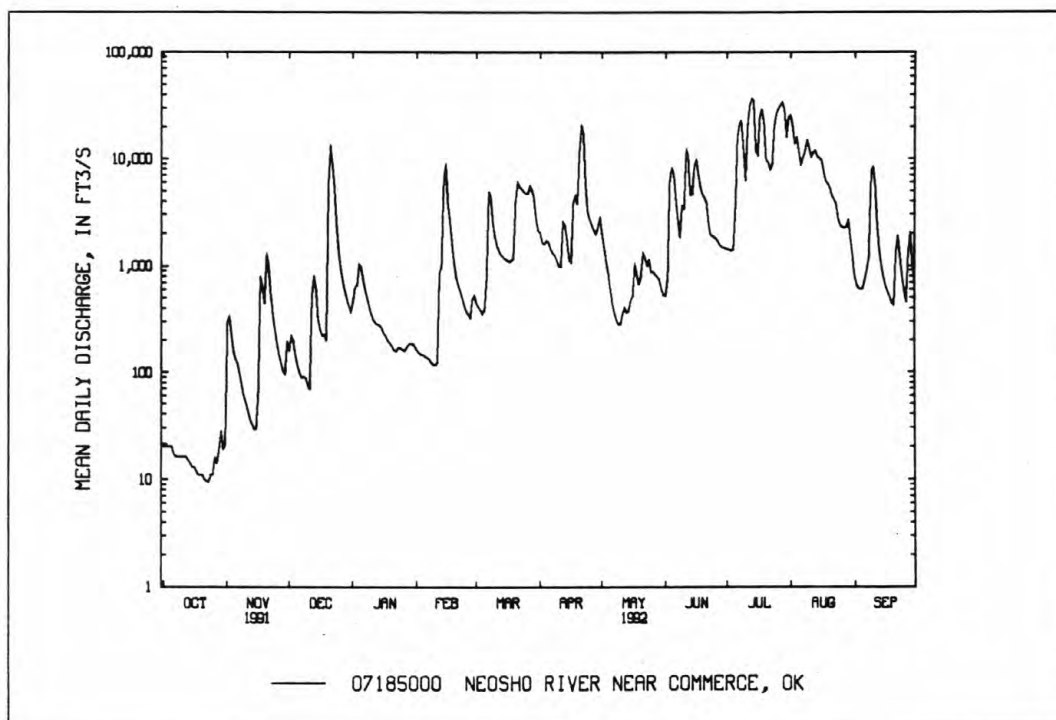
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3398	2957	1869	1799	2461	4411	5413	5435	6323	5001	1553	2675
MAX	33400	19190	10490	10090	13980	21630	23270	29560	15820	53350	9435	16930
(WY)	1987	1986	1974	1973	1985	1973	1945	1961	1982	1951	1950	1951
MIN	.000	1.60	6.33	8.60	24.9	11.9	62.6	395	289	21.1	.000	1.52
(WY)	1957	1940	1940	1957	1954	1956	1981	1956	1980	1954	1954	1953

SUMMARY STATISTICS	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1940-92
ANNUAL TOTAL	231259.1	1316852.1	
ANNUAL MEAN	634	3598	3609
HIGHEST ANNUAL MEAN			8827 1951
LOWEST ANNUAL MEAN			246 1953
HIGHEST DAILY MEAN	13500	Dec 21 37100	Jul 13 251000 Jul 15 1951
LOWEST DAILY MEAN	9.5	Oct 23 9.5	Oct 23 ^a .00 at times
ANNUAL SEVEN-DAY MINIMUM	10	Oct 18 10	Oct 18 .00 Sep 27 1953
INSTANTANEOUS PEAK FLOW		39600	Jul 14 ^b 267000 Jul 15 1951
INSTANTANEOUS PEAK STAGE		20.25	Jul 14 ^c 34.03 Jul 16 1951
ANNUAL RUNOFF (AC-FT)	458700	2612000	2614000
10 PERCENT EXCEEDS	1800	10700	10800
50 PERCENT EXCEEDS	132	975	865
90 PERCENT EXCEEDS	26	49	52

^aIn 1953-54 and 1956.

^bComputed by flood-routing methods 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

07185095 TAR CREEK AT 22ND STREET BRIDGE AT MIAMI, OK

LOCATION.--Lat 36°54'00", long 94°52'05", in NW 1/4 NE 1/4 sec.19, T.28 N., R.23 E., Ottawa County, Hydrologic Unit 11070206, near downstream left abutment of 22nd Street bridge in Miami, 0.5 mi east of intersection of Main and 22nd Street.

DRAINAGE AREA.--44.7 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1984 to current year.

REVISED RECORDS.--WDR OK-89-1: 1985 (M).

GAGE.--Water-stage recorder. Datum of gage is 762.23 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	20	5.5	13	6.5	7.4	6.7	9.4	6.4	5.7	28	2.4
2	2.1	6.0	12	12	6.3	7.7	6.1	8.2	33	5.5	16	2.4
3	2.4	4.1	12	12	6.5	8.5	5.9	6.5	66	5.7	13	2.4
4	2.7	e3.9	7.6	13	6.0	8.7	5.8	5.8	49	5.0	28	2.3
5	2.4	e3.7	6.4	15	5.8	12	5.5	5.4	25	73	30	2.2
6	2.8	e3.5	6.0	14	5.7	11	5.3	4.7	77	83	16	2.4
7	2.7	e3.3	5.7	12	5.8	9.5	5.5	4.6	63	20	12	2.9
8	2.5	3.1	5.4	11	5.3	9.1	5.4	4.7	29	11	11	5.8
9	2.1	2.9	5.0	11	5.1	11	5.1	4.7	232	7.7	11	39
10	1.7	2.9	4.5	10	98	9.2	5.6	4.5	75	6.4	9.1	56
11	1.9	3.0	4.5	10	9.6	7.8	6.6	5.7	112	473	6.9	39
12	2.2	3.3	76	9.4	75	7.8	8.1	8.9	54	176	5.6	17
13	2.9	3.5	72	10	57	7.2	57	7.6	24	33	5.4	9.5
14	3.0	3.7	26	12	620	7.0	24	7.9	80	18	4.9	6.3
15	3.1	3.9	15	9.7	342	6.5	15	8.2	191	13	3.8	4.8
16	3.5	20	11	8.4	81	6.2	13	7.1	60	93	4.0	4.0
17	3.4	71	9.3	8.0	44	16	33	18	35	172	4.0	3.3
18	3.6	27	7.9	7.7	28	40	150	11	185	43	2.8	3.0
19	3.3	13	7.2	7.3	20	27	130	8.9	55	21	2.5	3.1
20	3.5	27	394	7.3	17	17	384	7.5	28	16	2.4	4.1
21	3.8	16	73	7.3	15	13	274	6.9	17	14	2.3	332
22	4.2	11	51	8.2	14	11	71	6.4	13	11	2.4	41
23	4.3	9.4	31	8.7	12	9.1	36	6.4	25	33	2.4	19
24	8.1	7.7	24	8.1	10	9.0	23	5.6	24	31	2.3	12
25	5.7	6.4	19	7.7	9.9	8.7	16	5.1	15	17	2.4	7.9
26	11	6.0	16	7.3	9.9	8.0	13	4.6	11	14	2.3	9.6
27	6.2	5.5	15	7.3	9.9	7.7	11	4.3	8.7	11	2.2	12
28	11	5.1	15	6.1	8.9	7.4	9.7	5.3	7.4	8.8	2.2	9.3
29	6.4	5.9	13	6.1	8.1	8.1	11	7.1	6.9	7.9	2.2	5.4
30	3.2	6.0	13	6.5	---	7.8	11	5.8	6.2	75	2.1	5.4
31	36	---	13	6.6	---	7.1	---	4.9	---	107	2.2	---
TOTAL	153.6	307.8	976.0	292.7	1542.3	333.5	1353.3	211.7	1613.6	1610.7	241.4	665.5
MEAN	4.95	10.3	31.5	9.44	53.2	10.8	45.1	6.83	53.8	52.0	7.79	22.2
MAX	36	71	394	15	620	40	384	18	232	473	30	332
MIN	1.7	2.9	4.5	6.1	5.1	6.2	5.1	4.3	6.2	5.0	2.1	2.2
AC-FT	305	611	1940	581	3060	661	2680	420	3200	3190	479	1320

e Estimated

ARKANSAS RIVER BASIN

221

07185095 TAR CREEK AT 22ND STREET BRIDGE AT MIAMI, OK--Continued

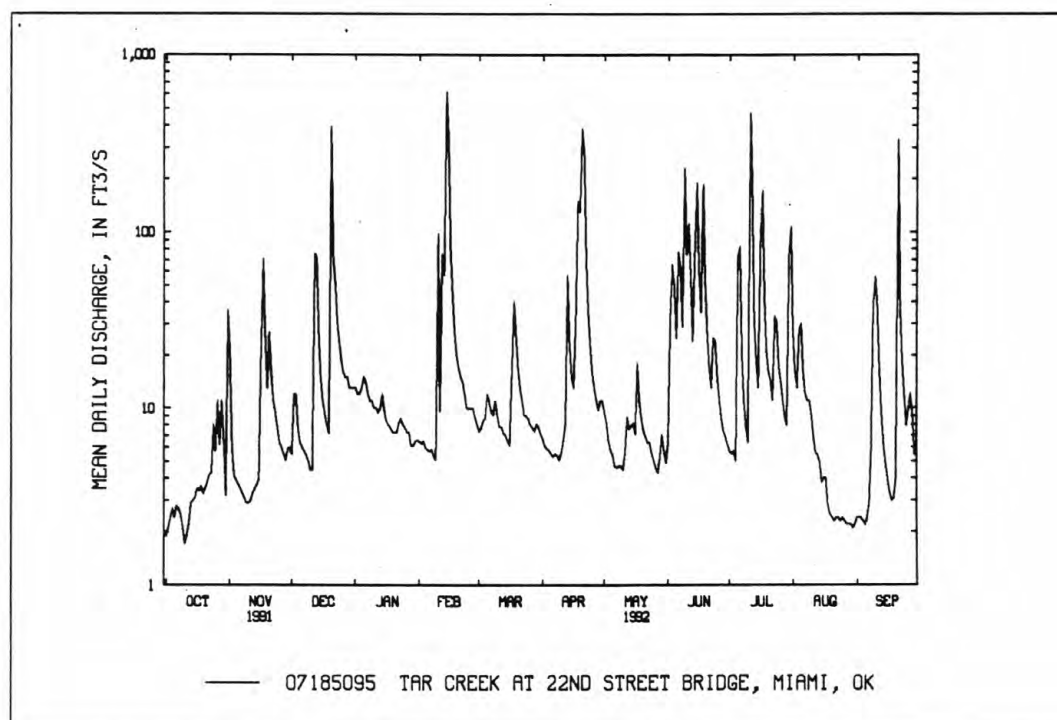
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	48.9	107	62.1	44.2	79.5	101	70.0	61.4	41.3	20.9	15.9	40.2
MAX	241	373	194	85.4	239	284	128	241	152	74.7	59.8	161
(WY)	1987	1986	1988	1985	1985	1990	1990	1990	1990	1989	1985	1986
MIN	3.65	3.63	2.68	8.32	16.0	10.8	16.1	4.13	3.24	2.37	1.47	2.45
(WY)	1990	1990	1990	1986	1991	1992	1989	1988	1988	1986	1988	1991

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1985-92

ANNUAL TOTAL	8235.5	9302.1	
ANNUAL MEAN	22.6	25.4	57.5
HIGHEST ANNUAL MEAN			75.9 1986
LOWEST ANNUAL MEAN			22.9 1991
HIGHEST DAILY MEAN	460 Jan 15	620 Feb 14	3580 Feb 23 1985
LOWEST DAILY MEAN	1.3 Aug 13	1.7 Oct 10	^a .37 Oct 1 1984
ANNUAL SEVEN-DAY MINIMUM	1.4 Aug 13	2.2 Aug 25	.57 Jul 20 1986
INSTANTANEOUS PEAK FLOW		1250 Feb 14	9040 Feb 23 1985
INSTANTANEOUS PEAK STAGE		8.40 Feb 14	14.13 Feb 23 1985
ANNUAL RUNOFF (AC-FT)	16340	18450	41630
10 PERCENT EXCEEDS	47	56	103
50 PERCENT EXCEEDS	9.4	8.1	11
90 PERCENT EXCEEDS	1.9	3.0	2.5

^aMinimum daily for period of record, 0.07 ft³/s Aug. 15, 1984.



07185095 TAR CREEK AT 22ND STREET BRIDGE AT MIAMI, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1988 to May 1989, September 1989 to current year.

REMARKS.--Samples were collected bimonthly and specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAMPLE	TEMPER- ATURE (DEG C) (00010)	BARO-	LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS-	GAGE HEIGHT (FEET) (00065)	SPE-	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH
		LOC-		METRIC		AGENCY		CHARGE,		CIFIC		WATER
		ATION,		PRES-		COL-		INST.		CON-		WHOLE
		CROSS		SURE		LECTING		(CUBIC		DUCT-		FIELD
		SECTION	(MM	OF	NUMBER)	NUMBER)	FEET	PER	ANCE	SOLVED	(STAND-	
		(FT FM	HG)				SECOND)				ARD	
		L BANK)									UNITS)	
		(00009)		(00025)			(00061)		(00095)	(00300)	(00400)	
APR												
01...	1130	2.00	10.0	760	1028	1028	6.7	3.45	1820	9.4	6.6	
01...	1132	4.00	10.0	760	1028	1028	6.7	3.45	1820	9.5	6.6	
01...	1134	6.00	10.0	760	1028	1028	6.7	3.45	1820	9.5	6.6	
01...	1136	8.00	10.0	760	1028	1028	6.7	3.45	1820	9.5	6.6	
01...	1138	10.0	10.0	760	1028	1028	6.7	3.45	1830	9.5	6.6	
01...	1140	12.0	10.0	760	1028	1028	6.7	3.45	1820	9.5	6.6	
01...	1142	14.0	10.0	760	1028	1028	6.7	3.45	1810	9.4	6.6	
01...	1144	16.0	10.0	760	1028	1028	6.7	3.45	1810	9.5	6.6	
01...	1146	18.0	10.0	760	1028	1028	6.7	3.45	1810	9.5	6.7	
01...	1148	20.0	10.0	760	1028	1028	6.7	3.45	1810	9.5	6.6	

DATE	TIME	AGENCY	AGENCY	DIS-		PH			BARO-		OXYGEN,	
		COL-	ANA-	CHARGE,	SPE-	WATER			METRIC		DIS-	
		LECTING	LYZING	INST.	CIFIC	WHOLE			PRES-		SOLVED	
		SAMPLE	SAMPLE	(CUBIC	CON-	FIELD	TEMPER-	TEMPER-	TUR-		OXYGEN,	
		(CODE	(CODE	FEET	DUCT-	(STAND-	ATURE	ATURE	BID-		(PER-	
		NUMBER)	NUMBER)	PER	ANCE	ARD	AIR	WATER	ITY	(MM	CENT	
		(00027)	(00028)	(00061)	(00095)	(00400)	(00020)	(00010)	(00076)	(00025)	(00300)	(00301)

NOV												
19...	1045	1028	80020	15	1120	7.4	20.0	12.5	24	747	12.1	116
JAN												
28...	1300	1028	80020	7.3	1870	6.3	12.0	6.0	67	760	12.7	103
APR												
01...	1000	1028	1028	6.7	1790	6.6	7.0	10.0	--	760	8.8	79
MAY												
27...	1130	1028	80020	4.2	1990	7.0	14.0	16.0	7.1	750	8.2	85
JUL												
27...	1420	1028	80020	11	1610	--	30.0	26.0	1.5	740	6.3	81
SEP												
08...	1430	1028	80020	2.9	2320	6.5	30.0	27.0	--	750	8.1	104

[illegible][illegible]

ARKANSAS RIVER BASIN

223

07185095 TAR CREEK AT 22ND STREET BRIDGE AT MIAMI, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS DAY) (70302)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)
------	--	---	---	--	--	--	--	--	--	--	--	--

NOV												
19...	797	1.17	34.4	0.820	3.6	0.060	0.20	0.880	0.220	0.28	0.020	0.06
JAN												
28...	1410	2.20	31.9	0.180	0.80	0.040	0.13	0.220	0.190	0.24	0.030	0.09
APR												
01...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
27...	--	--	--	--	--	<0.010	--	0.120	0.280	0.36	<0.010	--
JUL												
27...	1210	1.78	38.2	0.130	0.58	0.010	0.03	0.140	0.160	0.21	<0.010	--
SEP												
08...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO) (01037)
------	---	--	--	---	---	---	---	--	---	---	--	--

NOV												
19...	680	--	<1	<1	40	<0.5	70	16	13	1	<5	9
JAN												
28...	90	<10	<1	<1	23	<1	140	19	16	2	<10	40
APR												
01...	60	--	<1	--	--	--	--	10	--	79	--	50
MAY												
27...	40	--	<1	1	--	--	180	4	--	17	--	50
JUL												
27...	120	--	<1	<1	33	<0.5	110	4	4.0	47	<5	40
SEP												
08...	230	--	1	--	--	--	--	3	--	1	--	70

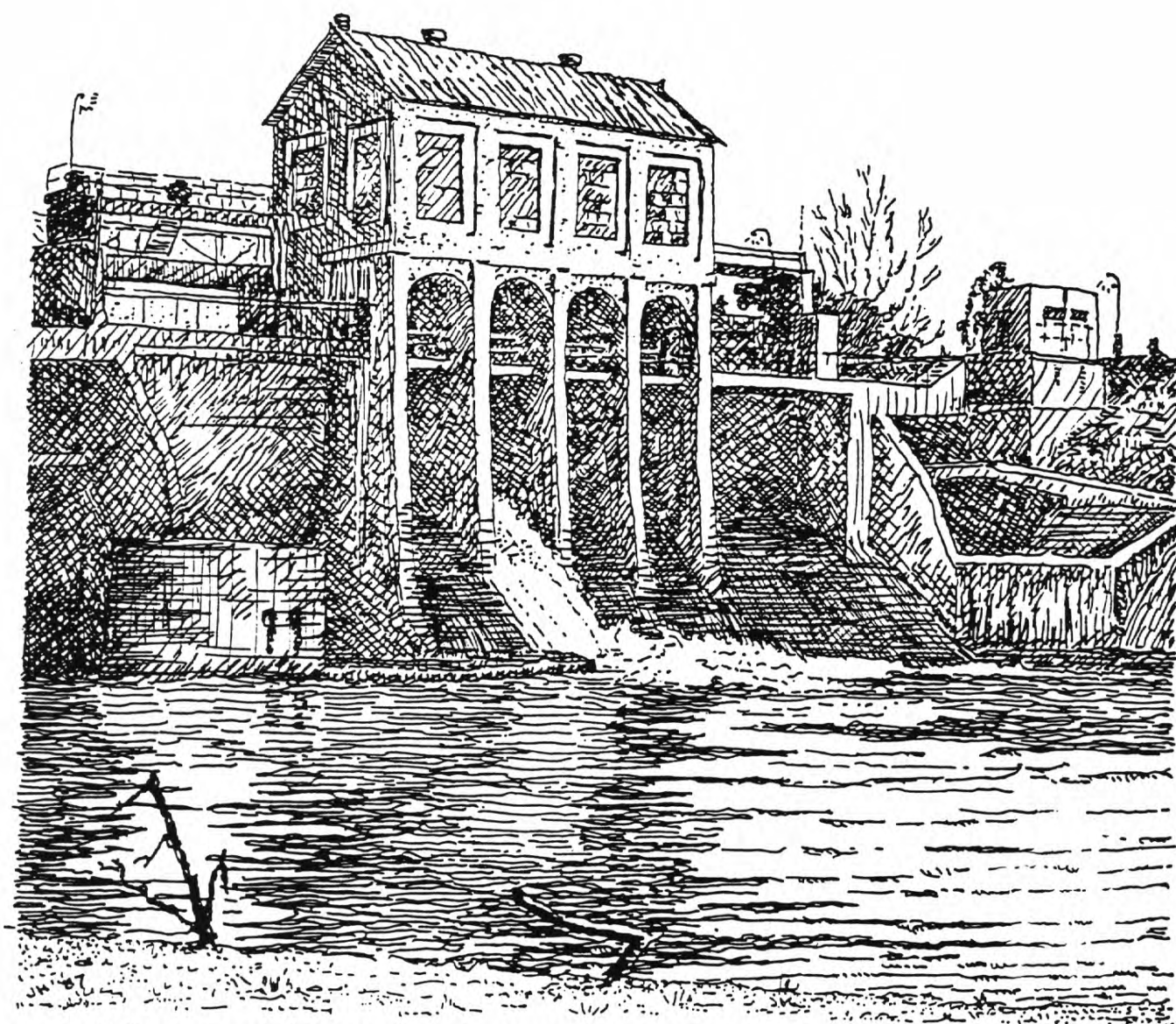
DATE	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)
------	---	--	---	--	---	--	---	---	--	---	--

NOV											
19...	9	--	<10	2500	98	10	<10	21	490	540	<0.10
JAN											
28...	40	54	<20	12000	9900	2	<20	61	--	1200	--
APR											
01...	--	2	--	5100	--	<1	--	--	1400	--	1.7
MAY											
27...	--	3	--	1400	--	<1	--	--	1300	--	<0.10
JUL											
27...	40	2	<10	960	<3	4	<10	39	--	1100	0.20
SEP											
08...	--	2	--	3200	--	4	--	--	1700	--	<0.10

07185095 TAR CREEK AT 22ND STREET BRIDGE AT MIAMI, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	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, TOTAL RECOV- ERABLE (UG/L AS 2N) (01092)	ZINC, DIS- SOLVED (UG/L AS 2N) (01090)
NOV 19...	<0.1	<10	60	70	<1	<1	<1.0	310	<6	8800	8800
JAN 28...	2.6	<20	--	300	<1	<1	<2.0	420	<12	--	15000
APR 01...	--	--	500	--	<1	<1	--	--	--	14000	--
MAY 27...	<0.1	--	640	--	<1	<1	--	--	--	10000	--
JUL 27...	<0.1	<10	270	260	<1	<1	<1.0	330	<6	8700	7900
SEP 08...	--	--	450	--	<1	<1	--	--	--	12000	--



Spillway at Lake Overholser near Oklahoma City

ARKANSAS RIVER BASIN
07188000 SPRING RIVER NEAR QUAPAW, OK

LOCATION.--Lat 36°56'04", long 94°44'49", in NE 1/4 SW 1/4 sec.5, T.28 N., R.24 E., Ottawa County, Hydrologic Unit 11070207, near downstream right abutment of county road bridge, 0.1 mi upstream from Rock Creek, 3.0 mi southeast of Quapaw, and at mile 13.9. Records include flow of Rock Creek.

DRAINAGE AREA.--2,510 mi², includes that of Rock Creek.

PERIOD OF RECORD.--July 1939 to current year.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 746.25 ft above National Geodetic Vertical Datum of 1929. Nonrecording gage on right bank at same datum used May 20 to Nov. 16, 1943.

REMARKS.--Records fair. Occasional releases from floodgates at old Riverton Hydroelectric plant, 15 mi upstream. U.S. Army Corps of Engineers' satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge 18,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
July 6	1600	23,000	17.47	July 24	1100	24,800	18.02
July 11	2100	37,100	21.55	Sept. 10	0900	24,800	18.04

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	DAILY MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	206	451	503	1200	565	965	623	e1260	552	889	2310	335
2	199	433	497	1180	559	956	621	1120	584	851	1860	329
3	193	381	559	1160	546	e852	607	1040	1860	811	1920	325
4	191	335	591	1130	529	826	586	973	2220	761	2490	319
5	189	311	634	1090	518	835	567	914	1130	10400	1730	308
6	189	294	684	1050	506	840	549	857	935	21600	1510	731
7	186	276	685	1010	504	830	e506	820	819	16100	1640	662
8	182	263	675	980	494	814	463	760	637	8180	1560	2210
9	179	257	641	944	485	813	469	e716	1290	2900	1330	20400
10	179	251	594	905	479	757	467	673	2540	1590	1030	23800
11	177	242	573	875	485	747	473	672	7690	27600	990	18000
12	174	239	832	851	933	719	936	710	5990	29000	919	7030
13	173	235	845	830	1030	695	1120	687	2950	15900	864	3520
14	165	236	749	826	7800	676	1180	653	2430	7400	793	2500
15	161	238	736	800	11600	656	991	715	2260	2690	680	2100
16	159	306	695	783	6010	627	1020	730	1930	5460	653	1780
17	159	722	679	755	4340	632	1370	735	1790	13100	610	1580
18	157	882	639	738	2700	903	1960	814	3010	7720	581	1330
19	154	788	606	715	1960	1940	3130	e1160	3010	4980	569	1140
20	153	831	2930	699	1730	1740	9700	e1690	2310	2580	557	1310
21	150	882	7340	682	1590	1310	14300	e2200	1750	5500	542	3030
22	155	788	e4800	679	e1480	1070	7240	2260	1470	3900	521	3750
23	163	709	3230	673	e1330	951	4000	1640	1430	12200	507	2660
24	189	675	2400	654	1230	826	2670	1000	1400	22700	500	1830
25	194	626	2010	e636	1180	759	2190	816	1320	9630	e428	1540
26	230	576	1800	606	1120	747	1880	725	1220	3240	356	1400
27	249	551	1640	606	1070	728	1560	668	1150	3170	379	1850
28	265	530	e1460	604	1030	693	1500	645	949	3160	489	2250
29	272	514	1360	589	982	672	1400	625	936	2180	306	1640
30	248	497	1310	585	---	648	1310	594	893	4710	315	1290
31	280	---	1230	576	---	641	---	565	---	4880	333	---
TOTAL	5920	14319	43927	25411	54785	26868	65388	29437	58455	255782	29272	110949
MEAN	191	477	1417	820	1889	867	2180	950	1948	8251	944	3698
MAX	280	882	7340	1200	11600	1940	14300	2260	7690	29000	2490	23800
MIN	150	235	497	576	479	627	463	565	552	761	306	308
AC-FT	11740	28400	87130	50400	108700	53290	129700	58390	115900	507300	58060	220100
CFSM	.08	.19	.56	.33	.75	.35	.87	.38	.78	3.29	.38	1.47
IN.	.09	.21	.65	.38	.81	.40	.97	.44	.87	3.79	.43	1.64

e Estimated

ARKANSAS RIVER BASIN
07188000 SPRING RIVER NEAR QUAPAW, OK--Continued

227

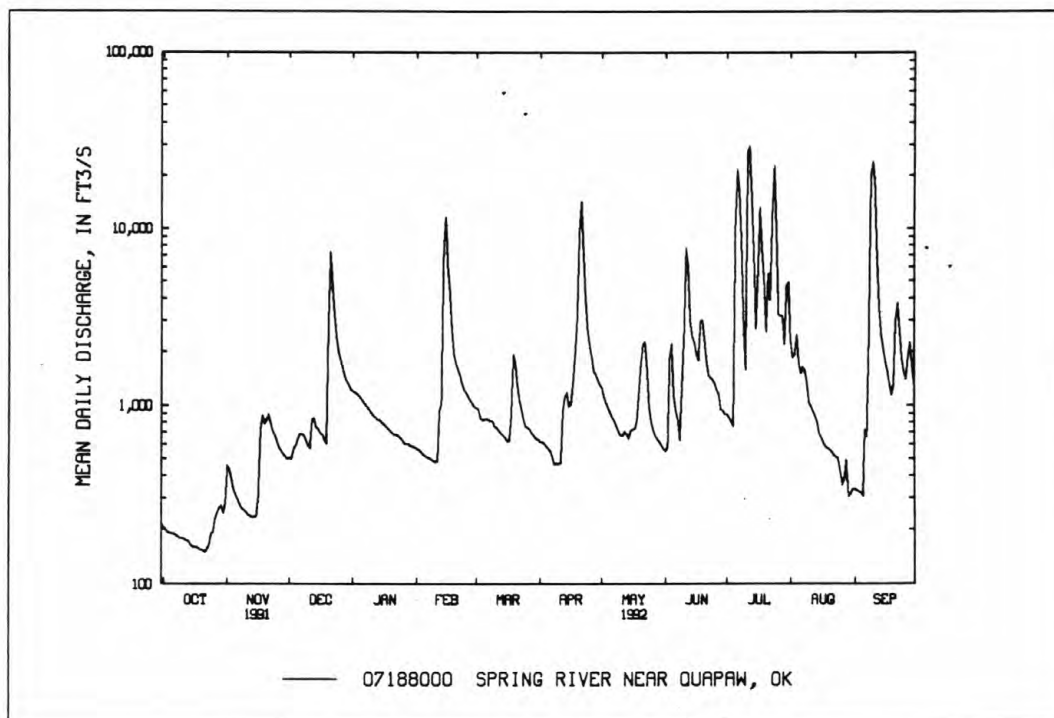
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1684	2054	1582	1469	2067	2947	3223	3368	2814	1726	797	1194
MAX	14880	14810	8008	6495	13300	12050	15100	26940	12140	10140	8622	7298
(WY)	1987	1986	1988	1973	1985	1973	1945	1943	1957	1976	1950	1945
MIN	75.8	111	116	116	129	123	169	481	233	34.3	29.3	76.0
(WY)	1957	1954	1964	1964	1954	1954	1954	1964	1954	1954	1954	1953

SUMMARY STATISTICS	1991 CALENDAR YEAR		1992 WATER YEAR		WATER YEARS 1940-92	
ANNUAL TOTAL	359773		720513			
ANNUAL MEAN	986		1969		2074	
HIGHEST ANNUAL MEAN					5101	
LOWEST ANNUAL MEAN					191	
HIGHEST DAILY MEAN	16500	Jan 16	29000	Jul 12	169000	May 19 1943
LOWEST DAILY MEAN	117	Aug 21	150	Oct 21	5.8	Jul 8 1954
ANNUAL SEVEN-DAY MINIMUM	123	Aug 18	155	Oct 16	7.3	Sep 12 1954
INSTANTANEOUS PEAK FLOW			37100	Jul 11	^a 190000	May 19 1943
INSTANTANEOUS PEAK STAGE			21.55	Jul 11	^b 43.4	May 19 1943
ANNUAL RUNOFF (AC-FT)	713600		1429000		1503000	
ANNUAL RUNOFF (CFSM)	.39		.78		.83	
ANNUAL RUNOFF (INCHES)	5.33		10.68		11.23	
10 PERCENT EXCEEDS	2130		3590		4120	
50 PERCENT EXCEEDS	636		826		802	
90 PERCENT EXCEEDS	164		264		198	

^aFrom rating curve extended above 54,000 ft³/s, on basis of slope-area measurement of peak flow.

^bFrom floodmark.



ARKANSAS RIVER BASIN
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 43, 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 National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Sept. 6, 1960 to Aug. 25, 1961, at site 100 ft downstream.

REMARKS.--No estimated daily discharges. 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)
------	------	-----------------------------------	---------------------	------	------	-----------------------------------	---------------------

June 10	1830	31,700	20.33	No other peaks greater than base discharge.			
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DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	345	396	814	257	590	260	588	589	567	514	123
2	89	460	457	774	255	567	248	535	579	534	439	145
3	84	437	995	718	255	538	243	474	589	496	404	137
4	76	376	1420	679	248	516	242	414	619	464	407	127
5	68	324	1210	662	238	498	237	358	567	484	398	115
6	65	262	970	633	233	489	236	319	1240	831	387	100
7	64	218	809	610	227	456	231	290	4240	642	359	120
8	63	192	706	587	214	435	224	272	2990	545	331	277
9	62	179	594	554	207	463	218	259	2950	503	311	614
10	62	162	521	493	218	477	214	247	16100	468	287	1220
11	59	146	486	477	249	467	215	240	10800	425	302	1480
12	58	127	477	477	501	463	214	254	6340	397	302	929
13	58	114	528	458	1360	463	213	272	3920	365	302	739
14	57	107	491	429	2450	456	207	238	2680	336	277	640
15	54	99	443	412	3390	426	201	233	2620	313	257	571
16	54	148	436	382	2490	409	192	224	2360	301	237	513
17	56	617	425	374	1910	391	281	214	1890	312	230	456
18	56	1640	392	366	1530	394	591	225	1620	306	211	422
19	54	1310	377	327	1290	400	503	256	1430	287	206	405
20	53	978	1450	310	1150	388	910	327	1230	273	209	427
21	54	1030	6610	316	1060	376	2030	398	1070	258	191	678
22	56	1080	4810	316	985	370	1750	406	965	267	173	939
23	57	892	3070	316	922	356	1360	384	888	280	167	925
24	56	683	2170	296	856	349	1170	366	865	283	163	738
25	61	563	1650	291	799	345	1050	354	824	249	153	606
26	118	464	1380	286	735	322	941	316	776	234	141	534
27	150	406	1210	285	710	313	840	288	735	227	134	485
28	203	371	1100	281	663	297	758	296	680	208	143	430
29	216	341	1000	268	615	289	674	360	634	206	137	380
30	235	311	921	267	---	285	656	484	605	250	126	351
31	246	---	852	260	---	277	---	574	---	385	115	---
TOTAL	2744	14382	38356	13718	26017	12865	17109	10465	73395	11696	8013	15626
MEAN	88.5	479	1237	443	897	415	570	338	2446	377	258	521
MAX	246	1640	6610	814	3390	590	2030	588	16100	831	514	1480
MIN	53	99	377	260	207	277	192	214	567	206	115	100
AC-FT	5440	28530	76080	27210	51600	25520	33940	20760	145600	23200	15890	30990
CFSM	.10	.55	1.42	.51	1.03	.48	.65	.39	2.81	.43	.30	.60
IN.	.12	.61	1.64	.59	1.11	.55	.73	.45	3.13	.50	.34	.67

ARKANSAS RIVER BASIN
07189000 ELK RIVER NEAR TIFF CITY, MO--Continued

229

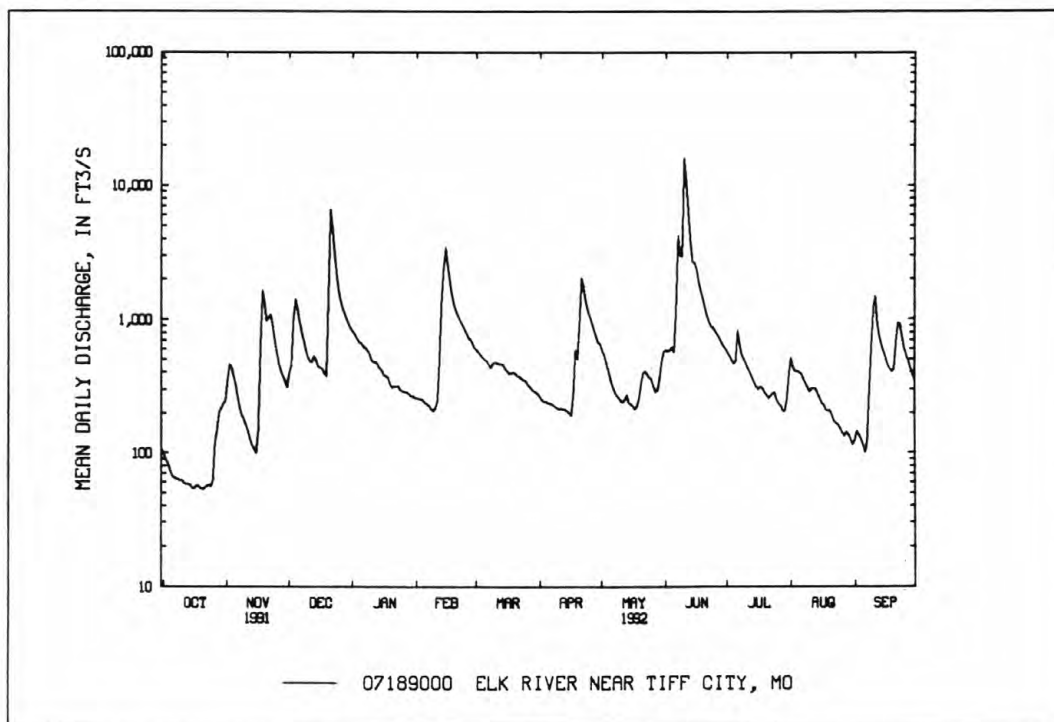
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	436	677	723	657	853	1301	1618	1530	919	452	271	275
MAX	2938	4094	3430	2509	2971	5020	6119	8964	4160	2565	2418	1851
(WY)	1942	1975	1988	1985	1951	1945	1945	1943	1974	1976	1950	1950
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

SUMMARY STATISTICS	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1940-92
ANNUAL TOTAL	244734	244386	
ANNUAL MEAN	671	668	811
HIGHEST ANNUAL MEAN			1783 1945
LOWEST ANNUAL MEAN			135 1954
HIGHEST DAILY MEAN	11800	Apr 14 16100	Jun 10 68600 Apr 19 1941
LOWEST DAILY MEAN	53	Aug 20 53	Oct 20 5.1 Sep 5 1954
ANNUAL SEVEN-DAY MINIMUM	54	Oct 15 54	Oct 15 5.6 Sep 2 1954
INSTANTANEOUS PEAK FLOW		31700	Jun 10 ^a 137000 Apr 19 1941
INSTANTANEOUS PEAK STAGE		20.33	Jun 10 ^b 28.4 Apr 19 1941
ANNUAL RUNOFF (AC-FT)	485400	484700	587900
ANNUAL RUNOFF (CFSM)	.77	.77	.93
ANNUAL RUNOFF (INCHES)	10.44	10.43	12.64
10 PERCENT EXCEEDS	1400	1220	1680
50 PERCENT EXCEEDS	349	389	329
90 PERCENT EXCEEDS	70	127	84

^aFrom rating curve extended above 60,000 ft³/s on basis of slope-area measurement of peak flow.

^bFrom flood mark.



LOCATION.--Lat 36°28'07", long 95°02'28", in SW 1/4 SW 1/4 sec.14, T.23 N., R.21 E., Mayes County, Hydrologic Unit 11070209, 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 National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers' benchmark). Prior to Nov. 14, 1941, nonrecording gage at same site and datum.

REMARKS.--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 662.0 ft is 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, 1,831,000 acre-ft, July 13, gage height, 748.31 ft; minimum, 1,437,000 acre-ft, Nov. 13, gage height, 739.63.

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	1,425,000	755	2,197,000

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1503000	1490000	1499000	1552000	1500000	1511000	1494000	1574000	1664000	1672000	1764000	1595000
2	1500000	1486000	1498000	1543000	1501000	1511000	1486000	1581000	1670000	1673000	1762000	1597000
3	1497000	1478000	1502000	1535000	1502000	1515000	1481000	1579000	1675000	1673000	1745000	1595000
4	1498000	1468000	1501000	1529000	1506000	1519000	1487000	1579000	1679000	1676000	1738000	1590000
5	1497000	1462000	1494000	1522000	1504000	1520000	1488000	1583000	1680000	1688000	1731000	1587000
6	1496000	1459000	1481000	1521000	1504000	1519000	1485000	1583000	1687000	1733000	1717000	1592000
7	1495000	1451000	1484000	1520000	1504000	1524000	1483000	1584000	1685000	1768000	1710000	1591000
8	1494000	1447000	1490000	1518000	1505000	1524000	1481000	1588000	1679000	1789000	1713000	1599000
9	1495000	1441000	1492000	1515000	1499000	1523000	1474000	1590000	1676000	1782000	1723000	1636000
10	1495000	1442000	1494000	1512000	1501000	1515000	1470000	1591000	1698000	1766000	1733000	1690000
11	1496000	1442000	1497000	1510000	1501000	1512000	1471000	1598000	1745000	1785000	1737000	1722000
12	1496000	1438000	1503000	1509000	1499000	1516000	1474000	1601000	1769000	1818000	1737000	1722000
13	1495000	1438000	1506000	1507000	1500000	1520000	1474000	1603000	1762000	1823000	1740000	1712000
14	1494000	1440000	1509000	1504000	1520000	1522000	1476000	1605000	1754000	1825000	1740000	1702000
15	1494000	1440000	1512000	1499000	1561000	1527000	1480000	1605000	1753000	1807000	1738000	1696000
16	1493000	1447000	1511000	1496000	1572000	1531000	1486000	1607000	1749000	1772000	1736000	1687000
17	1491000	1453000	1510000	1497000	1569000	1537000	1489000	1611000	1743000	1770000	1731000	1679000
18	1491000	1462000	1504000	1496000	1564000	1537000	1494000	1616000	1741000	1768000	1721000	1672000
19	1490000	1469000	1499000	1494000	1557000	1534000	1496000	1622000	1740000	1777000	1713000	1659000
20	1489000	1471000	1514000	1495000	1548000	1539000	1517000	1626000	1735000	1766000	1704000	1657000
21	1488000	1476000	1586000	1497000	1543000	1540000	1576000	1632000	1726000	1760000	1692000	1660000
22	1488000	1482000	1604000	1497000	1538000	1536000	1616000	1639000	1711000	1747000	1678000	1651000
23	1488000	1483000	1621000	1497000	1532000	1533000	1624000	1647000	1699000	1745000	1664000	1651000
24	1489000	1489000	1621000	1494000	1524000	1533000	1620000	1649000	1688000	1766000	1649000	1655000
25	1491000	1489000	1619000	1500000	1515000	1527000	1613000	1647000	1676000	1767000	1633000	1657000
26	1492000	1490000	1614000	1502000	1511000	1524000	1605000	1649000	1669000	1761000	1617000	1660000
27	1492000	1493000	1606000	1504000	1512000	1520000	1594000	1651000	1669000	1760000	1607000	1659000
28	1497000	1496000	1596000	1503000	1512000	1515000	1585000	1649000	1673000	1763000	1604000	1652000
29	1498000	1497000	1586000	1499000	1512000	1512000	1580000	1647000	1675000	1765000	1602000	1641000
30	1497000	1501000	1575000	1499000	---	1510000	1577000	1648000	1673000	1755000	1600000	1639000
31	1492000	---	1563000	1499000	---	1503000	---	1651000	---	1764000	1598000	---

ARKANSAS RIVER BASIN

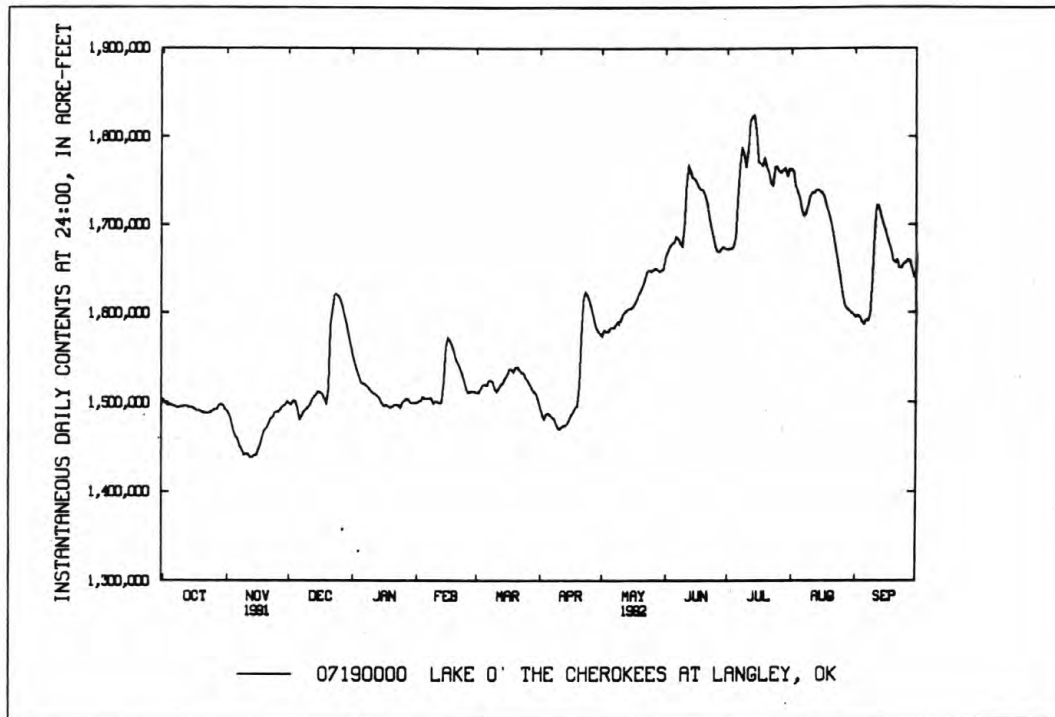
231

07190000 LAKE O' THE CHEROKEES AT LANGLEY, OK--Continued

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MAX	1503000	1501000	1621000	1552000	1572000	1540000	1624000	1651000	1769000	1825000	1764000	1722000
MIN	1488000	1438000	1481000	1494000	1499000	1503000	1470000	1574000	1664000	1672000	1598000	1587000
(+)	740.96	741.16	742.58	741.13	741.43	741.21	742.90	744.54	745.03	746.93	743.36	744.28
(++)	-12,000	+9,000	+62,000	-64,000	+13,000	-9,000	+74,000	+74,000	+22,000	+91,000	-166,000	+41,000
CAL YR 1991	MAX 1726000		MIN 1438000		(++) -4,000							
WTR YR 1992	MAX 1825000		MIN 1438000		(++) +135,000							

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

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



ARKANSAS RIVER BASIN
07190500 NEOSHO RIVER NEAR LANGLEY, OK

LOCATION.--Lat 36°26'20", long 95°02'54", in SW 1/4, SE 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 National Geodetic Vertical Datum of 1929 (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 0719000).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1050	3320	1910	8300	634	2500	7650	4790	25	3300	28100	1660
2	1500	3270	3050	7640	670	2070	6230	868	1690	3690	28100	145
3	1200	4700	25	6520	330	25	4410	3600	9020	1160	27400	2370
4	443	4240	2130	5890	25	186	1330	2160	10200	1610	23700	3170
5	449	3750	6920	6580	1570	2210	2130	150	9850	6910	18900	2340
6	25	2760	8110	4380	831	2290	3620	130	9840	13300	18500	42
7	30	4270	885	2370	785	4090	3550	25	9750	20100	15400	1770
8	65	4130	25	3400	226	6460	3720	25	10000	23700	10900	2340
9	146	3050	541	4140	4370	6490	5160	25	10300	24000	11300	6800
10	25	25	577	3680	1120	6420	3230	25	11100	19800	11500	11500
11	25	89	308	2580	1860	3500	3740	25	11500	27300	10300	11900
12	25	63	27	3040	6020	1560	1540	386	12000	39200	11100	11900
13	25	25	2020	2920	4820	1130	4030	716	13900	49800	11100	11800
14	174	25	419	2530	6410	39	2820	354	13600	48500	11200	8830
15	165	1970	257	4920	11000	25	285	188	13300	36900	11200	6910
16	778	605	1670	3160	11300	25	419	1690	13100	33700	11200	7760
17	629	25	4060	2210	11200	235	4660	25	13100	38300	11200	6580
18	330	415	4450	1050	9830	3190	5950	25	12100	38200	11200	7250
19	140	248	5860	1160	10100	4830	8720	25	11100	28500	11200	7330
20	25	3600	6910	1340	9260	3720	11000	88	11200	21200	11200	7480
21	186	836	8250	391	7260	9200	11300	25	11200	19300	11200	9190
22	173	311	7240	1580	6720	9280	11300	25	11300	19300	11100	10800
23	267	881	8390	1930	7060	9440	11200	25	11200	21700	11100	7060
24	363	249	7680	486	7810	8740	11200	25	10600	30800	11100	4820
25	261	809	7120	25	6450	9210	11200	55	9870	36100	10700	4620
26	1230	356	8040	75	4530	9130	11200	1380	8780	35800	10800	5760
27	46	381	8270	765	2200	8590	11000	522	6150	35600	7900	6430
28	30	25	8520	1830	2100	9840	9860	217	556	35600	4060	9280
29	989	878	8430	2990	2820	8360	7830	1710	2050	35800	3840	8750
30	2150	658	8470	912	---	e5010	6480	883	3260	30900	3420	7150
31	1890	---	8390	1370	---	7540	---	25	---	24800	3460	---
TOTAL	14834	45964	138954	90164	139311	145335	186764	20212	281641	804870	393380	193737
MEAN	479	1532	4482	2909	4804	4688	6225	652	9388	25960	12690	6458
MAX	2150	4700	8520	8300	11300	9840	11300	4790	13900	49800	28100	11900
MIN	25	25	25	25	25	25	285	25	25	1160	3420	42
AC-FT	29420	91170	275600	178800	276300	288300	370400	40090	558600	1596000	780300	384300

e Estimated

ARKANSAS RIVER BASIN
07190500 NEOSHO RIVER NEAR LANGLEY, OK--Continued

233

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1992, BY WATER YEAR (WY)

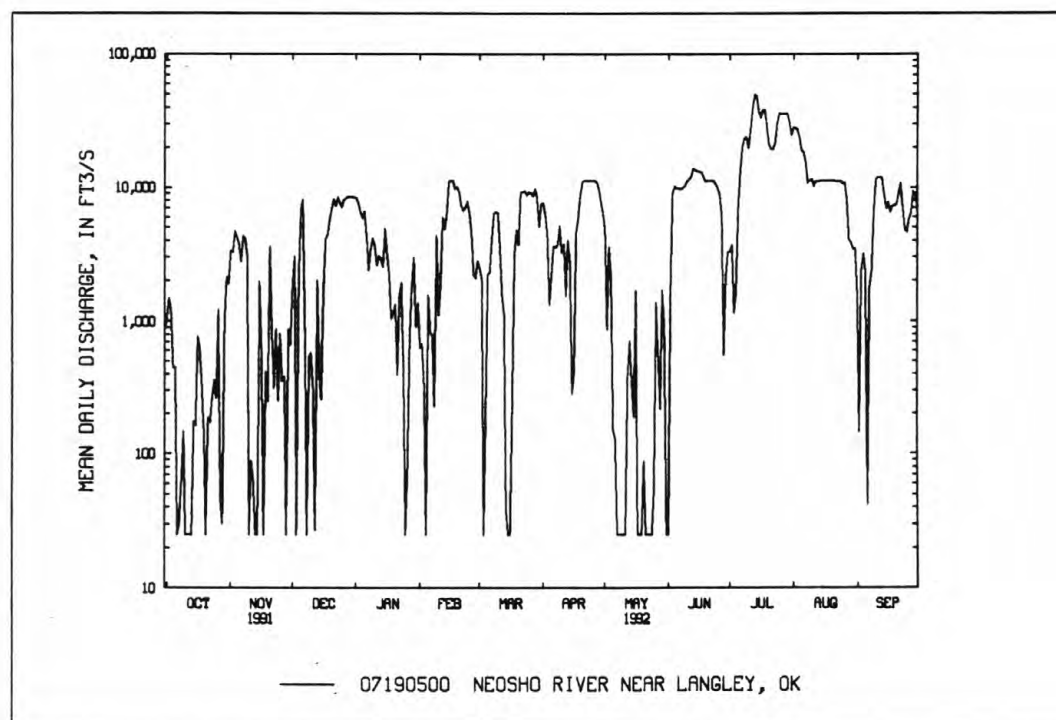
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6145	6234	5006	4506	5820	8297	10830	11010	10490	8778	4202	4927
MAX	51120	38870	25200	18900	23460	33250	50780	77710	32490	67920	20910	21310
(WY)	1987	1986	1974	1973	1949	1973	1945	1943	1957	1951	1950	1951
MIN	37.5	63.0	40.9	144	243	321	38.1	71.4	33.1	26.5	25.6	77.1
(WY)	1981	1957	1981	1954	1981	1967	1971	1940	1940	1940	1940	1953

SUMMARY STATISTICS	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1940-92
ANNUAL TOTAL	1094729	2455166	
ANNUAL MEAN	2999	6708	7187
HIGHEST ANNUAL MEAN			15520 1973
LOWEST ANNUAL MEAN			210 1940
HIGHEST DAILY MEAN	12400	Jan 26 49800	Jul 13 287000 May 20 1943
LOWEST DAILY MEAN	25	Feb 27 25	at times ^a 9.0 Mar 25 1940
ANNUAL SEVEN-DAY MINIMUM	27	Aug 27 34	May 17 15 Apr 11 1971
INSTANTANEOUS PEAK FLOW		62300	Jul 13 ^b 300000 May 20 1943
INSTANTANEOUS PEAK STAGE		21.87	Jul 13 ^c 45.50 May 20 1943
ANNUAL RUNOFF (AC-FT)	2171000	4870000	5207000
10 PERCENT EXCEEDS	9020	13200	15000
50 PERCENT EXCEEDS	1310	3930	3700
90 PERCENT EXCEEDS	25	41	93

^aCaused by closure of Pensacola Dam.

^bFrom computation of outflow 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.

GAGE.--Water-stage recorder. Datum of gage is 622.00 ft, National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Sept. 30, 1972, water-stage recorder at site 4.5 mi downstream at same datum.

REMARKS.--No estimated daily discharges. Records fair. Low flow sustained in part by sewage from city of Vinita. U.S. Army Corps of Engineers' 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)
Dec. 21	0830	15,900	35.92	June 3	0830	9,820	30.16

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	971	157	367	58	62	29	46	53	18	10	1.3
2	1.7	250	378	484	57	59	29	39	1350	19	8.5	1.2
3	1.5	107	678	284	55	56	29	32	8560	21	8.9	1.1
4	1.3	72	308	201	52	55	28	29	1350	22	56	1.0
5	1.3	58	178	164	50	64	26	27	399	186	117	.94
6	1.3	49	127	143	48	114	25	24	2530	301	57	1.4
7	1.4	45	102	129	46	108	25	22	2240	98	37	2.1
8	1.4	40	90	120	44	76	24	20	450	48	26	16
9	1.4	35	78	106	45	66	26	20	244	26	19	269
10	1.4	30	66	91	56	58	25	18	199	17	16	933
11	1.4	29	58	83	122	55	23	43	160	12	21	294
12	1.6	28	1920	81	2690	47	24	153	456	7.7	22	85
13	1.9	28	1250	84	1130	42	27	95	175	4.8	16	46
14	2.1	26	318	119	3300	41	30	88	213	5.3	12	29
15	2.4	26	168	136	4530	40	30	159	1220	7.9	10	20
16	2.8	1550	123	107	614	40	29	75	386	21	10	15
17	3.1	3890	100	83	373	40	29	102	168	63	11	12
18	3.2	1020	84	78	263	51	31	264	103	23	9.8	9.5
19	3.2	303	76	73	188	142	150	122	85	13	9.0	11
20	3.2	735	7200	69	152	93	1010	83	73	8.1	8.4	20
21	3.2	728	14200	68	131	67	1060	84	54	9.7	8.3	2230
22	3.2	264	1980	72	113	53	294	56	40	18	7.6	504
23	3.2	141	1020	89	103	46	154	32	32	23	6.7	140
24	3.4	96	771	95	95	40	95	24	27	558	5.7	71
25	4.0	76	407	87	85	36	68	21	25	253	4.6	45
26	5.0	70	290	72	80	34	52	20	22	86	3.3	34
27	5.6	64	237	65	76	32	43	19	19	45	2.3	34
28	91	62	207	62	72	31	37	26	16	25	1.9	24
29	97	59	195	60	66	30	36	82	15	17	1.7	18
30	78	274	173	60	---	29	42	99	17	15	1.5	15
31	150	---	150	58	---	29	---	63	---	13	1.3	---
TOTAL	483.1	11126	33089	3790	14694	1736	3530	1987	20681	1984.5	529.5	4883.54
MEAN	15.6	371	1067	122	507	56.0	118	64.1	689	64.0	17.1	163
MAX	150	3890	14200	484	4530	142	1060	264	8560	558	117	2230
MIN	1.3	26	58	58	44	29	23	18	15	4.8	1.3	.94
AC-FT	958	22070	65630	7520	29150	3440	7000	3940	41020	3940	1050	9690
CFSM	.03	.82	2.37	.27	1.13	.12	.26	.14	1.53	.14	.04	.36
IN.	.04	.92	2.74	.31	1.21	.14	.29	.16	1.71	.16	.04	.40

ARKANSAS RIVER BASIN
07191000 BIG CABIN CREEK NEAR BIG CABIN, OK--Continued

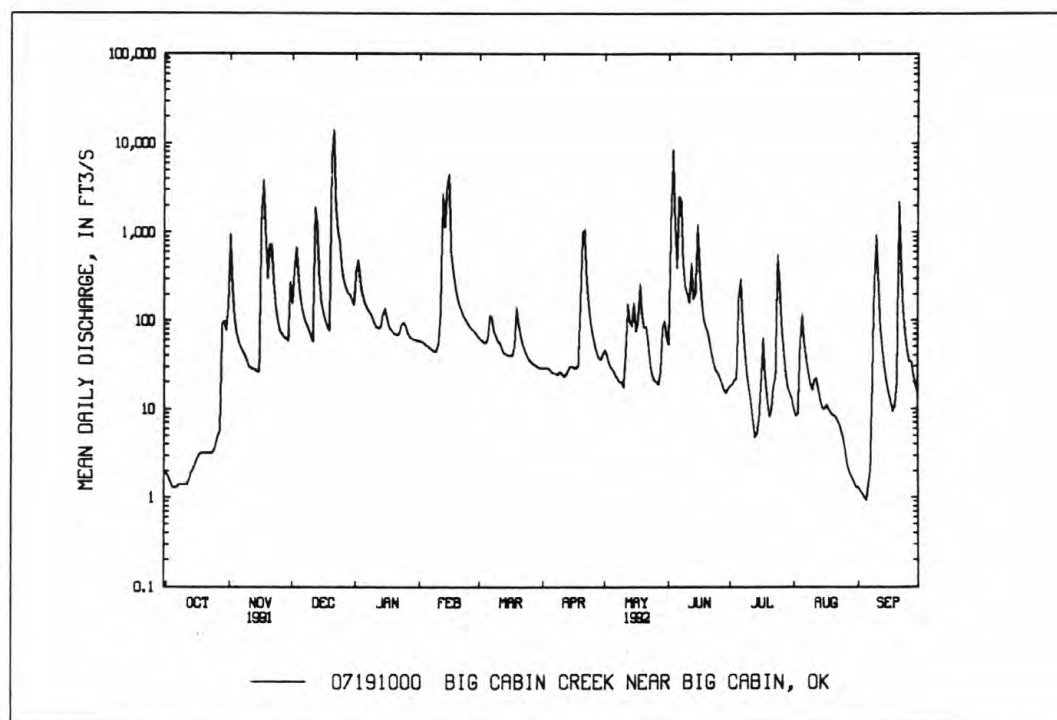
235

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	276	367	260	209	307	573	450	543	412	223	94.5	204
MAX	4250	2844	1614	1157	2940	2621	1931	3580	2817	1947	1757	1891
(WY)	1960	1986	1988	1973	1985	1990	1983	1961	1948	1958	1948	1961
MIN	.22	.89	1.52	1.29	1.50	1.37	29.9	20.3	2.47	.53	.41	.22
(WY)	1957	1956	1956	1954	1954	1956	1954	1963	1988	1954	1954	1954

SUMMARY STATISTICS	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1948-92
ANNUAL TOTAL	102829.07	98513.64	
ANNUAL MEAN	282	269	326
HIGHEST ANNUAL MEAN			883 1973
LOWEST ANNUAL MEAN			37.9 1956
HIGHEST DAILY MEAN	14200 Dec 21	14200 Dec 21	46300 Oct 3 1959
LOWEST DAILY MEAN	.57 Jul 13	.94 Sep 5	.10 at times
ANNUAL SEVEN-DAY MINIMUM	.96 Aug 4	1.2 Aug 31	.11 Sep 11 1956
INSTANTANEOUS PEAK FLOW		15900 Dec 21	^a 52000 Oct 3 1959
INSTANTANEOUS PEAK STAGE		35.92 Dec 21	46.65 Feb 23 1985
ANNUAL RUNOFF (AC-FT)	204000	195400	236400
ANNUAL RUNOFF (CFSM)	.63	.60	.73
ANNUAL RUNOFF (INCHES)	8.50	8.14	9.85
10 PERCENT EXCEEDS	393	390	468
50 PERCENT EXCEEDS	58	53	30
90 PERCENT EXCEEDS	1.5	3.4	1.5

^aGage height, 34.55 ft at former site.



ARKANSAS RIVER BASIN
07191220 SPAVINAW CREEK NEAR SYCAMORE, OK

LOCATION.--Lat 36°20'07", long 94°38'27", in NE 1/4 NW 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.

DRAINAGE AREA.--133 mi².

PERIOD OF RECORD.--October 1961 to current year.

REVISED RECORDS.--WSP 2121: 1965 (M).

GAGE.--Water-stage recorder. Elevation of gage is 875 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--According to local residents, a flood of approximately the same magnitude as the July 27, 1975 flood occurred in the early 1880's.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	69	76	108	49	73	46	73	117	60	47	29
2	20	115	101	102	48	70	46	69	106	59	52	29
3	19	106	199	96	48	69	45	65	460	57	53	28
4	18	88	220	92	48	67	45	62	326	55	69	28
5	18	74	187	87	47	66	44	59	216	63	79	28
6	17	66	157	84	46	65	44	57	930	71	75	28
7	17	61	134	82	46	64	44	56	732	70	69	27
8	17	57	115	79	45	63	43	54	433	64	64	27
9	17	54	101	75	45	64	43	52	424	59	61	28
10	16	51	91	72	45	64	43	51	475	56	58	32
11	16	47	83	69	46	63	43	50	373	53	55	36
12	16	45	85	67	122	62	43	49	319	52	51	44
13	16	43	91	67	278	61	42	49	257	49	50	45
14	15	42	92	66	307	60	42	50	218	47	50	43
15	15	40	87	64	299	59	42	49	230	45	49	41
16	15	56	83	62	256	57	41	49	220	45	46	38
17	15	326	79	60	215	57	42	48	191	44	44	36
18	15	422	74	59	183	56	45	54	164	45	41	34
19	15	307	71	57	156	55	130	58	142	45	40	32
20	15	256	644	56	135	55	295	61	128	45	39	31
21	15	231	1210	55	120	53	438	66	111	43	39	31
22	15	208	635	55	109	53	326	67	100	43	38	31
23	15	173	461	54	102	52	251	109	93	43	36	32
24	16	142	363	54	97	51	200	137	87	42	35	32
25	16	119	298	52	92	50	161	112	82	42	34	32
26	19	103	248	52	86	50	132	95	77	41	34	31
27	23	93	203	51	82	49	110	83	72	40	33	31
28	29	83	172	50	78	48	97	82	68	39	32	30
29	34	77	148	50	75	48	88	119	65	40	31	28
30	39	73	130	49	---	47	79	137	63	42	30	27
31	44	---	113	49	---	47	---	133	---	44	30	---
TOTAL	601	3627	6751	2075	3305	1798	3090	2255	7279	1543	1464	969
MEAN	19.4	121	218	66.9	114	58.0	103	72.7	243	49.8	47.2	32.3
MAX	44	422	1210	108	307	73	438	137	930	71	79	45
MIN	15	40	71	49	45	47	41	48	63	39	30	27
AC-FT	1190	7190	13390	4120	6560	3570	6130	4470	14440	3060	2900	1920
CFSM	.15	.91	1.64	.50	.86	.44	.77	.55	1.82	.37	.36	.24
IN.	.17	1.01	1.89	.58	.92	.50	.86	.63	2.04	.43	.41	.27

ARKANSAS RIVER BASIN

237

07191220 SPAVINAW CREEK NEAR SYCAMORE, OK--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	61.5	111	120	100	115	186	204	140	138	61.8	30.3	49.5
MAX	382	683	513	297	301	563	600	550	880	483	78.5	248
(WY)	1987	1974	1985	1973	1985	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

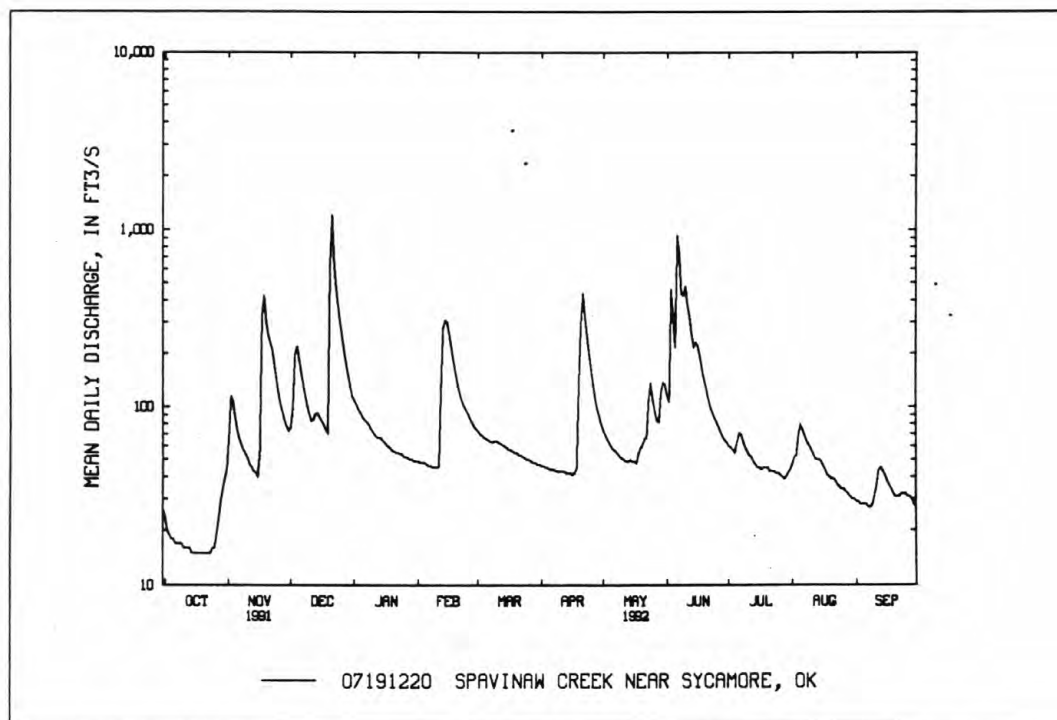
SUMMARY STATISTICS

1991 CALENDAR YEAR

1992 WATER YEAR

WATER YEARS 1962 - 92

ANNUAL TOTAL	35216		34757			
ANNUAL MEAN	96.5		95.0		109	
HIGHEST ANNUAL MEAN					265	1974
LOWEST ANNUAL MEAN					18.0	1967
HIGHEST DAILY MEAN	1210	Dec 21	1210	Dec 21	11700	Jul 27 1975
LOWEST DAILY MEAN	14	Aug 5	15	Oct 14-23	1.3	Aug 9 1964
ANNUAL SEVEN-DAY MINIMUM	14	Aug 5	15	Oct 14	1.6	Aug 9 1964
INSTANTANEOUS PEAK FLOW			1680	Dec 20	39800	Jul 27 1975
INSTANTANEOUS PEAK STAGE			8.05	Dec 20	22.07	Jul 27 1975
INSTANTANEOUS LOW FLOW			15	Oct 12-24	1.2	Aug 9 1964
ANNUAL RUNOFF (AC-FT)	69850		68940		79310	
ANNUAL RUNOFF (CFSM)	.73		.71		.82	
ANNUAL RUNOFF (INCHES)	9.85		9.72		11.18	
10 PERCENT EXCEEDS	227		210		221	
50 PERCENT EXCEEDS	65		56		52	
90 PERCENT EXCEEDS	15		29		13	



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 National Geodetic Vertical Datum of 1929.

REMARKS.--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 OUTSIDE PERIOD OF RECORD.--Flood of April 1942 reached a stage of 689.13 ft, contents unknown.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 33,500 acre-ft, Dec. 21, elevation 681.73 ft; minimum, 25,900 acre-ft, Nov. 23, elevation 677.15 ft.

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

676	24,300	679	28,960
677	25,400	680	30,600
678	27,690	682	34,000

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29600	28600	30200	30900	30700	30800	30600	30800	30900	30900	30000	30400
2	29600	28200	30700	30900	30700	30800	30600	30800	31000	30900	30200	30600
3	29600	28200	31000	30900	30700	30800	30600	30800	31900	30900	30300	30700
4	29600	28200	31000	30900	30600	30800	30600	30700	31800	30900	30700	30800
5	29800	28100	31000	30900	30600	30800	30600	30700	31500	30900	30800	30800
6	29800	28000	31000	30800	30700	30700	30600	30700	32400	30800	30800	30800
7	29800	27900	31000	30800	30700	30700	30600	30700	32400	30700	30800	30800
8	29800	27800	30900	30800	30700	30800	30600	30700	31800	30600	30800	30900
9	29800	27700	30900	30800	30700	30800	30600	30700	31500	30500	30800	30900
10	29900	27600	30900	30800	30700	30800	30700	30700	31700	30400	30800	30800
11	29900	27500	30900	30800	30800	30800	30600	30800	31400	30300	30700	30800
12	29900	27400	30900	30800	30900	30800	30500	30700	31300	30200	30700	30600
13	29900	27300	30900	30800	31000	30800	30500	30700	31100	30100	30700	30500
14	29900	27200	30900	30800	31400	30800	30500	30700	31100	30100	30600	30400
15	29900	27100	30900	30800	31500	30700	30600	30700	31100	30000	30600	30300
16	29800	27300	30900	30800	31300	30700	30600	30700	31000	30100	30600	30200
17	29700	27200	30900	30700	31100	30700	30700	30700	31000	30000	30500	30000
18	29600	27200	30800	30700	31100	30700	30700	30700	31000	29900	30400	29900
19	29500	27000	30900	30700	31000	30700	30800	30700	30900	29800	30400	29800
20	29300	26800	32500	30700	31000	30700	31000	30800	30900	29900	30300	29800
21	29200	26500	33200	30700	30900	30700	31300	30700	30800	30100	30200	29700
22	29100	26200	32100	30700	30900	30700	31300	30700	30800	30100	30100	29600
23	29000	26000	31200	30700	30900	30700	31100	30700	30800	30100	30100	29400
24	29000	27100	31300	30700	30800	30700	31000	30900	30800	30000	30000	29300
25	29000	27600	31200	30700	30800	30700	31000	31000	30800	29900	30000	29200
26	29000	28100	31100	30700	30800	30700	30900	30900	30800	29900	30000	29100
27	28900	28500	31000	30700	30800	30700	30900	30800	30800	29800	29900	29000
28	28900	29000	31000	30700	30800	30700	30900	30900	30800	29800	29900	28900
29	28700	29500	31000	30700	30800	30700	30800	30900	30800	29800	30000	28700
30	28700	29800	30900	30700	---	30600	30800	30900	30900	29900	30100	28700
31	28700	---	30900	30700	---	30700	---	30900	---	29900	30200	---

ARKANSAS RIVER BASIN
07191300 SPAVINAW LAKE AT SPAVINAW, OK--Continued

239

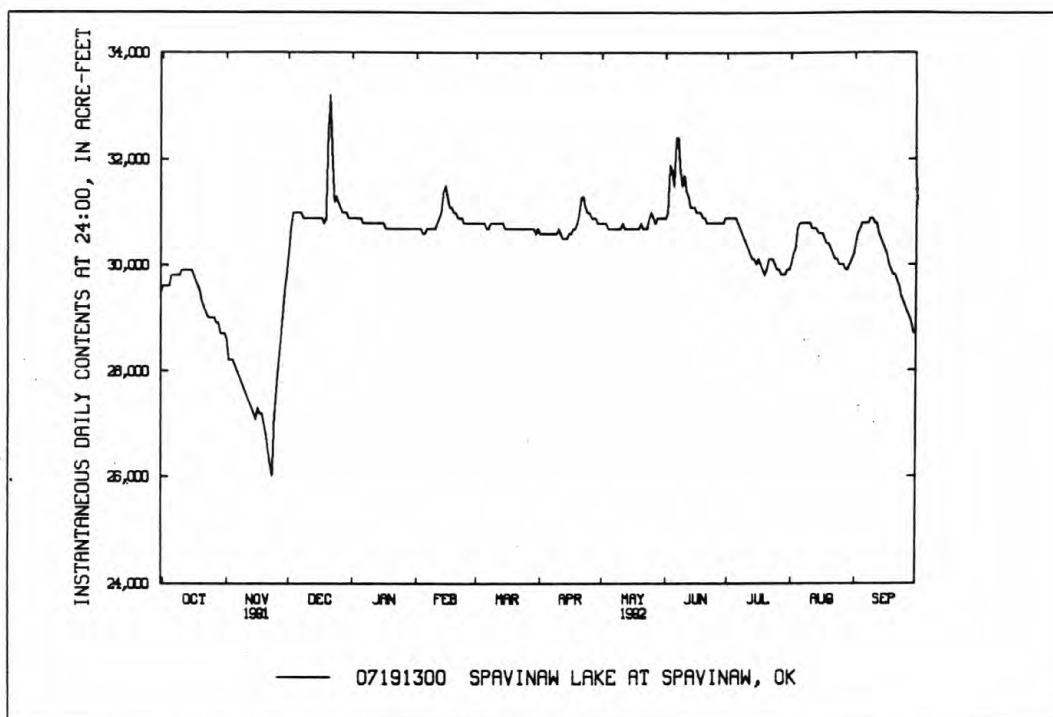
TOTAL	912900	830600	964000	953800	895400	952800	922600	953800	935800	937200	942000	901400
MEAN	29400	27700	31100	30800	30900	30700	30800	30800	31200	30200	30400	30000
MAX	29900	29800	33200	30900	31500	30800	31300	31000	32400	30900	30800	30900
MIN	28700	26000	30200	30700	30600	30600	30500	30700	30800	29800	29900	28700
(+)	678.79	679.56	680.33	680.11	680.19	680.06	680.23	680.30	680.32	679.61	679.78	678.81
(++)	-800	+1,100	+1,100	-200	+100	-100	+100	+100	0	-1,000	+300	-1,500

WTR YR 1992 TOTAL 11102300 MEAN 30300 MAX 33200 MIN 26000 (++) -800

e Estimated

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

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



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 National Geodetic Vertical Datum of 1929.

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 gages, 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.

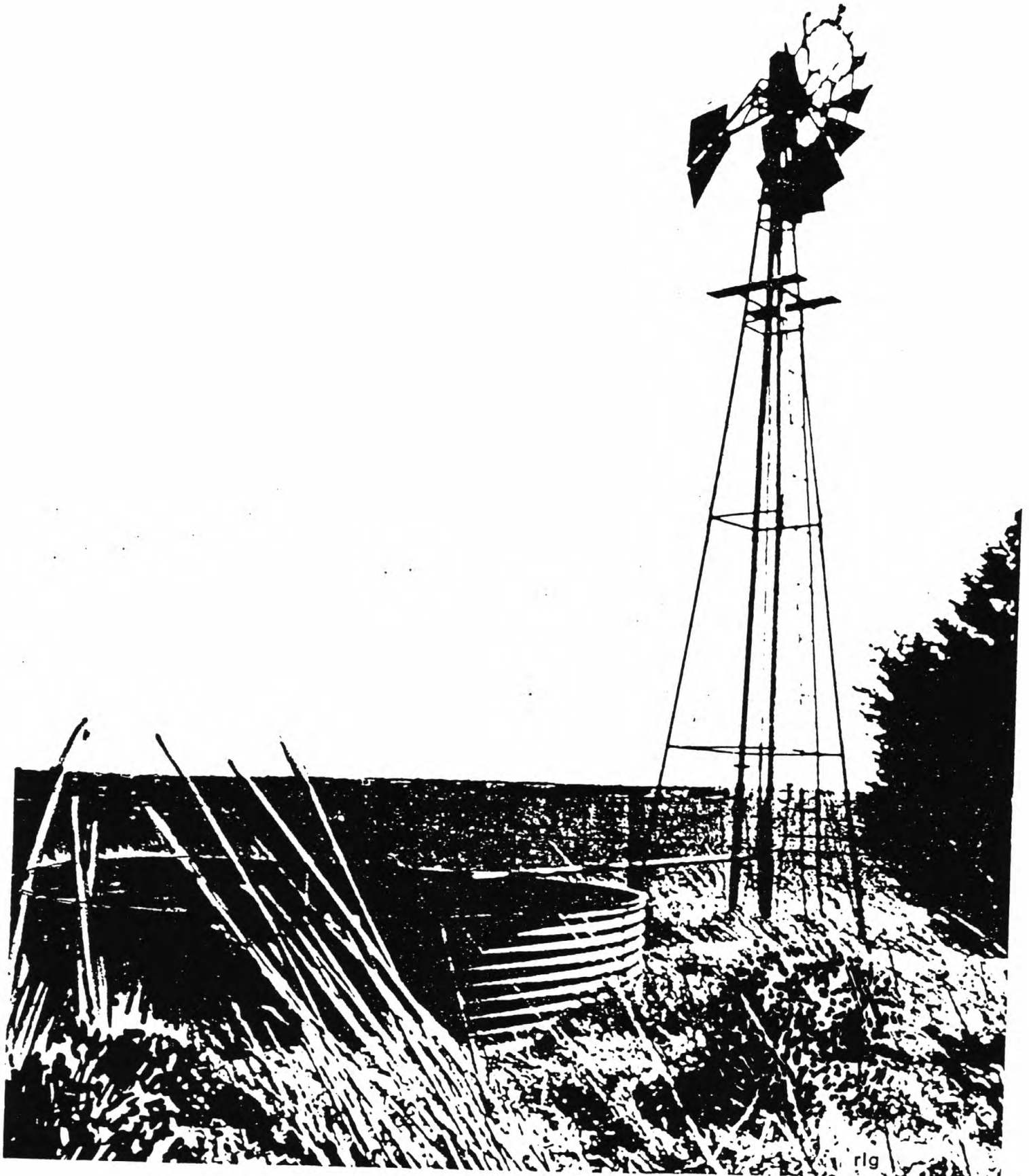
COOPERATION.--Records provided by Grand River Dam Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 443,600 acre-ft, Oct. 4, 1986, 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, 249,700 acre-ft, Dec. 22, elevation, 623.25 ft; minimum, 199,200 acre-ft, Mar. 8, elevation, 618.90 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	619.50	205,800	-
Oct. 31.....	619.40	204,700	-1,100
Nov. 30.....	619.21	202,600	-2,100
Dec. 31.....	621.56	229,300	+26,700
CAL YR 91	-	-	+22,300
Jan. 31.....	619.14	201,800	-27,500
Feb. 29.....	619.19	202,400	+600
Mar. 31.....	618.99	200,200	-2,200
Apr. 30.....	619.03	200,600	+400
May 31.....	619.31	203,700	+3,100
June 30.....	619.17	202,200	-1,500
July 31.....	621.59	229,700	+27,500
Aug. 31.....	619.29	203,500	-26,200
Sept. 30.....	619.27	203,300	-200
WTR YR 92	-	-	-2,500



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, on left bank, 100 ft downstream from Robert S. Kerr 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 National Geodetic Vertical Datum of 1929 (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.--No estiamted daily discharges. Records good. Some regulation since 1940 by Lake O' The Cherokees (station 07190000), and completely regulated since 1963 by Lake Hudson (station 07191400).

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	981	4080	718	9140	1220	2650	5390	3470	1670	3910	25800	1560
2	363	5240	2760	9180	1190	2030	6370	3020	3190	5350	26600	855
3	1910	5200	2620	8940	207	254	5690	3970	10900	455	26200	1830
4	244	4320	1650	9370	173	839	213	2980	13200	789	21900	3400
5	660	3030	8660	10300	2130	2520	188	948	15900	10600	17000	2160
6	640	2960	11500	9290	1420	2370	3840	240	13000	13300	16900	234
7	379	4840	630	4980	1670	5080	4910	208	13600	12000	15600	1810
8	178	3070	167	4220	209	6250	3740	211	16300	16700	16300	2780
9	175	3860	1030	2650	4040	5910	3810	207	17200	19400	17000	8310
10	173	198	1170	4550	632	6600	4850	204	18300	18600	16000	12800
11	174	151	472	2770	2330	3390	1980	204	19500	21700	10900	11600
12	173	159	2290	3380	8830	1070	770	914	14900	29600	8820	9720
13	171	371	6940	4400	6580	1720	4570	1760	17100	40300	12000	11000
14	419	168	417	1760	8760	182	2360	463	17700	44900	11200	8190
15	192	1950	581	5200	15500	177	215	273	15100	33900	9680	7520
16	170	3070	2030	2120	16300	178	211	3190	13900	29600	11400	7520
17	171	4660	5760	3930	13900	250	6610	272	17200	33700	11000	8970
18	171	2720	5330	2100	10300	3040	4840	973	16000	31100	11300	8000
19	171	339	3650	173	9780	5450	9780	538	13000	23500	9150	7320
20	170	6710	14200	2770	8600	2500	12400	898	12600	19100	13400	7360
21	170	1070	17100	212	8550	11400	12400	195	10500	19200	10400	10900
22	180	1060	15200	173	7940	7060	12300	413	12800	18300	11200	12900
23	234	2430	14400	3240	7470	9530	11700	274	10800	21200	10300	9080
24	188	231	12600	241	6510	7700	12000	539	10700	28900	13000	698
25	475	917	11900	171	7540	10300	10200	807	9450	32300	8970	1820
26	182	650	10100	170	3370	8090	11200	2180	10000	31900	8820	2330
27	176	980	9450	383	4410	6730	10300	3770	3510	32600	8740	3570
28	179	194	9330	2980	1640	10200	10500	1300	225	33200	3970	8530
29	3260	1290	9350	2890	3570	8860	8790	1900	1680	31900	3270	8150
30	1400	2850	9500	1330	---	4530	5100	961	3240	29800	2810	3670
31	2780	---	10000	1530	---	10700	---	245	---	26200	4320	---
TOTAL	16909	68768	201505	114543	164771	147560	187227	37527	353165	714004	393950	184587
MEAN	545	2292	6500	3695	5682	4760	6241	1211	11770	23030	12710	6153
MAX	3260	6710	17100	10300	16300	11400	12400	3970	19500	44900	26600	12900
MIN	170	151	167	170	173	177	188	195	225	455	2810	234
AC-FT	33540	136400	399700	227200	326800	292700	371400	74430	700500	1416000	781400	366100

ARKANSAS RIVER BASIN

243

07191500 NEOSHO RIVER NEAR CHOUTEAU, OK--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5950	8434	7578	6385	7587	12230	13380	10110	12230	8118	4214	4272
MAX	59840	40780	32260	23350	23640	39260	46000	39060	30920	28710	12710	10350
(WY)	1987	1986	1974	1973	1985	1973	1973	1990	1974	1976	1992	1989
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

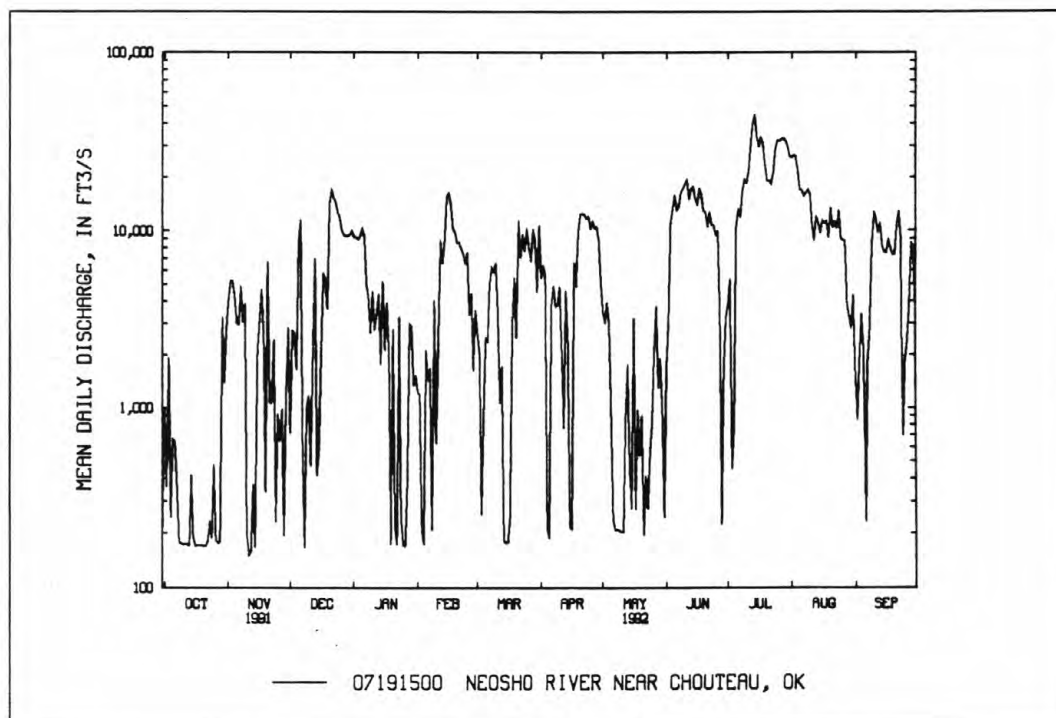
SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1964-92

ANNUAL TOTAL	1357518	2584516	
ANNUAL MEAN	3719	7062	^a 8368
HIGHEST ANNUAL MEAN			18920 1973
LOWEST ANNUAL MEAN			1924 1981
HIGHEST DAILY MEAN	20000	Jan 16 44900	Jul 14 132000 Oct 5 1986
LOWEST DAILY MEAN	150	Apr 6 151	Nov 11 ^b 12 Nov 13 1963
ANNUAL SEVEN-DAY MINIMUM	172	Oct 16 172	Oct 16 45 Feb 21 1964
INSTANTANEOUS PEAK FLOW		52800	Jul 14 ^c 134000 Feb 25 1985
INSTANTANEOUS PEAK STAGE		20.88	Jul 14 34.38 Feb 25 1985
ANNUAL RUNOFF (AC-FT)	2693000	5126000	6062000
10 PERCENT EXCEEDS	11400	16900	20000
50 PERCENT EXCEEDS	1600	4060	4470
90 PERCENT EXCEEDS	193	206	167

^aSince regulatin 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 then in use, from rating curve extended above 140,000 ft³/s on basis of slope-area measurement of peak flow.



ARKANSAS RIVER BASIN
07193000 FORT GIBSON LAKE NEAR FORT GIBSON, OK

LOCATION.--Lat 35°52'12", long 95°13'38", in NE 1/4 NW 1/4 sec.18, T.16 N., R.20 E., Cherokee County, Hydrologic Unit 11070209, in control tower near left end of Fort Gibson Dam on Neosho River, 4.0 mi north of Fort Gibson, and at mile 7.7.

DRAINAGE AREA.--12,492 mi².

PERIOD OF RECORD.--October 1949 to current year. Prior to October 1970, published as Fort Gibson Reservoir near Fort Gibson.

REVISED RECORDS.--WSP 1731: 1950 (M).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Jan. 13, 1950, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by concrete-gravity and earth-fill dam. Spillway is concrete ogee-type weir controlled by thirty 40-foot taintor gates; outlet works consists of ten, 5-foot, 8-inch by 7-foot sluice gates. Regulated storage began Sept. 5, 1949; power pool was first maintained in 1953. Capacity, 1,284,000 acre-ft at elevation 582.0 ft, flood control pool, 365,200 acre-ft at elevation 554.0 ft (maximum power pool), and 311,300 acre-ft at elevation 551.0 ft (minimum power pool). 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.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,286,000 acre-ft, Oct. 5, 1986, elevation, 582.04 ft; minimum since first use of power pool, 303,800 acre-ft, May 26, 1955, elevation, 550.56 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 489,100 acre-ft, Dec. 23, elevation, 559.85 ft; minimum, 351,700 acre-ft, Apr. 15, elevation 553.25.

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

550	294,600	565	622,100
555	384,500	570	777,000
560	492,600	575	964,000
580	1,185,700		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	366700	380100	374800	398300	369300	378900	366200	360700	369600	382000	403100	360700
2	366600	377600	374800	396900	372900	375400	368900	361800	379900	386100	399300	360700
3	365800	379700	376800	394700	367100	367900	366200	362600	392900	378700	397300	357700
4	369600	377700	371600	392900	366400	366900	366700	361600	400300	369100	397300	360900
5	366700	378700	378700	392100	366200	367100	366900	358100	402500	381800	395500	360000
6	367100	375800	381400	392100	370600	372900	367100	358500	437100	396100	391300	355800
7	366000	373500	365200	382000	369600	376600	369100	358300	444800	391500	390300	353400
8	364300	366200	367700	378900	368900	376800	366200	358700	445900	392500	398300	355100
9	364100	363300	369100	370200	374500	386500	361500	359000	441400	398900	406600	367700
10	364300	365200	372500	370600	374500	380600	361800	359200	439700	405100	412000	384700
11	363900	364500	372900	374100	374700	373700	361600	361500	439200	402300	404500	387100
12	363900	364500	377000	374500	385900	367100	360900	362400	435100	403700	392500	383500
13	363000	365200	379500	375800	380600	364100	364500	367500	428600	409500	387100	381400
14	363000	365600	370800	373300	380300	364600	358500	361100	439900	430800	384500	374800
15	363000	367300	373300	383300	393700	365200	352300	355800	439000	445300	378900	366000
16	362400	379900	373900	373900	406600	364100	358700	359800	428900	450800	377400	363100
17	361800	381000	384100	373100	417000	364800	359000	362400	426300	446600	376800	367700
18	363300	371600	381000	371800	412400	373500	352900	364300	426000	436800	374500	370600
19	361800	363900	367700	371200	402500	365600	366600	368300	430800	406600	369100	366700
20	361500	365800	423900	369800	397300	370200	380300	367100	438600	385500	373700	363300
21	360700	364300	471700	364800	391300	375800	385300	363300	433200	381400	371000	367100
22	360500	371000	485400	366000	386900	368500	383300	360300	429700	378700	366700	371600
23	360300	372900	482200	366700	379700	374100	380600	365800	423700	380400	369600	368700
24	364800	376200	469900	367500	372100	372000	378900	366000	415400	384500	372300	358800
25	367100	371200	455100	369100	374700	372900	377200	367700	409300	387900	367300	354900
26	368900	373500	441200	369400	368300	367700	376600	366700	411200	394700	363000	358100
27	366900	376800	431400	371000	369400	360000	374800	368500	407400	400300	369100	363700
28	367900	378100	422500	371400	367300	359400	374800	372000	396300	404100	365600	368300
29	366600	374800	412900	376800	374700	359200	373500	366700	386700	404500	361500	370000
30	372000	377700	403500	367100	---	353800	366000	368500	385300	411800	361500	366700
31	380600	---	398500	370000	---	373500	---	370800	---	409100	362800	---

ARKANSAS RIVER BASIN

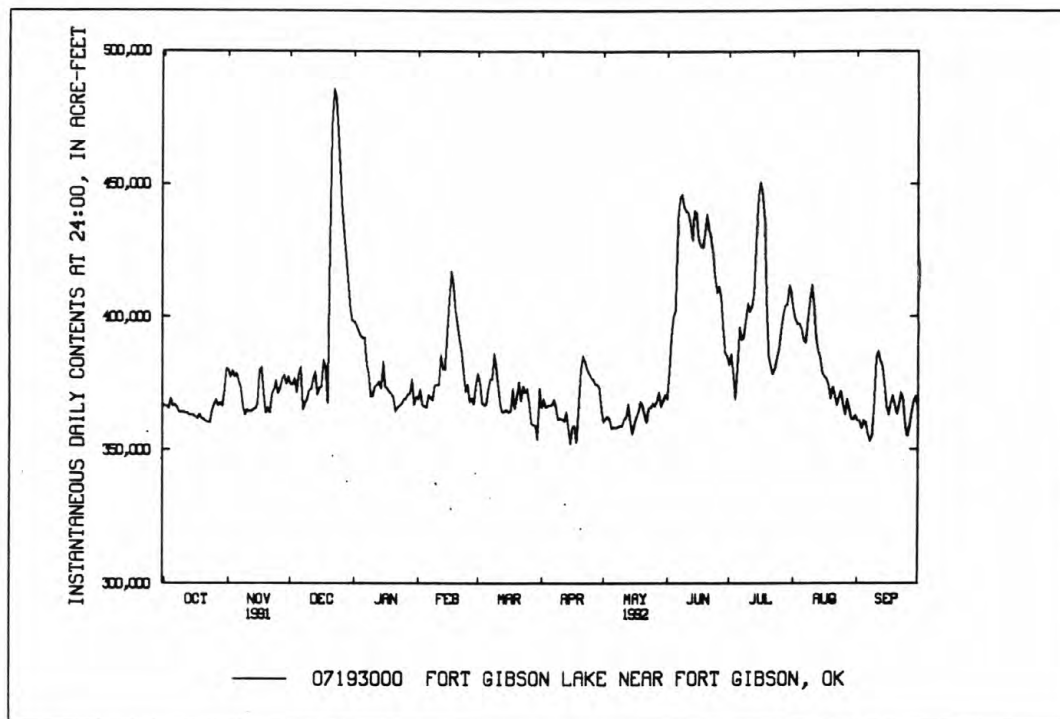
245

07193000 FORT GIBSON LAKE NEAR FORT GIBSON, OK--Continued

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MAX	380600	381000	485400	398300	417000	386500	385300	372000	445900	450800	412000	387100
MIN	360300	363300	365200	364800	366200	353800	352300	355800	369600	369100	361500	353400
(+)	554.80	554.65	555.70	554.25	554.49	554.43	554.04	554.29	555.04	556.22	553.87	554.08
(++)	+12,900	-2,900	+20,800	-28,500	+4,700	-1,200	-7,500	+4,800	+14,500	+23,800	-46,300	+3,900
CAL YR 1991	MAX 485400		MIN 345800		(++) +32,000							
WTR YR 1992	MAX 485400		MIN 352300		(++) -1,000							

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

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



ARKANSAS RIVER BASIN

07193500 NEOSHO RIVER BELOW FORT GIBSON LAKE NEAR FORT GIBSON, OK
(National stream-quality accounting network station)

LOCATION.--Lat 35°51'10", long 95°13'44", in NW 1/4 NW 1/4 sec.19, T.16 N., R.20 E., Cherokee County, Hydrologic Unit 11070209, on left bank 1.1 mi downstream from Fort Gibson Dam, 3.5 mi north of Fort Gibson, and at mile 6.6.

DRAINAGE AREA.--12,495 mi².

PERIOD OF RECORD.--Water years 1952 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1951 to September 1963, October 1973 to January 1982.

WATER TEMPERATURE: October 1951 to September 1963, October 1973 to January 1982.

REMARKS.--Samples were collected bimonthly and specific conductance, pH, water temperature, dissolved oxygen, and alkalinity were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
		(00027)	(00028)	(00061)	(00095)	(00400)	(00020)	(00010)	(00076)	(00025)	(00300)
NOV											
19...	1430	1028	80020	12900	280	8.4	14.0	11.5	3.4	750	108
DEC											
16...	1200	1028	80020	83	270	8.2	14.0	9.0	3.2	760	105
FEB											
04...	1400	1028	80020	E15	260	8.2	9.0	8.5	4.0	755	110
APR											
08...	1345	1028	80020	12500	298	8.7	23.0	14.0	2.3	750	110
AUG											
05...	1600	1028	80020	21400	246	7.8	27.0	27.0	5.7	750	92

DATE	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CACO3)	HARD- NESS NONCARB DISSOLV FLD. AS (MG/L)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3)	
	(31625)	(31673)	(00900)	(00904)	(00915)	(00925)	(00930)	(00932)	(00931)	(00935)	(00453)	(00452)
NOV												
19...	120	200	110	25	36	4.6	10	16	0.4	4.1	100	1
DEC												
16...	K18	K15	110	22	35	4.3	9.7	16	0.4	3.8	101	0
FEB												
04...	K7	K3	110	38	36	4.4	7.5	13	0.3	2.8	85	0
APR												
08...	K9	K14	120	27	41	5.0	9.5	14	0.4	2.7	111	3
AUG												
05...	K22	42	110	29	35	4.8	6.7	12	0.3	3.8	96	0

ARKANSAS RIVER BASIN

247

07193500 NEOSHO RIVER BELOW FORT GIBSON LAKE NEAR FORT GIBSON, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	ALKA- LIVITY (WAT DIS TOT IT FIELD MG/L AS CACO3) (39086)	CHLO- SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SILICA, RIDE, DIS- SOLVED (MG/L AS F) (00950)	RESIDUE DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SOLIDS, CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	NITRO- DIS- SOLVED (TONS PER DAY) (70302)	GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	
	NOV 19...	84	29	12	0.10	0.80	143	148	0.19	4980	0.140	--	--
	DEC 16...	82	31	13	0.20	1.2	170	149	0.23	38.1	0.200	0.210	0.93
	FEB 04...	70	29	11	0.10	3.9	138	139	0.19	--	--	0.440	1.9
APR 08...	96	34	14	0.20	0.20	170	165	0.23	5740	--	--	--	
AUG 05...	78	32	7.9	0.10	6.6	141	147	0.19	8150	0.560	0.540	2.4	
DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	
	NOV 19...	0.010	<0.010	--	0.150	0.150	0.020	0.020	0.03	0.03	0.38	0.40	0.55
	DEC 16...	0.010	0.010	0.03	0.210	0.220	0.010	<0.010	0.01	--	0.39	0.40	0.61
	FEB 04...	0.030	0.030	0.10	--	0.470	0.010	0.020	0.01	0.03	0.39	0.40	--
APR 08...	<0.010	<0.010	--	0.073	0.079	0.040	0.030	0.05	0.04	0.46	0.50	0.57	
AUG 05...	0.030	0.020	0.07	0.590	0.560	0.050	0.030	0.06	0.04	0.25	0.30	0.89	
DATE	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHATE, TOTAL (MG/L AS PO4) (00650)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS- PHORUS ORTHO DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO DIS- SOLVED (MG/L AS PO4) (00660)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	IRON, DIS- SOLVED (UG/L AS FE) (01046)		
	NOV 19...	2.4	0.060	--	0.020	--	0.020	0.06	20	51	<3	9	
	DEC 16...	2.7	0.050	0.06	<0.010	0.020	0.020	0.06	<10	47	<3	6	
	FEB 04...	--	0.040	0.06	0.020	0.020	0.010	0.03	30	44	<3	29	
APR 08...	2.5	0.030	0.06	<0.010	0.020	<0.010	--	<10	46	<3	6		
AUG 05...	3.9	0.080	0.21	0.060	0.070	0.050	0.15	20	53	<3	22		

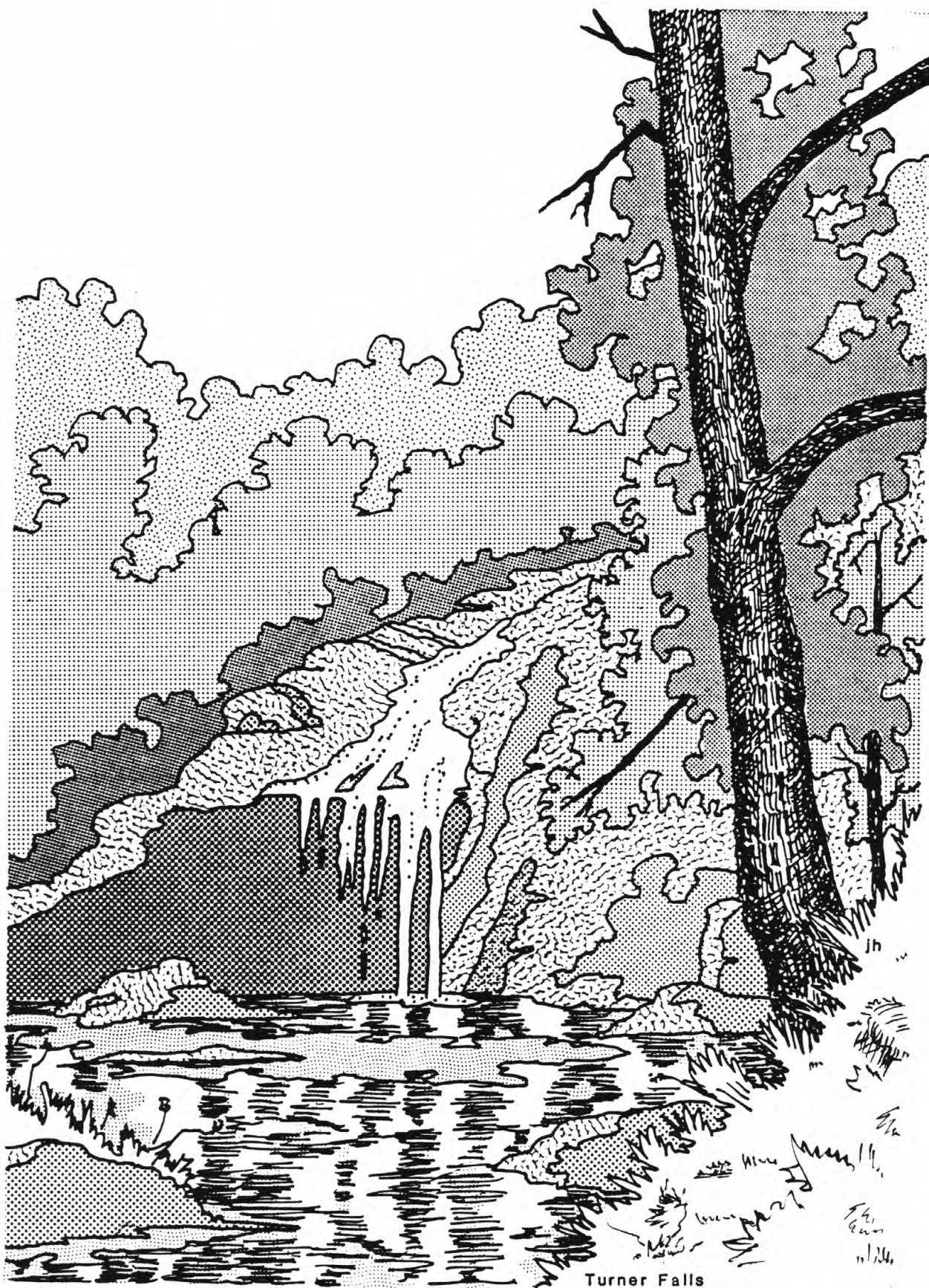
248

ARKANSAS RIVER BASIN

07193500 NEOSHO RIVER BELOW FORT GIBSON LAKE NEAR FORT GIBSON, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	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)	SEDI- MENT, DIS- SUS- MENT, SUS- PENDEDED (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN (70331)
NOV											
19...	<4	4	<10	<1	<1	<1.0	130	<6	11	383	50
DEC											
16...	<4	<1	<10	1	<1	<1.0	120	<6	16	3.6	56
FEB											
04...	<4	2	<10	<1	<1	<1.0	120	<6	16	--	67
APR											
08...	5	<1	<10	2	<1	<1.0	140	<6	15	506	74
AUG											
05...	<4	7	<10	3	<1	<1.0	160	<6	40	2310	95



ARKANSAS RIVER BASIN
07195500 ILLINOIS RIVER NEAR WATTS, OK

LOCATION.--Lat 36°07'48", long 94°34'19", in NW 1/4 NE 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.
DRAINAGE AREA.--635 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1955 to current year.

GAGE.--Water-stage recorder. Datum of gage is 893.78 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Since July 2, 1957, small diversion for municipal water supply for the city of Siloam Springs, Ark., upstream from station. U.S. Army Corps of Engineers' satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,500 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 18	0300	7,320	11.41	June 7	0545	13,400	16.08
Dec. 21	1130	9,080	12.89				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	DAILY MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	133	4400	1490	840	354	385	264	285	551	336	1090	191
2	130	2090	1930	917	341	372	256	266	526	322	723	205
3	128	1330	3860	833	330	363	255	257	869	308	581	202
4	128	1010	2190	769	323	359	250	236	1030	283	2160	199
5	128	836	1640	720	317	388	240	220	797	617	3170	185
6	138	713	1350	683	310	388	232	218	2980	993	1820	174
7	127	624	1170	655	311	374	241	205	7780	532	1150	165
8	124	547	1040	628	307	352	243	201	2360	407	869	159
9	121	490	931	594	297	360	241	194	1960	343	690	295
10	117	444	835	553	299	420	236	185	1830	309	570	331
11	116	404	767	530	346	388	230	204	1460	283	674	427
12	116	378	877	515	966	359	227	1230	1340	262	760	284
13	115	355	1350	521	1440	341	215	645	1070	240	561	235
14	111	338	1030	610	1120	322	211	426	926	229	484	208
15	105	333	859	602	1100	305	208	364	1250	224	431	187
16	110	1630	769	554	910	294	214	315	993	276	387	176
17	111	4140	722	519	804	291	649	304	802	592	355	174
18	109	4890	667	503	737	296	574	411	697	469	325	173
19	107	2310	629	478	663	295	435	720	788	334	308	167
20	108	3590	1920	464	629	291	726	631	1120	281	298	254
21	103	2420	7030	460	600	283	1260	760	806	263	292	408
22	104	1730	3210	462	539	281	874	588	622	257	275	715
23	109	1370	2370	461	510	276	668	527	542	245	256	730
24	161	1130	1830	448	487	297	547	598	524	239	240	433
25	975	975	1480	430	463	300	462	526	475	222	227	337
26	2910	868	1270	411	442	292	404	464	447	205	236	300
27	1950	786	1140	394	431	279	356	408	414	1570	310	281
28	1020	725	1030	387	415	274	333	385	373	1120	295	259
29	1360	1130	952	376	399	268	320	889	359	619	244	248
30	1330	2540	878	369	---	262	303	1000	349	1080	221	237
31	1540	---	820	362	---	263	---	699	---	2520	201	---
TOTAL	13944	44526	48036	17048	16190	10018	11674	14361	36040	15980	20203	8339
MEAN	450	1484	1550	550	558	323	389	463	1201	515	652	278
MAX	2910	4890	7030	917	1440	420	1260	1230	7780	2520	3170	730
MIN	103	333	629	362	297	262	208	185	349	205	201	159
AC-FT	27660	88320	95280	33810	32110	19870	23160	28490	71490	31700	40070	16540
CFSM	.71	2.34	2.44	.87	.88	.51	.61	.73	1.89	.81	1.03	.44
IN.	.82	2.61	2.81	1.00	.95	.59	.68	.84	2.11	.94	1.18	.49

ARKANSAS RIVER BASIN
07195500 ILLINOIS RIVER NEAR WATTS, OK--Continued

251

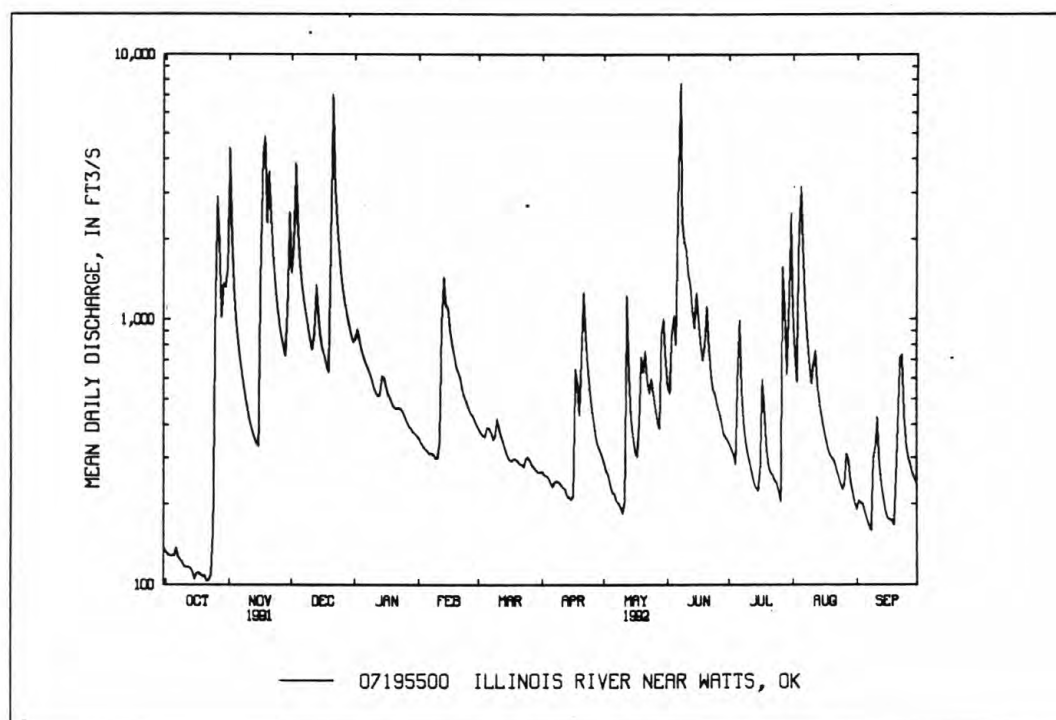
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	376	612	639	513	655	961	1018	985	642	347	241	274
MAX	2734	3087	2786	1658	1818	2934	3347	4286	3225	1807	1172	1393
(WY)	1987	1974	1988	1969	1975	1973	1957	1961	1974	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

SUMMARY STATISTICS	1991 CALENDAR YEAR		1992 WATER YEAR		WATER YEARS 1956 - 1992	
ANNUAL TOTAL	264297		256359			
ANNUAL MEAN	724		700		605	
HIGHEST ANNUAL MEAN					1246	
LOWEST ANNUAL MEAN					151	
HIGHEST DAILY MEAN	7760	Apr 14	7780	Jun 7	34500	Oct 1 1986
LOWEST DAILY MEAN	92	Aug 6	103	Oct 21	10	Sep 19 1956
ANNUAL SEVEN-DAY MINIMUM	102	Aug 1	107	Oct 17	11	Sep 22 1956
INSTANTANEOUS PEAK FLOW			13400	Jun 7	^a 68000	Jul 25 1960
INSTANTANEOUS PEAK STAGE			16.08	Jun 7	25.96	Jul 25 1960
INSTANTANEOUS LOW FLOW			99	Oct 21	8.6	^b Oct 26 1955
ANNUAL RUNOFF (AC-FT)	524200		508500		438000	
ANNUAL RUNOFF (CFSM)	1.14		1.10		.95	
ANNUAL RUNOFF (INCHES)	15.48		15.02		12.94	
10 PERCENT EXCEEDS	1780		1390		1190	
50 PERCENT EXCEEDS	382		417		274	
90 PERCENT EXCEEDS	111		197		90	

^aFrom rating curve extended above 51,000 ft³/s.

^bAlso occurred Sept. 19 and Oct. 14, 1956.



ARKANSAS RIVER BASIN

07195500 ILLINOIS RIVER NEAR WATTS, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1989 to current year.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)
NOV											
19...	1015	1028	80020	2360	*213	7.6	21.0	15.0	19	740	10.8
FEB											
06...	1115	1028	80020	316	282	8.3	7.0	8.0	--	740	12.3
MAR											
31...	1220	1028	80020	260	274	8.2	16.0	11.5	9.3	740	12.6
MAY											
27...	1040	1028	80020	393	257	8.3	12.0	17.0	8.0	740	8.8
AUG											
17...	1519	1028	80020	355	301	8.0	24.5	22.5	--	740	7.8
SEP											
10...	1145	1028	80020	299	307	7.9	20.5	22.0	23	740	8.0
DATE		OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	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)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00932)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)
NOV											
19...	111	88	0	32	2.0	4.9	10	0.2	3.9	108	0
FEB											
06...	107	--	--	--	--	--	--	--	--	129	0
MAR											
31...	119	110	9	43	1.8	9.4	15	0.4	2.7	129	0
MAY											
27...	94	110	4	42	2.0	7.5	12	0.3	3.0	133	0
AUG											
17...	93	--	--	--	--	--	--	--	--	140	0
SEP											
10...	94	120	8	45	1.8	11	16	0.4	4.0	137	0

*SPECIFIC CONDUCTANCE, LAB (US/CM)

ARKANSAS RIVER BASIN

253

07195500 ILLINOIS RIVER NEAR WATTS, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)
NOV 19...	88	9.1	8.0	0.10	9.1	163	142	0.22	1040	4.18	4.18
FEB 06...	106	--	--	--	--	--	--	--	--	--	2.69
MAR 31...	106	14	13	<0.10	3.6	156	161	0.21	110	2.29	--
MAY 27...	109	10	10	0.10	7.8	152	156	0.21	161	1.68	--
AUG 17...	114	--	--	--	--	--	--	--	--	--	--
SEP 10...	112	11	15	<0.10	8.3	212	172	0.29	171	--	--
DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)
NOV 19...	19	0.020	0.020	0.07	4.20	4.20	0.040	0.040	0.05	0.05	0.46
FEB 06...	12	<0.010	0.010	0.03	--	2.70	0.020	<0.010	0.03	--	0.28
MAR 31...	--	0.010	<0.010	--	2.30	2.20	0.050	0.050	0.06	0.06	0.35
MAY 27...	--	0.020	<0.010	--	1.70	1.70	0.060	0.050	0.08	0.06	0.14
AUG 17...	--	<0.010	<0.010	--	2.00	2.00	--	0.040	--	0.05	--
SEP 10...	--	<0.010	<0.010	--	1.80	1.80	0.050	0.040	0.06	0.05	0.45
DATE	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHATE, TOTAL (MG/L AS PO4) (00650)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTH TOTAL (MG/L AS P) (70507)	PHOS- PHORUS ORTH DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, DIS- SOLVED (MG/L AS PO4) (00660)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)
NOV 19...	0.50	4.7	21	0.190	--	0.190	--	0.130	0.40	<1	47
FEB 06...	0.30	2.9	13	0.100	0.25	0.090	0.080	0.070	0.21	--	--
MAR 31...	0.40	2.7	12	0.180	0.43	0.130	0.140	0.120	0.37	<1	40
MAY 27...	0.20	1.9	8.4	--	0.46	0.150	0.150	0.110	0.34	2	47
AUG 17...	<0.20	--	--	0.190	0.49	0.180	0.160	0.140	0.43	--	--
SEP 10...	0.50	2.3	10	0.300	0.64	0.200	0.210	0.190	0.58	2	52

07195500 ILLINOIS RIVER NEAR WATTS, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	BERYL-	BORON,	CADMIUM	CHRO-	COBALT,	COPPER,	IRON,	LEAD,	LITHIUM	MANGA-
	LIUM,	DIS-	DIS-	MIUM,	DIS-	DIS-	DIS-	DIS-	DIS-	NESE,
	DIS-	SOLVED	SOLVED	DIS-	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	DIS-
	SOLVED	(UG/L	(UG/L	SOLVED	(UG/L	(UG/L	(UG/L	(UG/L	(UG/L	(UG/L
	AS BE)	AS B)	AS CD)	AS CR)	AS CO)	AS CU)	AS FE)	AS PB)	AS LI)	AS MN)
	(01010)	(01020)	(01025)	(01030)	(01035)	(01040)	(01046)	(01049)	(01130)	(01056)
NOV										
19...	<0.5	20	6.0	<5	<3	<10	380	<10	<4	59
FEB										
06...	--	--	--	--	--	--	--	--	--	--
MAR										
31...	<0.5	30	1.0	<5	<3	<10	13	<10	<4	69
MAY										
27...	<0.5	20	<1.0	<5	<3	<10	7	<10	<4	60
AUG										
17...	--	--	--	--	--	--	--	--	--	--
SEP										
10...	<0.5	40	<1.0	<5	<3	<10	13	<10	<4	59

DATE	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	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)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 19...	0.1.	<10	<10	<1.0	43	<6	17	60	382	56
FEB 06...	--	--	--	--	--	--	--	--	--	--
MAR 31...	2.8	<10	<10	<1.0	48	<6	6	--	--	--
MAY 27...	0.1	<10	<10	<1.0	49	<6	5	--	--	--
AUG 17...	--	--	--	--	--	--	--	--	--	--
SEP 10...	2.2	<10	<10	2.0	51	<6	<3	--	--	--

[illegible]

255

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

07196000 FLINT CREEK NEAR KANSAS, OK

LOCATION.--Lat 36°11'11", long 94°42'24", in SW 1/4 NW 1/4, sec. 25, T.20 N., R.24 E., Deleware County, Hydrologic Unit 11110103, at U.S. Highway 412 bridge, 6.0 mi southeast of Kansas, and at mi 2.2.

DRAINAGE AREA.--110 mi².

PERIOD OF RECORD.--Water years 1955-61, 1963, 1975-80, July 1991 to current year.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	AGENCY	AGENCY	DIS-		PH				BARO-	OXYGEN,	
		COL-	ANA-	CHARGE,	SPE-	WATER				METRIC	DIS-	
		LECTING	LYZING	INST.	CIFIC	WHOLE				PRES-	SOLVED	
		SAMPLE	SAMPLE	FEET	DUCT-	(STAND-	TEMPER-	TEMPER-	TUR-	OXYGEN,	(PER-	
		(CODE	(CODE	PER	ANCE	ARD	AIR	WATER	BID-	(MM	DIS-	CENT
		NUMBER)	NUMBER)	SECOND	(US/CM)	UNITS)	(DEG C)	(DEG C)	(NTU)	HG)	(MG/L)	SATUR-
		(00027)	(00028)	(00061)	(00095)	(00400)	(00020)	(00010)	(00076)	(00025)	(00300)	(00301)

JUL												
25...	1145	1028	80020	29	293	8.0	24.5	25.0	--	742	5.1	64
SEP												
09...	1511	1028	80020	28	321	8.0	34.5	27.0	0.50	741	8.6	111

[illegible]

JUL											
25...	--	--	--	--	--	--	--	--	122	0	100
SEP											
09...	110	18	43	1.8	15	21	0.6	3.9	118	0	97

	SULFATE	CHLO- RIDE, DIS- SOLVED	FLUO- RIDE, DIS- SOLVED	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SOLIDS, RESIDUE SUM OF AT 180 CONSTI- DEG. C TUMENTS, DIS- DIS- SOLVED SOLVED (MG/L) (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) ³	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRITE DIS- TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	
DATE	AS SO4 (00945)	AS CL (00940)	AS F (00950)	(00955)	(70300)	(70301)	(70303)	(70302)	(00615)	(00613)	(00630)

JUL											
25...	--	--	--	--	--	--	--	--	<0.010	<0.010	0.810
SEP											
09...	18	18	<0.10	10	166	173	0.23	12.5	<0.010	<0.010	1.20

[illegible]

JUL											
25...	0.820	0.020	0.030	0.03	0.04	0.28	0.30	1.1	4.9	0.120	0.25
SEP											
09...	1.20	0.020	0.020	0.03	0.03	0.18	0.20	1.4	6.2	0.120	0.28

ARKANSAS RIVER BASIN

257

07196000 FLINT CREEK NEAR KANSAS, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTH TOTAL (MG/L AS P) (70507)	PHOS- PHORUS ORTH SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTH SOLVED (MG/L AS PO4) (00660)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
JUL 25...	0.110	0.080	0.070	0.21	--	--	--	--	--	--	--
SEP 09...	0.110	0.090	0.090	0.28	<1	59	<0.5	<1.0	<5	<3	<10

DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	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)
JUL 25...	--	--	--	--	--	--	--	--	--	--	--
SEP 09...	<3	<10	<4	7	<0.1	<10	<10	<1.0	72	<6	11

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)
NOV 19...	1240	1028	80020	--	222	7.8	17.0	15.0	740	9.6
FEB 06...	1530	1028	80020	57	262	8.7	12.0	10.0	750	12.8
MAR 30...	1735	1028	80020	41	263	8.1	10.0	12.0	740	11.1
MAY 27...	1455	1028	80020	61	254	8.1	17.5	18.0	740	8.3
JUL 27...	1527	1028	80020	53	--	7.8	29.5	27.5	735	9.6
SEP 09...	1555	1028	80020	33	296	7.9	31.5	25.5	730	7.2

DATE	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NITRITE DIS- SOLVED TOTAL (MG/L AS N) (00615)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)
NOV 19...	98	59	0	48	3.89	--	--	0.010	<0.010	--
FEB 06...	115	101	3	88	--	2.79	12	--	0.010	0.03
MAR 30...	106	107	0	88	--	--	--	<0.010	<0.010	--
MAY 27...	90	114	0	93	--	--	--	<0.010	<0.010	--
JUL 27...	--	117	0	96	--	--	--	<0.010	<0.010	--
SEP 09...	92	124	0	102	--	--	--	<0.010	<0.010	--

ARKANSAS RIVER BASIN

07196000 FLINT CREEK NEAR KANSAS, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)
NOV 19...	3.90	3.80	0.020	0.020	0.03	0.03	0.28	0.30	4.2
FEB 06...	2.80	2.80	<0.010	<0.010	--	--	--	<0.20	--
MAR 30...	2.70	2.60	0.030	<0.010	0.04	--	--	<0.20	--
MAY 27...	1.70	1.60	0.030	0.020	0.04	0.03	--	<0.20	--
JUL 27...	1.60	1.60	0.020	0.010	0.03	0.01	--	<0.20	--
SEP 09...	1.60	1.60	0.020	0.010	0.03	0.01	--	<0.20	--
DATE	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHATE, TOTAL (MG/L AS PO4) (00650)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
NOV 19...	19	--	0.37	0.170	--	0.140	0.43	6	17
FEB 06...	--	--	0.28	0.110	0.090	0.090	0.28	--	--
MAR 30...	--	0.090	0.28	0.060	0.090	0.090	0.28	--	--
MAY 27...	--	--	--	0.170	--	0.160	0.49	--	--
JUL 27...	--	0.130	0.34	0.120	0.110	0.100	0.31	--	--
SEP 09...	--	0.130	--	0.120	--	0.120	0.37	--	--



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 discharges. 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)
Nov. 18	2200	9,050	10.89	June 8	0600	12,600	12.46
Dec. 22	0900	10,800	11.70				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	228	2850	2660	1300	585	684	404	627	1250	582	2570	320
2	205	5270	2070	1280	575	660	395	583	1150	557	1500	314
3	198	3170	3560	1310	560	638	387	532	1730	530	1090	313
4	192	2190	4490	1240	535	622	380	497	2220	503	939	304
5	188	1730	3020	1180	510	613	373	458	2140	582	2750	298
6	182	1460	2360	1120	494	606	370	420	4300	754	3450	291
7	182	1260	1970	1080	493	606	357	399	8560	1130	2310	277
8	182	1120	1730	1040	489	603	348	382	8660	868	1650	265
9	179	1000	1550	997	487	595	343	363	3500	700	1300	252
10	174	902	1400	950	484	581	331	352	2890	588	1060	333
11	170	823	1280	907	488	598	333	352	2590	527	932	369
12	167	757	1250	874	656	603	328	361	2160	479	891	438
13	161	697	1360	851	1510	584	326	992	1890	436	976	411
14	155	656	1680	848	2050	564	321	953	1840	407	821	359
15	150	628	1490	869	1830	546	316	709	2080	381	711	321
16	149	1100	1330	878	1710	522	316	592	1910	386	633	295
17	147	4700	1220	847	1520	504	337	557	1630	457	576	275
18	146	8330	1150	808	1370	496	590	561	1360	534	532	257
19	146	6300	1090	790	1260	485	992	692	1410	627	494	264
20	146	3840	1920	760	1160	479	1160	881	1910	522	458	272
21	146	4660	7490	738	1090	473	2150	945	1670	454	435	332
22	146	3360	9190	733	1030	469	2330	1020	1370	415	416	500
23	145	2550	4760	733	963	462	1780	1060	1130	405	397	579
24	200	2050	3500	720	901	450	1420	1180	992	402	378	823
25	301	1740	2740	706	854	443	1190	1190	907	380	361	631
26	1260	1550	2230	685	817	443	1010	1050	833	366	346	517
27	3660	1380	1920	666	779	443	889	908	758	358	334	452
28	3070	1270	1740	643	744	437	798	847	707	1000	367	408
29	2140	1180	1590	624	716	426	730	848	665	1280	389	370
30	2060	1560	1460	611	---	416	676	1170	618	927	365	341
31	2080	---	1360	598	---	406	---	1450	---	1320	336	---

ARKANSAS RIVER BASIN

261

07196500 ILLINOIS RIVER NEAR TAHLEQUAH, OK--Continued

TOTAL	18655	70083	76560	27386	26660	16457	21680	22931	64830	18857	29767	11181
MEAN	602	2336	2470	883	919	531	723	740	2161	608	960	373
MAX	3660	8330	9190	1310	2050	684	2330	1450	8660	1320	3450	823
MIN	145	628	1090	598	484	406	316	352	618	358	334	252
AC-FT	37000	139000	151900	54320	52880	32640	43000	45480	128600	37400	59040	22180
CFSM	.63	2.44	2.58	.92	.96	.55	.75	.77	2.25	.63	1.00	.39
IN.	.72	2.72	2.97	1.06	1.03	.64	.84	.89	2.51	.73	1.15	.43

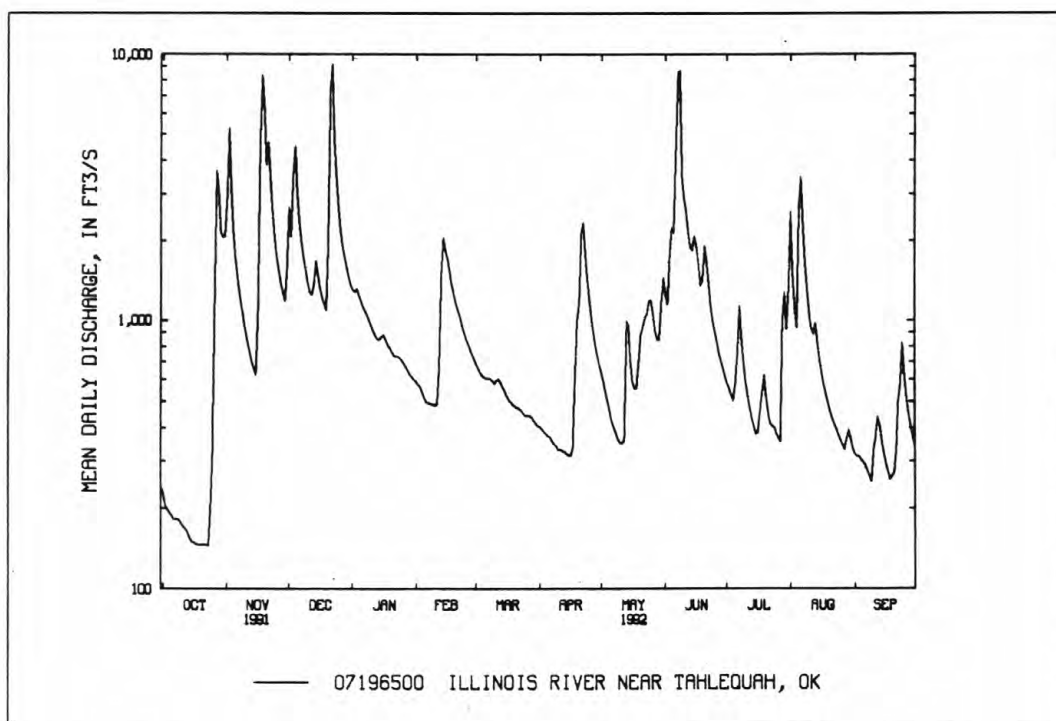
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	549	853	844	796	1093	1421	1579	1655	1000	476	360	346
MAX	5222	4659	4096	2916	4661	6695	6864	8397	5993	2491	3907	1913
(WY)	1987	1974	1985	1937	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

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1936-92

ANNUAL TOTAL	399462	405047	
ANNUAL MEAN	1094	1107	915
HIGHEST ANNUAL MEAN			1980
LOWEST ANNUAL MEAN			193
HIGHEST DAILY MEAN	9650	Apr 15	9190
LOWEST DAILY MEAN	115	Jul 25	145
ANNUAL SEVEN-DAY MINIMUM	123	Jul 20	146
INSTANTANEOUS PEAK FLOW			12600
INSTANTANEOUS PEAK STAGE			12.46
ANNUAL RUNOFF (AC-FT)	792300	803400	662700
ANNUAL RUNOFF (CFSM)	1.14	1.15	.95
ANNUAL RUNOFF (INCHES)	15.50	15.71	12.96
10 PERCENT EXCEEDS	2700	2170	1870
50 PERCENT EXCEEDS	599	703	396
90 PERCENT EXCEEDS	146	310	112

^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, 1989 to current year.

REMARKS.--Samples were collected on a bimonthly schedule and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY	AGENCY	DIS-		PH				BARO-		OXYGEN,	
		COL-	ANA-	CHARGE,	SPE-	WATER				METRIC		DIS-	
		LECTING	LYZING	INST.	CIFIC	WHOLE	TEMPER-	TEMPER-	TUR-	PRES-	OXYGEN,	SOLVED	
		SAMPLE	SAMPLE	(CUBIC	DUCT-	(STAND-	ATURE	ATURE	BID-	SURE		(PER-	
		(CODE	(CODE	FEET	ANCE	ARD	AIR	WATER	ITY	(MM	DIS-	CENT	
		NUMBER)	NUMBER)	PER	(US/CM	UNITS)	(DEG C)	(DEG C)	(NTU)	OF	SOLVED	SATUR-	
		(00027)	(00028)	SECOND)	(00095)	(00400)	(00020)	(00010)	(00076)	(00025)	(00300)	ATION)	
NOV													
20...	1300	1028	80020	3850	198	7.8	8.0	13.5	21	750	9.8	96	
DEC													
10...	1600	1028	80020	1380	225	7.9	15.5	12.0	--	750	11.1	105	
FEB													
05...	1600	1028	80020	482	246	8.6	11.0	9.0	--	750	13.0	114	
APR													
09...	1900	1028	80020	354	250	8.7	26.0	20.0	2.5	745	12.8	144	
JUN													
08...	1630	1028	80020	7200	180	7.7	28.0	20.0	45	745	8.0	90	
JUL													
29...	1330	1028	80020	1290	208	7.7	28.0	26.5	27	745	7.0	89	
		HARD-							BICAR-	CAR-	ALKA-		
		NESS	NONCARB		MAGNE-		SODIUM	POTAS-	BONATE	BONATE	LINITY		
		TOTAL	DISSOLV	CALCIUM	SIUM,	SODIUM,	AD-	SIUM,	WATER	WATER	WAT DIS	SULFATE	
		(MG/L	FLD. AS	DIS-	DIS-	DIS-	SORP-	DIS-	DIS IT	DIS IT	TOT IT	DIS-	
		(MG/L	SOLVED	SOLVED	SOLVED	SOLVED	TION	SOLVED	FIELD	FIELD	FIELD	SOLVED	
DATE		AS	CACO3	(MG/L	(MG/L	(MG/L	SODIUM	(MG/L	(MG/L	AS(MG/L	AS(MG/L	AS(MG/L	
		CACO3)	(MG/L)	AS CA)	AS MG)	AS NA)	PERCENT	AS K)	HCO3)	CO3)	CACO3)	AS SO4)	
		(00900)	(00904)	(00915)	(00925)	(00930)	(00932)	(00931)	(00935)	(00453)	(00452)	(39086)	(00945)
NOV													
20...	82	19	30	1.8	4.6	10	0.2	3.2	77	0	63	9.6	
DEC													
10...	--	--	--	--	--	--	--	--	95	0	78	--	
FEB													
05...	--	--	--	--	--	--	--	--	106	2	91	--	
APR													
09...	110	16	40	1.9	8.2	14	0.3	2.6	108	2	93	14	
JUN													
08...	80	20	29	1.8	4.0	9	0.2	3.2	73	0	60	7.7	
JUL													
29...	89	8	33	1.6	5.8	12	0.3	3.8	99	0	81	8.1	
		CHLO-	FLUO-	SILICA,	SOLIDS,	SOLIDS,			NITRO-	NITRO-		NITRO-	
		RIDE,	RIDE,	DIS-	RESIDUE	SUM OF	SOLIDS,	SOLIDS,	GEN,	GEN,	NITRO-	GEN;	
		DIS-	DIS-	SOLVED	AT 180	CONSTI-	DIS-	DIS-	NITRATE	NITRATE	NITRO-	NITRITE	
		SOLVED	SOLVED	(MG/L	DEG. C	TUENTS,	SOLVED	SOLVED	DIS-	DIS-	NITRITE	DIS-	
DATE		(MG/L	(MG/L	AS	DIS-	DIS-	(TONS	(TONS	TOTAL	SOLVED	TOTAL	SOLVED	
		AS CL)	AS F)	SIO2)	SOLVED	SOLVED	PER	PER	(MG/L	(MG/L	(MG/L	(MG/L	
		(00940)	(00950)	(00955)	(70300)	(70301)	AC-FT)	DAY)	AS N)	AS N)	AS N)	AS N)	
NOV													
20...	7.4	<0.10	8.4	107	118	0.15	1110	3.29	3.19	14	0.010	0.010	
DEC													
10...	--	--	--	--	--	--	--	--	--	--	<0.010	<0.010	
FEB													
05...	--	--	--	--	--	--	--	2.09	--	--	0.010	<0.010	
APR													
09...	13	0.10	3.3	148	145	0.20	141	1.38	1.38	6.1	0.020	0.020	
JUN													
08...	2.8	<0.10	8.9	120	100	0.16	2330	1.37	--	--	0.030	<0.010	
JUL													
29...	8.8	<0.10	9.1	134	122	0.18	467	--	--	--	<0.010	<0.010	

ARKANSAS RIVER BASIN

263

07196500 ILLINOIS RIVER NEAR TAHLEQUAH, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NO2+NO3 DIS- TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA DIS- TOTAL (MG/L AS NH4) (71845)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA +NITRO- ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
NOV												
20...	0.03	3.30	3.20	0.030	0.040	0.04	0.05	0.27	0.30	3.6	16	0.140
DEC												
10...	--	2.60	2.60	--	0.020	--	0.03	--	<0.20	--	--	0.050
FEB												
05...	--	2.10	2.10	0.010	<0.010	0.01	--	--	<0.20	--	--	0.030
APR												
09...	0.07	1.40	1.40	0.020	0.020	0.03	0.03	--	<0.20	--	--	0.060
JUN												
08...	--	1.40	1.40	0.040	0.020	0.05	0.03	0.36	0.40	1.8	8.0	0.200
JUL												
29...	--	0.710	0.710	0.030	0.030	0.04	0.04	--	<0.20	--	--	0.020
DATE	PHOS- PHATE, TOTAL (MG/L AS PO4) (00650)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM, DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)
NOV												
20...	0.28	0.100	0.090	0.090	0.28	<1	37	<0.5	30	1.0	<5	<3
DEC												
10...	0.09	0.030	0.030	0.020	0.06	--	--	--	--	--	--	--
FEB												
05...	0.12	<0.010	0.040	0.030	0.09	--	--	--	--	--	--	--
APR												
09...	0.15	0.060	0.050	0.050	0.15	1	40	<0.5	20	<1.0	<5	<3
JUN												
08...	0.49	0.120	0.160	0.120	0.37	<1	52	<0.5	30	<1.0	<5	<3
JUL												
29...	0.12	0.010	0.040	0.020	0.06	<1	42	<0.5	30	<1.0	<5	<3
DATE	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	TRON- 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)
NOV												
20...	<10	31	<10	<4	5	<0.1	<10	<10	1.0	38	<6	14
DEC												
10...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
05...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
09...	<10	4	<10	<4	7	<0.1	<10	<10	<1.0	48	<6	4
JUN												
08...	<10	--	<10	<4	6	<0.1	<10	<10	<1.0	39	<6	9
JUL												
29...	<10	11	<10	<4	4	<0.1	<10	<10	<1.0	42	<6	5

ARKANSAS RIVER BASIN

07196500 ILLINOIS RIVER NEAR TAHLEQUAH, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	PCB, TOTAL (UG/L) (39516)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L) (39250)	ALDRIN, TOTAL (UG/L) (39330)	CHLOR- DANE, TOTAL (UG/L) (39350)	CHLOR- DYRIFOS TOTAL RECOVER (UG/L) (38932)	DDD, TOTAL (UG/L) (39360)	DDE, TOTAL (UG/L) (39365)	DDT, TOTAL (UG/L) (39370)	DEF TOTAL (UG/L) (39040)	DI- AZINON, TOTAL (UG/L) (39570)
NOV 20...	--	--	--	--	--	--	--	--	--	--
DEC 10...	--	--	--	--	--	--	--	--	--	--
FEB 05...	--	--	--	--	--	--	--	--	--	--
APR 09...	--	--	--	--	--	--	--	--	--	--
JUN 08...	<0.1	<0.10	<0.010	<0.1	<0.01	<0.010	<0.010	<0.010	<0.01	0.01
JUL 29...	<0.1	<0.10	<0.010	<0.1	<0.01	<0.010	<0.010	<0.010	<0.01	0.03

DATE	DI- ELDRIN TOTAL (UG/L) (39380)	DI- SYSTON TOTAL (UG/L) (39011)	ENDO- SULFAN, TOTAL (UG/L) (39388)	ENDRIN WATER UNFLTRD REC (UG/L) (39390)	ETHION, TOTAL (UG/L) (39398)	FONOFOS (DY- FONATE) WATER WHOLE TOT.REC (UG/L) (82614)	HEPTA- CHLOR, TOTAL (UG/L) (39410)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L) (39420)	LINDANE TOTAL (UG/L) (39340)
NOV 20....	--	--	--	--	--	--	--	--	--
DEC 10...	--	--	--	--	--	--	--	--	--
FEB 05...	--	--	--	--	--	--	--	--	--
APR 09...	--	--	--	--	--	--	--	--	--
JUN 08...	<0.010	<0.01	<0.010	<0.010	<0.01	<0.01	<0.010	<0.010	<0.010
JUL 29...	<0.010	<0.01	<0.010	<0.010	<0.01	<0.01	<0.010	<0.010	<0.010

DATE	MALA- THION, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOTAL (UG/L) (39480)	METHYL PARA- THION, TOTAL (UG/L) (39600)	MIREX, TOTAL (UG/L) (39755)	PARA- THION, TOTAL (UG/L) (39540)	PER- THANE TOTAL (UG/L) (39034)	PHORATE TOTAL (UG/L) (39023)	TOX- APHENE, TOTAL (UG/L) (39400)	TOTAL TRI- THION (UG/L) (39786)
NOV 20...	--	--	--	--	--	--	--	--	--
DEC 10...	--	--	--	--	--	--	--	--	--
FEB 05...	--	--	--	--	--	--	--	--	--
APR 09...	--	--	--	--	--	--	--	--	--
JUN 08...	<0.01	<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<1	<0.01
JUL 29...	<0.01	<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<1	<0.01



Discharge from air shaft pipe, Tar Creek area, northeastern Oklahoma

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.

GAGE.--Water-stage recorder. Datum of gage is 701.14 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Dec. 14, 1948, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. 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:

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 17	2000	7,580	12.69	No other peaks greater than base discharge.			

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73	3120	623	385	172	173	157	187	444	249	355	94
2	68	1830	1060	399	168	167	153	175	413	215	266	96
3	65	1110	2300	378	163	161	150	163	792	194	226	99
4	61	728	1440	357	160	161	146	151	1050	189	1550	99
5	57	539	1070	341	156	161	144	141	800	408	3090	95
6	55	431	847	326	152	172	137	130	2210	578	1940	90
7	52	369	680	311	150	182	138	121	3030	343	1060	88
8	51	321	585	299	145	173	138	115	1570	271	647	84
9	49	288	507	284	144	174	137	111	1090	230	478	80
10	47	263	450	269	143	184	133	107	838	203	396	162
11	46	243	403	258	146	194	129	117	682	181	361	352
12	44	225	444	250	180	184	126	261	596	161	314	225
13	40	209	850	248	284	175	124	303	816	147	275	173
14	38	198	625	258	314	170	122	233	683	135	244	145
15	35	192	522	261	324	162	118	195	1300	128	217	128
16	35	1800	466	249	319	155	117	177	988	143	201	114
17	34	4710	425	235	309	152	121	189	684	271	181	104
18	33	3810	386	231	299	151	136	250	525	257	167	97
19	31	2120	360	224	281	150	151	309	575	210	159	98
20	30	2490	973	217	265	153	226	322	2230	183	148	103
21	30	1670	3930	214	248	150	628	873	1190	167	139	135
22	30	1180	2330	214	234	151	546	485	786	161	130	324
23	30	876	1690	213	227	177	447	437	599	165	119	360
24	52	671	1220	209	216	222	380	552	510	154	112	270
25	168	562	920	201	205	209	331	464	451	141	126	228
26	2570	494	726	194	196	197	292	397	403	131	118	203
27	2080	437	602	190	191	186	260	354	354	134	111	184
28	1600	395	534	186	185	177	234	332	306	135	107	163
29	1570	369	480	182	180	172	218	706	280	126	104	147
30	1290	1160	436	179	---	163	201	777	265	137	100	133
31	1010	---	401	174	---	159	---	545	---	441	97	---
TOTAL	11374	32810	28285	7936	6156	5317	6340	9679	26460	6588	13538	4673
MEAN	367	1094	912	256	212	172	211	312	882	213	437	156
MAX	2570	4710	3930	399	324	222	628	873	3030	578	3090	360
MIN	30	192	360	174	143	150	117	107	265	126	97	80
AC-FT	22560	65080	56100	15740	12210	10550	12580	19200	52480	13070	26850	9270
CFSM	1.20	3.56	2.97	.83	.69	.56	.69	1.02	2.87	.69	1.42	.51
IN.	1.38	3.98	3.43	.96	.75	.64	.77	1.17	3.21	.80	1.64	.57

ARKANSAS RIVER BASIN
07197000 BARON FORK AT ELDON, OK--Continued

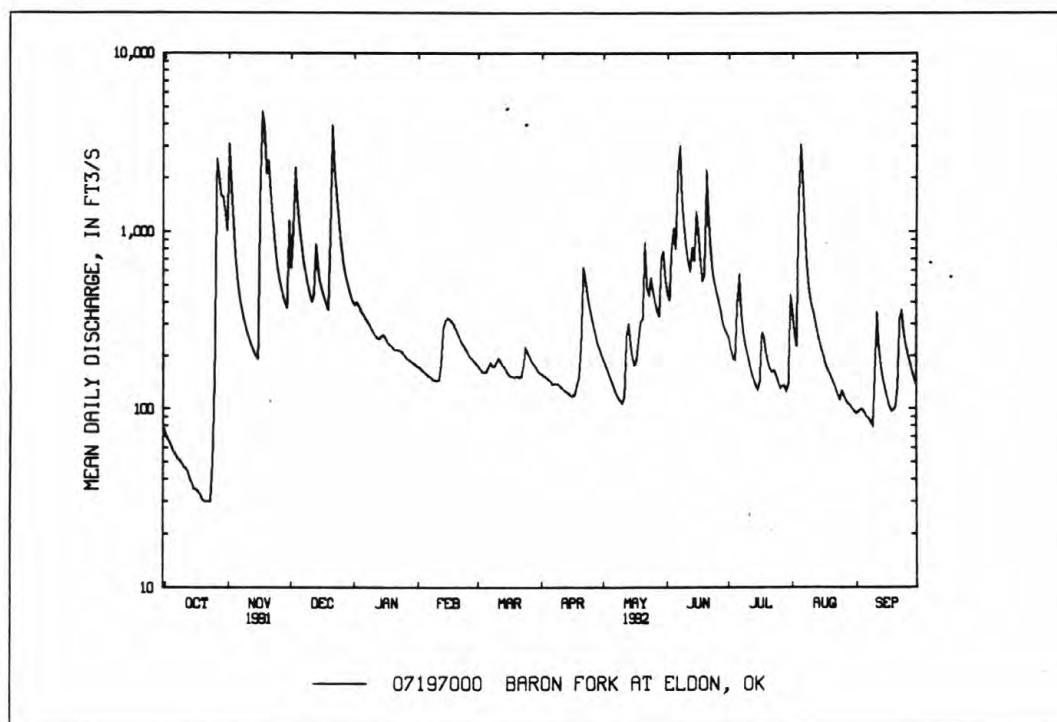
267

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	174	285	287	265	375	525	574	642	320	146	75.0	107
MAX	2077	1499	1692	977	1441	1702	2105	2605	1575	903	437	927
(WY)	1987	1975	1988	1991	1951	1973	1957	1957	1957	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

SUMMARY STATISTICS	1991 CALENDAR YEAR		1992 WATER YEAR		WATER YEARS 1949-92	
ANNUAL TOTAL	164461		159156			
ANNUAL MEAN	451		435		314	
HIGHEST ANNUAL MEAN					639	
LOWEST ANNUAL MEAN					55.7	
HIGHEST DAILY MEAN	4710	Nov 17	4710	Nov 17	34300	Oct 1 1986
LOWEST DAILY MEAN	16	Aug 20	30	Oct 20, 23	1.8	^a Oct 7 1956
ANNUAL SEVEN-DAY MINIMUM	19	Aug 6	31	Oct 17	1.8	Oct 21 1956
INSTANTANEOUS PEAK FLOW			7580	Nov 17	57600	May 3 1990
INSTANTANEOUS PEAK STAGE			12.69	Nov 17	25.91	May 3 1990
ANNUAL RUNOFF (AC-FT)	326200		315700		227600	
ANNUAL RUNOFF (CFSM)	1.47		1.42		1.02	
ANNUAL RUNOFF (INCHES)	19.93		19.29		13.90	
10 PERCENT EXCEEDS	1200		1020		666	
50 PERCENT EXCEEDS	201		216		112	
90 PERCENT EXCEEDS	30		100		20	

^aAlso occurred Oct. 8, 21-28, 1956.



ARKANSAS RIVER BASIN

07197000 BARON FORK AT ELDON, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--1948, 1958-60, 1991 to current year.

REMARKS.--Samples were collected bimonthly and specific conductance, pH, water temperature, and dissolved oxygen were determined in the field.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	TEMPER- ATURE (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	AGENCY COL- LECTING (CODE NUMBER) (00027)	AGENCY ANA- LYZING (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	GAGE HEIGHT (FEET) (00065)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
SEP											
09...	1445	5.00	26.0	750	1028	1028	44	4.10	202	9.3	7.6
09...	1447	10.0	26.0	750	1028	1028	44	4.10	198	9.3	7.5
09...	1449	15.0	26.0	750	1028	1028	44	4.10	199	9.2	7.7
09...	1450	20.0	26.0	750	1028	1028	44	4.10	200	9.2	7.7
09...	1452	25.0	26.0	750	1028	1028	44	4.10	200	9.2	7.7
09...	1455	30.0	26.0	750	1028	1028	44	4.10	199	9.1	7.7
09...	1457	35.0	26.0	750	1028	1028	44	4.10	200	9.2	7.7
09...	1458	40.0	26.0	750	1028	1028	44	4.10	203	9.1	7.8
09...	1500	50.0	26.0	750	1028	1028	44	4.10	202	9.1	7.8
DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	
JUL											
30...	1230	1028	80020	39	195	7.7	29.0	24.5	740		8.6
SEP											
09...	1400	1028	80020	44	200	7.7	29.5	26.0	750		9.2
DATE		OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)
JUL											
30...	106	101	0	83	0.380	1.7	--	0.010	0.03		0.380
SEP											
09...	115	93	0	77	--	--	<0.010	<0.010	--		0.420

ARKANSAS RIVER BASIN

269

07197000 BARON FORK AT ELDON, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS TOTAL (MG/L AS P) (70507)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
JUL 30...	0.390	0.010	0.010	0.01	0.01	<0.20	0.020	0.020	<0.010	<0.010
SEP 09...	0.400	0.030	<0.010	0.04	--	<0.20	0.020	0.020	<0.010	<0.010

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM HG) (00025)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	GAGE HEIGHT (FEET) (00065)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
APR											
09...	1301	5.00	16.5	745	1028	1028	129	4.54	191	12.1	8.3
09...	1302	10.0	16.5	745	1028	1028	129	4.54	191	12.1	8.3
09...	1303	15.0	16.5	745	1028	1028	129	4.54	191	12.2	8.3
09...	1304	20.0	16.5	745	1028	1028	129	4.54	192	12.2	8.3
09...	1305	25.0	16.5	745	1028	1028	129	4.54	192	12.2	8.3
09...	1306	30.0	16.5	745	1028	1028	129	4.54	192	12.2	8.3
09...	1307	35.0	16.5	745	1028	1028	129	4.54	192	12.3	8.3
09...	1308	40.0	16.5	745	1028	1028	129	4.54	191	12.3	8.3
09...	1309	45.0	16.5	745	1028	1028	129	4.54	191	12.3	8.3
09...	1310	50.0	16.5	745	1028	1028	129	4.54	192	12.3	8.3
09...	1311	55.0	16.5	745	1028	1028	129	4.54	191	12.3	8.3
09...	1312	60.0	16.5	745	1028	1028	129	4.54	191	12.3	8.3
09...	1313	65.0	16.5	745	1028	1028	129	4.54	191	12.3	8.3
09...	1314	70.0	16.5	745	1028	1028	129	4.54	191	12.3	8.4
09...	1315	75.0	16.5	745	1028	1028	129	4.54	191	12.3	8.4

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)
------	------	--	---	---	--	--	---	---	---	--	---	--

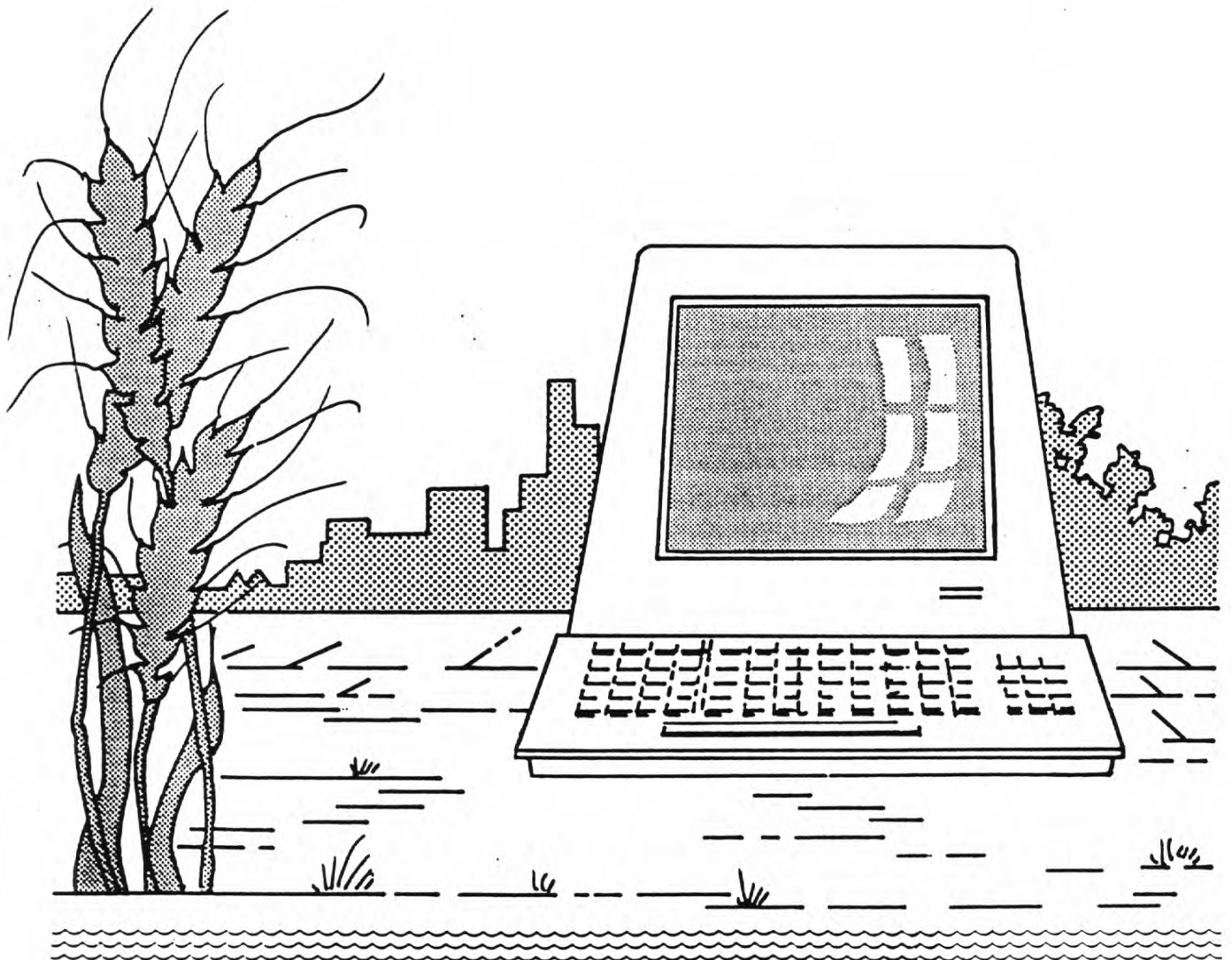
NOV												
20...	1630	1028	80020	2300	157	7.8	12.0	14.0	750	11.0	108	61
DEC												
10...	1315	1028	80020	453	182	7.8	18.0	12.0	750	10.8	102	76
FEB												
05...	1115	1028	80020	155	188	8.2	8.0	9.0	750	12.3	108	85
APR												
09...	1330	1028	80020	129	191	8.3	26.0	16.0	745	12.3	128	89
JUN												
04...	1500	1028	80020	1120	218	7.9	23.5	19.0	740	10.2	113	94
JUL												
28...	1430	1028	80020	136	198	7.9	29.0	25.0	750	10.1	124	109

ARKANSAS RIVER BASIN

07197000 BARON FORK AT ELDON, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA- LINTY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	NITRO- GEN, NITRATE DIS- TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NITRITE DIS- TOTAL (MG/L AS N) (00615)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NO2+NO3 DIS- TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA SOLVE (MG/L AS N) (00608)
NOV												
20...	0	50	2.39	--	--	0.010	<0.010	--	2.40	2.40	0.030	0.010
DEC												
10...	0	62	--	3.39	15	--	0.010	0.03	3.40	3.40	--	0.010
FEB												
05...	0	70	--	--	--	<0.010	<0.010	--	1.60	1.60	0.010	0.020
APR												
09...	1	76	--	--	--	<0.010	<0.010	--	0.840	0.810	0.020	0.020
JUN												
04...	0	77	--	--	--	<0.010	<0.010	--	0.950	0.970	0.010	0.020
JUL												
28...	0	90	1.29	1.29	5.7	0.010	0.010	0.03	1.30	1.30	0.050	0.040
DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00605)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00625)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00600)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHATE, TOTAL (MG/L AS PO4) (00650)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (70507)	PHOS- PHATE, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, DIS- SOLVED (MG/L AS PO4) (00660)
NOV												
20...	0.04	0.01	0.17	0.20	2.6	12	0.090	0.15	0.060	0.050	0.050	0.15
DEC												
10...	--	0.01	--	<0.20	--	--	0.110	0.28	0.090	0.090	0.080	0.25
FEB												
05...	0.01	0.03	--	<0.20	--	--	<0.010	0.06	<0.010	0.020	0.010	0.03
APR												
09...	0.03	0.03	--	<0.20	--	--	<0.010	--	<0.010	<0.010	<0.010	--
JUN												
04...	0.01	0.03	--	<0.20	--	--	0.040	0.12	0.050	0.040	0.040	0.12
JUL												
28...	0.06	0.05	0.35	0.40	1.7	7.5	0.280	0.58	0.200	0.190	0.180	0.55



ARKANSAS RIVER BASIN

07197500 TENKILLER FERRY LAKE NEAR GORE, OK

LOCATION.--Lat 35°35'48", long 95°02'57", in SE 1/4 SW 1/4 sec.14, T.13 N., R.21 E., Sequoyah County, Hydrologic Unit 11110103, at gage tower on right bank, 0.6 mi upstream from Tenkiller Ferry Dam on Illinois River, 6.0 mi northeast of Gore, and at mile 12.8.

DRAINAGE AREA.--1,610 mi².

PERIOD OF RECORD.--July 1952 to current year. Prior to October 1970, published as Tenkiller Ferry Reservoir near Gore.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Apr. 5, 1953, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by earth dam. Spillway consists of 590 ft concrete modified ogee-type weir in right abutment controlled by ten taintor gates. Outlet works consist of a 19-foot diameter tunnel in right abutment controlled by two vertical lift gates. A similar tunnel conducts water to two hydroelectric turbines. Closure was made for diversion in July 1950 and regulated storage began in July 1952; conservation pool was first filled Apr. 9, 1953. Capacity, 1,231,000 acre-ft at elevation 667.0 ft, flood-control pool, 791,900 acre-ft at elevation, 642.0 ft, spillway crest, 628,700 acre-ft at elevation 630.0 ft, maximum power pool, and 283,100 acre-ft at elevation 594.5 ft, conservation and minimum power pool. Figures given herein represent total contents. Reservoir is used for flood control and for power development. U.S. Army Corps of Engineers' satellite tele-meter at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,218,000 acre-ft, June 5, 1957, elevation, 666.36 ft; minimum since conservation pool was first filled, 305,700 acre-ft, Oct. 21, 1954, elevation, 597.50 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 732,500 acre-ft, June 11, elevation 637.84 ft; minimum, 629,200 acre-ft, Oct. 23, elevation 630.04 ft.

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

630	628,700	642	791,900
634	680,300	646	852,000
638	734,700	650	915,600

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY OBSERVATION AT 24:00 VALUES

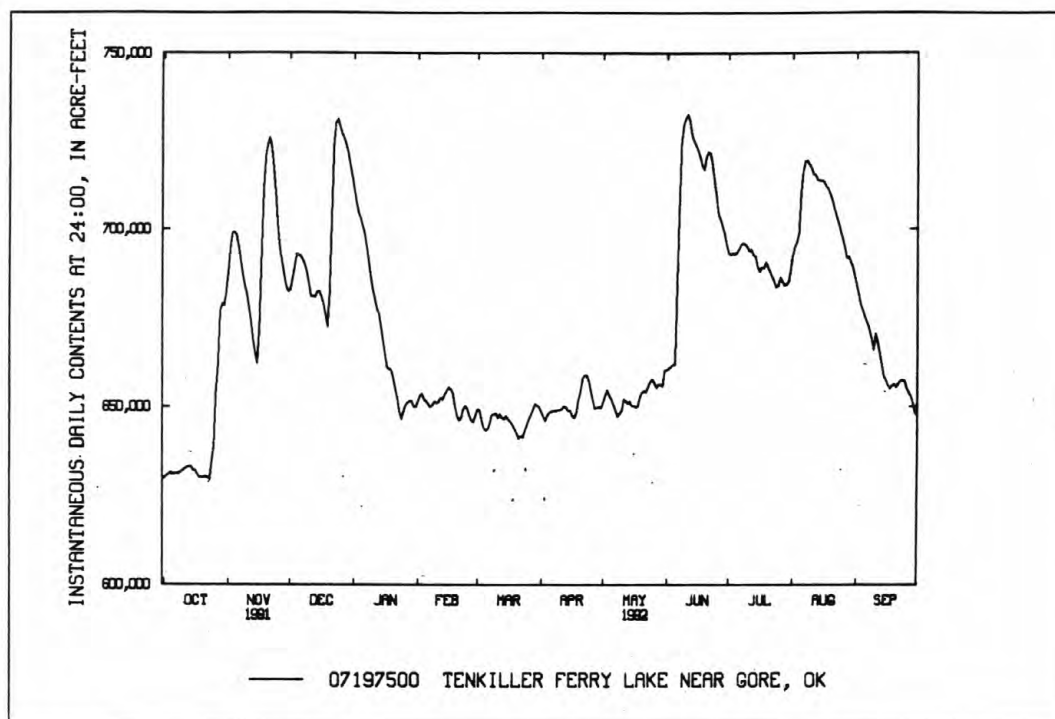
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	629800	687800	682500	711500	651500	649400	648500	651300	660300	693100	692400	683600
2	630300	695000	685700	707700	653100	649000	647200	653200	660800	692700	694900	680800
3	630700	699100	689300	704700	653600	646000	646200	654600	661200	693100	696200	678100
4	631300	699100	692900	703100	652000	643900	647600	653300	661800	692900	698900	676400
5	630700	698100	692700	701100	651500	643400	648500	652100	662000	693400	710400	674700
6	630900	694900	692100	698800	650700	643800	648700	650600	685500	694500	716200	673400
7	630900	690800	691300	695400	650000	645300	648900	649100	706500	695700	719100	671500
8	631000	686700	689700	691200	650400	647900	648900	647300	724800	696000	719300	669200
9	631400	683600	687500	686600	651500	647900	649000	648100	729700	695800	718200	665800
10	631900	681200	684100	682700	651100	648200	649100	649000	731600	694900	717200	670500
11	632300	677500	680700	680200	651300	646900	649400	652000	732500	693700	715400	668200
12	632700	673500	680700	677200	652500	647900	650200	651600	730700	694100	715100	665000
13	632800	668600	680600	676100	652100	646900	649900	651000	726800	692500	713700	661700
14	632900	664600	682000	672600	653400	646500	648900	651500	725100	692200	713600	658400
15	631800	662000	682100	668600	654400	647400	648900	650300	723700	689100	713400	657200
16	631800	672400	680700	664700	655400	646500	647400	650200	722300	687900	713300	655800
17	630700	692500	678700	660900	654900	645800	646900	649900	720500	689100	712000	655000
19	629900	720800	672300	660300	650300	643900	651900	652800	717000	690600	709800	656100
20	629900	724000	681900	658000	647600	642700	654200	654000	720500	689200	708200	655400
21	630000	725900	703300	655000	646100	641100	657900	654500	721900	687600	705800	656500
22	629800	722600	723700	652400	646900	641800	658800	654200	721500	686300	703700	657100
23	629200	716200	730500	648700	649400	641400	658800	655700	718200	684900	701800	657200
24	634700	708600	731100	646600	650200	643400	657500	657000	713600	683300	699600	657000
25	638700	699900	729100	648600	649400	644900	654600	657600	709300	683800	697300	655000
26	654000	693800	727100	650400	647600	646600	651900	656700	704300	686100	695000	653700
27	661600	690500	725900	651200	646000	647800	649500	655400	702600	684900	691800	652800
28	676400	686700	724000	651500	645700	649300	649800	656200	700700	683800	692100	651000
29	678600	683400	721500	651500	647700	650800	649900	656200	698700	684100	690600	648200
30	678200	682000	718300	650000	---	650400	649800	655800	695700	684800	688900	647600
31	682000	---	715000	649900	---	649900	---	660300	---	688300	686200	---

ARKANSAS RIVER BASIN
07197500 TENKILLER FERRY LAKE NEAR GORE, OK--Continued

273

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MAX	682000	725900	731100	711500	655400	650800	658800	660300	732500	696000	719300	683600
MIN	629200	662000	672300	646600	645700	641100	646200	647300	660300	683300	686200	647600
(+)	634.13	634.13	636.58	631.68	631.51	631.68	631.67	632.47	635.17	634.61	634.45	631.50
(++)	+52,700	0	+33,000	-65,100	-2,200	+2,200	-100	+10,500	+35,400	-7,400	-2,100	-38,600
CAL YR 1991	MAX 731100	MIN 614700										
WTR YR 1992	MAX 732500	MIN 629200										

(+) ELEVATION, IN FEET, AT END OF MONTH
(++) CHANGE IN CONTENTS, IN ACRE-FEET



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 11110104, 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.

WATER-DISCHARGE RECORDS

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 National Geodetic Vertical Datum of 1929. 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 discharges. Records good. Except for 16 mi³ 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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	4790	4200	4130	59	30	1280	39	1810	2250	1260	2220
2	24	4270	4400	4130	32	1070	1330	26	3160	1130	721	2270
3	23	3030	4840	3790	487	2650	969	24	3300	454	1140	2210
4	23	3370	5420	2790	1390	2230	63	1270	3590	766	1100	1260
5	399	3500	5380	2930	939	1170	30	1130	3690	775	1770	1170
6	31	4090	4570	2930	952	711	536	1350	435	851	3320	1150
7	14	4160	3910	3210	954	38	503	1140	2570	861	2640	1200
8	13	4150	3920	3940	456	30	564	1290	3250	916	2940	1450
9	12	3330	3930	3980	37	913	505	156	4010	750	2970	2510
10	12	2980	3960	3660	979	568	480	25	3960	895	2410	2040
11	15	2830	3970	2370	874	1350	324	35	3950	1070	2650	2370
12	22	3320	4140	2500	953	441	252	1130	4990	275	1680	2550
13	23	3410	3440	1930	2380	1280	540	1590	5860	1100	2080	2560
14	23	3490	2050	2550	2500	1100	877	1390	5900	1160	1220	2450
15	672	3330	2100	3310	2400	171	646	1470	5970	2120	1120	1250
16	38	2790	2640	3300	2140	1230	1280	1180	4930	2390	1010	1250
17	670	1890	3270	3330	2510	1350	1190	1080	4160	75	1380	850
18	627	4920	3300	1240	2680	1380	44	1080	4100	935	1140	39
19	38	6240	3990	1050	3830	1180	32	83	4040	49	1580	631
20	23	6290	3250	2010	3260	1330	1150	1090	2670	1590	1530	885
21	22	6680	1850	2390	2380	1360	1370	1450	2490	1570	1980	567
22	146	7690	4100	2470	1070	1340	2940	1760	2760	1430	1710	1080
23	537	7650	5040	2680	55	1180	2940	1520	4140	1420	1690	1050
24	88	7630	5980	1890	1140	72	2840	1280	4330	1480	1450	1340
25	255	7620	5960	67	1350	54	3300	1600	4140	267	1670	1980
26	739	5950	5210	35	1990	46	2970	1900	4330	66	2050	1760
27	2540	4170	4080	526	1990	40	2570	1910	2080	1980	2100	1280
28	3530	4180	4070	601	1250	37	1250	1630	2060	1640	311	1690
29	4730	4200	4090	590	39	35	981	2010	2230	1420	1160	1920
30	4580	4200	4070	1540	---	873	1020	2330	2510	1300	1330	840
31	4550	---	4100	726	---	1090	---	62	---	54	1700	---
TOTAL	24465	136150	125230	72595	41076	26349	34776	34030	107415	33039	52812	45822
MEAN	789	4538	4040	2342	1416	850	1159	1098	3580	1066	1704	1527
MAX	4730	7690	5980	4130	3830	2650	3300	2330	5970	2390	3320	2560
MIN	12	1890	1850	35	32	30	30	24	435	49	311	39
AC-FT	48530	270100	248400	144000	81470	52260	68980	67500	213100	65530	104800	90890

ARKANSAS RIVER BASIN
07198000 ILLINOIS RIVER NEAR GORE, OK--Continued

275

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1992, BY WATER YEAR (WY)

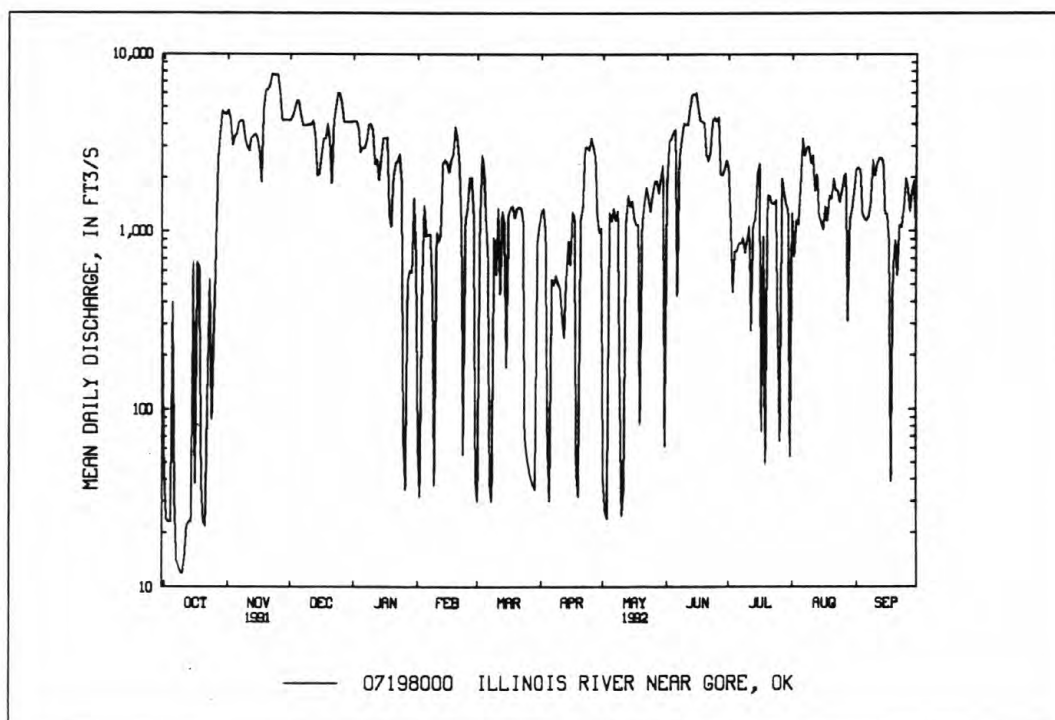
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	807	1139	1585	1535	1599	1831	2610	2332	1751	1258	869	644
MAX	8165	4538	9652	5869	5740	5137	8340	10940	7177	8046	2358	1574
(WY)	1987	1992	1974	1988	1969	1975	1990	1990	1957	1957	1961	1961
MIN	74.4	56.0	55.5	27.7	57.1	60.9	70.0	105	141	84.9	81.4	80.7
(WY)	1981	1984	1981	1965	1981	1981	1980	1981	1963	1988	1963	1963

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1954-92

ANNUAL TOTAL	710751	733759	
ANNUAL MEAN	1947	2005	1495
HIGHEST ANNUAL MEAN			3114 1973
LOWEST ANNUAL MEAN			280 1964
HIGHEST DAILY MEAN	7690	Nov 22	7690 Nov 22 15800 May 6 1957
LOWEST DAILY MEAN	12	Oct 9	12 Oct 9, 10 2.1 Sep 16 1959
ANNUAL SEVEN-DAY MINIMUM	16	Oct 7	16 Oct 7 3.5 Feb 2 1965
INSTANTANEOUS PEAK FLOW			7760 Nov 22 ^a 18100 Jun 9 1957
INSTANTANEOUS PEAK STAGE			14.35 Nov 22 ^b 13.70 Jun 9 1957
ANNUAL RUNOFF (AC-FT)	1410000	1455000	1083000
10 PERCENT EXCEEDS	4860	4160	3530
50 PERCENT EXCEEDS	1230	1520	900
90 PERCENT EXCEEDS	52	46	79

^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

07198000 ILLINOIS RIVER NEAR GORE, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1948, 1952, 1954 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1947 to September 1948, October 1953 to September 1963.

WATER TEMPERATURE: October 1947 to September 1948, October 1953 to September 1963.

REMARKS.--Samples were collected bimonthly and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	GAGE HEIGHT (FEET) (00065)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
JUL											
16...	0652	5.00	17.0	745	1028	1028	77	7.20	259	3.4	6.9
16...	0655	15.0	17.0	745	1028	1028	77	7.20	258	3.8	7.1
16...	0657	25.0	17.0	745	1028	1028	77	7.20	258	3.9	7.2
16...	0700	35.0	17.0	745	1028	1028	77	7.20	259	4.0	7.2
16...	0702	45.0	17.0	745	1028	1028	77	7.20	260	4.0	7.2
16...	0705	55.0	17.0	745	1028	1028	77	7.20	260	4.0	7.2
16...	0707	65.0	17.0	745	1028	1028	77	7.20	260	4.0	7.2
16...	0710	75.0	17.0	745	1028	1028	77	7.20	260	3.8	7.2
16...	0712	85.0	17.0	745	1028	1028	77	7.20	260	3.8	7.3
16...	0714	95.0	17.5	745	1028	1028	77	7.20	256	3.8	7.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)
OCT											
09...	0815	1028	80020	12	350	7.8	10.0	15.5	1.2	757	5.4
DEC											
17...	0800	1028	80020	3930	189	7.8	0.5	10.5	--	759	9.1
MAR											
04...	0815	1028	80020	1670	205	8.0	14.0	9.5	1.5	747	10.2
APR											
08...	1445	1028	80020	1910	191	8.3	25.5	11.5	--	750	9.9
JUN											
03...	1145	1028	80020	4080	195	7.5	21.0	13.0	0.70	744	6.6
AUG											
19...	1330	1028	80020	151	242	7.8	26.0	20.0	2.0	755	9.9

ARKANSAS RIVER BASIN

277

07198000 ILLINOIS RIVER NEAR GORE, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

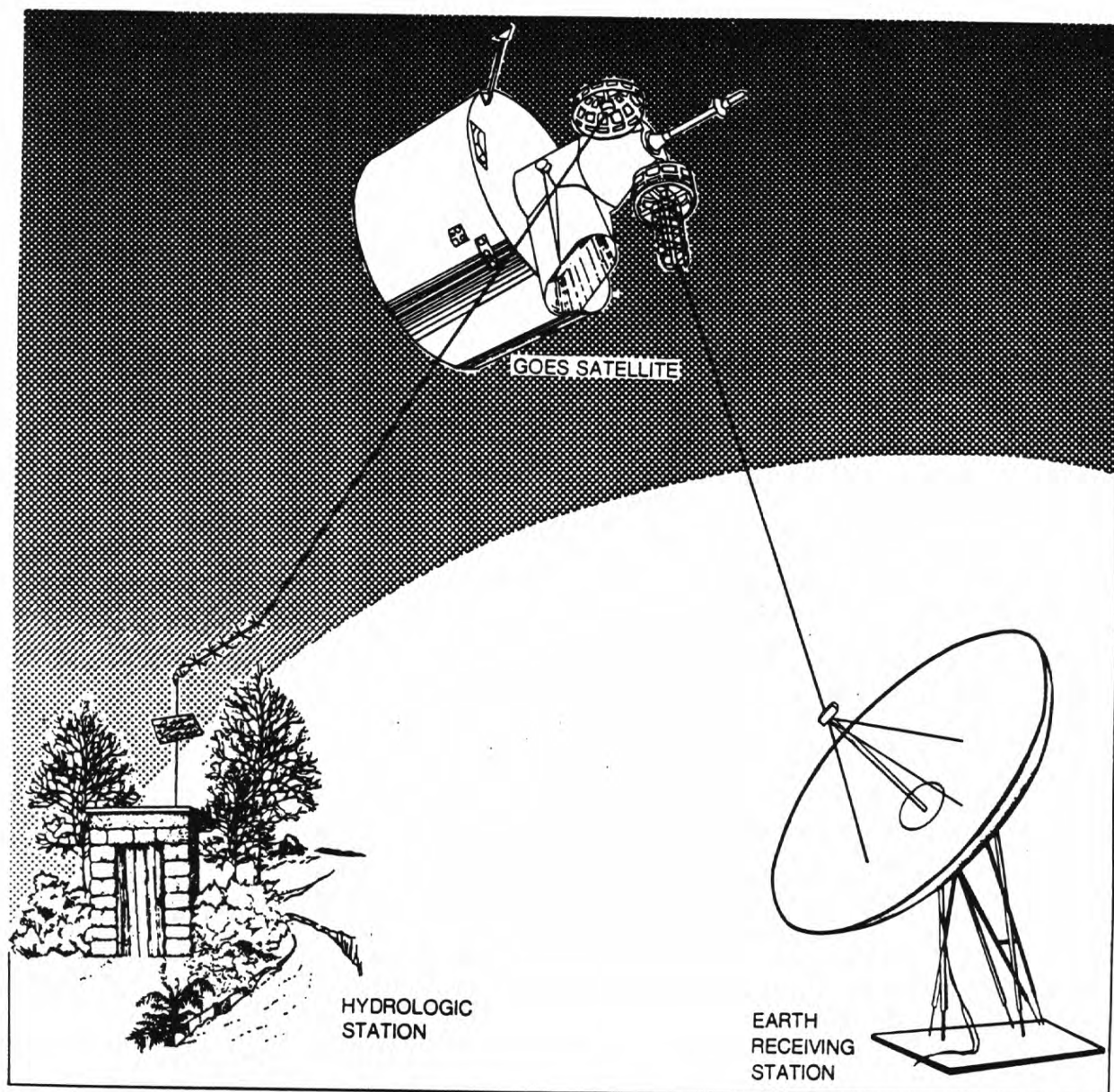
DATE	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER (DIS IT FIELD MG/L AS HCO3) (00453)	CAR- BONATE WATER (DIS IT FIELD MG/L AS CO3) (00452)
OCT										
09...	54	--	--	--	--	--	--	--	115	0
DEC										
17...	82	--	--	--	--	--	--	--	91	0
MAR										
04...	91	83	11	30	1.9	7.3	16	0.3	2.4	0
APR										
08...	92	--	--	--	--	--	--	--	81	4
JUN										
03...	64	89	15	33	1.7	4.3	9	0.2	2.2	0
AUG										
19...	110	100	13	38	2.0	8.3	15	0.4	2.4	0
DATE	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)
OCT										
09...	94	7.5	51	0.10	206	--	--	--	0.570	0.580
DEC										
17...	75	--	--	--	--	--	--	--	0.970	0.970
MAR										
04...	71	7.2	12	<0.10	119	109	0.16	537	1.17	1.17
APR										
08...	72	--	--	--	--	--	--	--	--	1.29
JUN										
03...	75	8.1	6.5	<0.10	116	106	0.16	1280	--	1.29
AUG										
19...	90	7.0	12	<0.10	133	126	0.18	--	--	0.250
DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)
OCT										
09...	2.6	0.040	0.040	0.13	0.610	0.620	0.200	0.190	0.26	0.24
DEC										
17...	4.3	0.030	0.030	0.10	1.00	1.00	0.040	0.050	0.05	0.06
MAR										
04...	5.2	0.030	0.030	0.10	1.20	1.20	0.030	<0.010	0.04	--
APR										
08...	5.7	--	0.010	0.03	1.30	1.30	0.010	0.020	0.01	0.03
JUN										
03...	5.7	--	0.010	0.03	1.30	1.30	0.020	0.020	0.03	0.03
AUG										
19...	1.1	--	0.010	0.03	0.260	0.260	0.380	0.390	0.49	0.50

ARKANSAS RIVER BASIN

07198000 ILLINOIS RIVER NEAR GORE, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHATE, TOTAL (MG/L AS PO4) (00650)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, TOTAL (MG/L AS P) (70507)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)
OCT										
09...	0.40	0.60	1.2	5.4	0.070	0.09	0.050	0.030	0.020	0.06
DEC										
17...	0.36	0.40	1.4	6.2	0.040	0.09	0.020	0.030	0.030	0.09
MAR										
04...	0.27	0.30	1.5	6.6	0.010	--	0.020	<0.010	<0.010	--
APR										
08...	--	<0.20	--	--	--	--	0.030	<0.010	<0.010	--
JUN										
03...	0.18	0.20	1.5	6.6	--	0.03	0.050	0.010	<0.010	--
AUG										
19...	0.32	0.70	0.96	4.2	0.100	0.09	0.050	0.030	0.020	0.06



**Geostationary Operational Earth Satellite (GOES)
Data-Collection System**

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 Lumpmouth Creek, and at mile 263.3.
DRAINAGE AREA.--25,276 mi², of which 4,801 mi² is probably noncontributing.

WATER-DISCHARGE RECORDS

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 National Geodetic Vertical Datum of 1929 (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.

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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e39	110	143	e296	e400	e220	e280	e142	793	e370	e150	e82
2	e37	81	148	e315	e340	217	e245	e136	858	e290	e145	e68
3	36	69	146	e320	e310	215	e215	e133	745	e240	e140	e62
4	31	71	141	e300	e300	279	e210	e130	497	e200	e200	e55
5	30	67	137	e290	e290	271	e204	126	407	e160	163	e50
6	30	69	138	e260	e275	e260	e203	112	389	129	e150	e46
7	30	68	143	e270	e269	e245	e202	105	e370	93	e140	e44
8	29	67	146	e272	e265	e230	e200	95	e355	75	e132	e60
9	29	79	143	e255	e260	e270	e198	89	e345	67	e126	e52
10	29	77	138	e240	e280	e260	e195	82	511	56	e120	e48
11	29	104	146	e230	301	e240	e190	86	1060	296	e115	e44
12	28	111	481	e250	306	e220	e185	144	762	109	e150	e39
13	27	109	236	e270	305	e210	e183	115	788	72	e130	e34
14	25	110	200	e240	305	e195	e180	93	480	96	180	e32
15	26	118	211	e230	301	e185	e178	79	e400	124	171	e31
16	25	209	198	e220	296	e180	e174	72	e300	323	155	e30
17	25	429	197	e195	286	e173	e172	81	e230	499	146	e30
18	24	255	187	e185	276	e330	e170	80	e190	262	482	e29
19	23	221	290	e170	e270	e250	e375	77	e230	189	534	e28
20	24	209	1740	e168	e270	e220	e270	130	e280	187	371	e28
21	26	204	743	e180	e268	e210	e190	123	e250	4230	e250	e29
22	25	191	431	e210	e260	e205	e180	144	e230	889	e150	e28
23	26	177	484	e230	e258	e200	e174	128	e210	438	e110	e27
24	26	169	356	e245	e390	e250	e168	122	e190	301	87	e27
25	29	152	328	e250	323	e245	e167	202	e170	254	e200	e28
26	50	142	e312	e350	e285	e240	e163	308	e160	220	1010	e27
27	49	129	e305	e450	e250	e254	e160	267	e150	197	427	e26
28	98	132	e302	e510	e230	e235	e156	325	810	188	e300	e26
29	81	145	e300	e500	e225	e220	e155	332	629	176	e210	e26
30	53	138	e298	e450	---	e210	e150	283	439	166	e150	e26
31	68	---	e295	e430	---	e204	---	451	---	e160	e100	---
TOTAL	1107	4212	9463	8781	8394	7143	5892	4792	13228	11056	6894	1162
MEAN	35.7	140	305	283	289	230	196	155	441	357	222	38.7
MAX	98	429	1740	510	400	330	375	451	1060	4230	1010	82
MIN	23	67	137	168	225	173	150	72	150	56	87	26
AC-FT	2200	8350	18770	17420	16650	14170	11690	9500	26240	21930	13670	2300

e Estimated

ARKANSAS RIVER BASIN
07228500 CANADIAN RIVER AT BRIDGEPORT, OK--Continued

281

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1992, BY WATER YEAR (WY)

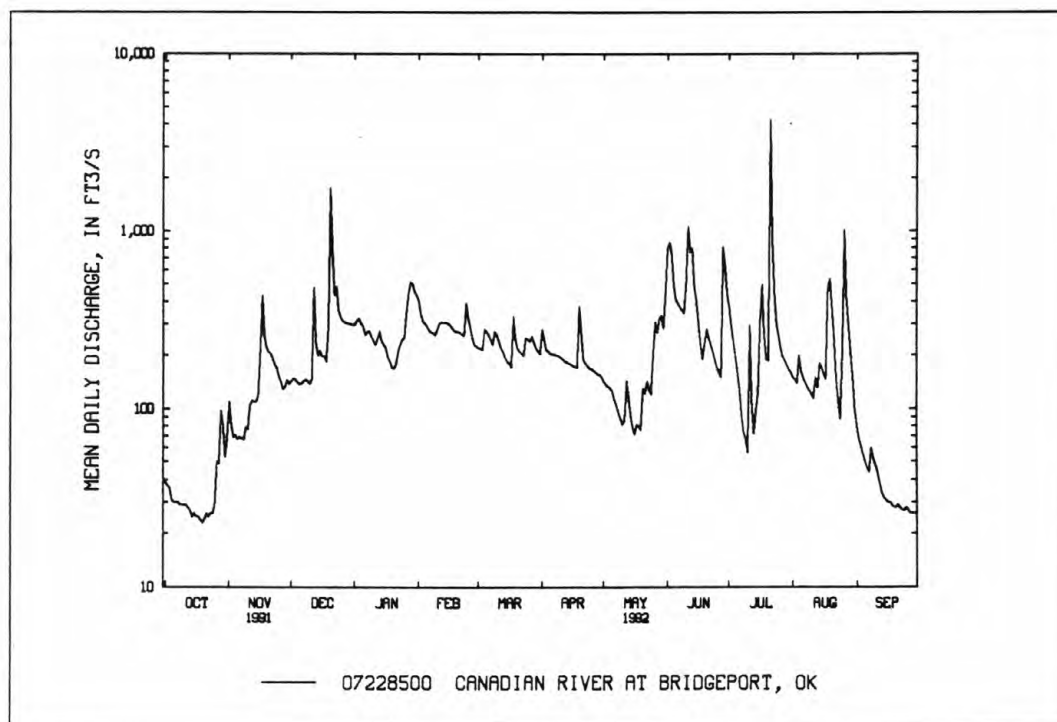
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	217	210	149	205	217	437	329	773	514	117	119	162
MAX	2412	1525	651	1162	462	1907	1005	4188	2212	500	1036	1170
(WY)	1987	1975	1988	1988	1975	1973	1973	1987	1983	1979	1974	1986
MIN	7.01	17.5	16.2	22.5	36.8	60.8	20.5	13.4	12.9	3.18	.14	1.14
(WY)	1979	1971	1979	1979	1981	1977	1971	1971	1970	1970	1970	1984

SUMMARY STATISTICS	1991 CALENDAR YEAR		1992 WATER YEAR		WATER YEARS 1970-92	
ANNUAL TOTAL	49963.0		82124			
ANNUAL MEAN	137		224		^a 288	
HIGHEST ANNUAL MEAN					1018	
LOWEST ANNUAL MEAN					70.2	
HIGHEST DAILY MEAN	1740	Dec 20	4230	Jul 21	42100	May 29 1987
LOWEST DAILY MEAN	7.6	Aug 4	23	Oct 19	.00	at times
ANNUAL SEVEN-DAY MINIMUM	8.4	Jul 30	25	Oct 14	.00	Aug 3 1970
INSTANTANEOUS PEAK FLOW			8090	Jul 21	^b 86100	May 17 1982
INSTANTANEOUS PEAK STAGE			14.04	Jul 21	^c 17.55	May 17 1982
ANNUAL RUNOFF (AC-FT)	99100		162900		208500	
10 PERCENT EXCEEDS	250		389		458	
50 PERCENT EXCEEDS	132		189		90	
90 PERCENT EXCEEDS	16		31		9.8	

^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.

^cMaximum gage height for period of record, 14.60 ft June 23, 1948, from flood mark.



ARKANSAS RIVER BASIN

07228500 CANADIAN RIVER AT BRIDGEPORT, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1949-61, 1964, 1970 to June 1992 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1948 to September 1960, October 1969 to April 1982.

WATER TEMPERATURE: October 1948 to September 1960, October 1969 to April 1982.

REMARKS.--Samples were collected quarterly and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY	AGENCY	DIS-	SPE-	PH	TEMPER-	TEMPER-	BARO-	OXYGEN,	HARD-		
		COL- LECTING SAMPLE (CODE NUMBER) (00027)	ANA- LYZING SAMPLE (CODE NUMBER) (00028)	CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	CIFIC CON- DUCT- ANCE (US/CM) (00095)	WATER WHOLE FIELD (STAND- ARD UNITS) (00400)		ATURE AIR (DEG C) (00020)	ATURE WATER (DEG C) (00010)	METRIC PRES- SURE (MM OF HG) (00025)		DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	
NOV													
13...	1000	1028	80020	110	1790	8.3	16.0	10.5	730	10.8	670		
MAR													
02...	1200	1028	80020	217	2110	8.4	23.5	15.5	730	10.5	670		
MAY													
05...	1300	1028	80020	126	2220	8.4	27.0	24.5	730	8.8	700		
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)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION SODIUM RATIO (MG/L PERCENT) (00932) (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA- LITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)		
NOV													
13...	460	190	46	140	31	2	4.7	231	8	203	200		
MAR													
02...	480	170	58	200	39	3	4.7	216	4	183	280		
MAY													
05...	530	180	61	230	41	4	5.8	198	5	170	330		
DATE		FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
NOV													
13...	0.70	15	1260	1160	1.71	374	0.890	3.9	0.050	0.16	0.940	0.110	
MAR													
02...	0.90	11	1430	1320	1.94	838	--	--	<0.010	--	0.260	<0.010	
MAY													
05...	1.5	18	1500	1440	2.04	510	--	--	<0.010	--	<0.050	0.010	

ARKANSAS RIVER BASIN

283

07228500 CANADIAN RIVER AT BRIDGEPORT, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

	NITRO- GEN, AMMONIA DIS- SOLVED DATE	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)
	(71846)	(00671)	(00660)	(01000)	(01005)	(01010)	(01020)	(01025)	(01030)	(01035)	(01040)

NOV

13... 0.14 0.080 0.25 4 150 <0.5 160 <1.0 <5 <3 <10

MAR

02... -- 0.010 0.03 8 120 <2 150 15 <20 <9 <30

MAY

05... 0.01 <0.010 -- 4 130 <2 230 <3.0 <20 <9 <30

	IRON, DIS- SOLVED DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
	(01046)	(01049)	(01130)	(01056)	(71890)	(01060)	(01065)	(01075)	(01080)	(01085)	(01090)

NOV

13... 5 <10 46 11 <0.1 <10 <10 <1.0 1900 <6 5

MAR

02... 17 <30 63 15 <0.1 <30 <30 <3.0 2100 <18 <9

MAY

05... <9 <30 59 8 <0.1 <30 <30 <3.0 2300 <18 9

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.

GAGE.--Water-stage recorder. Datum of gage is 1,017.14 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. 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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	156	495	610	886	e850	596	386	166	1280	396	724	342
2	142	322	691	961	e800	593	e350	166	4400	334	701	354
3	123	315	746	964	e750	603	e312	161	1830	293	670	487
4	127	313	757	800	e725	2390	e308	153	726	281	648	344
5	123	306	754	770	e700	1670	e300	145	465	283	1260	298
6	126	306	719	730	e675	692	e290	129	565	328	1640	1240
7	119	306	707	759	e650	510	e288	120	507	378	e600	e1600
8	105	296	705	760	e600	465	e284	112	434	359	e800	e800
9	104	292	695	703	e550	580	e280	102	430	330	e450	e600
10	107	292	682	651	e500	371	e275	129	394	290	e330	e500
11	104	298	698	577	e485	394	e270	808	355	260	e500	e800
12	96	306	3910	634	586	422	470	453	560	226	e1100	e600
13	95	306	4220	688	e560	459	690	279	344	184	e600	e540
14	83	323	2770	673	e530	431	311	254	378	401	e500	e500
15	78	329	2080	605	e520	414	217	249	362	464	e600	e450
16	74	964	1980	e500	e500	405	217	257	325	519	e500	e410
17	71	2620	1870	397	e475	452	750	334	320	414	e400	e380
18	69	1600	1930	335	e450	496	474	317	320	e350	1600	e360
19	62	1080	2410	321	441	859	2480	339	321	e310	e800	e340
20	76	700	19200	303	451	563	970	335	381	e280	e500	e450
21	77	578	13400	312	453	350	666	364	320	e260	e700	e380
22	71	554	5650	379	444	323	467	367	320	3390	e500	e500
23	73	538	4200	413	528	304	348	353	320	1200	e400	e410
24	75	529	2520	417	649	325	280	427	315	683	e300	e350
25	126	492	1410	452	941	305	204	419	399	645	e250	e320
26	194	469	1050	511	860	293	177	368	321	562	e300	e250
27	177	482	905	710	715	291	168	454	314	2630	3310	e220
28	1870	509	850	866	747	346	184	741	437	1490	1340	e190
29	1640	582	872	881	645	386	187	1070	841	810	638	e150
30	594	623	858	e875	---	363	179	571	470	710	426	e120
31	465	---	804	e880	---	347	---	516	---	671	397	---
TOTAL	7402	17125	80653	19713	17780	16998	12782	10658	18754	19731	23484	14285
MEAN	239	571	2602	636	613	548	426	344	625	636	758	476
MAX	1870	2620	19200	964	941	2390	2480	1070	4400	3390	3310	1600
MIN	62	292	610	303	441	291	168	102	314	184	250	120
AC-FT	14680	33970	160000	39100	35270	33720	25350	21140	37200	39140	46580	28330

e Estimated

ARKANSAS RIVER BASIN
07229200 CANADIAN RIVER AT PURCELL, OK--Continued

285

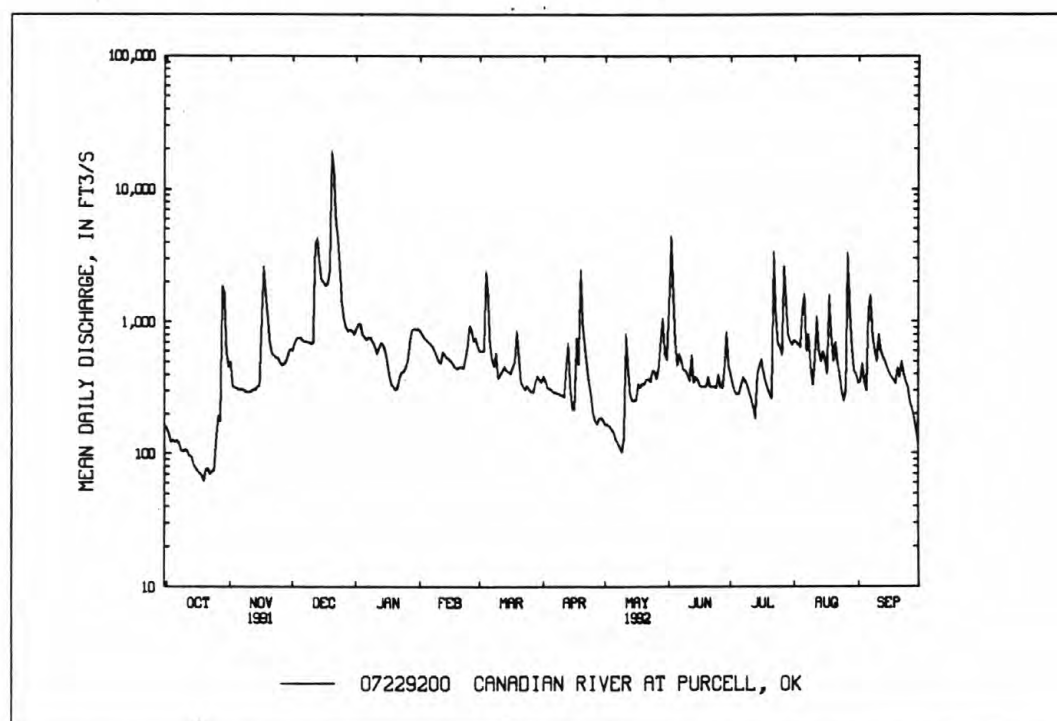
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	865	476	651	590	549	992	716	1908	1361	372	207	415
MAX	7083	2648	2602	2055	1865	2638	2219	5959	5863	1216	758	993
(WY)	1987	1987	1992	1987	1987	1990	1990	1987	1989	1987	1992	1988
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

SUMMARY STATISTICS	1991 CALENDAR YEAR		1992 WATER YEAR		WATER YEARS 1980-92	
ANNUAL TOTAL	190582.5		259365			
ANNUAL MEAN	522		709		760	
HIGHEST ANNUAL MEAN					2287	
LOWEST ANNUAL MEAN					117	
HIGHEST DAILY MEAN	19200	Dec 20	19200	Dec 20	71000	May 29 1987
LOWEST DAILY MEAN	4.4	Aug 20	62	Oct 19	^a .00	Aug 2 1980
ANNUAL SEVEN-DAY MINIMUM	8.8	Aug 14	71	Oct 17	.00	Aug 6 1980
INSTANTANEOUS PEAK FLOW			27300	Dec 20	102000	May 29 1987
INSTANTANEOUS PEAK STAGE			11.13	Dec 20	^b 14.75	May 29 1987
ANNUAL RUNOFF (AC-FT)	378000		514500		550700	
10 PERCENT EXCEEDS	870		1090		1400	
50 PERCENT EXCEEDS	269		451		291	
90 PERCENT EXCEEDS	41		166		27	

^aNo flow at times in 1980.

^bFrom high-water mark.



ARKANSAS RIVER BASIN
07229300 WALNUT CREEK AT PURCELL, OK

LOCATION.--Lat 34°59'56", long 97°22'00", NW 1/4 NW 1/4 sec.13, T.6 N., R.2 W., McClain County, Hydrologic Unit 11090202, on downstream side of right bank pier of bridge on U.S. Highway 77, at south edge of Purcell, and at mile 1.0.

DRAINAGE AREA.--202 mi².

PERIOD OF RECORD.--Water years 1951-55, 1958-65 (occasional low-flow measurements). October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,014.57 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1984, datum 3.00 ft higher.

REMARKS.--Records fair.

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. 20	1145	8,890	15.15	May 11	1145	3,970	11.85
Apr. 19	0545	5,580	13.06	July 27	1015	9,570	15.56

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e25	67	43	119	82	69	61	93	426	84	529	66
2	e23	e53	55	111	80	67	60	91	1370	81	266	59
3	22	55	58	109	79	66	59	89	370	73	85	74
4	21	e53	51	106	78	339	58	86	118	69	178	56
5	21	e50	48	101	75	113	56	86	93	63	125	52
6	21	e48	46	95	76	78	56	84	272	59	87	118
7	22	e49	45	93	78	74	58	80	144	55	78	70
8	22	e47	43	91	77	74	56	79	118	50	75	54
9	21	e45	42	88	77	106	54	76	183	48	72	48
10	21	e46	41	86	77	70	53	78	136	46	65	196
11	22	e44	50	88	77	66	53	1480	101	45	122	104
12	22	e42	549	88	92	67	106	293	95	45	101	49
13	22	e43	97	119	86	65	76	113	90	44	71	46
14	22	e41	75	131	84	64	62	88	84	76	70	43
15	21	e40	74	104	76	63	58	75	83	59	69	41
16	21	441	71	e94	71	63	101	69	81	187	63	40
17	21	312	69	96	71	65	1100	82	71	114	61	39
18	21	e70	67	89	68	72	226	95	64	65	88	37
19	21	e60	399	83	66	66	2820	96	65	57	98	44
20	20	54	5460	85	69	66	423	165	67	54	74	42
21	23	51	962	86	69	67	192	161	62	67	67	43
22	22	51	753	93	70	67	139	158	61	58	62	41
23	22	50	404	86	74	64	114	224	69	53	57	40
24	22	48	204	77	88	66	103	117	78	51	57	38
25	26	48	164	74	99	68	97	123	75	49	55	38
26	29	48	146	75	78	66	95	167	67	46	98	36
27	29	47	133	125	74	63	94	128	58	4070	98	35
28	968	47	129	133	72	62	94	361	326	451	61	35
29	66	45	121	96	70	63	102	254	578	125	52	34
30	e50	42	117	87	---	62	99	138	112	73	48	34
31	71	---	115	82	---	60	---	126	---	163	57	---
TOTAL	1760	2137	10631	2990	2233	2421	6725	5355	5517	6580	3089	1652
MEAN	56.8	71.2	343	96.5	77.0	78.1	224	173	184	212	99.6	55.1
MAX	968	441	5460	133	99	339	2820	1480	1370	4070	529	196
MIN	20	40	41	74	66	60	53	69	58	44	48	34
AC-FT	3490	4240	21090	5930	4430	4800	13340	10620	10940	13050	6130	3280

e Estimated

ARKANSAS RIVER BASIN

287

07229300 WALNUT CREEK AT PURCELL, OK--Continued

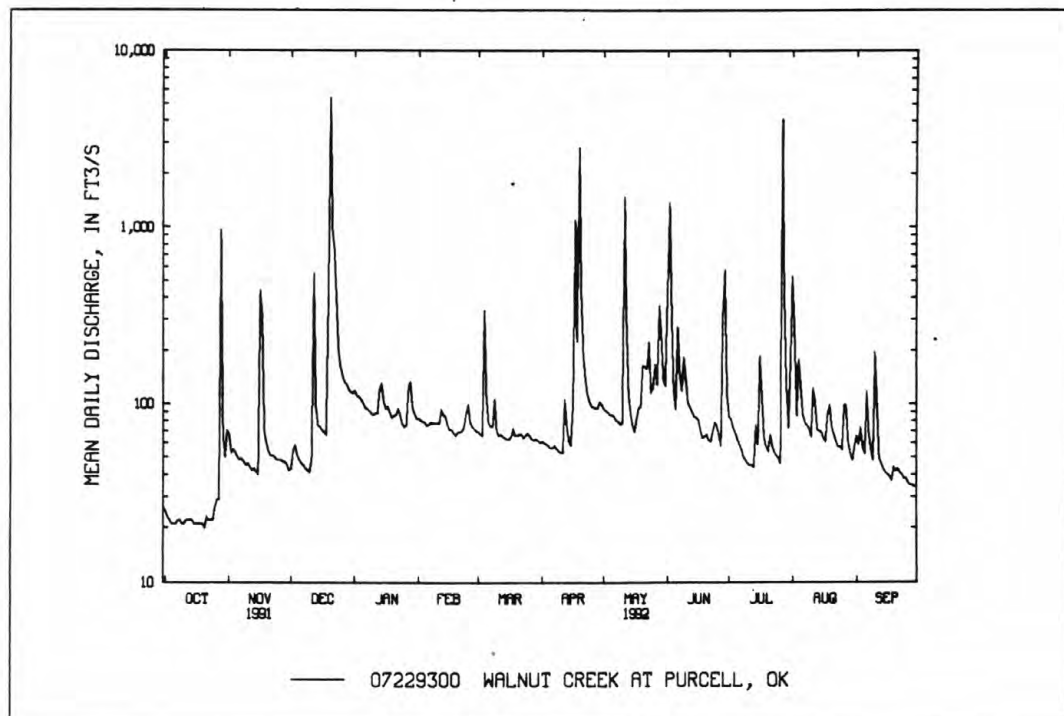
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	106	43.2	55.5	43.2	71.0	99.8	101	174	117	49.4	24.7	46.8
MAX	1399	236	386	219	707	619	453	703	696	293	99.6	305
(WY)	1984	1987	1985	1985	1985	1985	1990	1990	1989	1987	1992	1970
MIN	.30	2.78	2.62	3.87	1.72	3.25	7.47	5.05	5.92	1.00	.24	.28
(WY)	1979	1979	1967	1967	1967	1967	1981	1981	1972	1978	1978	1978

SUMMARY STATISTICS	1991 CALENDAR YEAR		1992 WATER YEAR		WATER YEARS 1966 - 92	
ANNUAL TOTAL	26996.8		51090			
ANNUAL MEAN	74.0		140		77.8	
HIGHEST ANNUAL MEAN					249	
LOWEST ANNUAL MEAN					11.9	
HIGHEST DAILY MEAN	5460	Dec 20	5460	Dec 20	31400	Oct 20 1983
LOWEST DAILY MEAN	2.2	Aug 10	20	Oct 20	.00	^a Jun 3 1966
ANNUAL SEVEN-DAY MINIMUM	2.5	Aug 7	21	Oct 14	.00	Jul 2 1966
INSTANTANEOUS PEAK FLOW			9570	Jul 27	^b 67700	Oct 20 1983
INSTANTANEOUS PEAK STAGE			15.56	Jul 27	21.40	Oct 20 1983
ANNUAL RUNOFF (AC-FT)	53550		101300		56370	
10 PERCENT EXCEEDS	76		166		111	
50 PERCENT EXCEEDS	28		71		22	
90 PERCENT EXCEEDS	9.5		40		2.1	

^aNo flow at times in 1966-67 and 1984.

^bFrom rating curve extended above 20,000 ft³/s on basis of contracted opening at peak.



ARKANSAS RIVER BASIN

07229900 LAKE THUNDERBIRD NEAR NORMAN, OK

LOCATION.--Lat 35°13'15", long 97°13'05", 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 National Geodetic Vertical Datum of 1929.

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, 13,500 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, 140,900 acre-ft, Dec. 23, elevation, 1,042.30 ft; minimum, 116,500 acre-ft, Oct. 25 elevation, 1,038.49 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Diversions (acre-feet)
Sept. 30.....	1038.95	119,300	-	-
Oct. 31.....	1039.22	120,900	+1,600	1,501
Nov. 30.....	1039.11	120,200	-700	1,112
Dec. 31.....	1040.93	131,700	+11,500	1,206
CAL YR. 91	-	-	+11,900	-
Jan. 31.....	1039.14	120,400	-11,300	1,267
Feb. 28.....	1039.14	120,400	-	1,195
Mar. 31.....	1039.11	122,200	-200	1,379
Apr. 30.....	1039.11	120,200	-	1,436
May 31.....	1039.06	119,900	-300	1,644
June 30.....	1039.61	123,300	+3,400	1,534
July 31.....	1039.96	125,500	+2,200	1,953
Aug. 31.....	1039.01	119,600	-5,900	1,618
Sept. 30.....	1038.87	118,800	-800	1,576
WTR YR 92	-	-	-500	-



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 National Geodetic Vertical Datum of 1929. 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 discharges. Records good. Flow regulated by Lake Thunderbird since March 1965 (station 07229900). In prior years, occasional small diversions above station for irrigation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.79	287		.70 1010	132	147	.79	.88	295	285	111	1.2
2	.78	286		.75 1000	132	147	.77	.87	104	285	1.3	1.2
3	.78	134		.64 1000	132	147	.78	.87	183	285	159	1.2
4	.78	.87	221	.996	133	147	.78	.85	442	284	83	1.1
5	.78	.86	365	.987	134	147	.78	.84	529	284	2.3	1.1
6	.78	.86	224	.654	134	216	.82	.82	194	223	1.7	1.4
7	.78	.85	.69	259	57	258	.78	.83	1.0	70	210	1.1
8	.78	.79	.69	93	2.0	241	.78	.87	1.0	.95	412	112
9	.75	.78	.69	.70	1.9	2.0	.79	.82	176	.96	410	243
10	.75	.78	.69	.69	1.9	207	.83	.89	299	.93	632	162
11	.74	.78	.84	.69	2.0	352	.83	1.4	432	.94	641	160
12	.75	.74	.81	.69	2.0	175	.91	.85	458	.90	691	271
13	.73	.70	336	.78	84	1.3	.79	.84	401	.89	797	270
14	1.0	.72	572	.66	141	1.3	.80	.83	400	1.1	688	269
15	.66	.70	570	.58	141	1.3	.83	.82	400	.89	529	119
16	.68	1.1	567	.81	141	1.3	.96	.79	400	1.5	527	1.2
17	.73	.75	293	145	141	1.3	1.1	1.2	238	.92	527	1.2
18	.77	308	.66	145	141	1.1	.88	285	1.0	.87	527	1.2
19	.78	566	1.5	145	141	.79	1.1	542	.99	.87	431	1.3
20	.80	562	2.3	146	141	.86	1.2	538	1.1	.87	279	1.2
21	.99	561	.73	146	141	.88	188	536	.97	.88	198	1.2
22	.74	340	.96	145	57	.84	460	393	.97	.90	153	1.2
23	.62	.67	196	146	2.2	.81	544	295	.97	.87	153	1.2
24	.65	.68	536	85	2.6	.83	542	295	.97	.87	58	1.3
25	.73	.60	571	.71	2.2	.80	541	295	2.6	.87	1.4	1.3
26	.68	.61	570	.76	2.2	.81	539	294	165	.91	1.4	1.3
27	.70	.60	568	.83	2.2	.81	539	295	288	2.3	1.3	1.4
28	2.1	.69	567	77	83	.78	539	296	130	.89	1.3	1.3
29	.68	.70	565	132	147	.79	220	295	.97	102	1.3	1.5
30	159	.64	808	132	---	1.1	.94	295	175	172	1.3	1.6
31	288	---	1020	132	---	.74	---	295	---	172	1.3	---
TOTAL	470.28	3060.47	8561.65	7663.09	2374.2	2204.44	4130.24	4964.27	5721.54	2183.08	8230.6	1633.7
MEAN	15.2	102	276	247	81.9	71.1	138	160	191	70.4	266	54.5
MAX	288	566	1020	1010	147	352	544	542	529	285	797	271
MIN	.62	.60	.64	.58	1.9	.74	.77	.79	.97	.87	1.3	1.1
AC-FT	933	6070	16980	15200	4710	4370	8190	9850	11350	4330	16330	3240

ARKANSAS RIVER BASIN

291

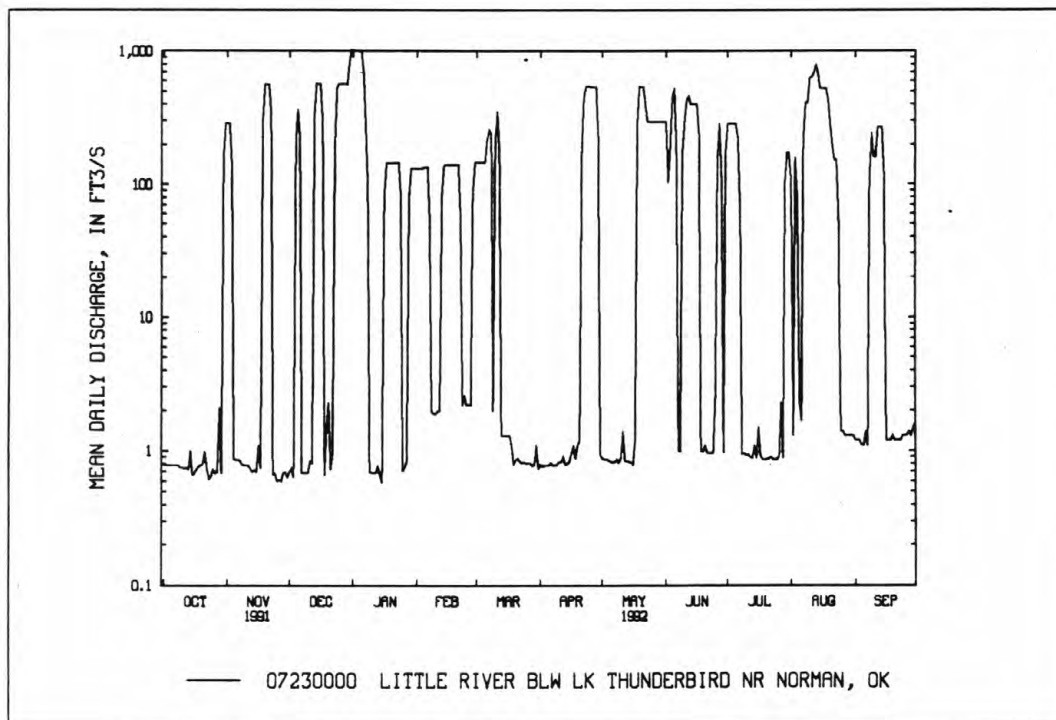
07230000 LITTLE RIVER BELOW LAKE THUNDERBIRD NEAR NORMAN, OK--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	37.0	46.0	27.0	37.1	31.6	82.4	87.8	105	127	30.3	16.8	6.46
MAX	489	626	276	438	251	548	625	936	512	323	266	96.5
(WY)	1987	1984	1992	1985	1987	1985	1985	1990	1975	1989	1992	1989
MIN	.16	.18	.16	.17	.18	.18	.25	.20	.21	.19	.22	.20
(WY)	1966	1967	1966	1966	1967	1966	1966	1966	1967	1967	1967	1966

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1966-92

ANNUAL TOTAL	24843.04	51197.56	
ANNUAL MEAN	68.1	140	^a 52.9
HIGHEST ANNUAL MEAN			251 1985
LOWEST ANNUAL MEAN			.22 1966
HIGHEST DAILY MEAN	1020 Dec 31	1020 Dec 31	1280 May 14 1990
LOWEST DAILY MEAN	.48 Feb 10	.58 Jan 15	^b .10 Oct 1 1965
ANNUAL SEVEN-DAY MINIMUM	.54 Feb 6	.65 Nov 24	.10 Oct 19 1965
INSTANTANEOUS PEAK FLOW		1040 Dec 30	^c 1450 May 10 1990
INSTANTANEOUS PEAK STAGE		6.78 Dec 30	^d 8.62 Oct 26 1983
ANNUAL RUNOFF (AC-FT)	49280	101600	38300
10 PERCENT EXCEEDS	302	528	190
50 PERCENT EXCEEDS	.79	1.4	.58
90 PERCENT EXCEEDS	.61	.74	.30

^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 1/4 NE 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 National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Records fair. 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. pt. 16, gage height, 15.49 ft; minimum daily discharge, 4.9 ft³/s, Aug. 26, 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e34	561	e60	1210	187	204	42	84	733	385	276	e50
2	e30	562	161	1170	183	202	46	71	835	402	321	e45
3	e28	499	e90	1150	181	207	41	64	384	526	159	e40
4	e26	e125	e287	1140	177	551	40	60	495	346	320	e35
5	e25	e91	e474	1150	174	344	38	57	740	308	1510	e30
6	e24	e60	e291	956	173	306	40	53	786	269	678	256
7	23	e58	e150	327	153	418	43	51	108	e200	379	210
8	23	e55	e90	259	42	407	39	50	57	e110	682	e170
9	23	e53	53	81	37	223	37	49	363	e80	640	200
10	23	e51	43	69	43	137	35	49	414	e65	747	588
11	22	e50	45	65	116	379	33	5450	681	e52	1070	486
12	21	e48	723	66	975	352	205	1830	664	e50	888	565
13	21	e47	397	163	276	84	94	553	440	e54	1150	542
14	20	e46	684	204	318	65	65	214	536	e60	1090	530
15	18	e44	646	132	275	58	57	99	600	e70	752	508
16	19	429	643	95	250	53	52	82	450	625	737	e190
17	18	697	479	240	246	52	419	311	365	280	724	e130
18	18	382	79	237	226	75	210	565	155	e150	757	e98
19	17	858	594	209	215	62	2510	853	152	e98	750	e78
20	18	705	4840	214	208	51	965	798	271	e84	339	e64
21	19	646	2070	211	204	49	385	708	65	e64	263	e54
22	19	557	1310	279	182	63	608	550	e60	e54	e230	e47
23	19	e150	911	250	76	56	856	455	55	e45	e198	e40
24	19	e90	969	194	118	53	779	353	e50	e38	e160	e35
25	24	e60	969	62	148	54	721	330	1140	e33	e100	e32
26	42	e50	976	45	86	50	695	325	381	e28	e80	e29
27	28	e45	975	93	73	47	660	254	443	1940	e65	e26
28	1780	e40	958	183	81	49	683	821	714	486	e60	e24
29	528	e38	924	231	204	51	644	452	812	165	e58	e22
30	238	e50	925	205	---	45	126	350	225	439	e58	e21
31	877	---	1160	195	---	41	---	306	---	569	e56	---
TOTAL	4044	7147	22976	11085	5627	4788	11168	16247	13174	8075	15297	5145
MEAN	130	238	741	358	194	154	372	524	439	260	493	171
MAX	1780	858	4840	1210	975	551	2510	5450	1140	1940	1510	588
MIN	17	38	43	45	37	41	33	49	50	28	56	21
AC-FT	8020	14180	45570	21990	11160	9500	22150	32230	26130	16020	30340	10210

e Estimated

ARKANSAS RIVER BASIN
07230500 LITTLE RIVER NEAR TECUMSEH, OK--Continued

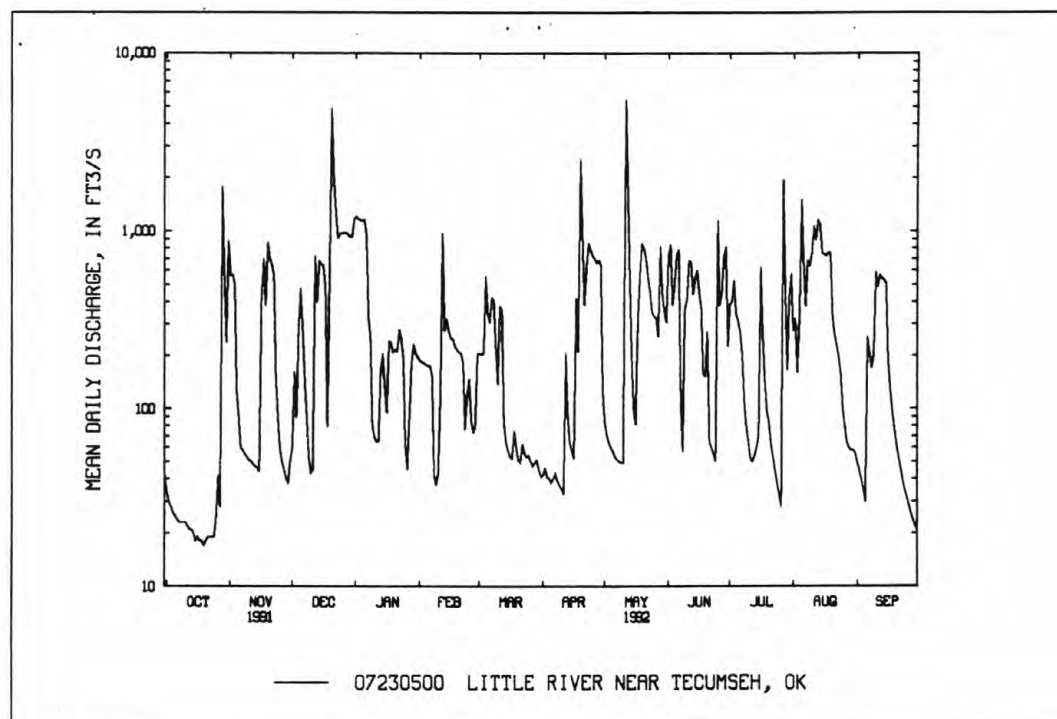
293

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	127	99.7	81.7	87.9	102	189	244	304	257	64.1	40.4	56.8
MAX	898	628	741	844	783	1086	1265	1687	676	505	493	477
(WY)	1984	1984	1992	1985	1985	1990	1990	1990	1985	1989	1992	1970
MIN	.009	2.27	2.12	2.74	2.45	4.49	5.55	9.25	5.53	1.38	.000	.22
(WY)	1979	1981	1979	1981	1967	1966	1981	1981	1972	1967	1972	1980

SUMMARY STATISTICS	1991 CALENDAR YEAR		1992 WATER YEAR		WATER YEARS 1966-92	
ANNUAL TOTAL	79693.1		124773			
ANNUAL MEAN	218		341		^a 138	
HIGHEST ANNUAL MEAN					511	
LOWEST ANNUAL MEAN					9.34	
HIGHEST DAILY MEAN	4840	Dec 20	5450	May 11	9740	May 3 1990
LOWEST DAILY MEAN	4.9	Aug 26	17	Oct 19	.00	at times
ANNUAL SEVEN-DAY MINIMUM	5.5	Aug 21	18	Oct 15	.00	Jun 23 1966
INSTANTANEOUS PEAK FLOW			6300	May 11	32400	May 25 1957
INSTANTANEOUS PEAK STAGE			16.53	May 11	19.68	May 18 1949
ANNUAL RUNOFF (AC-FT)	158100		247500		99840	
10 PERCENT EXCEEDS	636		825		446	
50 PERCENT EXCEEDS	38		179		15	
90 PERCENT EXCEEDS	12		35		1.2	

^aPrior to regulation, water years 1944-64, 149 ft³/s.



, ARKANSAS RIVER BASIN
07231000 LITTLE RIVER NEAR SASAKWA, OK

LOCATION.--Lat 34°59'02", long 96°33'01", NE 1/4 sec.22, T.6 N., R.7 E., Seminole County, Hydrologic Unit 11090203, near left abutment on downstream side of county road bridge, 2.8 mi northwest of Sasakwa, 8.7 mi downstream from Salt Creek, and at mile 24.1.

DRAINAGE AREA.--865 mi².

WATER-DISCHARGE RECORDS

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 744.34 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Apr. 11, 1946, nonrecording gage at same site and datum. Prior to Oct. 1, 1979, gage at same site and datum, 5.00 ft higher.

REMARKS.--Records fair. Flow regulated by Lake Thunderbird (station 07229900) 72.3 mi upstream since March 1965.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	2170	228	1450	381	262	127	497	1330	819	1300	127
2	56	916	645	1440	343	281	126	354	4160	700	799	136
3	52	610	1090	1390	338	282	123	286	3950	787	637	156
4	49	462	629	1350	338	2930	128	239	2510	688	387	128
5	46	267	463	1330	317	2290	127	206	1380	500	2170	113
6	41	202	538	1310	303	998	122	173	3500	424	3420	846
7	37	162	480	1000	305	699	122	147	2530	371	3190	1360
8	38	134	262	569	288	656	128	136	1140	240	1850	678
9	38	119	199	447	214	1100	126	120	1130	144	1190	388
10	36	114	172	299	181	540	118	110	1520	103	987	519
11	36	101	154	264	276	335	112	4360	1380	87	972	847
12	36	96	2640	264	1070	496	421	7040	1220	76	1110	536
13	32	91	2950	328	1970	474	499	7220	1060	67	931	476
14	31	89	1320	680	872	287	298	4430	920	74	1110	455
15	30	95	1070	628	652	235	209	1820	1700	91	1210	424
16	29	1630	891	441	516	208	177	1600	1320	276	858	401
17	27	3520	825	365	443	206	314	1060	925	1150	801	229
18	28	1720	602	446	410	271	874	1660	773	485	767	142
19	29	895	801	422	367	272	2930	2130	461	228	795	1340
20	30	1010	6710	398	341	227	4130	2020	2420	172	771	564
21	29	864	7340	399	327	e188	3540	1430	2230	292	535	387
22	26	779	7290	427	316	e181	1930	1130	1010	100	466	227
23	27	616	5450	445	312	e206	1180	975	613	82	330	141
24	39	223	3090	408	236	e181	1090	1090	538	70	295	104
25	272	159	1810	364	208	e168	966	807	2660	61	275	88
26	631	138	1490	279	278	e161	882	804	2450	54	202	80
27	226	132	1320	273	208	e158	826	724	1330	1390	149	71
28	1440	128	1260	354	187	e143	826	1390	1640	2380	135	66
29	2340	128	1190	432	177	e140	1950	2500	3820	1670	139	61
30	1460	135	1100	429	---	e139	1010	1480	1750	743	131	58
31	1420	---	1240	402	---	e129	---	915	---	2230	116	---
TOTAL	8671	17705	55249	19033	12174	14843	25411	48853	53370	16554	28028	11148
MEAN	280	590	1782	614	420	479	847	1576	1779	534	904	372
MAX	2340	3520	7340	1450	1970	2930	4130	7220	4160	2380	3420	1360
MIN	26	89	154	264	177	129	112	110	461	54	116	58
AC-FT	17200	35120	109600	37750	24150	29440	50400	96900	105900	32830	55590	22110

e Estimated

ARKANSAS RIVER BASIN
07231000 LITTLE RIVER NEAR SASAKWA, OK--Continued

295

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

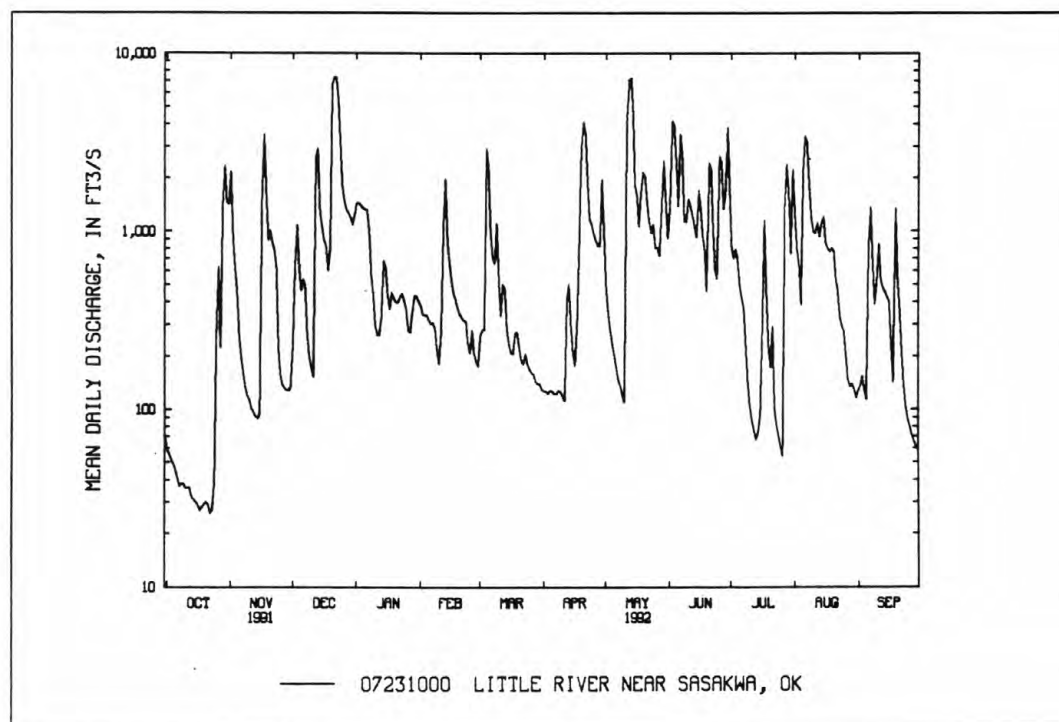
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	295	268	227	196	295	498	598	812	638	127	77.2	121
MAX	2523	1531	1782	1307	1444	2618	3591	2762	1814	684	904	753
(WY)	1971	1974	1992	1985	1985	1990	1990	1990	1982	1989	1992	1970
MIN	.000	.009	.30	1.69	1.80	7.39	17.2	30.7	11.2	2.00	.004	.005
(WY)	1979	1981	1979	1967	1967	1967	1981	1981	1966	1967	1980	1980

SUMMARY STATISTICS	1991 CALENDAR YEAR		1992 WATER YEAR		WATER YEARS 1966-92	
ANNUAL TOTAL	168493.0		311039			
ANNUAL MEAN	462		850		^a 346	
HIGHEST ANNUAL MEAN					964	1985
LOWEST ANNUAL MEAN					19.0	1981
HIGHEST DAILY MEAN	7340	Dec 21	7340	Dec 21	15600	May 1 1985
LOWEST DAILY MEAN	4.4	Aug 25	26	Oct 22	.00	many years
ANNUAL SEVEN-DAY MINIMUM	5.0	Aug 20	28	Oct 17	.00	Nov 23 1965
INSTANTANEOUS PEAK FLOW			8780	May 11	^b 18500	May 1 1985
INSTANTANEOUS PEAK STAGE			24.24	May 11	^c 31.73	May 1 1985
ANNUAL RUNOFF (AC-FT)	334200		616900		250500	
10 PERCENT EXCEEDS	1250		2050		929	
50 PERCENT EXCEEDS	90		428		44	
90 PERCENT EXCEEDS	22		85		.70	

^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

07231000 LITTLE RIVER NEAR SASAKWA, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951 to July 1992 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1955 to April 1982.

WATER TEMPERATURE: October 1955 to April 1982.

REMARKS.--Samples were collected quarterly and specific conductance, pH, water temperature, dissolved oxygen, and alkalinity were determined in the field.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
JUL										
16...	1214	5.00	26.0	737	1028	1028	111	1470	7.1	8.3
16...	1217	15.0	26.0	737	1028	1028	111	1470	7.1	8.3
16...	1222	25.0	26.0	737	1028	1028	111	1470	6.9	8.2
16...	1228	35.0	26.0	737	1028	1028	111	1480	7.0	8.2
16...	1236	45.0	26.0	737	1028	1028	111	1490	6.8	8.2
16...	1240	55.0	26.0	737	1028	1028	111	1490	6.9	8.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
NOV											
13...	1330	1028	80020	92	1310	8.5	16.0	9.5	745	9.8	88
FEB											
27...	1030	1028	80020	208	1220	8.4	12.5	9.0	745	10.7	96
MAY											
27...	1030	1028	80020	725	740	8.2	16.5	18.5	740	8.4	93

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	HARD- NESS NONCARB DISSOLV (MG/L AS CACO3) (00900)	HARD- NESS CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
NOV										
13...	360	74	82	38	140	45	3	3.6	337	288
FEB										
27...	350	76	77	37	130	45	3	2.7	311	269
MAY										
27...	230	24	52	25	63	37	2	2.9	255	209

ARKANSAS RIVER BASIN

297

07231000 LITTLE RIVER NEAR SASAKWA, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)
NOV 13...	27	310	0.30	12	778	787	1.06	193	<0.010	0.064	0.030
FEB 27...	26	250	0.30	9.2	693	696	0.94	389	<0.010	0.071	0.010
MAY 27...	20	120	0.30	8.0	424	418	0.58	830	<0.010	0.090	0.020
DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
NOV 13...	0.04	0.010	0.03	1	340	<0.5	150	1.0	<5	<3	<10
FEB 27...	0.01	<0.010	--	4	330	<0.5	680	<1.0	30	<3	<10
MAY 27...	0.03	0.010	0.03	1	240	<0.5	110	<1.0	<5	<3	<10
DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	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)
NOV 13...	5	<10	12	46	0.1	<10	<10	<1.0	770	<6	<3
FEB 27...	6	<10	14	35	<0.1	<10	<10	<1.0	760	<6	<3
MAY 27...	5	<10	5	6	0.1	<10	<10	1.0	450	<6	<3

ARKANSAS RIVER BASIN

07231500 CANADIAN RIVER AT CALVIN, OK

LOCATION.--Lat 34°58'40", long 96°14'36", in NW 1/4 SW 1/4 sec.22, T.6 N., R.10 E., Hughes County, Hydrologic Unit 11090202, on downstream left bank at north end of bridge on U.S. Highway 75, 0.5 mi northeast of Calvin, 2.6 mi upstream from Shawnee Creek, 8.4 mi downstream from Little River, and at mile 94.1.

DRAINAGE AREA.--27,952 mi², of which 4,801 mi² is probably noncontributing.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1905 to December 1908 (gage heights and discharge measurements only, except for period July 1905 to December 1906), October 1938 to September 1942, July 1944 to current year. Monthly discharge only for some periods, published in WSP 1311. Gage-height records collected in this vicinity since 1904 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 1341: Drainage area. WSP 1391: 1941.

GAGE.--Water-stage recorder and nonrecording gage. Datum of gage is 682.72 ft above National Geodetic Vertical Datum of 1929. January 1905 to December 1908, nonrecording gage at site 0.7 mi upstream at datum 4.00 ft higher. Oct. 1, 1938 to Aug. 12, 1944, nonrecording gage at site 0.2 mi downstream and at same datum. Aug. 13, 1944 to July 31, 1977, water-stage recorder at site 0.2 mi downstream and datum 2.00 ft higher. Aug. 1, 1977 to Nov. 15, 1988, water-stage recorder 0.2 mi downstream and at present datum.

REMARKS.--Records fair. Occasional slight regulation by dams in New Mexico and Texas since 1964; Lake Thunderbird (station 07229900) since March 1965. U.S. Army Corps of Engineers' satellite telemeter at station.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 25,000 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Dec. 20	1745	60,100	12.45	June 2	1915	25,200	8.86
Apr. 19	1445	39,600	10.54	July 27	2300	26,200	9.32
May 11	2115	62,100	12.59				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e720	7330	2710	2670	2300	1370	935	2360	3440	3450	3580	1140
2	e560	3990	4650	2740	2190	1480	887	1870	18300	3490	3320	1150
3	e450	2690	5120	2740	2100	1390	820	1610	16300	4860	3480	1200
4	e430	2330	4290	2950	2050	5160	801	1420	7870	3780	2230	1560
5	e400	2020	3640	2700	1870	8400	819	1290	4490	e2600	10700	1560
6	e380	1720	3410	2500	1760	3760	819	1160	7480	e2050	11700	2500
7	e360	1490	3270	2440	1710	2280	828	1040	6920	e1650	8720	4570
8	349	1430	3220	1970	1640	1710	869	923	4660	1370	4260	3940
9	e355	1430	2670	1680	1530	2680	932	825	5290	e1170	3130	2000
10	e360	1440	2450	1400	1310	1970	1060	722	6810	e980	2560	2540
11	364	1420	2420	1180	1310	1320	1410	18600	5700	e830	2340	3520
12	e360	1340	9870	1220	2360	1170	1390	19300	4180	e700	2520	3710
13	e350	1310	10500	1430	4110	1290	2220	9640	4740	580	3580	1920
14	e335	1290	5680	2430	3210	1180	1940	6950	4980	539	3100	1810
15	e320	1360	5480	2580	2610	1060	2280	3700	5380	703	e2800	1530
16	300	11800	4300	2620	2170	1110	1580	2900	5220	2560	e2190	1380
17	e290	14900	4110	1980	1900	1190	1220	2480	4010	6320	e1600	1250
18	e280	7060	4220	1780	2090	2030	3860	4130	3090	2710	2160	995
19	e300	4670	4130	1800	1720	1940	18000	5430	2610	1800	e1700	2070
20	e350	4650	40400	1640	1490	1570	12500	5970	6210	1670	1470	2530
21	e380	4120	36100	1660	1430	1940	6660	3730	6310	3330	1550	2860
22	e350	4490	16300	2190	1390	1400	4560	3560	4760	2530	2660	2810
23	340	3710	12900	2220	1380	1190	2780	2960	3020	4080	2010	2180
24	2000	3040	5570	2180	1350	1130	2630	2990	2350	3470	1200	1540
25	4530	2590	3250	1870	1270	1060	2640	3000	8430	2510	873	e1260
26	3930	2460	2590	1660	1440	987	2590	2490	8030	2020	779	e1130
27	2200	2340	2520	1540	1730	972	2420	2390	5200	8000	619	e758
28	6010	2240	2470	1820	1850	952	2440	3530	5200	12600	3540	e692
29	10500	2300	2350	2490	1530	879	4360	7850	14100	4150	3000	e680
30	5710	2450	2360	2440	---	876	3380	4830	6010	2420	1670	e664
31	6540	---	2290	2320	---	940	---	3270	---	5620	1280	---

ARKANSAS RIVER BASIN
07231500 CANADIAN RIVER AT CALVIN, OK--Continued

299

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
TOTAL	50103	105410	215240	64840	54800	56386	89630	132920	191090	94542	96321	57449
MEAN	1616	3514	6943	2092	1890	1819	2988	4288	6370	3050	3107	1915
MAX	10500	14900	40400	2950	4110	8400	18000	19300	18300	12600	11700	4570
MIN	280	1290	2290	1180	1270	876	801	722	2350	539	619	664
AC-FT	99380	209100	426900	128600	108700	111800	177800	263600	379000	187500	191100	114000

e Estimated

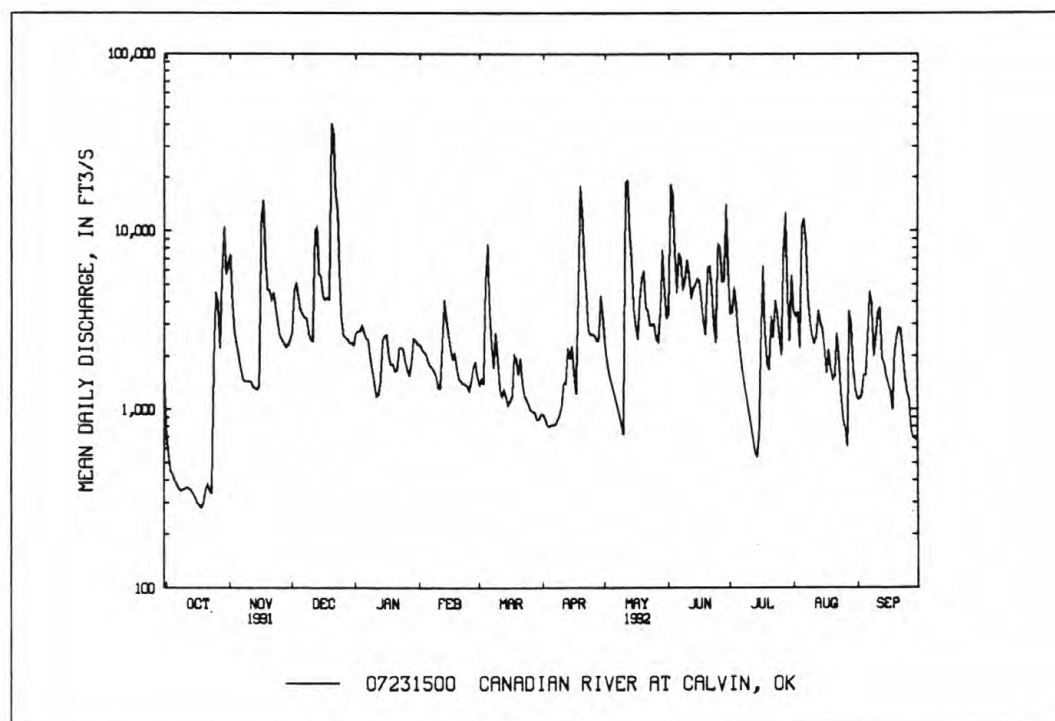
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1906 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1746	1021	876	779	1141	1739	2402	4364	3284	1398	809	1193
MAX	21530	6011	6943	5429	7059	9793	15110	20640	15350	9669	8398	6467
(WY)	1942	1987	1992	1985	1985	1985	1990	1990	1941	1950	1906	1941
MIN	.10	3.82	7.76	16.4	23.4	20.9	45.7	195	33.7	10.8	.068	.000
(WY)	1957	1967	1967	1940	1967	1967	1956	1966	1966	1966	1980	1956

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1906-92

ANNUAL TOTAL	795240	1208731	
ANNUAL MEAN	2179	3303	1734
HIGHEST ANNUAL MEAN			5513
LOWEST ANNUAL MEAN			184
HIGHEST DAILY MEAN	40400	Dec 20	140000
LOWEST DAILY MEAN	34	Aug 13	.00
ANNUAL SEVEN-DAY MINIMUM	40	Aug 7	.00
INSTANTANEOUS PEAK FLOW		62100	174000
INSTANTANEOUS PEAK STAGE		12.59	21.00
ANNUAL RUNOFF (AC-FT)	1577000	2398000	1256000
10 PERCENT EXCEEDS	5430	6310	3900
50 PERCENT EXCEEDS	939	2310	345
90 PERCENT EXCEEDS	320	819	22

^aFrom floodmark, site and datum then in use.



ARKANSAS RIVER BASIN

07231500 CANADIAN RIVER AT CALVIN, OK--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1950-53, 1960-61, 1965 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1965 to January 1982.

WATER TEMPERATURE: July 1965 to January 1982.

REMARKS.--Samples were collected bimonthly. Specific conductance, pH, water temperature, dissolved oxygen, and alkalinity were determined in the field.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	TEMPER- ATURE (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	GAGE HEIGHT (FEET) (00065)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD STAND- ARD UNITS) (00400)
JUL											
14...	1315	5.00	28.5	742	1028	1028	555	3.12	1190	8.6	8.6
14...	1321	25.0	28.0	742	1028	1028	555	3.12	1190	8.7	8.6
14...	1327	45.0	28.0	742	1028	1028	555	3.12	1190	8.9	8.6
14...	1334	65.0	28.5	742	1028	1028	555	3.12	1180	8.8	8.6
14...	1340	85.0	28.5	742	1028	1028	555	3.12	1190	8.8	8.6
14...	1350	105	28.5	742	1028	1028	555	3.12	1190	8.9	8.6
14...	1356	125	28.5	742	1028	1028	555	3.12	1190	8.8	8.6
14...	1403	145	28.5	742	1028	1028	555	3.12	1190	8.9	8.6
14...	1410	165	28.5	742	1028	1028	555	3.12	1180	9.0	8.6
14...	1420	185	29.0	742	1028	1028	555	3.12	1190	8.9	8.6
14...	1430	205	29.0	742	1028	1028	555	3.12	1190	8.9	8.6
14...	1437	225	29.0	742	1028	1028	555	3.12	1190	8.9	8.6
14...	1445	245	29.0	742	1028	1028	555	3.12	1190	8.6	8.6
14...	1452	300	29.0	742	1028	1028	555	3.12	1190	8.0	8.6

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT												
08...	1415	1028	80020	349	1010	8.7	29.0	20.5	17	747	9.6	109
DEC												
16...	1530	1028	80020	4410	689	8.3	16.5	10.0	21	751	11.8	106
MAR												
02...	1430	1028	80020	1490	1250	8.7	24.0	18.0	16	746	12.3	134
JUN												
15...	1300	1028	80020	4700	881	8.3	27.0	24.5	170	739	7.5	93
AUG												
18...	1245	1028	80020	2160	632	8.3	21.5	23.5	48	750	7.8	94

ARKANSAS RIVER BASIN

301

07231500 CANADIAN RIVER AT CALVIN, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

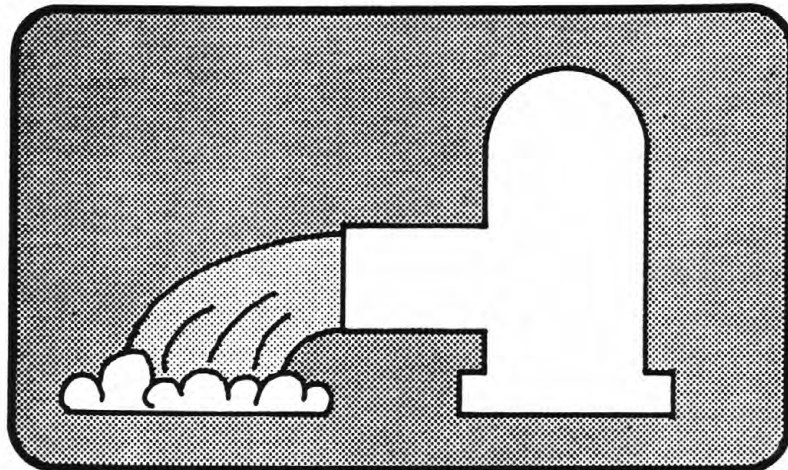
DATE	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER (DIS IT FIELD MG/L AS HCO3) (00453)	CAR- BONATE WATER (DIS IT FIELD MG/L AS CO3) (00452)	
	OCT												
	08...	51	K17	310	92	71	33	93	39	2	4.9	242	14
	DEC												
16...	1200	K2700	230	44	56	21	53	33	2	4.4	222	0	
MAR													
02...	K28	40	400	160	92	42	130	41	3	3.8	280	10	
JUN													
15...	4500	9300	270	93	67	25	72	36	2	3.9	217	0	
AUG													
18...	84	210	220	27	48	23	49	33	1	3.5	229	0	
DATE	ALKA- LINITY WAT DISSULFATE (TOT IT DIS- FIELD SOLVED MG/L AS CACO3) (39086)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00620)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)		
	OCT												
	08...	222	140	140	0.50	8.0	614	625	0.84	579	--	--	
	DEC												
16...	182	70	76	0.40	8.6	460	400	0.63	5480	--	0.320		
MAR											1.4		
02...	246	170	190	0.50	8.3	788	786	1.07	3170	--	--		
JUN													
15...	178	89	120	0.30	9.7	497	496	0.68	--	0.200	--		
AUG													
18...	188	35	70	0.30	8.3	345	351	0.47	2010	--	--		
DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71845)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NJ) (00605)	NITRO- GEN,AM MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	
	OCT												
	08...	<0.010	<0.010	--	<0.050	<0.050	0.020	<0.010	0.03	--	0.78	0.80	--
	DEC												
16...	0.030	0.030	0.10	--	0.350	0.120	0.120	0.15	0.15	1.2	1.3	--	
MAR													
02...	<0.010	<0.010	--	<0.050	<0.050	0.020	<0.010	0.03	--	0.68	0.70	--	
JUN													
15...	0.020	<0.010	--	0.220	0.200	0.030	0.020	0.04	0.03	1.1	1.1	1.3	
AUG													
18...	<0.010	<0.010	--	<0.050	<0.050	--	0.030	--	0.04	--	0.60	--	

ARKANSAS RIVER BASIN

07231500 CANADIAN RIVER AT CALVIN, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHATE, TOTAL (MG/L AS PO4) (00650)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS TOTAL (MG/L AS P) (70507)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, DIS- SOLVED (MG/L AS PO4) (00660)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
OCT 08...	--	0.320	0.21	0.070	0.070	0.050	0.15	<10	280	<3	6
DEC 16...	--	0.330	0.18	0.110	0.060	0.050	0.15	--	--	--	--
MAR 02...	--	0.130	0.03	0.030	0.010	0.010	0.03	<10	300	<3	<3
JUN 15...	5.8	0.230	0.18	0.080	0.060	0.050	0.15	20	210	<3	7
AUG 18...	--	0.110	0.15	0.060	0.050	0.040	0.12	10	200	<3	25
DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	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)	SEDI- MENT, DIS- SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 08...	17	5	<10	2	<1	<1.0	810	10	33	31	73
DEC 16...	--	--	--	--	--	--	--	--	1010	12100	41
MAR 02...	25	6	<10	1	<1	<1.0	1000	<6	135	543	47
JUN 15...	14	3	<10	3	<1	<1.0	650	<6	--	--	--
AUG 18...	6	3	<10	2	<1	<1.0	450	<6	354	2060	66



, ARKANSAS RIVER BASIN
07231955 GAINES CREEK NEAR HIGGINS, OK

LOCATION.--Lat 34°48'57", long 95°28'46", in NE 1/4 SE 1/4, sec. 14, T.4 N., R.17 E., Latimer County, Hydrologic Unit 11090204, 1.0 mile downstream from Beaver Creek, 3.0 mile west of Higgins.

DRAINAGE AREA.--152 mi².

PERIOD OF RECORD.--Water years 1978-1980, 1990 to current year.

REMARKS.--Samples were collected on a six week schedule and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field. Samples were analyzed by the Oklahoma State Department of Health.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY	AGENCY	DIS-	SPE-	PH	TEMPER-	TEMPER-	BARO-	OXYGEN,	DIS-
		COL- LECTING SAMPLE (CODE NUMBER) (00027)	ANA- LYZING SAMPLE (CODE NUMBER) (00028)	CHARGE, INST. (CUBIC FEET PER SECOND) (00061)		CIFIC CON- DUCT- ANCE (US/CM) (00095)		WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	ATURE AIR (DEG C) (00020)		ATURE WATER (DEG C) (00010)
NOV 06...	1030	1028	84042	68	56	7.3	8.5	5.5	750	11.2	91
DEC 04...	1230	1028	84042	--	45	7.1	13.5	6.5	758	11.2	92
JAN 21...	1500	1028	84042	192	63	6.9	11.0	4.5	747	12.8	100
MAR 10...	1130	1028	84042	--	56	7.7	5.0	12.5	752	9.3	89
APR 07...	1300	1028	84042	30	71	7.1	20.5	15.5	748	8.1	83
MAY 27...	1245	1028	84042	48	75	7.1	20.0	18.5	745	7.5	82
JUL 15...	0900	1028	84042	11	90	7.3	23.5	26.0	743	4.7	60
SEP 15...	1300	1028	84042	23	68	7.0	33.5	24.5	750	6.7	82
DATE	HARD- NESS NONCARB WH WAT TOT LAB (MG/L AS CACO3) (00903)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)
NOV 06...	--	4.0	2.0	<10	1.3	16	0	13	<20	<10	<0.1
DEC 04...	--	2.0	1.0	<10	1.0	11	0	9	32	<10	<0.1
JAN 21...	--	3.0	2.0	<10	0.4	12	0	10	<20	<10	<0.1
MAR 10...	--	3.0	2.0	<10	0.7	18	0	15	<20	<10	<0.1
APR 07...	0	4.0	2.0	<10	0.6	20	0	16	<20	<10	<0.1
MAY 27...	0	4.0	2.0	<10	<0.1	22	0	18	<20	<10	<0.1
JUL 15...	23	10	5.0	<10	3.0	40	0	33	<20	<10	<0.1
SEP 15...	0	4.0	2.0	<10	2.1	24	0	20	<20	<10	0.1

ARKANSAS RIVER BASIN

305

07231955 GAINES CREEK NEAR HIGGINS, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L) (00515)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ANTI- MONY, TOTAL (UG/L AS SB) (01097)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE) (01012)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
NOV 06...	46	1200	<350	<10	30	<10	<5	<10	<10	1200
DEC 04...	68	990	<350	<10	30	<10	<5	<10	<10	830
JAN 21...	59	3400	<350	<10	30	<10	<5	<10	<10	1800
MAR 10...	71	1800	<350	<10	40	<10	<5	<10	<10	1900
APR 07...	52	1100	<350	<10	30	<10	<5	<10	<10	1100
MAY 27...	56	1100	<350	<10	40	<10	<5	<10	<10	2100
JUL 15...	67	570	<350	<10	50	<10	<5	<10	<10	1400
SEP 15...	82	4600	<350	<10	60	<10	<5	<10	<10	3500
DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	TIN, TOTAL RECOV- ERABLE (UG/L AS SN) (01102)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	PHENOLS TOTAL (UG/L) (32730)	OIL AND GREASE (MG/L) (00550)
NOV 06...	<45	85	<0.50	<25	<5	<7	<500	<5	<5	<0.1
DEC 04...	<45	35	<0.50	<25	<5	<7	<500	<5	<5	<0.1
JAN 21...	<45	31	<0.50	<25	<5	<7	<500	<5	<5	<0.1
MAR 10...	<45	50	<0.50	<25	<5	<3	<500	8	<5	2
APR 07...	<45	79	<0.50	<25	<5	<7	<500	<5	<5	<0.1
MAY 27...	<45	84	<0.50	<25	<5	<7	<500	<5	<5	<0.1
JUL 15...	<45	830	<0.50	<25	<5	<7	<500	<5	<5	0.3
SEP 15...	<45	130	<0.50	<25	<5	<7	<500	6	<5	<0.1

07231955 GAINES CREEK NEAR HIGGINS, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	BROMO-BENZENE		CARBON-TETRA-		O-CHLORO-TOLUENE		TOLUENE P-CHLOR		1,2-DIBROMO ETHANE		DI-BROMO-CHLORO-	
	BENZENE	WATER,	BROMO-	CHLO-	CHLORO-	CHLORO-	WATER	WATER	WATER	WATER	BROMO-	
	TOTAL	WHOLE,	FORM	RIDE	BENZENE	ETHANE	WHOLE	UNFLTRD	WHOLE	RECOVER	METHANE	
	(UG/L)	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	REC	TOTAL	(UG/L)	TOTAL	
	(34030)	(81555)	(32104)	(32102)	(34301)	(34311)	(32106)	(77275)	(77277)	(77651)	(30217)	(32105)
NOV 06...	<0.7	<0.7	<2.0	<0.7	<0.70	<0.7	<2.0	<0.7	<0.70	<0.7	<0.7	<2.0
DEC 04...	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5
JAN 21...	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5
MAR 10...	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5
APR 07...	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5
MAY 27...	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5
JUL 15...	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5
SEP 15...	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5

	BENZENE	BENZENE	BENZENE		DI-		ETHANE,		CIS-1,2			
	O-	1,3-DI-	1,4-DI-		CHLORO-		1,2-DI-	1,1-DI-	-DI-	1,2-		1,3-DI-
	CHLORO-	CHLORO-	CHLORO-		CHLORO-	1,1-DI-	CHLORO-	CHLORO-	CHLORO-	TRANS DI	1,2-DI-	CHLORO-
	WATER	WATER	WATER		BROMO-	FLUORO-	CHLORO-	WATER	ETHYL-	ETHENE	CHLORO-	PROPANE
	UNFLTDR	UNFLTDR	UNFLTDR	METHANE	METHANE	ETHANE	UNFLTDR	ENE	WATER	ETHENE	PROPANE	WAT. WH
DATE	REC	REC	REC	TOTAL	TOTAL	TOTAL	REC	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)
	(34536)	(34566)	(34571)	(32101)	(34668)	(34496)	(34531)	(34501)	(77093)	(34546)	(34541)	(77173)

[illegible]

ARKANSAS RIVER BASIN

307

07231955 GAINES CREEK NEAR HIGGINS, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	2,2-DI CHLORO- PRO- PANE WAT, WH TOTAL (UG/L) (77170)	1,1-DI CHLORO- PRO- PENE, WAT, WH TOTAL (UG/L) (77168)	CIS 1,3-DI- CHLORO- PROPENE TOTAL (UG/L) (34704)	TRANS- 1,3-DI- CHLORO- PROPENE TOTAL (UG/L) (34699)	ETHYL- BENZENE TOTAL (UG/L) (34371)	HEXA- CHLORO- BUTA- DIENE WAT.WH. TOTAL (UG/L) (34391)	METHYL- BROMIDE TOTAL (UG/L) (34413)	METHYL- CHLO- RIDE TOTAL (UG/L) (34418)	METHYL- ENE CHLO- RIDE TOTAL (UG/L) (34423)	NAPHTH- ALENE TOTAL (UG/L) (34696)	PHENOLS TOTAL (UG/L) (32730)	STYRENE TOTAL (UG/L) (77128)
NOV												
06...	<0.7	<0.7	<0.7	<0.7	<0.7	<0.70	<0.7	<0.7	<2.0	<0.7	<5	<0.7
DEC												
04...	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.5	<5	<0.5
JAN												
21...	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.5	<5	<0.5
MAR												
10...	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.5	<5	<0.5
APR												
07...	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.5	<5	<0.5
MAY												
27...	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	*1.0	<0.5	<5	<0.5
JUL												
15...	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.5	<5	<0.5
SEP												
15...	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.5	<5	<0.5

DATE	ETHANE, 1,1,2,2 TETRA- CHLORO- WAT UNF REC (UG/L) (34516)	TETRA- CHLORO- ETHYL- ENE TOTAL (UG/L) (34475)	TOLUENE TOTAL (UG/L) (34010)	BENZENE 1,2,4- TRI- CHLORO- WAT UNF REC (UG/L) (34551)	1,1,1- TRI- CHLORO- ETHANE TOTAL (UG/L) (34506)	1,1,2- TRI- CHLORO- ETHANE TOTAL (UG/L) (34511)	TRI- CHLORO- ETHYL- ENE TOTAL (UG/L) (39180)	TRI- CHLORO- FLUORO- METHANE TOTAL (UG/L) (34488)	123-TRI CHLORO- PROPANE WATER WHOLE TOTAL (UG/L) (77443)	VINYL CHLO- RIDE TOTAL (UG/L) (39175)	XYLENE WATER UNFLTRD REC (UG/L) (81551)	O- XYLENE WATER WHOLE TOTAL (UG/L) (77135)
NOV												
06...	<0.7	<0.7	<0.7	<0.70	<0.7	<0.7	<0.7	<0.7	<0.7	<0.4	<1.0	--
DEC												
04...	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<1
JAN												
21...	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<1
MAR												
10...	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<1
APR												
07...	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<1
MAY												
27...	<0.5	<0.5	<0.5	<0.50	*0.7	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<1
JUL												
15...	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<1
SEP												
15...	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.50	<1

* Septa placed on vials, teflon side out; sample possibly contaminated.

ARKANSAS RIVER BASIN

07231959 PIT CREEK NEAR HARTSHORNE, OK

LOCATION.--Lat 34°50'51", long 95°30'12", in SW 1/4 NE 1/4, sec. 3, T.4 N., R.17 E., Latimer County, Hydrologic Unit 11090204, 3.0 mi east of Hartshorne.

DRAINAGE AREA.--8.95 mi².

PERIOD OF RECORD.--October 1991 to September 1992.

REMARKS.--Samples were collected on a six week schedule and specific conductance, pH, water temperature, and dissolved oxygen were determined in the field. Samples were analyzed by the Oklahoma State Department of Health.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)
NOV										
05...	1315	1028	84042	4.4	1010	3.6	10.5	5.5	750	9.5
DEC										
04...	1530	1028	84042	18	562	4.2	14.0	7.5	756	11.6
JAN										
22...	1030	1028	84042	14	819	4.2	8.0	6.5	740	10.7
MAR										
10...	1430	1028	84042	16	359	4.4	8.0	11.5	751	9.3
APR										
07...	1600	1028	84042	2.8	1260	3.0	22.5	16.0	747	9.5
MAY										
27...	1500	1028	84042	4.1	946	3.1	18.5	16.5	743	7.7
JUL										
14...	1700	1028	84042	1.9	1480	3.2	28.5	25.0	742	5.0
SEP										
15...	1445	1028	84042	2.3	1080	3.2	29.0	24.5	750	6.7

DATE	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)	RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L) (00515)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)
NOV										
05...	77	41	33	16	3.9	440	--	--	--	12000
DEC										
04...	97	22	18	<10	2.4	260	<10	0.4	422	7900
JAN										
22...	90	32	22	23	1.9	300	14	0.3	553	9500
MAR										
10...	87	18	11	15	1.9	150	<10	0.2	230	2900
APR										
07...	98	50	51	30	3.8	510	36	0.4	899	8400
MAY										
27...	81	39	36	21	2.1	380	<10	0.3	587	6400
JUL										
14...	63	58	80	23	12	760	13	0.5	985	9500
SEP										
15...	82	40	35	18	4.9	390	<10	0.4	604	8100

ARKANSAS RIVER BASIN

309

07231959 PIT CREEK NEAR HARTSHORNE, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	ANTI-MONY, TOTAL (UG/L AS SB) (01097)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE) (01012)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)
NOV 05...	<350	<10	30	<10	<5	<10	<10	48000	170
DEC 04...	<350	<10	30	<10	<5	<10	<10	25000	130
JAN 22...	<350	<10	30	<10	<5	<10	<10	30000	<45
MAR 10...	<350	<10	30	<10	<5	<10	<10	6200	<45
APR 07...	<350	<10	30	<10	<5	<10	<10	17000	<45
MAY 27...	<350	<10	30	<10	<5	<10	<10	13000	<45
JUL 14...	<350	<10	40	<10	<5	<10	<10	14000	<45
SEP 15...	<350	<10	40	<10	<5	<10	<10	11000	<45

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	TIN, TOTAL RECOV- ERABLE (UG/L AS SN) (01102)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	PHENOLS TOTAL (UG/L) (32730)	OIL AND GREASE (MG/L) (00550)
NOV 05...	7100	<0.50	290	<5	<7	<500	760	--	--
DEC 04...	3800	<0.50	170	<5	<7	<500	440	<5	<0.1
JAN 22...	4000	<0.50	170	<5	<7	<500	420	<5	<0.1
MAR 10...	2100	<0.50	71	<5	<7	<500	150	<5	1
APR 07...	5900	<0.50	190	<5	<7	<500	410	<5	<0.1
MAY 27...	3900	<0.50	150	<5	<7	<500	310	<5	<0.1
JUL 14...	570	<0.50	180	<5	<7	<500	380	<5	0.3
SEP 15...	4200	<0.50	150	6	<7	<500	280	<5	<0.1

07231959 PIT CREEK NEAR HARTSHORNE, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	BENZENE TOTAL (UG/L) (34030)	BROMO-	BROMO- FORM TOTAL (UG/L) (32104)	CARBON-	CHLORO- BENZENE TOTAL (UG/L) (34301)	CHLORO- ETHANE TOTAL (UG/L) (34311)	CHLORO- FORM TOTAL (UG/L) (32106)	O-	TOLUENE P-CHLOR WATER UNFLTRD REC (UG/L) (77277)	1,2-	DIBROMO ETHANE WATER WHOLE TOTAL (UG/L) (77651)	DI-	BROMO- METHANE WATER WHOLE RECOVER (UG/L) (30217)	CHLORO-	
		WATER,		TETRA-				CHLO-		TOLUENE		ETHANE		DI-	CHLORO-
		WHOLE,		RIDE				BENZENE		CHLORO-		ETHANE		BROMO-	CHLORO-
		TOTAL		TOTAL				TOTAL		TOTAL		TOTAL		TOTAL	TOTAL
		(UG/L)		(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)		(UG/L)	(UG/L)	(UG/L)	
		(81555)		(32102)	(34301)	(34311)	(32106)	(77275)	(77277)	(77651)		(30217)	(32105)		
NOV															
05...	<0.7	<0.7	<2.0	<0.7	<0.70	<0.7	<2.0	<0.7	<0.70	<0.7	<0.7	<0.7	<2.0		
DEC															
04...	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.5		
JAN															
22...	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.5		
MAR															
10...	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.5		
APR															
07...	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.5		
MAY															
27...	--	--	--	--	--	--	--	--	--	--	--	--	--		
JUL															
14...	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.5		
SEP															
15...	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.5		

	BENZENE	BENZENE	BENZENE		DI-		ETHANE,		CIS-1,2			
	O-	1,3-DI-	1,4-DI-	DI-	CHLORO-		1,2-DI-	1,1-DI-	-DI-	1,2-		1,3-DI-
	CHLORO-	CHLORO-	CHLORO-	CHLORO-	DI-	1,1-DI-	CHLORO-	CHLORO-	CHLORO-	TRANS DI	1,2-DI-CHLORO-	CHLORO-
	WATER	WATER	WATER	BROMO-	FLUORO-	CHLORO-	WATER	ETHYL-	ETHENE	CHLORO-	CHLORO-	CHLORO-PROPANE
	UNFLTRD	UNFLTRD	UNFLTRD	METHANE	METHANE	ETHANE	UNFLTRD	ENE	WATER	ETHENE	PROPANE	WAT. WH
DATE	REC	REC	REC	TOTAL	TOTAL	TOTAL	REC	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)
	(34536)	(34566)	(34571)	(32101)	(34668)	(34496)	(34531)	(34501)	(77093)	(34546)	(34541)	(77173)

[illegible]

311

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

ARKANSAS RIVER BASIN
07231960 GAINES CREEK NEAR GOWEN, OK

LOCATION.--Lat 34°53'43", long 95°26'13", in NE 1/4 NE 1/4, sec. 19, T.5 N., R.18 E., Latimer County, Hydrologic Unit 11090204, 1.1 mi upstream from Beaver Creek, 2.4 mi northeast of Gowen.

DRAINAGE AREA.--182 mi².

PERIOD OF RECORD.--July 1990 to current year.

REMARKS.--Samples were collected on a six week schedule and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field. Samples were analyzed by the Oklahoma State Department of Health.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
		(00027)	(00028)	(00061)	(00095)	(00400)	(00020)	(00010)	(00025)	(00300)
NOV										
06...	1330	1028	84042	92	108	6.4	14.5	6.5	750	91
DEC										
05...	0900	1028	84042	403	75	6.8	7.5	6.5	755	99
JAN										
22...	1245	1028	84042	373	82	6.9	8.5	5.5	739	108
MAR										
11...	0900	1028	84042	265	79	6.9	4.0	11.0	753	86
APR										
08...	0900	1028	84042	28	182	6.8	16.0	15.5	750	80
MAY										
27...	1700	1028	84042	82	121	6.7	17.0	18.5	744	80
JUL										
15...	1130	1028	84042	10	145	7.2	28.5	28.0	743	45
SEP										
16...	0930	1028	84042	31	116	6.7	24.0	23.0	750	62

DATE	HARD- NESS NONCARB WH WAT TOT LAB (MG/L AS CACO3) (00903)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA) (00916)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG) (00927)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA) (00929)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K) (00937)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, TOTAL (MG/L AS F) (00951)
NOV											
06...	--	6.0	3.0	<10	1.2	11	0	9	23	<10	<0.1
DEC											
05...	--	4.0	2.0	<10	1.1	12	0	10	<20	<10	<0.1
JAN											
22...	--	5.0	2.0	<10	0.9	12	0	10	<20	<10	<0.1
MAR											
11...	--	6.0	2.0	<10	0.9	16	0	13	33	<10	0.2
APR											
08...	37	11	6.0	<10	1.7	13	0	11	45	<10	<0.1
MAY											
27...	17	8.0	4.0	<10	0.7	22	0	18	36	<10	<0.1
JUL											
15...	5	7.0	3.0	<10	2.2	41	0	33	45	<10	0.1
SEP											
16...	--	8.0	4.0	<10	2.6	32	0	26	21	<10	<0.1

ARKANSAS RIVER BASIN

313

07231960 GAINES CREEK NEAR GOWEN, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	RESIDUE AT 105 DEG. C, DIS- SOLVED (MG/L) (00515)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL) (01105)	ANTI- MONY, TOTAL (UG/L AS SB) (01097)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA) (01007)	BERYL- LIUM, TOTAL RECOV- ERABLE (UG/L AS BE) (01012)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)
NOV 06...	56	1400	<350	<10	40	<10	<5	<10	<10	1800
DEC 05...	72	830	<350	<10	30	<10	<5	<10	<10	1200
JAN 22...	71	3300	<350	<10	40	<10	<5	23	<10	2100
MAR 11...	69	1900	<350	<10	40	<10	<5	<10	<10	2500
APR 08...	118	640	<350	<10	50	<10	<5	<10	<10	860
MAY 27...	91	1500	<350	<10	50	<10	<5	<10	<10	2400
JUL 15...	85	1200	<350	<10	50	<10	<5	<10	<10	1600
SEP 16...	98	3300	<350	<10	60	<10	<5	<10	<10	3000

DATE	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI) (01067)	SELE- NIUM; TOTAL (UG/L AS SE) (01147)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG) (01077)	TIN, TOTAL RECOV- ERABLE (UG/L AS SN) (01102)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	PHENOLS TOTAL (UG/L) (32730)	OIL AND GREASE (MG/L) (00550)
NOV 06...	<45	390	<0.50	<25	<5	<7	<500	10	<5	<0.1
DEC 05...	74	200	<0.50	<25	<5	<7	<500	<5	<5	<0.1
JAN 22...	76	130	<0.50	<25	<5	<7	<500	50	<5	<0.1
MAR 11...	82	190	<0.50	<25	<5	<7	<500	40	<5	0.9
APR 08...	<45	540	<0.50	<25	<5	<7	<500	8	<5	<0.1
MAY 27...	<45	280	<0.50	<25	5	<7	<500	10	<5	<0.1
JUL 15...	<45	220	<0.50	<25	<5	<7	<500	<5	<5	0.1
SEP 16...	<45	390	<0.50	<25	<5	<7	<500	9	<5	2

07231960 GAINES CREEK NEAR GOWEN, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	BENZENE TOTAL (UG/L) (34030)	BROMO- BENZENE WATER, WHOLE,	BROMO- FORM	CARBON- TETRA- CHLO- RIDE	CHLORO- BENZENE	CHLORO- ETHANE	CHLORO- FORM	O- CHLORO- TOLUENE	PARA- CHLORO- TOLUENE	1,2- DIBROMO ETHANE WATER	DI- BROMO- METHANE WATER	CHLORO- DI- BROMO- METHANE
		TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
		(UG/L) (81555)	(UG/L) (32104)	(UG/L) (32102)	(UG/L) (34301)	(UG/L) (34311)	(UG/L) (32106)	(UG/L) (77275)	(UG/L) (77277)	(UG/L) (77651)	(UG/L) (30217)	(UG/L) (32105)
NOV 06...	<0.7	<0.7	<2.0	<0.7	<0.70	<0.7	<2.0	<0.7	<0.70	<0.7	<0.7	<2.0
DEC 05...	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5
JAN 22...	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5
MAR 11...	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5
APR 08...	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5
MAY 27...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 15...	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5
SEP 16...	<0.5	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5	<0.50	<0.5	<0.5	<0.5

315

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

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 current year.

GAGE.--Water-stage recorder. Datum of gage 4,246.05 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good.

AVERAGE DISCHARGE.--12 years, 0.69 ft³/s, 500 acre-ft/yr.

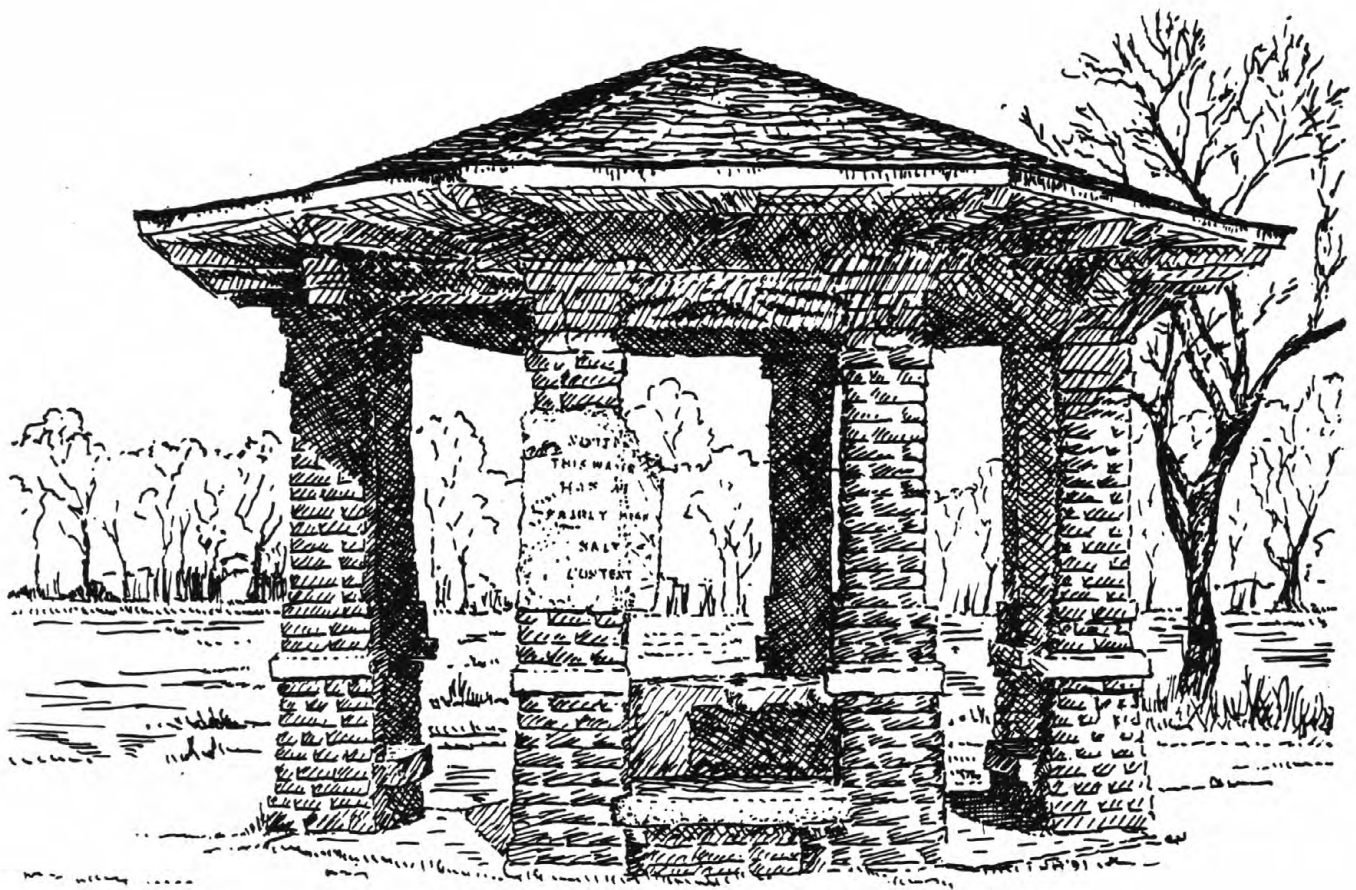
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,160 ft³/s, Aug. 13, 1981, gage height, 10.96 ft. on the basis of step-backwater measurement at gage site; no flow most days.

EXTREMES FOR CURRENT YEAR.--No flow all year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAX	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

CAL YR 1991 TOTAL 61.10 MEAN .17 MAX 52 MIN .00 AC-FT 121
WTR YR 1992 TOTAL 0.00 MEAN .000 MAX.00 MIN .00 AC-FT .00



Pavilion at Mineral Wells Park, Guthrie, Oklahoma

ARKANSAS RIVER BASIN
07232500 BEAVER RIVER NEAR GUYMON, OK
(Headwater of the North Canadian River)

LOCATION.--Lat 36°43'17", long 101°29'21", SW 1/4 SW 1/4 sec.18, T.3 N., R.15 E., Texas County, Hydrologic Unit 11100101, near right bank on downstream side of roadway on U.S. Highway 64 at Dry Sand Draw, 1.2 mi upstream from Goff Creek, 2.5 mi north of Guymon, and at mile 650.7.

DRAINAGE AREA.--2,139 mi², which includes that of Dry Sand Draw, and of which 964 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for some periods, published in WSP 1311. Prior to October 1970, published as North Canadian River near Guymon.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,970.69 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Natural flow affected by irrigation development. U.S. Army Corps of Engineers' satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.16	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	24	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	14	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	1.9	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.68	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.11	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.05	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.87	0.07	0.00	0.00
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	1.36	.002	.000	.000
MAX	.00	.00	.00	.00	.00	.00	.00	.00	24	.05	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	81	.1	.00	.00

ARKANSAS RIVER BASIN
07232500 BEAVER RIVER NEAR GUYMON, OK--Continued

319

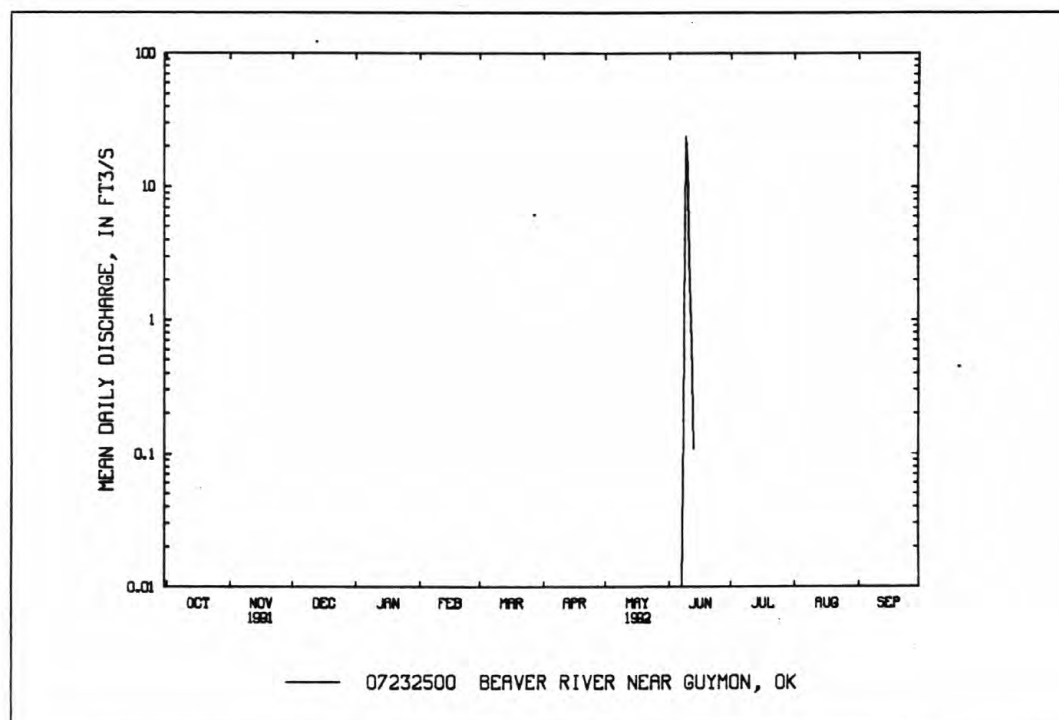
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	11.5	5.89	5.30	5.98	6.86	7.37	15.1	37.4	41.1	31.4	28.1	33.9
MAX	226	89.0	13.8	12.7	15.3	25.5	330	418	370	270	296	826
(WY)	1966	1972	1951	1942	1940	1939	1942	1955	1964	1941	1946	1941
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1976	1979	1981	1981	1984	1987	1987	1986	1984	1974	1972	1972

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1938-92

ANNUAL TOTAL	0.01	40.94	
ANNUAL MEAN	.000	.11	19.2
HIGHEST ANNUAL MEAN			138 1941
LOWEST ANNUAL MEAN			.000 1991
HIGHEST DAILY MEAN	.01	Jun 7	24 Jun 9 14700 Sep 23 1941
LOWEST DAILY MEAN	.00	most days	.00 most days .00 most years
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00 Oct 1 .00 Aug 5 1938
INSTANTANEOUS PEAK FLOW			71 Jun 9 55400 Jun 15 1964
INSTANTANEOUS PEAK STAGE			6.58 Jun 9 ^a 13.82 Sep 23 1941
ANNUAL RUNOFF (AC-FT)	.02		81 13910
10 PERCENT EXCEEDS	.00		.00 13
50 PERCENT EXCEEDS	.00		.00 3.3
90 PERCENT EXCEEDS	.00		.00 .00

^aFrom flood mark.



ARKANSAS RIVER BASIN

07232900 COLDWATER CREEK NEAR GUYMON, OK

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.

DRAINAGE AREA.--1,903 mi², of which 1,178 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1980 to current year.

GAGE.--Water-stage recorder. Datum of gage 2,870.83 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Natural flow affected by flood retarding structures and irrigation development.

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)
June 9	0045	408	11.12	Aug. 18	1115	419	11.30

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.15	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	119	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	48	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	180	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	34	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	167.16	0.00	214.00	0.00
MEAN	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	5.57	.0000	6.90	.0000
MAX	.00	.00	.00	.00	.00	.00	.00	.00	119	.00	180	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	332	.00	424	.00

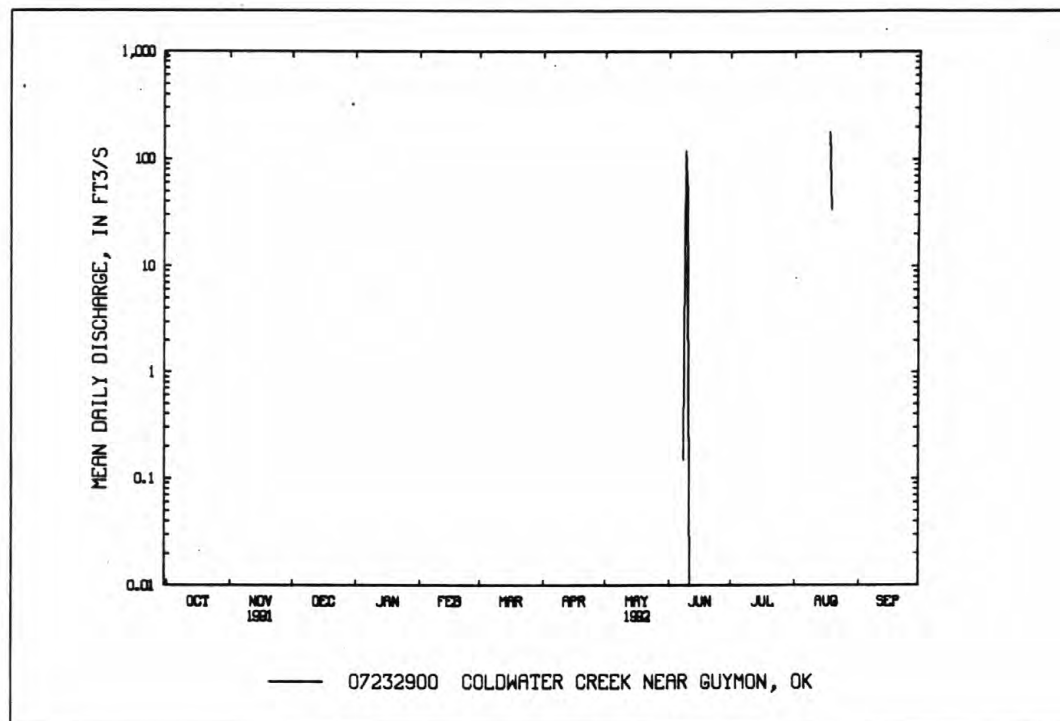
ARKANSAS RIVER BASIN
07232900 COLDWATER CREEK NEAR GUYMON, OK--Continued

321

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.75	.000	.000	.000	.000	.000	4.39	12.8	7.03	.026	.70	2.49
MAX	21.0	.000	.000	.000	.000	.000	52.7	86.0	42.3	.31	6.90	27.5
(WY)	1986	1981	1981	1981	1981	1981	1990	1989	1991	1981	1992	1985
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1981	1981	1981	1981	1981	1981	1981	1981	1981	1982	1983	1981

SUMMARY STATISTICS	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1981-92
ANNUAL TOTAL	1269.40	381.16	
ANNUAL MEAN	3.48	1.04	2.44
HIGHEST ANNUAL MEAN			8.37 1982
LOWEST ANNUAL MEAN			.000 1983
HIGHEST DAILY MEAN	373 Jun 20	180 Aug 18	1500 May 18 1989
LOWEST DAILY MEAN	.00 most days	.00 most days	.00 all years
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1	.00 Oct 1	.00 Oct 1 1980
INSTANTANEOUS PEAK FLOW		419 Aug 18	5800 Jun 20 1982
INSTANTANEOUS PEAK STAGE		11.30 Aug 18	14.34 Jun 20 1982
ANNUAL RUNOFF (AC-FT)	2520	756	1770
10 PERCENT EXCEEDS	.00	.00	.00
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00



ARKANSAS RIVER BASIN
07233200 OPTIMA LAKE NEAR HARDESTY, OK

LOCATION.--Lat 36°39'23", long 101°08'13", in NE 1/4 NE 1/4 sec.8, T.2 N., R.18 E., Texas County, Hydrologic Unit 11100102, in control tower for dam on Beaver River, 4.5 mi northeast of Hardesty, and at mile 623.2.

DRAINAGE AREA.--5,029 mi², of which 2,688 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by earth dam having a concrete gate tower with a 12- by 16-foot 5-inch oblong conduit. Discharges are controlled by two drum-hoist operated tractor-type service gates and a 36-inch low-flow control pipe. Closure for storage was made Oct. 2, 1978. Capacity, 618,500 acre-ft at elevation 2,814.2 ft, maximum pool; 382,500 acre-ft at elevation 2,796.0 ft, uncontrolled spillway crest; 229,500 acre-ft at elevation 2,779.0 ft, top of flood-control pool; 129,000 acre-ft at elevation 2,763.5 ft, top of conservation pool. Figures given herein represent total contents. Reservoir is used for flood control, sediment control, and water supply. Capacity table based on original survey.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 7,610 acre-ft, May 30 to June 2, 1980, elevation, 2,722.90 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 954 acre-ft, Feb.20-Mar. 9, elevation, 2,713.65 ft; minimum, 549 acre-ft, Sept. 28-30, elevation, 2,712.10 ft.

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

2,712	526	2,715	1,430
2,713	760	2,716	1,890
2,714	1,060	2,717	2,450

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	939	804	804	879	939	954	894	879	760	736	748	666
2	939	804	804	879	939	954	894	879	760	724	736	666
3	924	804	804	879	939	954	894	864	760	724	736	666
4	924	789	804	894	939	954	879	864	760	713	736	654
5	924	789	804	894	939	954	879	864	748	713	724	654
6	924	789	804	910	939	954	879	849	760	701	713	643
7	924	789	804	910	939	954	879	849	760	701	713	643
8	910	789	804	910	939	954	879	835	774	701	713	643
9	910	789	804	910	939	954	879	835	774	689	701	631
10	910	789	804	910	939	939	864	819	774	713	701	631
11	894	789	804	910	939	939	864	819	780	713	701	619
12	894	789	804	910	939	939	864	804	789	713	689	607
13	894	789	804	910	939	939	864	804	789	713	689	607
14	894	789	804	910	939	939	864	789	789	713	678	596
15	894	789	804	910	939	939	910	789	789	724	678	596
16	879	819	804	910	939	939	924	789	774	736	701	596
17	879	819	804	924	939	924	924	774	774	736	713	596
18	864	819	819	924	939	924	924	774	774	736	713	584
19	864	819	819	924	939	924	924	774	760	736	713	584
20	849	819	819	939	954	924	924	760	760	748	713	584
21	849	819	819	939	954	924	924	760	760	760	701	572
22	835	804	819	939	954	910	924	748	760	760	701	572
23	835	804	819	939	954	910	910	748	748	760	689	572
24	819	804	819	939	954	910	910	748	748	748	701	561
25	819	804	819	939	954	910	910	748	748	748	689	561
26	804	804	835	939	954	910	894	748	748	748	689	561
27	819	804	835	939	954	910	894	760	748	748	689	561
28	804	804	835	939	954	910	894	760	748	736	678	549
29	804	804	849	939	954	894	894	760	736	748	678	549
30	804	804	849	939	---	894	894	760	736	748	678	549
31	804	---	864	939	---	894	---	760	---	748	666	---

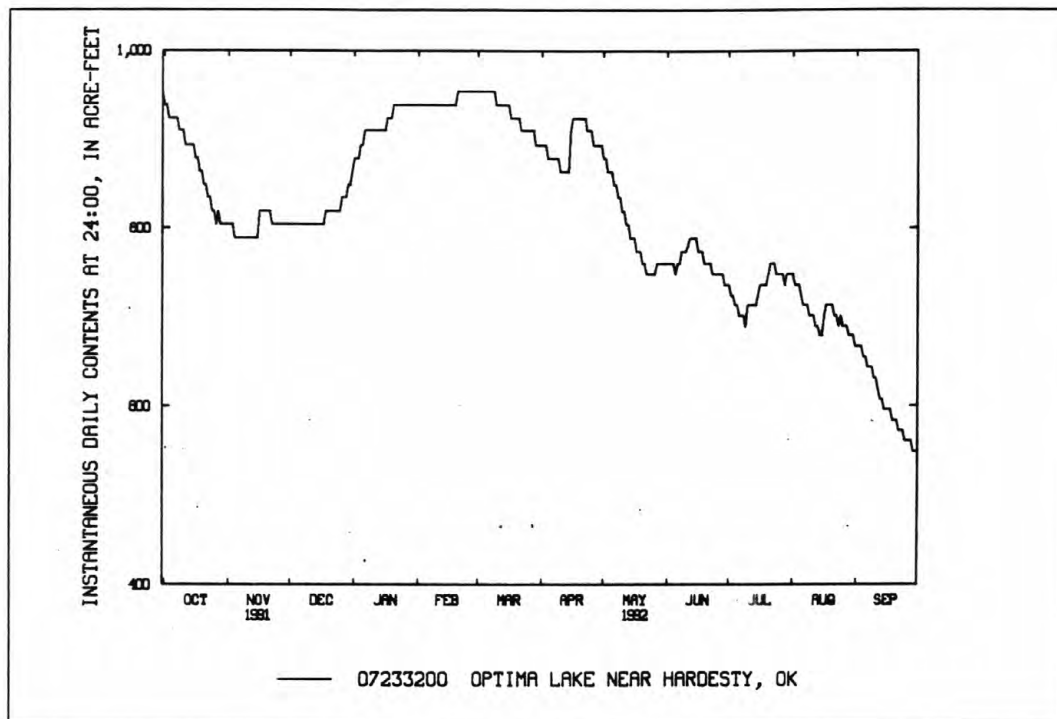
ARKANSAS RIVER BASIN
07233200 OPTIMA LAKE NEAR HARDESTY, OK--Continued

323

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MAX	939	819	864	939	954	954	924	879	789	760	748	666
MIN	804	789	804	879	939	894	864	748	736	689	666	549
(+)	2713.15	2713.15	2713.35	2713.60	2713.65	2713.45	2713.45	2713.00	2712.90	2712.95	2712.60	2712.10
(++)	-150	0	+60	+75	+15	-60	0	-134	-24	+12	-82	-117
CAL YR 1991	MAX 1890		MIN 789		(++) -1,026							
WTR YR 1992	MAX 954		MIN 549		(++) -405							

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

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



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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Flow regulated since April 1991 by Palo Duro Reservoir, 18 mi upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3.7 ft³/s, July 16, gage height 9.00 ft, minimum daily discharge, 0.10 ft³/s, Aug. 9, Sept. 26, 27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

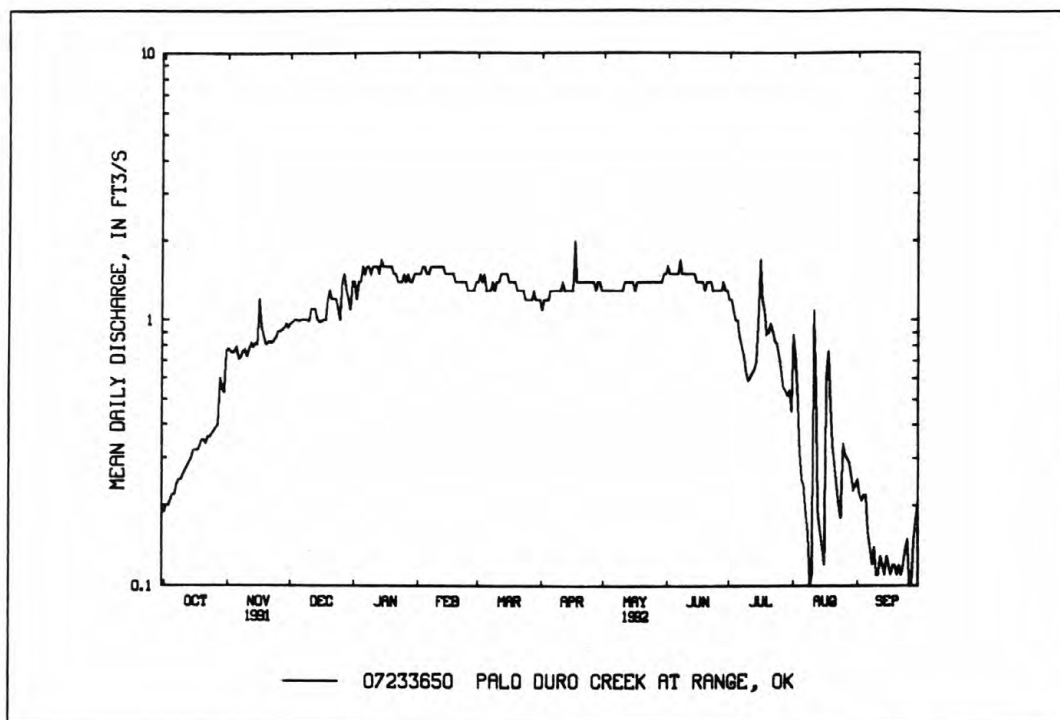
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.19	.78	.97	1.4	1.5	1.4	1.1	e1.3	1.6	1.2	.89	.25
2	.20	.76	.98	1.2	1.5	1.5	1.2	e1.3	1.5	1.2	.74	.22
3	e.20	.75	1.0	1.4	1.6	1.4	1.2	1.3	1.5	1.1	.52	.21
4	e.21	.76	1.0	1.4	1.6	1.5	1.2	1.3	1.5	1.0	.32	.22
5	e.22	.79	.99	1.6	1.5	1.3	1.3	1.3	1.5	1.0	.25	.22
6	e.22	.71	1.0	1.5	1.5	1.3	1.3	1.3	1.5	.86	.24	.16
7	e.24	.72	1.0	1.6	1.6	1.3	1.3	1.3	1.7	.80	.19	.14
8	e.25	.76	1.0	1.6	1.6	1.4	1.3	1.3	1.5	.74	.16	.12
9	e.25	.77	1.0	1.5	1.6	1.3	1.3	1.3	1.5	.64	.10	.14
10	e.26	.73	.99	1.6	1.6	1.4	1.3	1.3	1.5	.59	.11	.11
11	e.27	.77	1.1	1.6	1.6	1.4	1.4	1.4	1.5	.61	1.1	.11
12	e.28	.82	1.1	1.6	1.6	1.5	1.3	1.4	1.5	.63	.55	.13
13	e.29	.79	1.1	1.5	1.6	1.5	1.3	1.4	1.5	.65	.19	.12
14	e.30	.82	1.0	1.7	1.5	e1.5	1.3	1.4	1.5	e.70	.16	.11
15	e.32	.81	.98	1.6	1.5	1.5	1.3	1.4	1.4	e1.0	.14	.13
16	.32	1.2	.99	1.6	1.5	1.4	1.3	1.3	1.4	1.7	.12	.12
17	e.32	.95	1.0	1.6	1.5	1.4	e2.0	1.4	1.4	1.2	.63	.11
18	e.33	.87	1.0	1.6	1.5	e1.4	1.4	1.4	1.4	1.1	.77	e.12
19	e.35	.81	1.2	1.6	1.4	e1.4	1.4	1.4	1.3	.89	.47	e.12
20	e.35	.82	1.3	1.5	1.4	e1.3	1.4	1.4	1.4	.91	.33	e.11
21	e.34	.83	1.2	1.5	1.4	e1.3	1.4	1.4	1.4	.98	.28	.12
22	e.36	.82	1.2	1.4	1.4	e1.3	1.4	1.4	1.4	.92	.24	.11
23	e.36	.84	1.2	1.4	1.4	e1.3	1.4	1.4	1.3	.84	.20	.12
24	e.37	.86	1.1	1.4	1.4	e1.2	1.4	1.4	1.3	.82	.18	.14
25	e.38	.91	1.0	1.5	1.3	e1.2	1.4	1.4	1.3	.74	.34	.15
26	e.39	.91	1.4	1.4	1.3	e1.2	1.4	1.4	1.3	.65	.31	.10
27	e.40	.92	1.5	1.5	1.3	e1.2	1.3	1.4	1.3	.56	.30	.10
28	e.60	.94	1.3	1.4	1.3	e1.3	1.4	1.4	1.4	.54	.29	.15
29	e.55	.97	1.2	1.4	1.4	e1.2	e1.4	1.4	1.3	.52	.26	.18
30	.53	.94	1.1	1.5	---	e1.2	e1.3	1.5	1.3	.54	.23	.21
31	.76	---	1.4	1.5	---	e1.2	---	1.5	---	.45	.24	---
TOTAL	10.41	25.13	34.30	46.6	42.9	41.7	40.4	42.5	42.9	26.08	10.85	4.35
MEAN	.34	.84	1.11	1.50	1.48	1.35	1.35	1.37	1.43	.84	.35	.14
MAX	.76	1.2	1.5	1.7	1.6	1.5	2.0	1.5	1.7	1.7	1.1	.25
MIN	.19	.71	.97	1.2	1.3	1.2	1.1	1.3	1.3	.45	.10	.10
AC-FT	21	50	68	92	85	83	80	84	85	52	22	8.6

WTR YR 1992 TOTAL 368.12 MEAN 1.01 MAX 2.0 MIN .10 AC-FT 730

e Estimated

ARKANSAS RIVER BASIN
07233650 PALO DURO CREEK AT RANGE, OK--Continued

325



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 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.

WATER-DISCHARGE RECORDS

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, National Geodetic Vertical Datum of 1929 (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 good. 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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.02	.15	.25	3.5	4.4	4.2	3.1	4.8	13	.75	.72
2	.00	.04	.16	.22	3.7	4.4	3.8	2.2	5.5	9.9	23	.59
3	.00	.03	.16	.21	4.2	4.4	3.6	2.1	6.4	8.1	90	.46
4	.00	.07	.15	.22	4.2	4.8	3.7	2.1	5.6	7.3	24	.45
5	.00	.10	.15	.22	4.3	4.8	3.5	1.9	6.2	8.0	14	.39
6	.00	.11	.16	.22	4.4	4.5	3.3	1.5	5.4	6.1	10	.36
7	.00	.10	.16	.29	4.0	4.7	3.1	1.4	7.2	4.6	8.4	.36
8	.00	.11	.15	.22	4.1	5.0	3.5	1.1	7.8	3.4	7.6	.36
9	.00	.09	.15	.23	4.3	4.8	3.7	.81	14	3.2	6.1	.34
10	.00	.09	.15	.22	4.4	3.5	3.6	.95	14	3.1	5.6	.31
11	.00	.11	.17	.23	4.4	4.6	3.6	1.7	20	2.9	6.0	.27
12	.00	.09	.17	.24	4.5	4.8	3.4	.95	15	2.2	6.6	.26
13	.00	.10	.15	.22	4.6	4.7	3.4	.39	15	1.9	7.1	.26
14	.00	.10	.15	.22	4.8	4.6	3.3	22	16	210	6.4	.26
15	.00	.11	.15	e.25	4.5	4.5	3.5	9.9	18	63	5.5	.26
16	.00	.41	.15	e.24	4.7	4.7	3.6	7.8	14	28	5.2	.26
17	.00	.17	.15	.22	4.6	4.6	5.5	5.6	10	40	4.6	.22
18	.00	.19	.15	.22	4.0	4.8	5.6	4.3	8.1	179	5.7	.22
19	.00	.16	.22	.25	3.7	4.3	5.7	3.6	7.4	147	5.6	.22
20	.00	.13	.21	.26	4.2	4.0	5.4	4.5	6.7	67	4.8	.22
21	.00	.15	.18	.26	4.3	4.3	5.4	6.0	11	40	4.1	.22
22	.00	.15	.20	.68	4.3	4.0	5.1	3.8	11	27	2.9	.21
23	.00	.14	.18	.52	4.6	3.9	5.0	2.6	12	21	2.1	.20
24	.00	.14	.18	.87	4.8	3.9	4.4	2.5	15	15	1.5	.20
25	.00	.14	.18	1.9	4.7	3.6	4.1	2.6	12	12	2.2	.20
26	.00	.15	.20	2.1	4.8	3.5	4.2	2.4	8.7	12	2.3	.18
27	.00	.14	.20	2.4	4.7	3.5	4.0	2.8	8.1	9.9	2.3	.18
28	.00	.15	.18	2.6	4.6	4.9	3.9	4.4	15	3.3	2.1	.17
29	.00	.16	.18	3.0	4.5	4.0	3.8	4.1	20	2.2	1.5	.17
30	.00	.13	.19	3.1	---	3.5	3.5	3.6	16	1.5	1.0	.17
31	.00	---	.31	3.3	---	3.9	---	4.3	---	1.1	.83	---
TOTAL	0.00	3.78	5.39	25.38	126.4	133.9	122.4	117.00	335.9	952.7	269.78	8.69
MEAN	.000	.13	.17	.82	4.36	4.32	4.08	3.77	11.2	30.7	8.70	.29
MAX	.00	.41	.31	3.3	4.8	5.0	5.7	22	20	210	90	.72
MIN	.00	.02	.15	.21	3.5	3.5	3.1	.39	4.8	1.1	.75	.17
AC-FT	.00	7.5	11	50	251	266	243	232	666	1890	535	17

e Estimated

ARKANSAS RIVER BASIN
07234000 BEAVER RIVER AT BEAVER, OK--Continued

327

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	11.0	2.28	2.61	3.63	5.42	9.65	17.6	64.5	83.1	20.5	5.03	14.8
MAX	130	11.6	13.7	17.2	18.4	25.0	83.8	295	362	79.4	25.9	78.5
(WY)	1986	1988	1988	1988	1990	1988	1990	1989	1989	1979	1982	1981
MIN	.000	.000	.000	.040	.11	.11	.029	.093	.000	.000	.000	.000
(WY)	1980	1981	1981	1981	1981	1981	1981	1981	1981	1981	1981	1980

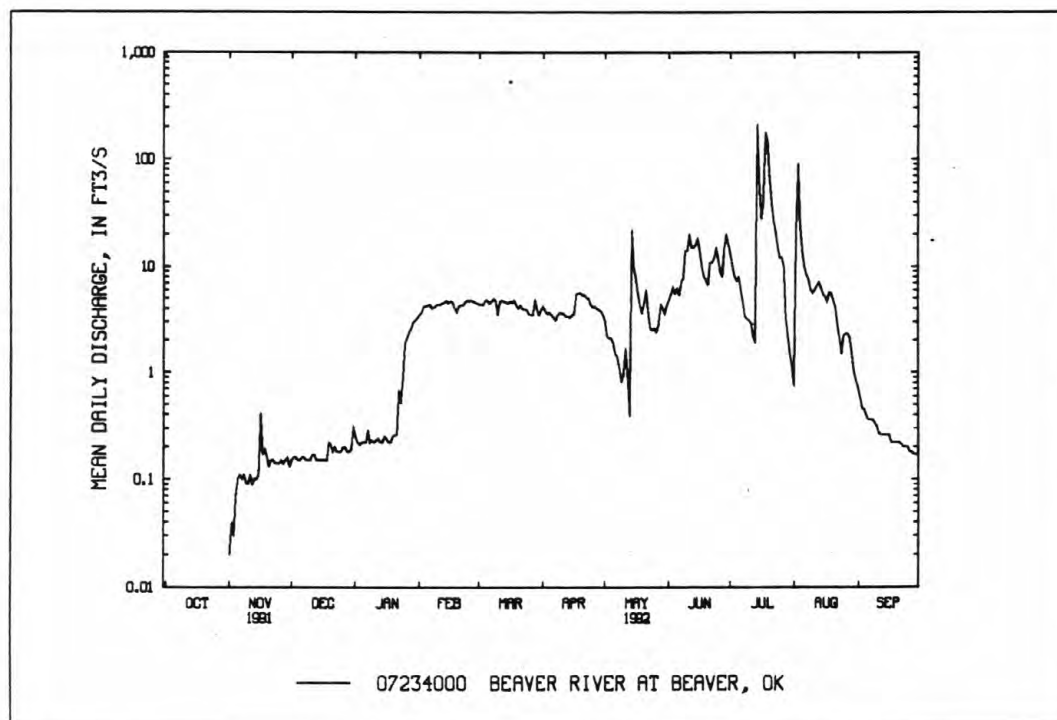
SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1979-92

ANNUAL TOTAL	1041.11	2101.32		
ANNUAL MEAN	2.85	5.74		^a 20.0
HIGHEST ANNUAL MEAN				64.0 1989
LOWEST ANNUAL MEAN				2.25 1984
HIGHEST DAILY MEAN	173	May 23	210	Jul 14 3880 May 31 1980
LOWEST DAILY MEAN	.00	at times	.00	Oct 1-31 .00 at times
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 1	.00	Oct 1 .00 Oct 1 1978
INSTANTANEOUS PEAK FLOW			437	Jul 14 ^b 5510 Jun 10 1983
INSTANTANEOUS PEAK STAGE			5.51	Jul 14 ^c 10.50 Jun 10 1983
ANNUAL RUNOFF (AC-FT)	2070		4170	14490
10 PERCENT EXCEEDS	2.6		10	30
50 PERCENT EXCEEDS	.16		2.9	.61
90 PERCENT EXCEEDS	.00		.09	.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

07234000 BEAVER RIVER AT BEAVER, OK--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952, 1958-59, 1962-63, 1968 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1967 to January 1982.

WATER TEMPERATURE: October 1967 to January 1982.

REMARKS.--Samples were collected quarterly and specific conductance, pH, water temperature, dissolved oxygen, and alkalinity were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)
NOV											
12...	1045	1028	80020	0.09	6270	8.1	9.0	3.5	3.1	703	12.4
FEB											
10...	1200	1028	80020	4.2	6570	8.2	10.0	9.0	0.30	696	11.5
MAY											
12...	1030	1028	80020	1.1	7070	8.0	23.0	19.0	1.3	713	8.9
JUL											
06...	1300	1028	80020	6.3	6460	8.1	29.0	30.0	1.4	710	9.4

DATE	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL AS CACO3 (MG/L) (00900)	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)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00932)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
NOV										
12...	104	190	380	1400	1100	320	150	800	55	9.6
FEB										
10...	112	K27	73	1000	780	230	110	1000	68	9.3
MAY										
12...	105	21	41	1200	950	250	130	1100	67	11
JUL										
06...	137	190	91	1000	810	210	120	970	67	11

DATE	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)
NOV											
12...	349	0	286	980	1500	1.3	27	4230	3960	5.75	1.03
FEB											
10...	309	0	253	610	1800	1.8	22	4010	3940	5.45	45.9
MAY											
12...	266	0	218	770	1800	1.4	19	4420	4220	6.01	13.1
JUL											
06...	264	0	216	640	1600	2.2	19	3930	3710	5.34	67.1

ARKANSAS RIVER BASIN

329

07234000 BEAVER RIVER AT BEAVER, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)
NOV 12...	<0.010	<0.010	<0.050	<0.050	0.040	0.040	0.05	0.05	0.26	0.30
FEB 10...	<0.010	<0.010	<0.050	<0.050	0.030	<0.010	0.04	--	0.27	0.30
MAY 12...	--	--	--	--	--	--	--	--	--	--
JUL 06...	<0.010	<0.010	<0.050	<0.050	0.030	0.020	0.04	0.03	0.37	0.40

DATE	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHATE, DIS- SOLVED (MG/L AS PO4) (00650)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTH TOTAL (MG/L AS P) (70507)	PHOS- PHORUS ORTH DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)
NOV 12...	0.020	0.03	<0.010	0.010	<0.010	<10	<100	<1	10	130
FEB 10...	0.020	--	<0.010	<0.010	<0.010	20	<100	<1	<10	160
MAY 12...	--	--	--	--	--	<10	<100	<1	<10	160
JUL 06...	<0.010	--	<0.010	<0.010	<0.010	10	<100	<1	<10	60

DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	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)	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 12...	260	5	<1	<1	<1.0	4500	28	14	0.00	33
FEB 10...	90	6	<1	<1	<1.0	4400	30	4	0.05	72
MAY 12...	150	5	<1	<1	<1.0	4700	28	5	0.02	81
JUL 06...	30	4	8	<1	<1.0	4100	25	7	0.12	82

ARKANSAS RIVER BASIN
07234100 CLEAR CREEK NEAR ELMWOOD, OK

LOCATION.--Lat 36°38'42", long 100°30'07", SW 1/4 SW 1/4 sec.8, T.2 N., R.24 E., Beaver County, Hydrologic Unit 11100201, on downstream side of pier of county road bridge, 2.0 mi north, 1.2 mi east of Elmwood, and at mile 16.9.

DRAINAGE AREA.--170 mi².

PERIOD OF RECORD.--October 1965 to current year.

REVISED RECORDS.--WSP 2121: 1966. WRD OK-90-1: 1989 (M).

GAGE.--Water-stage recorder. Datum of gage is 2,541.26 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. Low flows sustained by nearby springs; natural flows affected by diversion ponds and occasional diversion for irrigation.

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
July 16	0730	1,910	8.35	July 18	0245	2,370	8.88

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.4	2.0	2.0	1.9	1.6	2.2	1.9	1.2	1.2	1.7	1.3
2	1.3	1.4	1.9	2.0	1.9	1.6	2.4	2.0	1.2	1.2	1.6	1.3
3	1.2	1.5	1.9	2.1	1.9	1.6	2.4	1.8	1.2	1.3	1.5	1.2
4	1.2	1.7	2.0	2.0	1.9	1.7	2.3	1.8	1.2	1.3	1.7	1.2
5	1.2	2.0	1.8	2.0	1.8	1.7	2.4	1.6	1.2	1.3	1.7	1.2
6	1.3	1.9	1.8	2.0	1.9	1.6	2.4	1.6	1.2	1.3	1.5	1.1
7	1.4	1.8	1.8	2.0	1.9	1.8	2.4	1.5	1.3	1.1	1.5	1.1
8	1.4	1.8	1.9	2.1	1.8	1.8	2.4	1.4	1.2	1.2	1.6	1.2
9	1.5	1.8	1.9	2.1	1.8	1.8	2.4	1.4	1.3	1.1	1.6	1.2
10	1.4	1.8	1.8	2.1	1.8	1.7	2.4	1.4	1.3	1.1	1.6	1.1
11	1.3	1.8	1.8	2.1	1.9	1.5	2.5	1.5	1.2	1.1	1.6	1.2
12	1.2	1.8	1.9	2.1	1.8	1.5	2.5	1.3	1.1	1.0	1.8	1.2
13	1.2	1.6	1.9	2.2	1.7	1.5	2.4	1.3	1.3	1.2	1.7	1.1
14	1.3	1.6	1.9	2.1	1.7	2.0	2.0	1.5	1.2	5.7	1.8	1.1
15	1.4	1.6	1.8	2.1	1.7	1.9	1.9	1.2	1.1	2.9	1.7	1.1
16	1.3	2.0	1.8	2.1	1.8	1.9	2.2	1.1	1.0	934	1.5	1.2
17	1.2	1.9	1.9	2.1	1.8	1.9	8.7	1.1	.95	510	1.5	1.1
18	1.2	1.8	1.9	2.1	1.7	1.9	2.2	1.2	.99	937	1.7	1.1
19	1.2	1.7	2.0	2.0	1.7	1.9	2.2	1.5	.99	60	1.6	1.2
20	1.2	1.7	2.0	2.0	1.7	1.9	2.2	1.3	.97	8.5	1.5	1.2
21	1.2	1.6	1.9	2.0	1.7	1.8	2.2	1.3	1.2	4.7	1.5	1.2
22	1.2	1.6	1.9	2.0	1.8	1.7	2.3	1.3	1.1	3.4	1.3	1.2
23	1.1	1.9	1.9	2.0	2.0	1.6	2.3	1.2	1.0	3.0	1.3	1.2
24	.77	2.0	2.0	2.1	1.9	1.7	2.3	1.2	1.0	2.7	1.2	1.1
25	.54	2.0	2.0	2.1	1.7	1.7	2.2	1.3	.99	2.4	1.7	1.0
26	1.2	1.9	2.0	2.1	1.6	1.8	2.2	1.2	1.0	2.3	1.6	.93
27	1.5	1.9	2.0	2.1	1.7	2.2	2.1	1.2	1.1	2.1	1.6	.95
28	1.7	1.9	1.9	2.1	1.7	2.3	2.1	1.4	1.3	2.0	1.5	1.0
29	1.7	1.9	2.0	2.0	1.7	2.1	2.0	1.3	1.3	1.8	1.4	1.0
30	1.4	1.9	2.0	2.1	---	2.3	2.0	1.2	1.2	1.8	1.3	1.0
31	1.3	---	2.1	2.0	---	2.2	---	1.2	---	1.7	1.4	---
TOTAL	39.41	53.2	59.4	63.9	51.9	56.2	74.2	43.2	34.29	2501.4	48.2	33.98
MEAN	1.27	1.77	1.92	2.06	1.79	1.81	2.47	1.39	1.14	80.7	1.55	1.13
MAX	1.7	2.0	2.1	2.2	2.0	2.3	8.7	2.0	1.3	937	1.8	1.3
MIN	.54	1.4	1.8	2.0	1.6	1.5	1.9	1.1	.95	1.0	1.2	.93
AC-FT	78	106	118	127	103	111	147	86	68	4960	96	67

ARKANSAS RIVER BASIN
07234100 CLEAR CREEK NEAR ELMWOOD, OK--Continued

331

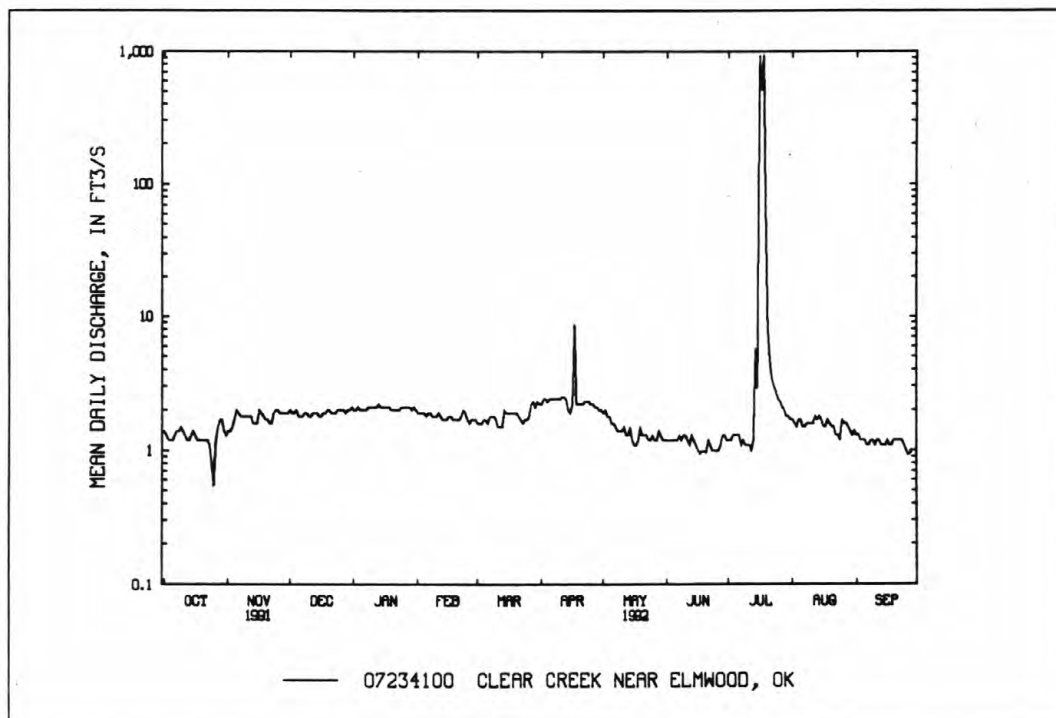
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.92	5.19	2.48	2.43	2.47	3.25	3.48	14.3	12.7	9.31	10.4	4.34
MAX	193	77.9	3.71	3.27	3.36	22.2	16.7	289	123	80.7	79.3	34.0
(WY)	1969	1972	1972	1977	1969	1973	1973	1989	1968	1992	1967	1981
MIN	1.09	1.56	1.57	1.52	1.67	1.68	1.45	1.17	.92	.91	.62	.31
(WY)	1991	1980	1986	1981	1981	1967	1967	1967	1966	1980	1976	1980

SUMMARY STATISTICS	1991 CALENDAR YEAR		1992 WATER YEAR		WATER YEARS 1966-92	
ANNUAL TOTAL	914.70		3059.28			
ANNUAL MEAN	2.51		8.36		6.63	
HIGHEST ANNUAL MEAN					30.0	
LOWEST ANNUAL MEAN					1.67	
HIGHEST DAILY MEAN	220	May 30	937	Jul 18	6660	May 17 1989
LOWEST DAILY MEAN	.54	Oct 25	.54	Oct 25	^a .00	at times
ANNUAL SEVEN-DAY MINIMUM	.85	Jul 4	1.0	Sep 24	.01	Sep 18 1980
INSTANTANEOUS PEAK FLOW			2370	Jul 18	^b 20000	Oct 16 1969
INSTANTANEOUS PEAK STAGE			8.88	Jul 18	14.17	May 17 1989
ANNUAL RUNOFF (AC-FT)	1810		6070		4810	
10 PERCENT EXCEEDS	2.5		2.2		3.4	
50 PERCENT EXCEEDS	1.8		1.7		2.1	
90 PERCENT EXCEEDS	1.2		1.1		1.1	

^aAt times during diversion for irrigation.

^bFrom rating curve extended above 12,500 ft³/s, on basis of slope-area measurement at 13.15 ft.



ARKANSAS RIVER BASIN
07236500 FORT SUPPLY LAKE NEAR FORT SUPPLY, OK

LOCATION.--Lat 36°33'14", long 99°34'16", in NE 1/4 SE 1/4 sec.17, T.24 N., R.22 W., Woodward County, Hydrologic Unit 11100203, in control tower at left end of Fort Supply Dam on Wolf Creek, 1.5 mi south of Fort Supply and at mile 5.5.

DRAINAGE AREA.--1,735 mi², of which 241 mi² is probably noncontributing.

PERIOD OF RECORD.--June 1942 to current year. Prior to October 1970, published as Fort Supply Reservoir near Fort Supply.

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage at National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by an earth dam. Outlet works consist of a 540-foot uncontrolled gravity-type concrete weir, one 36-inch diameter gated bypass, and one 18-foot oval-shaped conduit controlled by three vertical-lift sluice gates. Regulated storage began May 4, 1942; conservation pool first filled in June 1942. Capacity, 100,700 acre-ft at elevation 2,028.0 ft, crest of spillway, 13,890 acre-ft at elevation 2,004.0 ft, conservation pool designated in 1965. No storage below elevation 1,987.0 ft. Figures given herein represent total contents. Reservoir is used for flood control and conservation. Revised capacity table, based on survey in 1969, used since Oct. 1, 1972. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 99,500 acre-ft, June 25, 1957, elevation, 2,026.97 ft; no contents at times November 1942 to January 1943.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 15,110 acre-ft, Jan. 21, elevation, 2,004.63 ft; minimum, 10,960 acre-ft, Oct. 30, elevation 2,002.32 ft.

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

2,002	10,430	2,005	15,830
2,003	12,080	2,006	17,890
2,004	13,890	2,007	20,100

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11600	11110	12390	14300	14820	14280	14550	13690	13840	14590	13820	13800
2	11550	11120	12410	14370	14820	14300	14510	13580	13950	14570	13730	13750
3	11600	11120	12460	14430	14800	14340	14490	13600	14010	14590	13670	13750
4	11440	11170	12550	14590	14740	14430	14430	13580	14030	14570	13750	13800
5	11450	11170	12530	14550	14740	14370	14410	13560	14050	14550	13730	13690
6	11440	11140	12590	14650	14700	14280	14370	13580	14080	14590	13710	13750
7	11440	11270	12640	14740	14690	14200	14340	13620	14120	14570	13710	13730
8	11370	11350	12640	14760	14690	14100	14300	13560	14100	14450	13690	13730
9	11350	11340	12680	14800	14690	13870	14300	13620	14100	14360	13620	13550
10	11340	11350	12710	14840	14590	13850	14300	13530	14100	14320	13510	13530
11	11320	11390	12840	14960	14550	13730	14140	13490	14050	14370	13600	13530
12	11320	11440	12880	14860	14550	13730	14140	13470	14030	14260	13580	13580
13	11250	11570	12910	14880	14490	13750	14140	13750	13990	14160	13580	13530
14	11250	11540	13000	14940	14300	13800	14140	13640	13950	14200	13580	13420
15	11220	11500	12980	14940	14160	13840	14010	13710	13890	14240	13580	13440
16	11250	11780	13020	14940	14030	13890	14010	13640	13870	14370	13580	13420
17	11160	11830	13060	14940	13840	13910	14050	13620	13730	14370	13650	13290
18	11090	11880	13110	14980	13760	13870	13930	13650	13750	14360	13850	13180
19	11090	11870	13290	15020	13850	13990	13910	13670	13750	14360	13870	13200
20	11090	11950	13400	15050	13840	14080	13890	13750	13820	14280	13890	13150
21	11190	11980	13510	15090	13870	13950	13840	13890	13970	14300	13890	13090
22	11070	12000	13580	15000	13950	14080	13840	13910	14010	14240	13870	13090
23	11040	12010	13640	14980	14010	14180	13730	13990	14030	14200	13840	13060
24	10990	12050	13690	14960	14060	14160	13690	14060	14080	14140	13820	13040
25	10990	12080	13760	14920	14120	14220	13690	14160	14140	14100	13800	13000
26	11010	12120	13840	14900	14160	14220	13690	14240	14200	14010	13800	12910
27	11020	12190	13930	14920	14180	14370	13710	14390	14430	13990	13820	12890
28	11020	12190	14030	14920	14200	14450	13670	14430	14530	13950	13840	12840
29	11020	12330	14060	14880	14280	14430	13690	14220	14570	13890	13760	12840
30	11020	12330	14120	14860	---	14490	13800	14030	14690	13840	13760	12800
31	11110	---	14240	14840	---	14550	---	13890	---	13820	13780	---

ARKANSAS RIVER BASIN

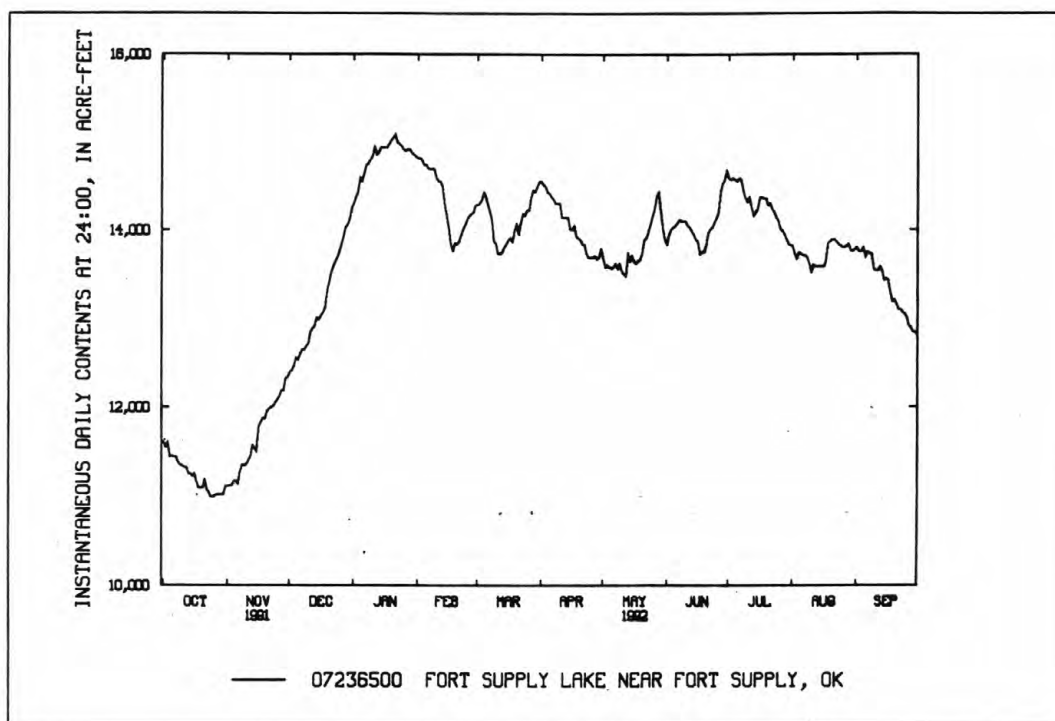
333

07236500 FORT SUPPLY LAKE NEAR FORT SUPPLY, OK--Continued

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MAX	11600	12330	14240	15090	14820	14550	14550	14430	14690	14590	13890	13800
MIN	10990	11110	12390	14300	13760	13730	13670	13470	13730	13820	13510	12800
(+)	2002.41	2003.41	2004.18	2004.49	2004.20	2004.34	2003.95	2004.00	2004.41	2003.96	2003.94	2003.40
(++)	-510	+1,220	+1,910	+600	-560	+270	-750	+90	+800	-870	-40	-980
CAL YR 1991	MAX 14650		MIN 10990		(++) +60							
WTR YR 1992	MAX 15090		MIN 10990		(++) +1,180							

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

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



ARKANSAS RIVER BASIN
07237000 WOLF CREEK NEAR FORT SUPPLY, OK

LOCATION.--Lat 36°34'00", long 99°33'05", SE 1/4 SE 1/4 sec.9, T.24 N., R.22 W., Woodward County, Hydrologic Unit 11100203, on left bank on downstream side of U.S. Highway 270, 1.0 mi southeast of Fort Supply, 1.6 mi downstream from Fort Supply Dam, and at mile 3.9.

DRAINAGE AREA.--1,739 mi², of which 241 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1937 to current year. Prior to October 1, 1941, published as "Near Supply".

REVISED RECORDS.--WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,958.38 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). See WSP 1921 for history of changes prior to Sept. 30, 1962.

REMARKS.--Records fair. Flow completely regulated since May 1942 by Fort Supply Lake (station 07236500).

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 19.6 ft, present datum, was reached prior to October 1937, from information provided by Oklahoma State Highway Department.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.94	1.2	1.0	1.6	46	19	32	15	102	10	4.1	2.0
2	.68	1.2	2.8	1.2	46	19	48	12	61	9.8	4.2	1.8
3	.67	1.2	1.5	1.1	49	18	48	12	60	10	4.3	1.8
4	.67	2.5	1.0	1.5	48	18	48	11	58	5.5	4.7	1.7
5	.67	1.6	.93	1.8	47	47	48	6.6	59	5.5	4.3	1.7
6	.64	1.4	1.0	3.0	47	78	50	6.3	59	7.6	4.3	1.6
7	2.0	1.3	.87	2.4	47	77	48	6.0	58	14	3.8	1.5
8	1.1	1.3	.86	4.1	46	76	47	6.0	58	14	1.9	1.5
9	.80	1.3	3.0	5.3	47	75	46	6.0	57	14	1.5	1.5
10	.73	1.3	1.4	10	47	78	46	6.0	56	14	2.8	2.9
11	.72	1.2	1.0	.17	50	79	46	5.9	53	14	2.0	2.1
12	.67	3.2	1.1	17	49	44	46	4.6	53	13	1.5	1.8
13	.67	2.4	.86	18	80	14	45	1.8	52	14	1.4	1.7
14	.68	1.9	.82	16	111	14	47	1.8	52	12	1.4	1.6
15	2.4	1.2	.80	16	111	13	45	1.5	51	12	1.4	1.5
16	1.4	2.3	3.5	16	107	13	44	1.3	50	13	1.4	1.5
17	.95	1.8	1.4	16	108	7.4	44	1.2	44	12	1.6	1.5
18	.75	3.6	3.7	16	70	7.1	44	1.2	22	12	2.4	3.0
19	.80	2.0	1.8	16	15	6.8	44	1.1	3.7	12	2.0	1.8
20	.80	1.6	1.4	16	9.2	6.8	44	1.2	2.6	11	1.8	1.5
21	2.5	1.4	1.0	25	7.9	6.9	44	1.4	2.6	11	1.7	1.5
22	1.4	1.2	.96	42	7.7	6.8	44	1.5	3.9	11	1.7	1.4
23	1.0	1.2	2.5	43	7.7	6.8	44	1.4	2.2	11	1.6	6.3
24	.84	1.1	1.6	44	10	6.8	31	1.3	1.8	11	1.5	1.8
25	.80	2.6	1.2	45	8.4	6.8	18	1.4	1.8	11	1.6	1.5
26	.84	1.5	1.1	46	13	6.8	18	1.5	2.3	11	1.5	1.4
27	1.0	1.0	1.1	49	19	7.2	18	1.4	5.9	11	1.5	1.3
28	1.2	.94	1.2	48	19	7.5	18	29	7.0	7.2	1.5	1.3
29	2.5	1.2	1.2	47	19	6.9	18	132	10	2.3	1.4	1.3
30	1.4	1.0	1.1	47	---	14	18	131	10	4.1	1.5	1.3
31	1.2	---	3.1	46	---	17	---	131	---	4.1	2.5	---
TOTAL	33.42	48.64	46.80	678.0	1291.9	803.6	1181	541.4	1058.8	324.1	70.8	55.1
MEAN	1.08	1.62	1.51	21.9	44.5	25.9	39.4	17.5	35.3	10.5	2.28	1.84
MAX	2.5	3.6	3.7	49	111	79	50	132	102	14	4.7	6.3
MIN	.64	.94	.80	1.1	7.7	6.8	18	1.1	1.8	2.3	1.4	1.3
AC-FT	66	96	93	1340	2560	1590	2340	1070	2100	643	140	109

ARKANSAS RIVER BASIN
07237000 WOLF CREEK NEAR FORT SUPPLY, OK--Continued

335

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1992, BY WATER YEAR (WY)

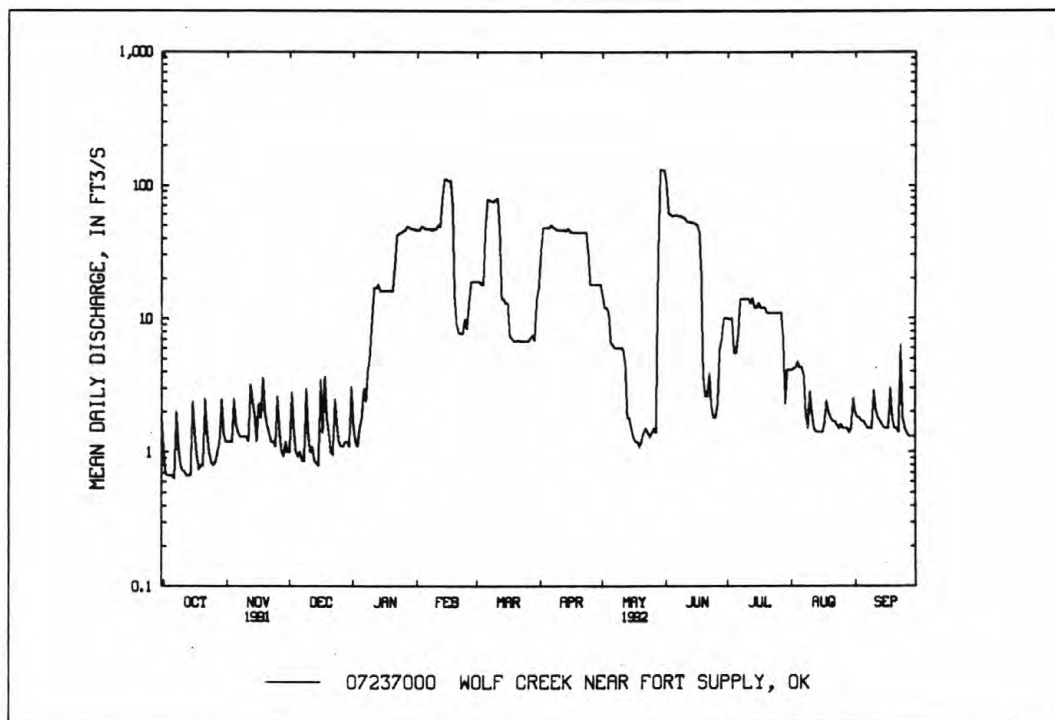
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	37.6	22.5	26.4	33.3	42.7	45.8	58.0	123	121	68.3	31.2	31.8
MAX	272	160	79.6	96.8	152	187	251	993	1016	1017	718	1057
(WY)	1945	1972	1943	1945	1949	1987	1957	1957	1951	1957	1950	1950
MIN	.000	.070	.35	.20	.097	.000	.50	1.97	.50	.39	.000	.000
(WY)	1955	1948	1944	1948	1948	1943	1955	1943	1956	1964	1946	1947

SUMMARY STATISTICS	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1943-92
ANNUAL TOTAL	5550.29	6133.56	
ANNUAL MEAN	15.2	16.8	^a 53.4
HIGHEST ANNUAL MEAN			288 1957
LOWEST ANNUAL MEAN			3.61 1956
HIGHEST DAILY MEAN	63 Mar 18	132 May 29	4550 May 20 1957
LOWEST DAILY MEAN	.60 Sep 29	.64 Oct 6	.00 at times
ANNUAL SEVEN-DAY MINIMUM	.77 Oct 8	.77 Oct 8	.00 Feb 5 1943
INSTANTANEOUS PEAK FLOW		136 May 29	^b 5020 May 19 1957
INSTANTANEOUS PEAK STAGE		5.59 May 29	13.11 Apr 24 1944
ANNUAL RUNOFF (AC-FT)	11010	12170	38710
10 PERCENT EXCEEDS	38	48	95
50 PERCENT EXCEEDS	3.1	4.3	6.3
90 PERCENT EXCEEDS	1.0	1.1	.69

^aPrior to regulation, water years 1938-42, 104 ft³/s.

^bMaximum discharge for period of record, 14,200 ft³/s, June 24, 1939, from rating curve extended above 8,000 ft³/s.

^cMaximum gage height for period of record 15.80 ft, present datum, Aug. 8, 1940.



ARKANSAS RIVER BASIN
07237500 NORTH CANADIAN RIVER AT WOODWARD, OK

LOCATION.--Lat 36°26'12", long 99°16'41", SW 1/4 SW 1/4 sec.30, T.23 N., R.19 W., Woodward County, Hydrologic Unit 11100301, near right bank on downstream side of pier of bridge on State Highway 15, 200 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.

WATER-DISCHARGE RECORDS

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 National Geodetic Vertical Datum of 1929. Prior to July 1906, nonrecording gage at railway bridge 200 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.--No estimated daily discharges. 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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	4.7	7.5	24	64	42	37	43	152	40	28	11
2	1.2	4.8	7.8	19	65	42	37	42	136	40	28	11
3	1.4	4.8	7.7	18	65	43	52	35	107	38	25	11
4	1.3	4.9	7.2	19	66	50	59	33	95	36	27	11
5	1.5	4.6	7.3	19	64	49	60	31	94	34	26	11
6	1.5	4.4	7.7	19	65	50	60	29	116	32	24	9.7
7	1.5	4.6	7.9	22	64	82	63	27	112	30	22	9.2
8	1.4	4.8	8.0	20	64	86	62	25	104	28	21	8.6
9	1.3	4.6	7.9	20	64	86	65	24	101	28	19	7.4
10	1.3	3.9	8.2	21	64	83	68	23	106	27	17	7.1
11	1.4	4.9	8.7	23	64	88	66	22	97	28	20	7.4
12	1.3	4.2	12	26	64	89	65	22	90	26	19	6.7
13	1.5	4.2	10	30	64	77	63	21	87	25	15	6.2
14	1.4	4.2	9.7	31	74	49	66	33	85	32	13	5.6
15	1.5	4.2	9.8	34	96	44	67	23	81	30	12	5.8
16	1.6	57	9.9	28	101	42	68	19	78	39	11	5.6
17	1.5	25	9.9	26	106	41	70	17	80	34	11	5.1
18	1.6	14	11	36	108	37	69	16	78	32	82	4.9
19	1.7	12	15	35	96	34	80	16	66	50	32	5.0
20	1.7	11	27	34	58	34	76	15	51	64	26	4.8
21	2.0	10	22	36	46	33	73	16	48	52	23	4.7
22	3.0	11	26	37	39	32	74	40	42	45	20	4.5
23	2.1	10	19	52	37	32	75	59	37	41	17	4.7
24	2.0	9.7	15	58	37	32	75	25	35	38	14	4.7
25	2.1	9.7	15	60	35	32	71	21	33	46	15	4.6
26	2.3	9.2	20	60	35	31	54	24	31	45	15	4.5
27	2.5	8.9	24	65	35	27	50	23	29	43	15	4.5
28	13	9.0	18	66	40	31	48	34	63	40	14	4.6
29	6.0	8.0	17	65	42	29	48	26	44	37	12	4.7
30	3.6	7.4	17	65	---	27	47	77	39	31	11	4.6
31	4.6	---	23	65	---	29	---	131	---	28	12	---

ARKANSAS RIVER BASIN

337

07237500 NORTH CANADIAN RIVER AT WOODWARD, OK--Continued

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
TOTAL	72.2	279.7	416.2	1133	1822	1483	1868	992	2317	1139	646	200.2
MEAN	2.33	9.32	13.4	36.5	62.8	47.8	62.3	32.0	77.2	36.7	20.8	6.67
MAX	13	57	27	66	108	89	80	131	152	64	82	11
MIN	1.2	3.9	7.2	18	35	27	37	15	29	25	11	4.5
AC-FT	143	555	826	2250	3610	2940	3710	1970	4600	2260	1280	397

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	59.4	52.2	50.5	69.7	81.8	132	144	252	229	94.0	40.1	30.7
MAX	377	173	125	200	174	404	382	900	814	328	207	158
(WY)	1986	1986	1986	1988	1987	1987	1988	1979	1989	1989	1989	1989
MIN	2.33	5.75	8.78	11.0	12.6	47.8	34.7	32.0	16.1	4.24	1.73	.95
(WY)	1992	1985	1984	1981	1981	1992	1981	1992	1981	1981	1991	1984

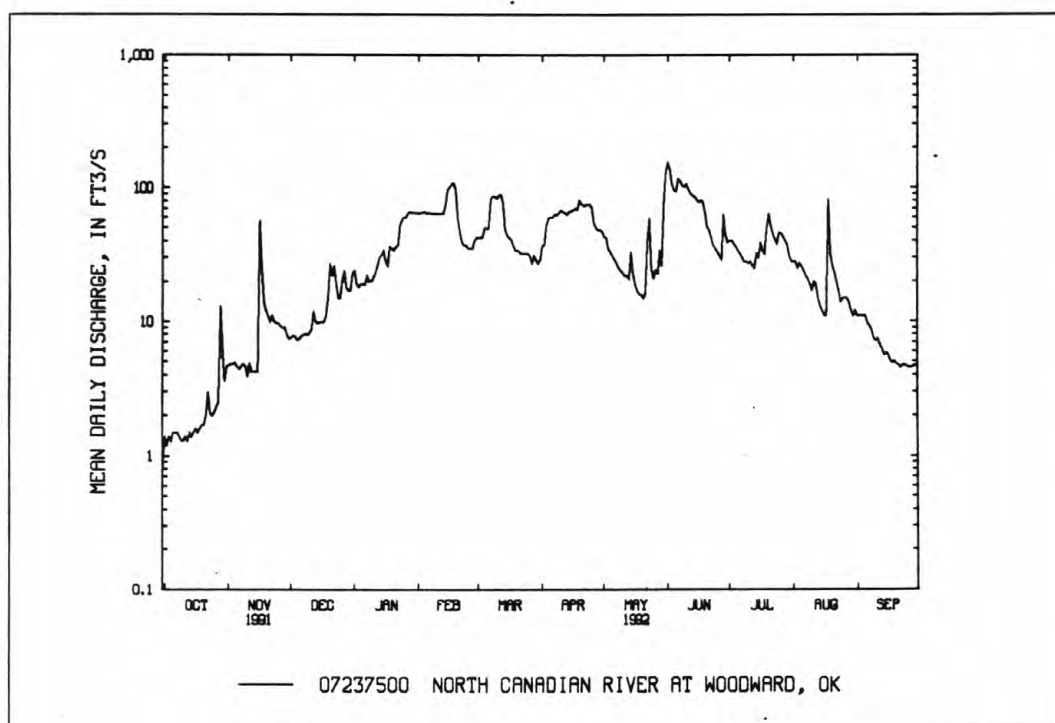
SUMMARY STATISTICS	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1979-92
ANNUAL TOTAL	11620.75	12368.3	
ANNUAL MEAN	31.8	33.8	^a 103
HIGHEST ANNUAL MEAN			228 1989
LOWEST ANNUAL MEAN			16.9 1981
HIGHEST DAILY MEAN	250 Jun 1	152 Jun 1	2950 May 23 1989
LOWEST DAILY MEAN	.67 Aug 27	1.2 Oct 2	.00 at times
ANNUAL SEVEN-DAY MINIMUM	.92 Aug 24	1.4 Oct 8	.13 Sep 9 1984
INSTANTANEOUS PEAK FLOW		214 Aug 18	^b 3090 May 23 1989
INSTANTANEOUS PEAK STAGE		^c 5.73 Nov 16	^d 10.72 May 23 1989
ANNUAL RUNOFF (AC-FT)	23050	24530	74630
10 PERCENT EXCEEDS	73	75	227
50 PERCENT EXCEEDS	22	27	57
90 PERCENT EXCEEDS	1.5	4.5	5.8

^aPrior to regulation 1939-78, 194 ft³/s.

^bMaximum discharge for period of record 42,000 ft³/s, Oct. 10, 1946.

^cBackwater from temporary access road.

^dMaximum gage height for period of record 9.80 ft, Oct. 10, 1946, site and datum then in use.



ARKANSAS RIVER BASIN

07237500 NORTH CANADIAN RIVER AT WOODWARD, OK--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1955, 1958-59, 1961-63, 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to January 1982.

WATER TEMPERATURE: October 1974 to January 1982.

REMARKS.--Samples were collected bimonthly and specific conductance, pH, water temperature, dissolved oxygen, and alkalinity were determined in the field.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	TEMPER- ATURE WATER (DEG C) (00010)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	GAGE HEIGHT (FEET) (00065)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	
FEB											
12...	1015	2.00	5.5	1028	1028	64	3.42	1480	11.7	8.2	
12...	1020	5.00	5.5	1028	1028	64	3.42	1480	11.7	8.2	
12...	1024	8.00	5.5	1028	1028	64	3.42	1480	11.7	8.2	
12...	1028	11.0	5.5	1028	1028	64	3.42	1480	11.7	8.2	
12...	1032	14.0	5.5	1028	1028	64	3.42	1480	11.7	8.2	
12...	1036	17.0	5.5	1028	1028	64	3.42	1480	11.7	8.2	
12...	1040	20.0	5.5	1028	1028	64	3.42	1480	11.7	8.2	
12...	1045	23.0	5.5	1028	1028	64	3.42	1480	11.7	8.2	
DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)
NOV											
13...	1330	1028	80020	4.5	2760	8.4	22.0	15.0	25	707	153
JAN											
07...	1115	1028	80020	21	1950	8.3	10.5	7.0	0.20	701	115
FEB											
12...	1100	1028	80020	64	1480	8.2	1.0	5.5	8.6	731	97
MAY											
13...	1400	1028	80020	21	2120	8.7	27.5	25.5	4.3	729	155
JUL											
08...	1000	1028	80020	28	2110	8.2	27.5	22.5	3.2	727	111

ARKANSAS RIVER BASIN

339

07237500 NORTH CANADIAN RIVER AT WOODWARD, OK--Continued

DATE	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL AS CACO3 (MG/L CACO3) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L (MG/L) (00904)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)
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NOV												
13...	69	86	770	520	230	46	310	47	5	8.6	270	14
JAN												
07...	28	48	550	310	150	42	200	44	4	4.9	284	0
FEB												
12...	K35	76	390	180	100	33	170	49	4	4.7	255	0
MAY												
13...	K31	70	560	370	140	51	230	47	4	6.2	210	10
JUL												
08...	K270	160	530	350	130	50	240	49	5	6.2	225	0

DATE	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00620)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)
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NOV												
13...	245	570	350	1.0	34	1880	1720	2.56	23.0	--	2.80	12
JAN												
07...	233	370	280	0.70	22	1270	1210	1.73	70.3	0.920	0.900	4.0
FEB												
12...	209	240	240	0.70	20	884	937	1.20	153	0.290	0.290	1.3
MAY												
13...	188	390	300	0.70	15	1300	1250	1.77	74.8	0.410	0.410	1.8
JUL												
08...	184	430	350	0.80	16	1340	1340	1.82	102	0.270	0.280	1.2

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00605)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00625)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00600)
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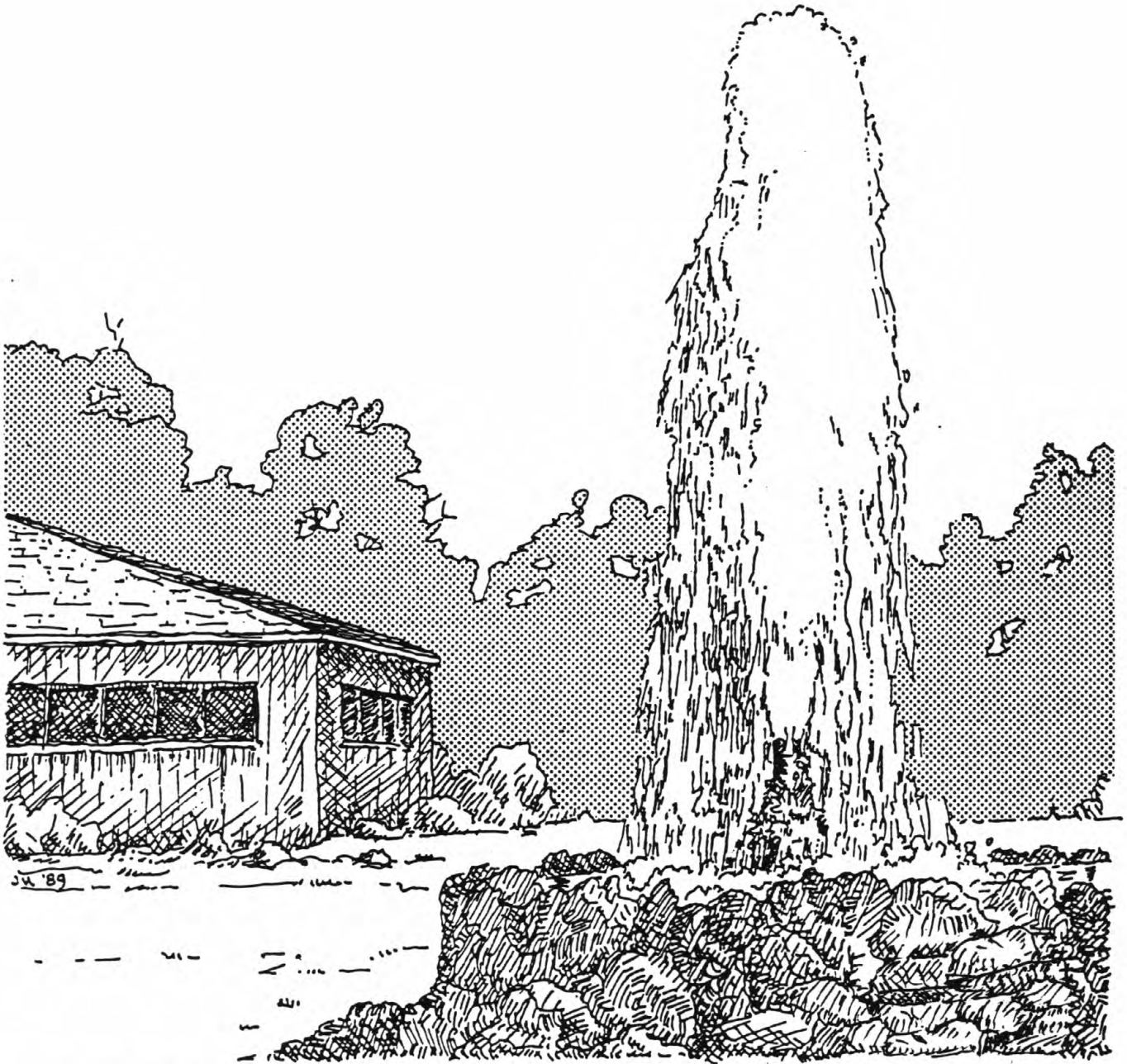
NOV												
13...	0.200	0.200	0.66	--	3.00	--	2.40	--	3.1	--	4.3	--
JAN												
07...	0.060	0.070	0.23	0.980	0.970	0.460	0.440	0.59	0.57	0.84	1.3	2.3
FEB												
12...	0.030	0.020	0.07	0.320	0.310	0.200	0.180	0.26	0.23	0.60	0.80	1.1
MAY												
13...	0.020	0.020	0.07	0.430	0.430	0.040	0.030	0.05	0.04	0.36	0.40	0.83
JUL												
08...	0.020	0.010	0.03	0.290	0.290	0.030	0.020	0.04	0.03	0.77	0.80	1.1

ARKANSAS RIVER BASIN

07237500 NORTH CANADIAN RIVER AT WOODWARD, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHATE, TOTAL (MG/L AS PO4) (00650)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, TOTAL (MG/L AS P) (70507)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
NOV 13...	--	0.860	1.38	0.580	0.450	0.460	1.4	20	200	<1	30
JAN 07...	10	0.310	0.49	0.190	0.160	0.150	0.46	--	--	--	--
FEB 12...	5.0	0.150	0.28	0.070	0.090	0.070	0.21	20	160	<3	6
MAY 13...	3.7	0.110	0.28	0.090	0.090	0.080	0.25	<10	<100	<1	<10
JUL 08...	4.8	0.170	0.21	0.050	0.070	0.060	0.18	10	<100	<1	<10
DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	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)	SEDI- MENT, DIS- SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. # FINER THAN .062 MM (70331)
NOV 13...	50	140	2	1	1	<1.0	1500	15	12	0.15	82
JAN 07...	--	--	--	--	--	--	--	--	6	0.33	99
FEB 12...	48	17	<10	<1	<1	<1.0	1100	<6	29	5.0	70
MAY 13...	60	20	2	<1	<1	<1.0	1500	9	22	1.3	75
JUL 08...	140	40	2	<1	<1	<1.0	1600	8	12	0.92	77



Vendome Well, Chickasaw National Recreation Area, in the 1930's

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 National Geodetic Vertical Datum of 1929. 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.--No estimated daily discharges. 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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	14	31	60	82	70	74	66	122	74	36	28
2	2.1	13	32	60	81	71	78	64	205	65	35	27
3	1.8	14	31	59	82	76	81	61	274	59	33	25
4	1.6	16	31	57	82	81	83	60	156	54	37	23
5	1.4	18	31	55	83	84	87	56	129	52	35	22
6	1.7	19	32	54	84	87	86	53	120	49	35	21
7	1.9	21	32	55	84	80	86	51	124	46	33	19
8	1.8	22	32	54	84	90	87	49	125	43	29	18
9	1.7	21	31	55	84	100	87	47	131	41	26	18
10	1.8	22	31	54	84	98	87	46	450	40	24	17
11	1.6	21	32	54	85	98	87	46	233	43	24	16
12	1.3	21	37	55	85	99	88	44	169	41	26	16
13	1.0	20	39	56	87	100	88	42	136	40	26	15
14	.82	21	40	56	88	98	86	42	122	199	27	14
15	.80	21	38	57	89	82	84	42	113	76	33	12
16	.89	106	36	55	104	75	84	44	107	102	26	12
17	.85	83	36	59	110	74	87	42	98	87	23	10
18	.86	72	35	57	111	103	88	40	92	62	139	9.4
19	.79	57	40	59	110	77	94	40	89	54	161	9.2
20	1.2	44	52	62	105	75	102	40	84	52	83	9.4
21	1.9	39	61	64	82	73	107	41	75	62	56	9.6
22	2.1	37	69	66	75	71	100	44	71	64	48	8.4
23	2.2	34	62	65	72	69	94	63	69	58	43	7.7
24	2.1	33	58	67	73	69	88	114	64	53	40	7.5
25	2.4	32	55	72	72	69	86	104	66	49	38	7.1
26	3.3	32	53	73	73	68	84	79	58	46	38	6.0
27	4.5	32	53	79	71	68	78	78	56	49	37	5.7
28	8.4	32	54	83	69	70	72	78	107	48	35	5.6
29	9.0	32	55	85	69	73	73	78	106	45	32	5.4
30	8.5	32	54	84	---	75	69	77	89	42	29	4.9
31	12	---	55	83	---	72	---	77	---	39	28	---
TOTAL	84.61	981	1328	1954	2460	2495	2575	1808	3840	1834	1315	408.9
MEAN	2.73	32.7	42.8	63.0	84.8	80.5	85.8	58.3	128	59.2	42.4	13.6
MAX	12	106	69	85	111	103	107	114	450	199	161	28
MIN	.79	13	31	54	69	68	69	40	56	39	23	4.9
AC-FT	168	1950	2630	3880	4880	4950	5110	3590	7620	3640	2610	811

ARKANSAS RIVER BASIN
07238000 NORTH CANADIAN RIVER NEAR SEILING, OK--Continued

343

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	87.8	93.0	83.0	103	126	195	198	362	305	131	54.6	46.2
MAX	430	324	179	263	300	567	511	984	982	380	271	244
(WY)	1986	1987	1986	1988	1987	1987	1988	1979	1989	1989	1989	1989
MIN	2.73	10.6	24.5	30.5	36.7	78.5	57.3	44.8	18.8	8.13	1.23	.074
(WY)	1992	1985	1979	1981	1981	1981	1981	1981	1981	1991	1984	1984

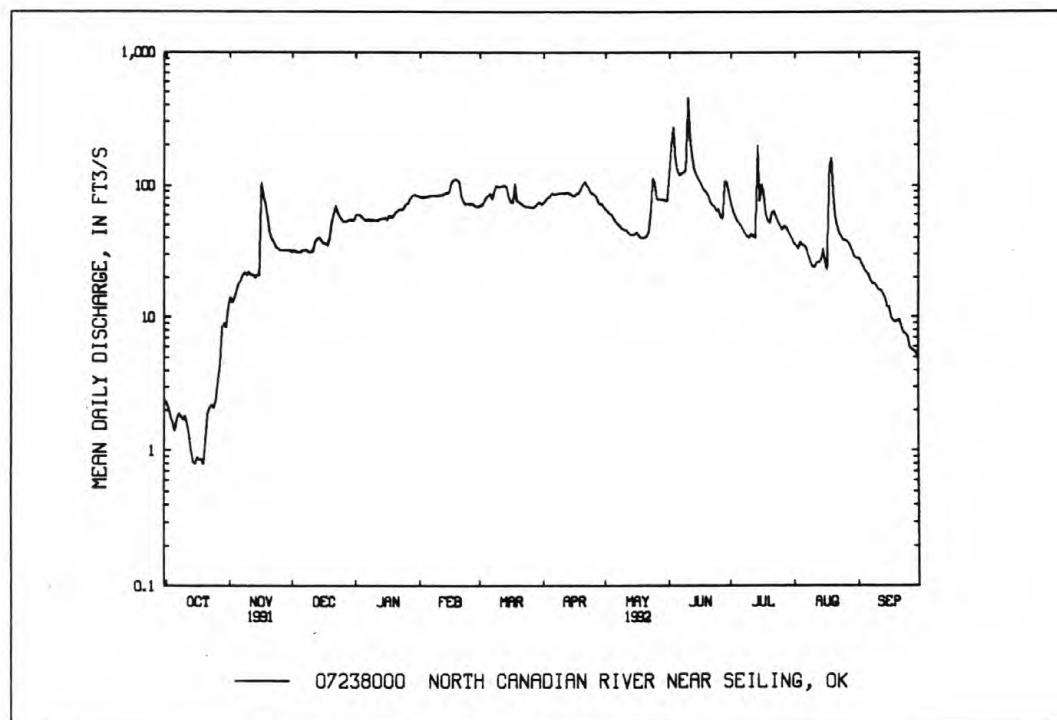
SUMMARY STATISTICS	1991 CALENDAR YEAR		1992 WATER YEAR		WATER YEARS 1979-92	
ANNUAL TOTAL	17363.49		21083.51			
ANNUAL MEAN	47.6		57.6		^b 149	
HIGHEST ANNUAL MEAN					299	
LOWEST ANNUAL MEAN					29.4	
HIGHEST DAILY MEAN	293	Jun 2	450	Jun 10	2680	May 17 1982
LOWEST DAILY MEAN	.34	Aug 28	.79	Oct 19	.00	Sep 16 1980
ANNUAL SEVEN-DAY MINIMUM	.47	Aug 6	.86	Oct 13	.00	Sep 16 1980
INSTANTANEOUS PEAK FLOW			709	^a Jun 2	^c 6360	May 27 1980
INSTANTANEOUS PEAK STAGE			7.69	^a Jun 2	^d 12.98	May 27 1980
ANNUAL RUNOFF (AC-FT)	34440		41820		107900	
10 PERCENT EXCEEDS	95		99		328	
50 PERCENT EXCEEDS	47		55		82	
90 PERCENT EXCEEDS	1.7		8.4		9.2	

^aAlso occurred on June 3, 10.

^bPrior to regulation, water years 1947-78, 215 ft³/s.

^cMaximum discharge for period of record, 33,000 ft³/s, May 19, 1951.

^dMaximum gage height for period of record, 16.00 ft, Oct. 11, 1946, present datum.



, ARKANSAS RIVER BASIN
07238500 CANTON LAKE NEAR CANTON, OK

LOCATION.--Lat 36°04'54", long 98°36'01", in SE 1/4 NE 1/4 sec.32, T.19 N., R.13 W., Blaine County, Hydrologic Unit 11100301, near right end of Canton Dam on North Canadian River, 2.0 mi northwest of Canton, and at mile 394.3.

DRAINAGE AREA.--12,483 mi², of which 4,883 mi² is probably noncontributing.

PERIOD OF RECORD.--April 1948 to current year. Prior to October 1970, published as Canton Reservoir near Canton.

REVISED RECORDS.--WSP 1341: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by an earth dam. The outlet works consists of a concrete gravity, chute-type weir spillway controlled by 16 taintor gates with net length of 640 ft, three sluice gates and two 24-inch valved pipes. Regulated storage began Apr. 15, 1948; conservation pool was first filled July 4, 1948. Capacity, 377,100 acre-ft at elevation 1,638.0 ft (flood-control pool), 111,300 acre-ft at elevation 1,615.4 ft. (Normal water-supply pool), 93,180 acre-ft at elevation 1,613.0 ft (crest of spillway), and 14,140 acre-ft at elevation 1,596.5 ft (bottom of conservation pool). Figures given herein represent total contents. Reservoir was designed for flood control, irrigation, and conservation, but owing to a lack of facilities, it is not being used for irrigation at this time. Revised capacity table, based on survey in 1980, used since Oct. 1, 1981. U.S. Army Corps of Engineers' satellite telemeter at site.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 258,600 acre-ft, May 25, 1951, elevation, 1,628.05 ft; minimum since conservation pool was first filled, 867 acre-ft, May 5, 1955, elevation, 1,585.66 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 81,220 acre-ft, July 2, elevation, 1,611.28 ft; minimum, 58,910 acre-ft, Nov. 14, elevation, 1,607.64 ft.

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

1,607	55,450	1,613	93,180
1,609	66,710	1,615	108,200
1,611	79,350	1,617	124,400

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62230	59630	61940	65830	65120	63890	66890	70300	72110	80620	78760	79090
2	62050	59520	61940	65890	64890	63950	67010	70550	72730	81020	78500	78760
3	61880	59350	61880	66010	64710	64240	66950	70550	73180	80750	78500	78690
4	62110	59190	61770	65950	64600	64300	67190	70550	73630	80750	79020	78430
5	61710	59300	61940	66240	64070	64540	67320	70550	74910	80550	79020	78760
6	61600	59690	61940	66240	63830	64420	67440	70360	74660	80220	78950	78430
7	61370	59350	61880	66360	63540	64240	67620	70300	74980	79750	78690	79280
8	61310	59240	62110	66480	63140	64240	67800	70110	75230	79820	78500	78300
9	61310	59300	62110	66590	62740	64600	67860	69730	75620	79680	78360	78560
10	61250	59300	62170	66360	62740	64300	67860	70300	77120	79680	78430	78170
11	61200	59300	62570	65830	62630	64600	68220	70730	77710	79350	78560	77970
12	61020	59240	62740	65830	62400	64540	68280	70730	78100	79220	78360	77640
13	61000	59130	62800	65180	62400	64830	68280	70050	78430	79620	78100	77510
14	60690	59350	62630	64650	62570	64890	68520	70610	78630	79410	78300	77510
15	60630	59960	62800	64070	62460	65010	68600	70480	78760	79550	78170	77320
16	60190	60850	62910	63600	62460	65010	68950	70480	78820	80020	77910	77050
17	60300	61140	62910	63490	62630	65360	69010	70480	79150	80020	77970	76990
18	60460	61370	62910	63490	62570	65830	69250	70450	79220	80080	78560	76990
19	60130	61650	63370	63540	62510	65650	69670	70360	79090	79950	78630	76590
20	60020	61540	63950	63660	62740	65650	69800	70260	79410	80020	78760	76590
21	59690	61600	63950	63770	62970	66180	69800	70360	79350	79820	78760	76590
22	59630	62000	64300	64130	63140	65890	69550	70360	79350	79880	78690	76330
23	59520	61650	64420	64070	63200	65830	70170	70480	79480	79750	78500	76130
24	59800	61650	64540	64300	63540	66180	70110	70300	79820	79680	78430	75880
25	59520	61650	64650	64240	63490	66120	70230	70920	79620	79410	78630	75560
26	59460	61770	64830	64420	63540	66180	70230	70920	79410	79550	78500	75620
27	59410	61710	65010	64830	63660	66180	70230	71230	79960	79350	78170	75430
28	59850	62000	65070	65070	63770	66770	70420	71360	80630	79280	78100	75360
29	59630	62230	65240	65240	63720	66710	70480	71300	80690	79150	77840	75110
30	59690	62110	65360	65430	---	66530	70230	71300	80620	79150	78950	74910
31	59960	---	65540	65360	---	67070	---	71670	---	78890	78820	---

ARKANSAS RIVER BASIN

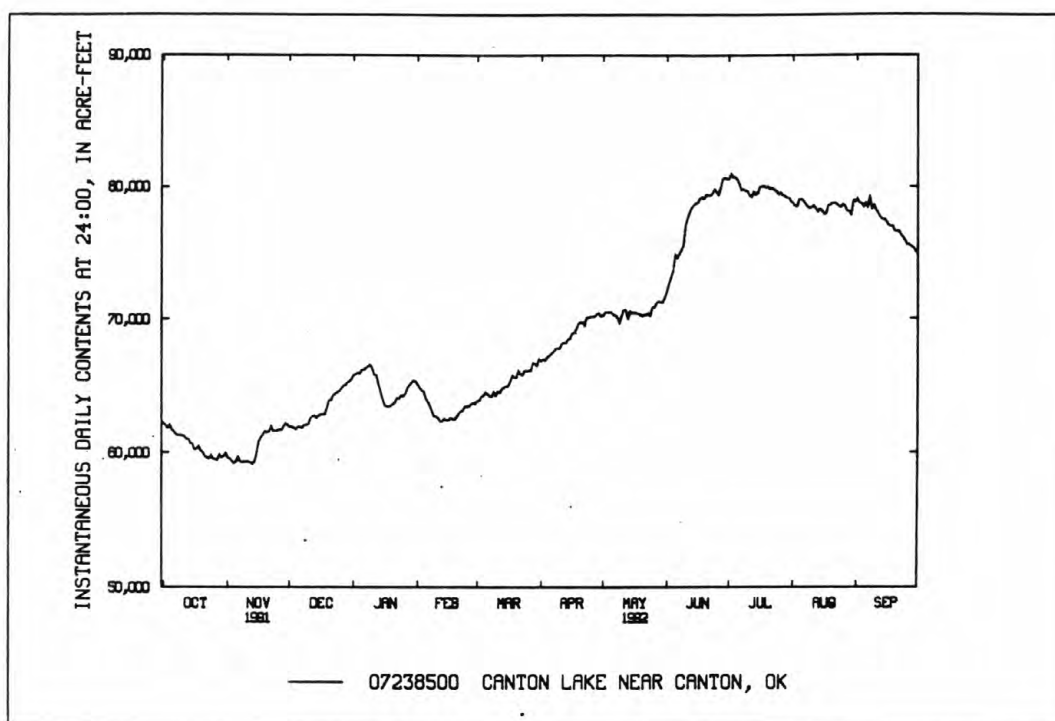
345

07238500 CANTON LAKE NEAR CANTON, OK--Continued

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MAX	62230	62230	65540	66590	65120	67070	70480	71670	80690	81020	79020	79280
MIN	59410	59130	61770	63490	62400	63890	66890	69730	72110	78890	77840	74910
(+)	1607.83	1608.21	1608.80	1608.77	1608.49	1609.06	1609.58	1609.81	1611.19	1610.93	1610.92	1610.32
(++)	-2,380	+2,150	+3,430	-180	-1,640	+3,350	+3,160	+1,440	+8,950	-1,730	-70	-3,910
CAL YR 1991	MAX 111400		MIN 59130		(++) -26,710							
WTR YR 1992	MAX 81020		MIN 59130		(++) +12,570							

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

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



ARKANSAS RIVER BASIN
07239000 NORTH CANADIAN RIVER AT CANTON, OK

LOCATION.--Lat 36°04'45", long 98°35'25", 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, 4.8 mi upstream from Minnehaha Creek, and at mile 393.8.

DRAINAGE AREA.--12,484 mi², of which 4,883 mi² is probably noncontributing.

PERIOD OF RECORD.--October 1937 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 National Geodetic Vertical Datum of 1929. 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 discharges. Records good. 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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	15	12	14	213	13	14	14	15	14	15	14
2	16	15	13	14	209	12	13	13	15	14	15	14
3	14	14	12	14	207	12	13	14	15	14	14	15
4	15	14	12	14	203	12	13	16	15	14	15	16
5	15	14	13	15	202	57	12	16	15	14	14	16
6	15	14	13	15	200	119	11	17	16	14	15	14
7	15	14	13	15	200	119	11	17	15	14	14	13
8	13	14	13	15	201	119	11	17	16	14	12	14
9	11	14	13	16	202	58	11	17	16	12	12	15
10	11	14	13	88	202	17	11	17	19	12	11	16
11	11	14	14	266	200	17	11	16	16	11	10	17
12	12	13	14	267	142	17	10	17	16	11	10	16
13	14	13	13	257	82	17	9.0	17	15	12	12	14
14	15	13	13	255	82	17	9.6	16	13	14	15	13
15	15	12	13	254	82	16	13	16	13	14	15	12
16	14	15	13	253	80	15	13	16	13	15	16	12
17	15	13	13	171	79	15	13	16	14	14	15	11
18	13	13	14	15	78	15	13	16	15	14	15	12
19	14	12	15	15	78	15	14	16	16	13	15	14
20	15	11	16	15	43	15	13	16	17	14	15	13
21	15	12	16	14	13	15	12	16	16	14	16	14
22	15	12	15	14	13	15	12	17	15	14	16	15
23	13	10	15	14	13	15	12	17	16	14	16	17
24	12	10	14	14	14	15	13	16	16	14	15	16
25	12	10	14	14	13	14	14	16	16	15	15	17
26	13	10	15	14	13	14	14	16	16	16	17	18
27	13	11	15	14	13	15	16	16	16	15	15	15
28	15	11	14	14	13	15	17	16	15	15	14	15
29	15	11	15	14	13	15	15	16	12	15	14	16
30	15	11	14	13	---	15	15	14	13	15	19	16
31	16	---	14	83	---	14	---	14	---	15	16	---
TOTAL	433	379	426	2210	3103	859	378.6	494	456	430	448	440
MEAN	14.0	12.6	13.7	71.3	107	27.7	12.6	15.9	15.2	13.9	14.5	14.7
MAX	16	15	16	267	213	119	17	17	19	16	19	18
MIN	11	10	12	13	13	12	9.0	13	12	11	10	11
AC-FT	859	752	845	4380	6150	1700	751	980	904	853	889	873

ARKANSAS RIVER BASIN
07239000 NORTH CANADIAN RIVER AT CANTON, OK--Continued

347

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1992, BY WATER YEAR (WY)

MEAN	91.5	75.9	65.0	60.3	87.2	123	165	197	392	274	169	176
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	.006	.27	.31	.40	.72	.35	.59	2.52	5.28	2.07	.34	.34
(WY)	1949	1955	1955	1955	1955	1955	1955	1971	1970	1954	1954	1954

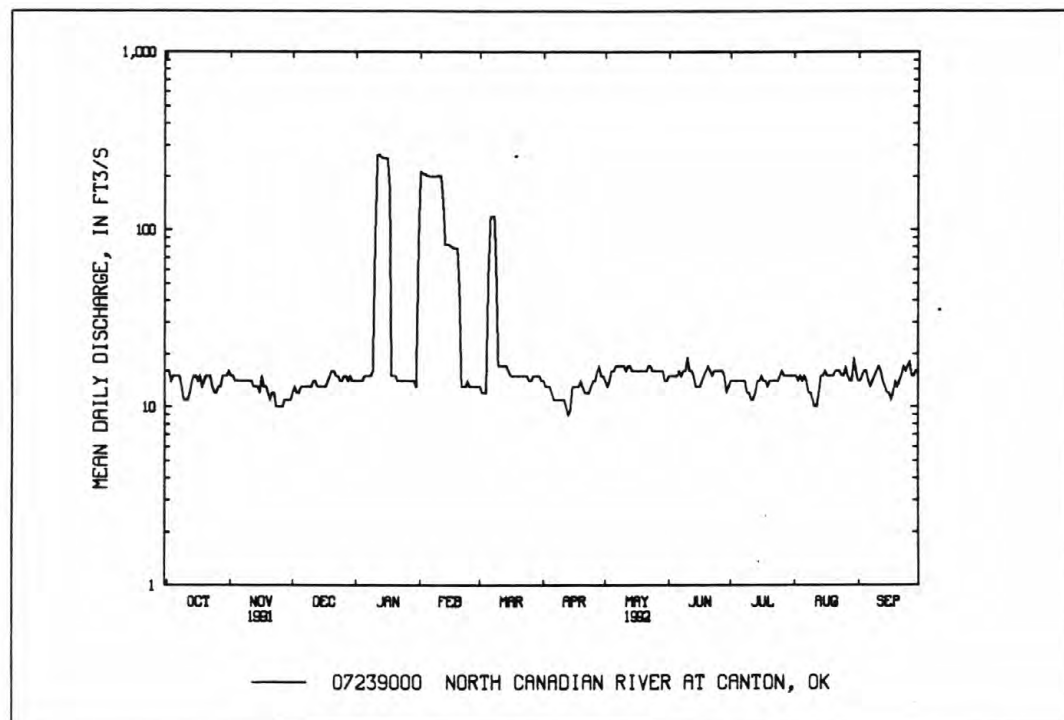
SUMMARY STATISTICS	1991 CALENDAR YEAR		1992 WATER YEAR		WATER YEARS 1949-92	
ANNUAL TOTAL	27863.8		10056.6			
ANNUAL MEAN	76.3		27.5		^a 156	
HIGHEST ANNUAL MEAN					782 1951	
LOWEST ANNUAL MEAN					27.2 1985	
HIGHEST DAILY MEAN	988	Aug 15	267	Jan 12	3940	Jun 10 1949
LOWEST DAILY MEAN	8.6	Mar 4	9.0	Apr 13	^b .00	Oct 2 1948
ANNUAL SEVEN-DAY MINIMUM	9.3	Feb 28	10	Apr 8	.00	Oct 2 1948
INSTANTANEOUS PEAK FLOW			268	Jan 12	^c 4020	Jun 11 1949
INSTANTANEOUS PEAK STAGE			4.49	Jan 12	^d 9.86	Jun 11 1949
ANNUAL RUNOFF (AC-FT)	55270		19950		113200	
10 PERCENT EXCEEDS	269		18		477	
50 PERCENT EXCEEDS	16		15		12	
90 PERCENT EXCEEDS	11		12		2.8	

^aPrior to regulation, water years 1938-48, 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, 24,8000 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.

GAGE.--Water-stage recorder. Datum of gage is 1,453.60 ft above National Geodetic Vertical Datum of 1929 (Oklahoma State Highway Department benchmark).

REMARKS.--No estimated daily discharges. Records good. Considerable regulation by Canton Lake (07238500) 33 mi upstream. U.S. Army Corps of Engineers' satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	33	26	63	89	35	38	27	114	48	22	29
2	28	33	27	48	202	34	39	24	87	39	22	26
3	27	31	27	44	212	33	35	23	151	34	21	24
4	26	31	27	42	211	37	34	23	86	32	33	22
5	25	29	27	42	208	36	31	22	56	31	29	23
6	25	30	27	40	209	44	30	22	107	28	25	22
7	25	29	27	40	208	100	30	22	60	26	23	22
8	24	29	27	39	208	109	29	23	49	26	21	20
9	24	32	27	38	211	110	26	23	44	23	18	19
10	23	30	26	37	213	80	27	21	208	25	17	18
11	20	29	27	90	213	46	26	53	352	28	21	21
12	21	29	125	238	211	42	27	45	89	25	21	22
13	20	28	57	252	149	40	27	31	64	23	20	22
14	20	28	38	251	111	39	27	27	55	27	24	21
15	20	28	33	249	103	37	24	25	47	26	25	20
16	21	100	32	250	99	36	25	21	41	46	25	19
17	21	263	31	250	96	36	36	22	36	43	23	17
18	20	59	30	167	93	38	33	22	35	34	33	16
19	19	41	89	70	92	37	183	22	49	29	35	16
20	19	38	487	58	91	35	75	25	32	31	29	17
21	20	33	169	54	77	34	53	25	30	61	25	17
22	20	31	106	51	49	34	43	27	31	38	24	17
23	21	29	90	48	44	33	37	25	30	29	24	17
24	20	29	67	46	45	34	32	24	28	25	24	18
25	19	28	58	45	44	35	30	25	27	24	23	18
26	23	28	54	46	40	34	28	29	28	23	52	18
27	20	28	51	51	39	41	27	27	28	23	36	19
28	26	28	50	54	37	38	26	33	82	23	27	20
29	25	28	48	48	36	36	27	38	183	22	24	18
30	23	27	47	45	---	34	29	31	68	21	22	18
31	30	---	47	42	---	33	---	28	---	22	24	---
TOTAL	704	1239	2004	2838	3640	1390	1134	835	2297	935	792	596
MEAN	22.7	41.3	64.6	91.5	126	44.8	37.8	26.9	76.6	30.2	25.5	19.9
MAX	30	263	487	252	213	110	183	53	352	61	52	29
MIN19	27	26	37	36	33	24	21	27	21	17	16	
AC-FT	1400	2460	3970	5630	7220	2760	2250	1660	4560	1850	1570	1180

ARKANSAS RIVER BASIN

349

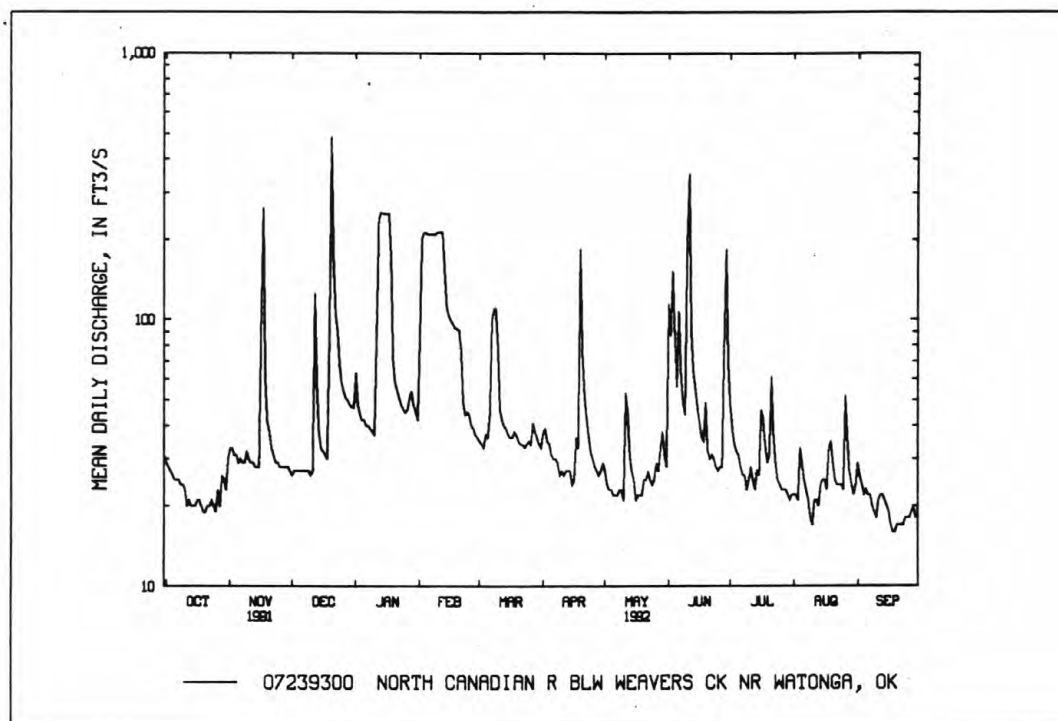
07239300 NORTH CANADIAN RIVER BELOW WEAVERS CREEK NEAR WATONGA, OK--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	112	107	107	134	162	221	280	202	296	224	195	139
MAX	604	437	278	382	479	597	746	552	944	895	610	666
(WY)	1987	1987	1987	1988	1987	1988	1987	1990	1987	1989	1984	1986
MIN	10.2	9.97	13.4	11.4	14.0	24.2	24.2	10.4	18.8	10.1	25.5	9.48
(WY)	1985	1985	1985	1985	1985	1985	1985	1985	1985	1985	1992	1985

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1984-92

ANNUAL TOTAL	36406		18404		
ANNUAL MEAN	99.7		50.3		181
HIGHEST ANNUAL MEAN					443 1987
LOWEST ANNUAL MEAN					32.1 1985
HIGHEST DAILY MEAN	881	Aug 19	487	Dec 20	7540 Oct 3 1986
LOWEST DAILY MEAN	19	Aug 7	16	Sep 18, 19	5.0 Sep 26, 27 1985
ANNUAL SEVEN-DAY MINIMUM	20	Oct 19	17	Sep 17	5.5 Sep 14 1985
INSTANTANEOUS PEAK FLOW			750	Jun 10	9740 Oct 3 1986
INSTANTANEOUS PEAK STAGE			11.21	Jun 10	19.24 Oct 3 1986
ANNUAL RUNOFF (AC-FT)	72210		36500		131400
10 PERCENT EXCEEDS	423		100		591
50 PERCENT EXCEEDS	28		30		43
90 PERCENT EXCEEDS	22		21		13



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 1,326.89 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Some regulation by Canton Lake (station 07238500). U.S. Geological Survey's satellite telemeter located at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	40	48	e110	85	67	61	40	133	135	30	41
2	42	42	48	e130	90	65	61	39	852	106	29	41
3	40	38	48	e120	175	65	61	37	348	92	29	41
4	38	43	47	e107	186	82	61	35	218	83	34	38
5	36	42	46	102	188	88	58	34	163	75	95	34
6	35	39	46	99	188	80	59	32	158	68	66	33
7	34	39	46	97	188	72	58	30	299	61	45	31
8	33	39	45	97	188	90	55	30	161	55	38	30
9	33	39	45	98	188	113	53	30	135	52	33	29
10	32	39	44	97	188	115	51	29	122	49	29	28
11	31	40	44	95	186	107	49	31	167	48	26	28
12	30	39	155	103	186	80	49	29	333	51	26	27
13	29	38	306	221	186	71	49	47	138	49	27	27
14	28	38	147	233	156	66	49	38	113	54	29	26
15	28	40	98	231	130	65	48	32	104	50	35	26
16	27	43	78	230	122	64	46	28	96	50	36	24
17	27	164	70	231	117	61	45	27	90	60	32	24
18	27	244	65	229	115	62	45	30	86	72	32	22
19	26	118	100	181	111	78	49	30	113	60	37	21
20	25	121	1040	119	109	70	e130	32	166	52	47	20
21	25	110	890	104	109	64	109	36	111	207	41	20
22	25	84	e420	99	105	61	81	39	97	336	35	21
23	25	72	371	95	86	60	68	41	90	109	31	20
24	25	63	e210	90	78	59	61	43	86	73	28	20
25	25	58	e170	88	79	59	55	39	83	55	28	20
26	25	54	e155	85	80	59	51	45	78	46	47	20
27	26	53	e147	86	75	60	47	51	74	42	398	20
28	52	51	e135	90	72	62	44	54	94	38	151	19
29	53	51	e127	99	69	65	43	57	173	35	81	19
30	41	49	e121	93	---	64	40	66	198	34	56	19
31	39	---	e116	88	---	61	---	61	---	32	45	---
TOTAL	1006	1930	5428	3947	3835	2235	1736	1192	5079	2329	1696	789
MEAN	32.5	64.3	175	127	132	72.1	57.9	38.5	169	75.1	54.7	26.3
MAX	53	244	1040	233	188	115	130	66	852	336	398	41
MIN	25	38	44	85	69	59	40	27	74	32	26	19
AC-FT	2000	3830	10770	7830	7610	4430	3440	2360	10070	4620	3360	1560

e Estimated

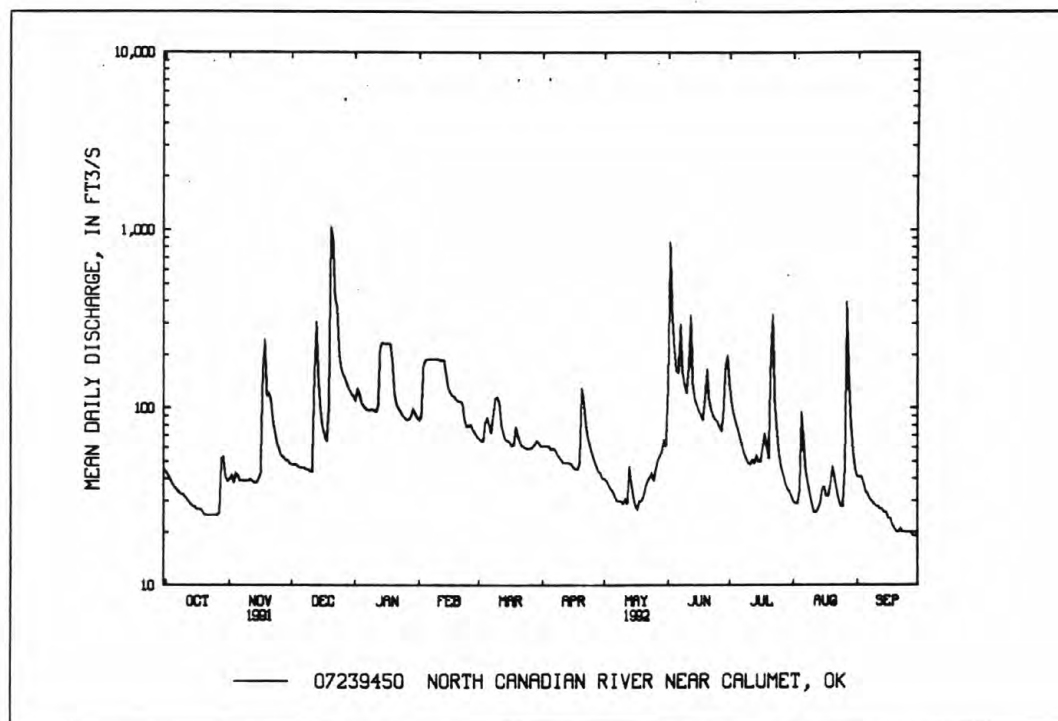
ARKANSAS RIVER BASIN
07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued

351

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	77.3	69.3	96.5	118	135	237	235	284	454	257	212	189
MAX	155	136	175	275	334	716	703	816	957	860	518	535
(WY)	1990	1990	1992	1990	1990	1990	1990	1990	1989	1989	1989	1989
MIN	27.1	27.9	28.5	35.0	28.8	28.8	32.6	38.5	169	38.8	49.8	26.3
(WY)	1991	1991	1991	1989	1991	1991	1991	1992	1992	1991	1990	1992

SUMMARY STATISTICS	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1989-92
ANNUAL TOTAL	40898	31202	
ANNUAL MEAN	112	85.3	197
HIGHEST ANNUAL MEAN			305 1990
LOWEST ANNUAL MEAN			85.3 1992
HIGHEST DAILY MEAN	1040	Dec 20 1040	Dec 20 2730 Jun 8 1989
LOWEST DAILY MEAN	14	Aug 10-13 19	Sep 28-30 14 Aug 10-13 1991
ANNUAL SEVEN-DAY MINIMUM	15	Aug 8 20	Sep 24 15 Aug 8 1991
INSTANTANEOUS PEAK FLOW		1730	Dec 20 3160 Mar 11 1990
INSTANTANEOUS PEAK STAGE		11.07	Dec 20 13.24 Mar 11 1990
ANNUAL RUNOFF (AC-FT)	81120	61890	142800
10 PERCENT EXCEEDS	387	168	630
50 PERCENT EXCEEDS	39	57	62
90 PERCENT EXCEEDS	26	28	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, 1,930 microsiemens, Oct. 21, 1991; minimum, 153 microsiemens, Mar. 11, 1990.

pH: Maximum, 9.4 units, Sept. 25, 1989; minimum, 7.1 units, Nov. 6, 1988.

WATER TEMPERATURE: Maximum, 39.0°C, July 2, 1990; minimum, 0.0°C, several days during winter period.

DISSOLVED OXYGEN: Maximum, 15.0 mg/l, March 23, 1989; minimum, 3.1 mg/l, July 15, 1989.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	TEMPER- ATURE (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANALYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	GAGE HEIGHT (FEET) (00065)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
JUL											
01...	1218	8.00	29.0	715	1028	1028	163	6.91	628	6.6	8.2
01...	1221	16.0	29.0	715	1028	1028	163	6.91	633	6.7	8.2
01...	1224	24.0	29.0	715	1028	1028	163	6.91	631	6.7	8.2
01...	1227	32.0	28.5	715	1028	1028	163	6.91	631	6.7	8.2
01...	1230	40.0	28.5	715	1028	1028	163	6.91	632	6.7	8.2
01...	1233	48.0	28.5	715	1028	1028	163	6.91	632	6.7	8.2
01...	1237	56.0	28.5	715	1028	1028	163	6.91	633	6.7	8.2
01...	1240	64.0	28.5	715	1028	1028	163	6.91	632	6.7	8.2
01...	1242	72.0	28.5	715	1028	1028	163	6.91	633	6.6	8.2

ARKANSAS RIVER BASIN

353

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued
WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT												
01...	0935	1028	80020	44	1800	8.5	20.5	17.5	2.8	765	7.6	80
NOV												
20...	1100	1028	80020	142	520	8.2	11.5	8.5	350	770	11.0	94
DEC												
18...	1035	1028	80020	66	1430	8.4	2.0	4.0	11	775	11.8	88
JAN												
22...	1034	1028	80020	99	1680	8.4	7.0	6.5	39	755	11.3	94
FEB												
11...	1130	1028	80020	186	1570	8.5	9.5	8.5	37	729	10.8	97
MAR												
17...	1130	1028	80020	61	1660	8.4	19.0	17.0	3.8	730	9.3	101
APR												
21...	1130	1028	80020	101	560	8.0	14.5	12.0	190	730	7.6	74
MAY												
19...	1130	1028	80020	28	1610	8.3	22.5	21.0	7.9	740	8.4	98
JUN												
23...	0945	1028	80020	96	1420	8.4	22.0	23.5	15	723	7.5	94
JUL												
22...	1015	1028	80020	426	502	7.9	26.0	25.5	300	730	6.8	87
AUG												
25...	1130	1028	80020	27	1710	8.4	28.0	25.5	4.2	740	8.3	105
SEP												
09...	1000	1028	80020	28	1670	8.4	27.0	22.5	3.1	730	6.8	83
23...	1030	1028	80020	20	1770	8.5	24.5	17.5	1.1	740	9.8	106

DATE	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	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)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
OCT												
01...	--	1.9	44	71	--	--	--	--	--	--	--	--
NOV												
20...	0.87	1.4	4400	9900	200	95	48	19	58	38	2	5.3
DEC												
18...	1.6	1.5	240	160	--	--	--	--	--	--	--	--
JAN												
22...	3.4	2.6	K44	150	--	--	--	--	--	--	--	--
FEB												
11...	0.63	--	100	270	430	250	99	45	180	47	4	6.5
MAR												
17...	0.36	0.1	80	210	--	--	--	--	--	--	--	--
APR												
21...	1.3	3.1	>6000	>10000	--	--	--	--	--	--	--	--
MAY												
19...	--	2.2	84	<4	450	190	100	49	170	45	3	6.0
JUN												
23...	--	0.7	420	360	--	--	--	--	--	--	--	--
JUL												
22...	1.2	1.7	>6000	4100	--	--	--	--	--	--	--	--
AUG												
25...	--	4.2	64	150	440	200	90	51	180	47	4	6.5
SEP												
09...	--	0.3	97	310	--	--	--	--	--	--	--	--
23...	--	1.3	110	140	--	--	--	--	--	--	--	--

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)
OCT											
01...	218	13	200	--	--	--	--	--	--	--	--
NOV											
20...	127	0	104	88	--	0.30	12	306	335	0.42	117
DEC											
18...	298	11	262	--	--	--	--	--	--	--	--
JAN											
22...	304	4	256	--	--	--	--	--	--	--	--
FEB											
11...	210	6	182	240	270	0.60	10	1000	962	1.36	502
MAR											
17...	318	10	277	--	--	--	--	--	--	--	--
APR											
21...	--	--	--	--	--	--	--	--	--	--	--
MAY											
19...	316	5	267	300	210	0.70	2.0	1030	1000	1.40	77.9
JUN											
23...	263	2	218	--	--	--	--	--	--	--	--
JUL											
22...	--	--	--	--	--	--	--	--	--	--	--
AUG											
25...	265	9	231	320	210	0.70	1.2	1000	1000	1.36	72.9
SEP											
09...	249	21	238	--	--	--	--	--	--	--	--
23...	276	8	240	--	--	--	--	--	--	--	--
DATE	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)
OCT											
01...	10	--	--	<0.010	--	<0.050	0.070	0.09	0.93	1.0	0.040
NOV											
20...	924	--	--	<0.010	--	0.470	0.050	0.06	0.35	0.40	0.120
DEC											
18...	21	0.240	1.1	0.020	0.07	0.260	0.140	0.18	1.2	1.3	0.120
JAN											
22...	82	0.260	1.2	0.010	0.03	0.270	0.360	0.46	2.7	3.1	0.180
FEB											
11...	100	--	--	<0.010	--	0.130	0.020	0.03	0.48	0.50	0.070
MAR											
17...	9	--	--	<0.010	--	0.057	0.020	0.03	0.28	0.30	0.060
APR											
21...	452	0.460	2.0	0.050	0.16	0.510	0.080	0.10	0.72	0.80	0.080
MAY											
19...	15	--	--	<0.010	--	<0.050	0.030	0.04	0.27	0.30	0.080
JUN											
23...	53	--	--	<0.010	--	<0.050	0.050	0.06	0.55	0.60	0.230
JUL											
22...	768	0.500	2.2	0.050	0.16	0.550	0.140	0.18	0.46	0.60	0.120
AUG											
25...	4	--	--	<0.010	--	<0.050	0.020	0.03	0.38	0.40	0.130
SEP											
09...	<1	--	--	<0.010	--	<0.050	0.020	0.03	0.38	0.40	0.110
23...	9	--	--	<0.010	--	<0.050	0.020	0.03	0.38	0.40	0.130

355

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

ARKANSAS RIVER BASIN

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible][illegible]

357

[illegible][illegible]

ARKANSAS RIVER BASIN

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible][illegible]

359

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

ARKANSAS RIVER BASIN

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	1610	1580	1600	1690	1660	1680	1590	1550	1570	1680	1650	1660
2	1650	1610	1620	1690	1650	1670	1620	1590	1610	1680	1670	1680
3	1690	1610	1640	1670	1610	1650	1620	1570	1600	1700	1670	1680
4	1680	1640	1660	1570	1150	1430	1590	1540	1560	1700	1680	1700
5	1680	1650	1670	1520	1310	1450	1540	1520	1530	1740	1710	1720
6	1830	1670	1680	1540	1510	1520	1560	1510	1550	1760	1740	1750
7	1690	1650	1670	1550	1520	1530	1590	1550	1570	1780	1740	1760
8	1650	1620	1620	1580	1510	1540	1610	1590	1600	1780	1710	1760
9	1640	1620	1630	1650	1550	1610	1620	1610	1620	1780	1750	1770
10	---	---	---	1670	1650	1670	1630	1620	1630	1790	1680	1760
11	---	---	---	1690	1660	1680	1640	1620	1630	1740	1660	1690
12	1700	1690	1690	1690	1670	1680	1670	1610	1640	1750	1710	1730
13	1710	1700	1700	1720	1690	1700	1670	1630	1650	1820	1700	1760
14	1690	1680	1690	1720	1680	1700	1650	1630	1640	1690	913	1200
15	1700	1660	1690	1700	1660	1680	1640	1620	1630	1260	940	1100
16	1670	1650	1660	1680	1650	1660	1640	1610	1630	1360	1210	1280
17	1670	1650	1660	1660	1630	1650	1630	1620	1630	1500	1370	1440
18	1690	1670	1680	1620	1600	1610	1640	1630	1630	1540	1410	1500
19	1690	1680	1690	1620	1220	1540	1630	1260	1470	1600	1450	1520
20	1690	1680	1680	1490	1240	1370	1470	529	1110	1540	1470	1490
21	1700	1670	1690	1550	1500	1530	844	529	623	1490	1200	1390
22	1690	1670	1680	1590	1540	1570	---	---	---	1420	1270	1360
23	1690	1660	1680	1630	1600	1610	---	---	---	1400	1270	1350
24	1690	1660	1680	1630	1590	1610	1340	1230	1280	1430	1370	1400
25	1700	1680	1690	1620	1580	1600	1490	1360	1430	1430	1290	1400
26	1680	1590	1630	1650	1590	1610	1570	1510	1540	1410	1130	1340
27	1630	1590	1600	1630	1520	1570	1610	1580	1600	1480	1330	1430
28	1650	1610	1630	1600	1540	1560	1650	1610	1630	1330	1080	1140
29	1670	1640	1660	1540	1440	1490	1670	1630	1650	1360	1150	1280
30	---	---	---	1530	1440	1480	1680	1650	1660	1330	1200	1230
31	---	---	---	1580	1540	1550	---	---	---	---	---	---
MONTH	---	---	---	1720	1150	1590	---	---	---	---	---	---

ARKANSAS RIVER BASIN

361

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	---	---	---	1420	1390	1410	1500	1340	1410
2	---	---	---	963	739	873	1430	1360	1400	1620	1510	1560
3	---	---	---	1220	971	1080	1600	1430	1500	1700	1610	1660
4	---	---	---	1410	1230	1330	---	---	---	1610	1410	1500
5	915	594	772	1580	1410	1480	1560	381	944	1500	1440	1470
6	850	670	739	1610	1560	1580	558	370	426	1530	1410	1460
7	771	507	594	1680	1610	1640	799	565	650	1680	1430	1550
8	1010	586	789	1720	1680	1700	1290	813	1050	1650	1590	1630
9	1200	930	1000	1740	1720	1730	1520	1320	1420	1650	1610	1630
10	1300	1010	1080	1750	1720	1740	1620	1520	1570	1720	1640	1680
11	1370	1250	1310	1740	1710	1730	1680	1620	1660	1750	1680	1710
12	1130	422	548	1760	1740	1750	1710	1650	1680	1750	1640	1700
13	649	449	548	1740	1450	1670	1730	1650	1710	1750	1670	1720
14	827	656	737	1500	1390	1420	1730	1520	1600	1780	1680	1740
15	1120	832	942	1520	1500	1510	1560	1380	1500	1740	1650	1690
16	1300	1140	1230	1570	1470	1530	1460	1230	1350	1670	1520	1610
17	1420	1300	1360	1620	1540	1550	1390	1240	1320	1700	1600	1660
18	1510	1430	1470	1510	1130	1360	1430	1370	1390	1770	1660	1720
19	1540	1020	1460	1320	1080	1170	1410	1330	1380	1820	1740	1770
20	876	549	694	1350	1280	1300	1380	1140	1260	1800	1710	1750
21	1060	842	920	---	---	---	1190	1110	1150	1790	1670	1740
22	1350	1060	1190	---	---	---	1400	1200	1320	1750	1660	1730
23	1590	1350	1460	---	---	---	1530	1400	1460	1800	1750	1770
24	---	---	---	---	---	---	1630	1530	1570	1860	1760	1810
25	---	---	---	1310	1020	1160	1700	1630	1670	1850	1780	1820
26	---	---	---	1580	1310	1440	1680	1140	1430	1830	1770	1810
27	---	---	---	1720	1500	1620	1030	400	629	1850	1770	1810
28	---	---	---	1830	1710	1750	490	400	436	1850	1780	1820
29	---	---	---	1850	1820	1830	730	493	599	1880	1790	1830
30	---	---	---	1850	1620	1740	1040	735	876	1880	1790	1830
31	---	---	---	1620	1410	1550	1330	1030	1170	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	1880	1340	1690

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

ARKANSAS RIVER BASIN

363

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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

, ARKANSAS RIVER BASIN

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

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

ARKANSAS RIVER BASIN

365

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	24.5	16.5	20.0	---	---	---	4.0	1.5	2.0	10.0	8.5	9.0
2	26.0	18.0	21.5	---	---	---	4.5	1.5	2.5	10.0	7.5	8.5
3	26.0	18.5	22.0	---	---	---	5.5	1.0	3.0	7.5	6.0	6.5
4	21.0	14.0	18.0	---	---	---	7.5	1.5	4.5	9.0	7.0	8.0
5	19.0	10.0	14.0	6.0	1.5	3.5	8.5	3.5	6.0	11.5	9.0	10.0
6	19.0	11.0	14.5	8.0	2.5	5.0	11.0	5.0	8.0	9.0	8.0	8.0
7	20.0	11.5	15.5	5.5	.0	2.5	14.0	8.5	11.0	11.5	8.0	9.5
8	21.0	12.5	16.5	6.0	.0	2.0	13.5	11.5	12.5	9.0	6.5	8.0
9	23.5	14.5	18.5	8.5	1.5	4.5	13.0	9.5	11.0	7.5	4.5	6.0
10	24.0	16.0	20.0	8.0	3.5	6.0	11.5	7.0	9.5	7.5	4.0	6.0
11	25.0	17.0	20.5	6.5	5.5	6.0	12.0	10.0	11.0	7.5	4.5	6.5
12	24.0	16.0	20.0	11.0	5.0	8.0	13.0	11.0	12.0	8.5	7.0	7.0
13	20.0	16.5	18.5	13.5	8.0	11.0	11.5	9.5	10.5	8.0	4.5	6.0
14	19.0	14.0	16.5	14.0	11.5	12.5	9.5	6.5	8.0	4.5	3.0	4.0
15	18.5	12.5	15.0	14.0	11.5	13.5	8.5	5.0	6.5	3.5	1.0	2.5
16	19.5	11.5	15.5	11.0	9.5	10.5	9.5	5.0	7.0	1.5	.0	.5
17	22.0	13.0	17.0	11.0	8.5	10.0	9.0	6.0	7.0	2.5	.5	1.5
18	22.5	15.0	18.5	12.0	9.0	10.5	6.0	4.5	5.5	3.0	1.5	2.0
19	16.0	9.5	13.0	11.0	9.0	10.5	5.5	4.0	4.5	4.0	.5	2.0
20	18.0	10.5	14.0	10.0	7.0	8.5	4.0	3.5	4.0	4.0	1.5	2.5
21	20.0	11.5	15.0	10.5	6.5	8.5	4.5	4.5	4.5	5.5	3.5	4.5
22	21.5	13.0	17.0	8.5	6.0	8.0	6.0	4.5	5.0	9.5	5.5	7.0
23	24.0	16.5	19.5	7.5	3.5	5.5	6.5	5.5	6.0	7.5	4.5	6.0
24	23.0	16.5	19.5	---	---	---	6.0	4.0	5.0	8.5	3.5	6.0
25	16.0	12.0	13.5	7.0	4.0	5.0	6.0	3.5	5.0	9.5	5.5	7.0
26	16.5	12.5	14.0	9.5	3.5	6.5	7.0	5.5	6.0	7.0	5.5	6.5
27	19.5	14.0	17.0	11.5	7.0	9.5	7.0	6.5	6.5	7.5	6.5	7.0
28	20.0	15.0	17.5	16.0	10.0	12.5	---	---	---	9.5	8.0	8.5
29	14.5	7.0	10.0	16.0	10.5	14.0	---	---	---	10.0	6.5	8.0
30	---	---	---	10.0	4.5	7.5	7.5	6.5	7.0	11.5	7.0	9.0
31	---	---	---	---	---	---	9.0	7.5	8.0	12.5	7.5	9.5
MONTH	---	---	---	---	---	---	---	---	---	12.5	.0	6.2

ARKANSAS RIVER BASIN

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	13.0	8.5	10.5	---	---	---	17.5	10.0	13.5	28.5	18.0	23.0
2	13.0	10.0	11.5	21.0	13.5	17.0	15.0	9.5	12.0	23.5	19.5	21.5
3	12.5	11.5	11.5	20.0	17.0	18.0	18.5	9.0	13.5	26.5	16.5	21.0
4	11.0	8.0	10.0	19.0	16.0	17.0	23.5	12.5	17.5	29.0	17.5	22.5
5	8.0	6.0	6.5	19.5	14.5	16.5	22.0	15.5	18.5	26.0	18.5	22.5
6	8.0	5.0	6.5	20.0	13.5	16.5	20.0	16.5	18.0	25.5	15.5	20.0
7	8.0	5.0	6.5	21.5	14.0	17.5	22.0	14.5	18.0	25.5	14.5	19.5
8	6.5	5.0	6.0	20.0	16.0	18.0	24.0	16.5	20.0	27.0	15.5	21.0
9	7.5	5.5	6.5	18.5	12.5	16.5	25.0	18.0	21.5	25.5	17.0	21.0
10	8.5	6.5	7.5	12.0	7.5	10.0	26.0	18.0	21.5	25.0	18.0	21.0
11	9.0	8.5	9.0	13.0	7.0	9.5	24.0	18.0	20.5	28.0	18.0	22.5
12	9.0	7.0	8.0	13.5	9.0	11.0	19.5	14.0	16.0	31.5	19.0	24.5
13	8.0	6.5	7.0	17.0	8.5	12.5	22.5	13.5	17.0	29.0	21.5	25.0
14	---	---	---	18.5	11.5	15.0	27.5	17.5	21.5	29.5	21.5	25.0
15	13.0	8.5	11.0	18.5	12.0	15.0	24.5	19.5	22.0	30.5	21.5	25.5
16	13.5	9.5	11.5	20.5	12.0	16.0	25.5	18.0	21.0	28.0	21.0	24.0
17	13.5	9.5	11.0	19.0	15.0	17.0	21.5	18.0	19.5	22.0	20.5	21.0
18	12.5	8.5	10.5	16.5	12.5	15.5	19.5	18.0	18.5	24.5	19.5	21.5
19	10.5	8.5	9.5	15.5	10.0	12.5	18.5	14.5	16.5	24.0	20.0	21.5
20	13.0	8.0	10.5	17.0	9.0	13.0	16.0	14.0	15.0	23.5	20.0	21.5
21	14.5	10.0	12.0	18.0	11.0	14.0	19.5	12.0	15.5	24.5	19.5	22.0
22	15.0	11.5	13.0	14.5	9.0	12.0	23.0	14.5	18.5	23.5	20.0	21.5
23	16.0	11.5	13.5	16.0	7.0	11.5	26.0	16.5	21.0	21.0	19.0	20.0
24	13.5	8.5	11.5	18.0	10.0	13.5	24.5	18.5	21.0	24.5	18.0	21.0
25	10.5	6.5	8.0	19.5	12.5	15.5	24.0	17.0	20.0	23.0	18.5	20.5
26	12.5	5.5	9.0	21.5	12.5	16.5	24.0	15.0	19.0	23.5	16.0	19.5
27	15.0	9.0	11.5	19.5	13.0	16.0	24.5	16.0	19.5	18.5	15.0	17.0
28	17.0	10.0	13.0	19.5	14.5	16.5	19.0	16.0	17.5	15.0	13.0	13.5
29	18.0	11.0	14.0	17.0	12.0	14.5	25.5	14.5	19.0	19.0	12.5	15.5
30	---	---	---	18.0	10.5	14.0	28.0	18.0	22.5	20.5	15.0	18.0
31	---	---	---	15.5	11.0	13.5	---	---	---	18.5	17.5	18.0
MONTH	---	---	---	---	---	---	28.0	9.0	18.5	31.5	12.5	21.0

ARKANSAS RIVER BASIN

367

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	18.5	17.0	17.5	32.5	25.5	29.0	29.0	24.5	26.5	26.0	19.5	22.5
2	20.0	18.0	19.0	33.0	27.0	29.5	31.5	22.5	26.5	28.0	21.0	24.0
3	22.5	18.5	20.5	32.0	24.0	27.5	32.5	23.5	27.5	31.0	22.5	26.5
4	24.5	20.0	22.0	33.0	25.5	28.5	---	---	---	29.5	23.5	26.0
5	24.0	21.5	23.0	32.5	25.0	28.5	30.5	25.5	28.0	31.5	23.0	26.5
6	25.0	21.0	23.0	33.0	25.0	28.5	28.0	26.0	27.0	29.0	22.5	25.5
7	23.0	21.5	22.0	30.5	24.0	27.0	31.5	24.0	27.0	31.0	22.5	26.5
8	23.5	20.5	21.5	32.0	22.0	26.5	33.5	24.5	28.5	28.5	23.0	25.5
9	26.0	21.5	23.5	32.0	23.0	27.0	33.0	24.5	28.5	---	---	---
10	26.0	22.5	24.5	33.0	23.5	27.5	32.0	22.0	27.5	26.0	20.5	22.5
11	27.0	22.5	24.5	28.5	24.0	25.5	28.5	24.5	26.0	25.5	18.5	22.0
12	25.5	22.5	24.0	32.0	22.5	26.5	30.5	21.5	25.5	27.5	20.0	23.5
13	27.0	23.0	25.0	29.5	23.0	26.0	30.5	21.5	25.5	29.0	21.0	24.5
14	27.5	23.5	25.5	33.0	22.5	26.0	29.0	21.5	25.0	30.0	22.0	25.0
15	27.5	22.5	25.0	34.0	25.0	29.0	28.0	20.5	24.0	29.0	22.5	25.0
16	30.5	24.0	27.0	27.5	23.5	26.0	30.0	21.5	24.5	29.5	21.5	25.0
17	32.5	24.0	28.0	32.5	22.0	26.5	25.5	21.0	23.0	---	---	---
18	33.5	26.0	29.0	33.0	24.0	28.0	22.5	21.0	21.5	---	---	---
19	32.0	24.0	28.0	33.0	25.0	28.5	28.5	18.5	22.0	---	---	---
20	29.5	24.5	27.0	34.0	25.0	28.5	29.5	17.0	24.5	---	---	---
21	26.5	22.5	24.5	26.5	24.0	25.5	30.5	22.0	26.0	---	---	---
22	27.5	21.0	24.0	29.5	25.0	27.5	29.5	22.0	26.0	26.0	19.5	22.5
23	30.5	23.0	26.5	32.5	26.5	29.0	29.5	22.0	25.5	25.0	16.5	20.5
24	33.0	25.0	28.5	33.0	27.0	29.5	30.0	21.5	25.5	25.0	15.5	19.5
25	28.0	23.5	26.0	33.5	26.0	29.0	28.5	22.5	25.5	24.0	15.5	19.5
26	28.5	23.0	25.5	34.0	26.0	29.5	24.0	20.0	21.0	25.0	17.5	20.0
27	---	---	---	34.5	26.0	30.0	22.0	18.5	20.5	---	---	---
28	28.0	22.0	25.0	34.0	25.5	29.5	25.0	20.5	22.5	---	---	---
29	26.5	24.0	25.0	33.5	24.0	28.5	27.0	21.0	24.0	---	---	---
30	29.5	22.5	26.5	33.5	24.0	29.0	25.5	21.0	23.5	---	---	---
31	---	---	---	32.5	22.5	28.0	23.5	21.5	22.5	---	---	---
MONTH	---	---	---	34.5	22.0	27.9	---	---	---	---	---	---

ARKANSAS RIVER BASIN

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	13.1	11.7	12.4	12.9	11.2	12.2	10.6	10.1	10.2
2	7.4	5.4	6.3	13.9	12.3	13.1	12.9	12.0	12.5	11.5	10.3	10.7
3	7.2	5.4	6.1	14.2	12.7	13.6	13.3	12.0	12.6	10.7	10.4	10.6
4	7.8	5.4	6.5	13.8	12.4	13.0	12.9	11.3	12.2	10.8	10.2	10.5
5	8.2	6.5	7.4	13.3	11.9	12.7	12.9	10.9	11.6	11.0	10.0	10.4
6	8.3	6.4	7.3	12.6	11.1	12.0	12.0	9.9	11.1	10.5	10.2	10.4
7	7.9	6.1	7.0	13.4	11.2	12.5	12.1	9.1	10.3	12.2	10.1	10.6
8	7.7	5.8	6.7	14.1	12.4	13.4	12.0	8.7	10.4	11.2	10.2	10.7
9	---	---	---	13.1	11.0	12.3	12.5	9.0	10.4	12.9	11.0	11.6
10	---	---	---	12.3	10.9	11.6	12.5	9.5	10.7	12.7	11.5	12.1
11	---	---	---	11.9	10.8	11.2	10.9	8.9	9.6	12.2	11.2	11.7
12	---	---	---	12.3	10.1	11.2	9.0	7.6	8.3	12.6	11.0	11.8
13	---	---	---	11.4	8.8	10.3	9.4	7.4	8.4	11.9	10.8	11.4
14	---	---	---	9.7	8.0	8.9	10.8	9.2	10.0	12.8	11.9	12.5
15	---	---	---	10.2	7.8	8.7	11.5	10.5	11.0	13.4	12.4	13.0
16	---	---	---	10.1	8.6	9.2	11.4	10.4	10.9	13.9	13.4	13.6
17	---	---	---	9.3	7.3	8.4	11.2	10.4	10.6	13.5	13.0	13.4
18	---	---	---	9.1	7.6	8.3	12.0	11.0	11.5	13.3	13.0	13.1
19	---	---	---	11.0	8.6	9.6	11.8	11.3	11.6	13.6	12.7	13.2
20	---	---	---	10.8	9.0	9.9	11.5	9.9	10.7	12.9	12.1	12.6
21	---	---	---	9.5	9.1	9.3	11.0	9.9	10.6	12.3	11.4	11.9
22	---	---	---	9.8	9.1	9.4	11.2	10.7	11.0	11.3	10.7	11.1
23	9.8	7.1	8.4	11.0	9.9	10.5	11.1	10.6	10.7	11.6	10.9	11.3
24	10.0	7.0	8.5	---	---	---	11.6	10.9	10.7	12.2	11.2	11.6
25	10.1	7.5	8.8	---	---	---	11.8	10.9	11.3	11.6	11.0	11.3
26	10.3	7.8	8.8	11.1	9.9	10.6	10.9	10.8	10.9	11.8	11.1	11.4
27	11.0	7.5	8.6	10.1	9.2	9.8	11.0	10.7	10.9	11.2	10.9	11.1
28	9.4	7.1	8.1	10.0	8.8	9.3	11.0	10.9	11.0	11.5	10.8	11.1
29	9.9	7.5	8.9	10.0	8.8	9.1	---	---	---	13.3	11.0	12.2
30	11.9	10.0	11.2	11.3	9.0	10.4	10.9	10.7	10.7	12.0	10.7	11.2
31	12.2	11.7	11.9	---	---	---	10.7	10.2	10.5	11.9	10.5	11.1
MONTH	---	---	---	---	---	---	---	---	---	13.9	10.0	11.6

369

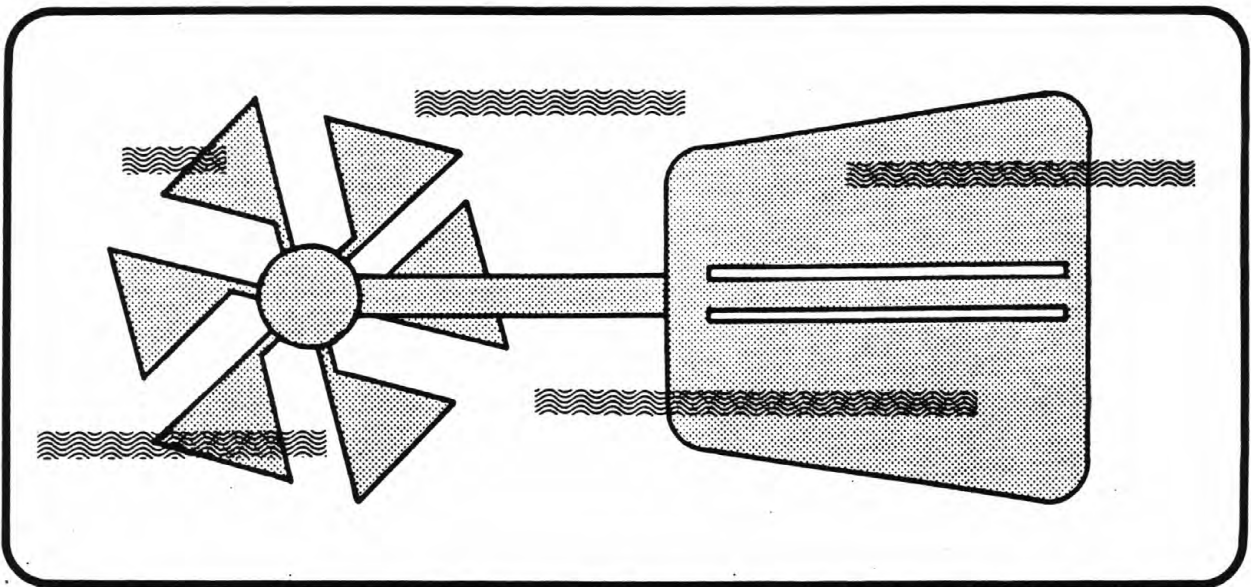
OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

07239450 NORTH CANADIAN RIVER NEAR CALUMET, OK--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]



ARKANSAS RIVER BASIN
07239500 NORTH CANADIAN RIVER NEAR EL RENO, OK

LOCATION.--Lat 35°33'47", long 97°57'26", 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.

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 National Geodetic Vertical Datum of 1929. 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's 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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	51	51	118	94	e75	69	48	300	189	37	46
2	41	48	50	146	91	e75	69	47	945	120	36	42
3	39	46	48	134	179	77	68	46	517	93	35	43
4	38	45	48	118	205	e86	68	44	281	79	44	39
5	36	43	47	113	e211	e102	65	43	211	69	88	35
6	37	40	47	109	e211	e92	63	41	280	62	99	35
7	35	41	46	106	e211	e88	63	40	379	56	63	31
8	34	40	46	103	e211	e103	63	39	290	51	52	32
9	33	39	46	100	e211	e160	60	38	193	48	44	32
10	33	38	45	96	e211	e151	56	38	146	46	39	30
11	33	37	48	94	211	138	54	40	123	44	36	29
12	32	38	198	92	e211	107	58	38	364	45	36	27
13	30	37	348	205	e211	93	59	48	178	45	34	26
14	29	38	160	252	e190	87	55	48	124	52	40	26
15	27	38	106	253	e178	85	55	41	104	49	42	25
16	27	46	83	246	e164	82	54	37	94	47	46	23
17	27	163	73	253	e145	80	53	36	84	51	41	22
18	27	268	67	254	e132	92	53	37	81	63	43	21
19	26	123	129	219	e123	96	85	37	111	57	46	20
20	26	138	e1050	143	e119	e90	157	41	209	49	59	20
21	26	121	e920	118	e116	81	138	43	126	188	55	20
22	26	94	588	109	e110	84	95	47	99	417	48	21
23	28	77	458	104	e106	85	78	62	88	169	42	19
24	29	69	288	99	e98	85	67	56	82	102	38	18
25	32	62	200	94	e91	83	61	49	77	75	36	18
26	40	59	168	90	e89	87	57	64	71	60	120	18
27	41	56	151	90	e85	94	54	60	66	52	380	17
28	96	55	140	93	e81	90	52	65	310	47	261	17
29	85	54	132	103	e80	98	51	82	291	43	111	17
30	50	52	126	104	---	86	50	75	276	40	72	18
31	50	---	120	97	---	71	---	78	---	39	54	---
TOTAL	1156	2056	6027	4255	4375	2903	2030	1508	6500	2547	2177	787
MEAN	37.3	68.5	194	137	151	93.6	67.7	48.6	217	82.2	70.2	26.2
MAX	96	268	1050	254	211	160	157	82	945	417	380	46
MIN	26	37	45	90	80	71	50	36	66	39	34	17
AC-FT	2290	4080	11950	8440	8680	5760	4030	2990	12890	5050	4320	1560

e Estimated

ARKANSAS RIVER BASIN
07239500 NORTH CANADIAN RIVER NEAR EL RENO, OK--Continued

373

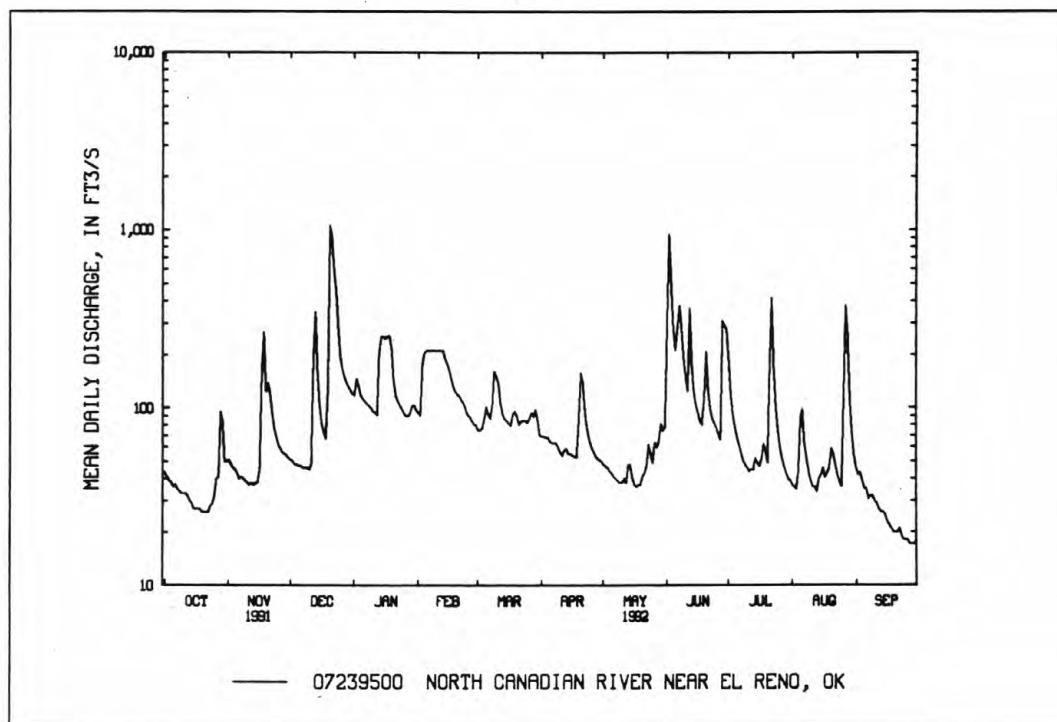
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	183	110	80.9	83.5	110	185	220	356	483	283	171	209
MAX	1904	883	489	558	551	892	1027	1622	3121	2597	2460	2786
(WY)	1987	1975	1978	1988	1960	1990	1988	1949	1949	1951	1950	1950
MIN	.000	.000	.000	.000	.000	.000	.000	8.00	.17	.73	.000	.000
(WY)	1953	1955	1955	1955	1955	1955	1955	1953	1953	1952	1954	1952

SUMMARY STATISTICS	1991 CALENDAR YEAR		1992 WATER YEAR		WATER YEARS 1949-92	
ANNUAL TOTAL	44458		36321			
ANNUAL MEAN	122		99.2		^a 206	
HIGHEST ANNUAL MEAN					807	
LOWEST ANNUAL MEAN					31.8	
HIGHEST DAILY MEAN	1050	Dec 20	1050	Dec 20	8530	Sep 21 1965
LOWEST DAILY MEAN	13	Aug 11, 12	17	Sep 27-29	.00	most years
ANNUAL SEVEN-DAY MINIMUM	14	Aug 8	18	Sep 24	.00	Jul 3 1952
INSTANTANEOUS PEAK FLOW			1170	Jun 2	15000	Oct 28 1941
INSTANTANEOUS PEAK STAGE			9.47	Jun 2	^b 22.22	Sep 21 1965
ANNUAL RUNOFF (AC-FT)	88180		72040		149500	
10 PERCENT EXCEEDS	415		211		590	
50 PERCENT EXCEEDS	43		64		43	
90 PERCENT EXCEEDS	30		32		1.5	

^aPrior to regulation, 1903-07, 1938-48, 264 ft³/s.

^bPresent datum.



WATER-QUALITY RECORDS

WATER TEMPERATURE: Maximum, 34°C, June 18; minimum, 0.0°C, Nov. 2, 3, 4, Jan. 16.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

ARKANSAS RIVER BASIN

375

07239500 NORTH CANADIAN RIVER NEAR EL RENO, OK--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	1580	1550	1560	1630	1610	1620	1570	1520	1540	1720	1660	1690
2	1600	1580	1590	1650	1630	1640	1600	1570	1590	1720	1670	1690
3	1660	1590	1610	1660	1510	1650	1620	1590	1600	1730	1680	1710
4	1700	1670	1680	1450	1230	1340	1610	1570	1580	1730	1680	1700
5	1690	1670	1680	1470	1280	1390	1580	1550	1570	1770	1680	1710
6	1690	1670	1680	1510	1470	1490	1570	1550	1560	1810	1740	1770
7	1690	1660	1680	1530	1500	1510	1600	1540	1570	1810	1750	1790
8	---	---	---	1580	1540	1560	1630	1570	1600	1810	1740	1780
9	---	---	---	1650	1540	1590	1640	1620	1630	1790	1680	1750
10	---	---	---	1690	1650	1670	1650	1620	1640	1780	1700	1740
11	---	---	---	1700	1680	1690	1650	1620	1640	1810	1700	1750
12	1700	1680	1690	1710	1680	1690	1670	1360	1610	1760	1620	1690
13	1700	1690	1690	1730	1700	1710	1580	1340	1510	1810	1580	1720
14	1700	1670	1690	1740	1730	1730	1640	1580	1610	1760	1490	1710
15	1700	1690	1700	1740	1720	1730	1640	1470	1600	1450	1040	1160
16	1700	1660	1680	1730	1700	1710	1610	1540	1570	1380	1160	1290
17	1680	1660	1670	1710	1640	1690	1540	1480	1500	1480	1380	1420
18	1700	1670	1680	1670	1570	1630	1490	1440	1470	1590	1490	1550
19	1700	1670	1690	1630	1590	1610	1440	650	1050	1640	1560	1600
20	1690	1660	1680	1620	1280	1440	653	585	600	1600	1460	1530
21	1680	1670	1680	1570	1400	1490	---	---	---	1630	1380	1550
22	1680	1660	1660	1590	1560	1580	---	---	---	1450	1280	1380
23	1670	1640	1650	1630	1600	1610	1130	943	1020	1480	1160	1320
24	1650	1540	1600	1640	1610	1630	1310	1150	1230	1450	1230	1360
25	1640	1620	1630	1640	1610	1620	1430	1310	1360	1440	1370	1420
26	1640	1590	1620	1640	1610	1630	1550	1440	1500	1390	1180	1300
27	1590	1540	1560	1640	1550	1590	1620	1560	1580	1420	1150	1300
28	1590	1560	1570	1580	1550	1560	1670	1620	1640	1420	1090	1280
29	1620	1590	1600	1580	1530	1560	1680	1640	1650	1140	943	1030
30	---	---	---	1530	1460	1490	1700	1620	1660	1250	1150	1210
31	---	---	---	1550	1470	1510	---	---	---	---	---	---
MONTH	---	---	---	1740	1230	1590	---	---	---	---	---	---

07239500 NORTH CANADIAN RIVER NEAR EL RENO, OK--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

ARKANSAS RIVER BASIN

377

07239500 NORTH CANADIAN RIVER NEAR EL RENO, OK--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	24.0	17.5	20.5	6.5	2.0	3.5	4.5	1.0	2.0	---	---	---
2	25.5	18.5	21.5	3.0	.0	1.5	4.0	1.0	2.0	---	---	---
3	26.0	19.5	22.0	2.5	.0	1.0	4.5	.5	2.5	---	---	---
4	21.5	15.0	19.0	6.0	.5	2.5	6.0	1.5	3.5	---	---	---
5	19.0	11.5	15.0	6.5	2.5	4.0	7.5	3.0	5.0	---	---	---
6	19.0	12.0	15.0	8.5	3.5	5.5	9.5	5.0	7.0	---	---	---
7	20.5	13.0	16.5	6.5	.5	3.0	13.0	8.5	10.5	---	---	---
8	21.5	13.5	17.0	5.0	.0	2.5	12.5	11.0	12.0	---	---	---
9	23.0	15.5	19.0	7.5	1.5	4.0	12.0	9.0	10.5	6.5	4.5	5.5
10	23.5	17.0	20.0	7.5	3.5	5.5	10.0	7.0	8.5	6.5	4.0	5.0
11	24.5	17.5	20.5	6.5	5.5	6.0	11.5	9.5	10.5	7.0	4.5	5.5
12	24.0	17.0	20.0	9.5	5.0	7.0	12.5	9.5	11.0	8.0	6.0	6.5
13	20.5	17.5	19.0	12.5	8.0	10.0	10.5	8.0	9.5	7.0	4.0	5.0
14	20.0	15.0	17.5	13.0	11.0	12.0	8.5	6.5	7.5	4.0	2.5	3.5
15	19.0	13.5	16.0	13.5	11.5	13.0	7.0	4.5	6.0	3.5	1.0	2.0
16	20.0	13.0	16.0	11.0	9.5	10.0	7.0	4.5	6.0	1.5	.0	1.0
17	22.0	14.0	17.5	11.0	8.5	10.0	7.5	5.0	6.0	2.0	.5	1.0
18	23.0	15.5	19.0	11.0	8.5	10.0	5.5	4.0	5.0	2.5	1.0	2.0
19	17.0	11.0	14.0	10.5	9.0	10.0	5.0	2.5	4.0	3.0	.5	1.5
20	18.0	12.0	14.5	9.0	7.0	8.0	---	---	---	4.5	1.0	2.5
21	20.0	13.0	16.0	9.0	6.0	7.5	---	---	---	5.5	3.0	4.0
22	21.5	14.5	17.5	8.5	6.0	7.5	---	---	---	7.5	5.5	6.0
23	24.5	17.5	20.5	6.0	3.5	5.0	---	---	---	6.0	4.0	5.0
24	24.0	17.5	20.5	6.5	3.0	4.5	3.5	1.5	3.0	7.0	3.5	5.0
25	17.0	13.0	14.5	6.0	4.0	5.0	3.5	1.5	3.0	8.0	5.0	6.5
26	17.5	13.0	15.5	8.0	3.5	6.0	---	---	---	6.5	5.0	6.0
27	20.0	15.5	17.5	10.5	7.0	9.0	---	---	---	8.0	6.5	7.0
28	19.5	16.5	18.0	15.0	10.0	12.0	---	---	---	9.0	7.5	8.0
29	16.5	9.0	12.0	15.5	11.0	13.5	---	---	---	9.0	6.0	7.5
30	9.0	5.5	7.0	10.5	4.5	7.5	---	---	---	10.0	6.5	8.5
31	5.5	3.0	5.0	---	---	---	---	---	---	10.5	7.0	9.0
MONTH	26.0	3.0	16.9	15.5	.0	6.9	---	---	---	---	---	---

ARKANSAS RIVER BASIN

07239500 NORTH CANADIAN RIVER NEAR EL RENO, OK--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	11.5	8.0	9.5	17.0	11.0	14.0	16.5	10.0	13.0	28.0	18.5	23.0
2	12.0	9.0	10.5	19.0	13.0	16.0	14.0	9.0	12.0	23.5	20.0	21.5
3	12.5	11.0	11.5	18.5	16.5	17.5	17.5	9.0	13.0	25.5	17.0	21.0
4	11.5	8.0	10.0	17.5	15.0	16.0	22.0	12.5	17.0	27.5	17.5	22.5
5	8.0	6.0	7.0	17.5	13.5	15.5	21.0	15.0	18.0	25.5	19.0	22.0
6	7.5	5.0	6.0	18.5	13.0	16.0	18.5	16.0	17.5	24.5	16.0	20.0
7	7.5	5.0	6.5	19.5	13.5	16.5	20.5	14.0	17.5	25.0	15.0	20.0
8	6.5	5.0	6.0	19.5	15.0	17.5	22.5	16.0	19.0	26.5	16.0	21.0
9	7.5	5.0	6.0	18.0	12.0	16.0	24.5	18.0	21.0	25.5	17.5	21.0
10	8.5	6.0	7.0	11.5	7.5	10.0	25.0	18.0	21.0	24.5	18.5	21.0
11	9.0	8.0	8.5	12.0	6.5	9.5	23.0	18.0	20.5	26.5	18.5	22.0
12	9.0	7.0	8.0	12.0	8.5	10.5	19.5	14.0	16.0	30.5	19.0	24.5
13	7.0	6.5	7.0	15.5	8.5	11.5	21.0	13.5	16.5	29.0	21.0	25.0
14	11.5	7.0	9.0	17.5	11.0	14.0	26.5	17.5	21.0	29.5	22.5	26.0
15	12.0	8.0	10.0	17.5	11.5	14.5	24.0	19.5	21.5	31.0	22.5	26.5
16	12.5	9.0	11.0	19.0	11.5	15.5	24.0	19.0	21.0	27.0	22.5	24.5
17	12.5	9.0	11.0	18.0	15.0	16.5	21.0	18.5	19.5	22.5	21.0	21.5
18	12.0	8.5	10.0	16.5	12.5	15.0	19.5	18.5	19.0	24.0	20.0	22.0
19	11.5	7.0	9.5	14.0	9.5	11.5	18.5	14.5	16.5	24.0	21.0	22.5
20	12.5	8.0	10.0	16.0	8.5	12.0	16.0	14.0	15.0	24.0	21.0	22.0
21	13.5	9.5	11.5	17.0	10.5	14.0	19.0	12.0	15.5	24.5	20.5	22.5
22	14.0	11.0	12.5	14.0	9.0	11.5	22.5	14.5	18.5	23.5	20.5	21.5
23	15.0	11.0	13.0	14.5	7.0	11.0	25.5	17.0	21.0	21.5	19.5	20.5
24	13.5	8.5	11.5	17.0	9.5	13.0	24.0	18.5	21.0	24.0	18.5	21.0
25	10.0	6.5	8.0	18.0	11.5	14.5	23.5	17.0	19.5	22.5	19.0	20.5
26	11.0	5.5	8.5	20.0	12.0	16.0	23.5	15.0	19.0	22.0	16.5	19.5
27	13.5	8.5	11.0	18.5	13.0	16.0	23.5	16.0	19.5	19.0	16.0	17.0
28	15.5	9.5	12.5	19.0	14.0	16.0	19.5	16.0	17.0	15.5	13.0	14.0
29	16.0	10.5	13.5	16.5	12.0	14.5	24.0	14.5	18.5	18.5	12.5	15.0
30	---	---	---	17.0	10.5	13.5	27.0	18.0	22.0	20.0	14.5	17.5
31	---	---	---	15.0	11.0	13.5	---	---	---	19.0	17.5	18.0
MONTH	16.0	5.0	9.5	20.0	6.5	14.2	27.0	9.0	18.2	31.0	12.5	21.2

ARKANSAS RIVER BASIN

379

07239500 NORTH CANADIAN RIVER NEAR EL RENO, OK--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	19.0	17.0	17.5	32.0	26.0	29.0	27.5	24.0	25.5	25.0	20.0	22.0
2	20.0	18.0	19.0	32.5	27.5	29.5	31.0	22.0	26.0	28.0	21.0	24.0
3	22.0	19.0	20.0	31.5	24.5	28.0	32.0	23.5	27.5	29.5	22.5	25.5
4	24.5	20.5	22.0	33.0	26.0	29.0	29.5	24.0	27.0	29.0	23.5	26.0
5	24.5	22.0	23.5	32.5	25.5	29.0	30.5	24.5	27.5	30.0	22.5	25.5
6	24.5	20.5	22.5	33.5	25.5	29.0	28.5	26.0	26.5	29.5	23.0	25.5
7	23.5	21.5	22.5	31.5	25.0	28.0	31.0	24.0	27.0	32.5	24.0	27.5
8	23.5	20.5	22.0	32.5	23.0	27.5	32.5	24.5	28.0	29.0	25.0	27.0
9	25.5	21.0	23.0	32.5	24.0	28.0	32.0	25.0	28.0	32.5	24.5	28.0
10	26.0	22.5	24.5	33.5	24.5	28.0	32.0	25.0	28.0	28.0	22.5	24.5
11	27.0	23.0	25.0	---	---	---	28.5	24.5	26.0	26.5	20.0	23.0
12	25.5	23.5	24.5	---	---	---	29.5	22.0	25.5	28.5	21.5	25.0
13	27.5	23.0	25.0	---	---	---	29.5	22.0	25.5	30.5	22.5	26.0
14	27.5	23.5	25.5	---	---	---	28.0	22.0	24.5	31.5	23.5	27.0
15	27.5	22.5	25.0	---	---	---	28.0	21.0	24.0	30.5	24.0	27.0
16	31.0	24.0	27.5	---	---	---	29.0	21.0	24.5	31.0	23.5	27.0
17	32.5	24.5	28.5	---	---	---	24.0	21.5	23.0	31.0	23.0	26.5
18	34.0	25.5	29.5	31.5	23.0	27.0	22.5	20.5	21.0	27.0	22.5	25.0
19	30.5	24.5	27.5	32.0	24.5	28.0	27.0	18.5	22.0	26.0	20.0	22.5
20	29.0	26.0	27.5	31.5	24.5	27.5	28.0	21.5	24.5	30.0	22.0	25.5
21	27.0	23.0	24.5	27.0	23.0	25.0	28.0	22.5	25.0	30.0	23.5	26.0
22	27.5	20.5	24.0	28.0	24.5	26.0	28.0	23.0	25.5	28.0	21.5	24.5
23	30.0	23.5	26.5	31.0	25.5	28.0	28.0	23.0	25.5	26.5	17.5	22.0
24	33.5	25.5	29.0	32.0	26.5	29.0	28.5	22.5	25.5	25.5	17.0	21.0
25	28.5	24.5	26.5	33.0	25.5	29.0	29.0	22.5	25.5	26.0	17.0	21.0
26	28.5	23.5	26.0	33.5	26.0	29.5	24.0	18.5	20.5	27.0	19.5	22.0
27	28.0	23.5	25.5	32.5	26.5	29.0	21.5	18.5	20.0	26.0	17.5	21.5
28	24.5	21.5	23.0	33.0	25.0	29.0	24.5	19.5	22.0	26.0	17.5	21.5
29	26.5	23.5	24.5	33.5	24.5	29.0	26.5	20.5	23.5	24.5	17.0	20.5
30	29.5	24.0	26.5	32.5	25.0	28.5	24.0	21.0	23.0	24.5	17.0	20.5
31	---	---	---	32.5	23.5	27.5	23.0	21.5	22.0	---	---	---
MONTH	34.0	17.0	24.6	---	---	---	32.5	18.5	24.8	32.5	17.0	24.3

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 National Geodetic Vertical Datum of 1929. 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.--No estimated daily discharges. Records good. 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,500 ft³/s, May 28, 1955; no flow at times in each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

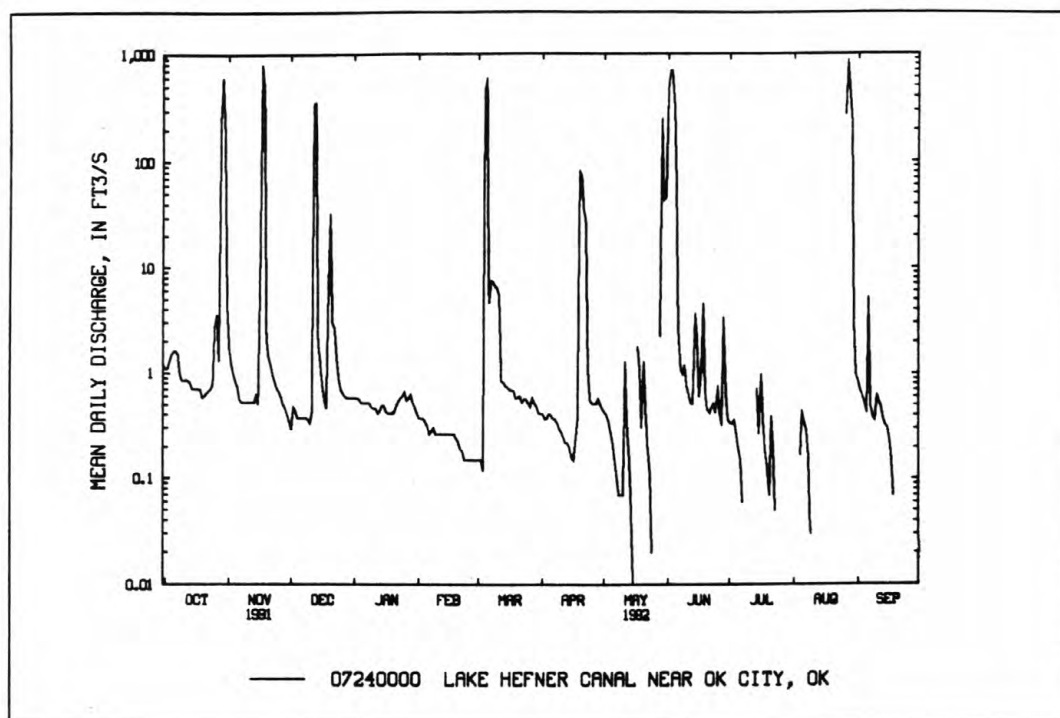
DAY	DAILY MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.7	.29	.58	.37	.15	.41	.43	470	.34	.00	.81
2	1.1	1.2	.47	.58	.37	.15	.37	.40	702	.33	.00	.69
3	1.3	.97	.43	.56	.37	.12	.37	.35	701	.36	.00	.61
4	1.5	.83	.37	.52	.34	460	.41	.28	316	.28	.17	.51
5	1.6	.73	.37	.52	.31	596	.40	.22	63	.21	.44	.42
6	1.6	.55	.37	.52	.26	4.7	.37	.15	2.6	.15	.35	5.2
7	1.5	.52	.37	.52	.28	7.6	.37	.10	1.1	.06	.29	.50
8	.98	.52	.37	.52	.30	7.4	.34	.07	1.0	.00	.16	.38
9	.84	.52	.36	.47	.26	6.7	.30	.07	1.2	.00	.03	.36
10	.84	.52	.33	.46	.26	6.5	.28	.07	.78	.00	.00	.63
11	.86	.52	.42	.46	.26	5.5	.25	1.3	.62	.00	.00	.55
12	.84	.52	355	.41	.26	.85	.22	.31	.52	.00	.00	.47
13	.80	.52	356	.44	.26	.82	.22	.16	.52	.00	.00	.37
14	.70	.63	2.0	.49	.26	.76	.20	.05	3.7	.72	.00	.32
15	.70	.50	1.3	.49	.26	.74	.16	.01	2.2	.27	.00	.30
16	.70	11	.78	.43	.26	.70	.15	.00	.61	.98	.00	.23
17	.70	809	.55	.41	.26	.69	.23	1.8	1.1	.36	.00	.15
18	.69	497	.46	.41	.26	.68	.36	1.1	4.6	.19	.00	.07
19	.58	2.2	6.6	.41	.24	.58	82	.31	.68	.13	.00	.00
20	.60	1.4	33	.43	.22	.59	75	1.3	.46	.07	.00	.00
21	.64	1.2	3.0	.49	.19	.61	36	.47	.42	.39	.00	.00
22	.67	.96	2.7	.54	.18	.53	27	.22	.48	.20	.00	.00
23	.70	.82	1.4	.58	.15	.57	1.1	.11	.52	.05	.00	.00
24	.78	.71	.88	.61	.15	.57	.56	.02	.43	.00	.00	.00
25	2.8	.66	.70	.67	.15	.52	.52	.00	.76	.00	.00	.00
26	3.6	.59	.64	.55	.15	.48	.52	.00	.41	.00	277	.00
27	1.3	.50	.60	.58	.15	.59	.52	.00	.32	.00	874	.00
28	255	.46	.58	.63	.15	.52	.58	2.3	3.4	.00	415	.00
29	609	.40	.58	.52	.15	.49	.51	251	.65	.00	226	.00
30	195	.34	.58	.47	---	.42	.46	44	.37	.00	3.1	.00
31	4.3	---	.58	.41	---	.41	---	47	---	.00	.98	---
TOTAL	1093.32	1337.99	772.08	15.68	7.08	1106.94	230.18	353.60	2281.45	5.09	1797.52	12.57
MEAN	35.3	44.6	24.9	.51	.24	35.7	7.67	11.4	76.0	.16	58.0	.42
MAX	609	809	356	.67	.37	596	82	251	702	.98	874	5.2
MIN	.58	.34	.29	.41	.15	.12	.15	.00	.32	.00	.00	.00
AC-FT	2170	2650	1530	31	14	2200	457	701	4530	10	3570	25

CAL YR 1991 TOTAL 22181.81 MEAN 60.8 MAX 975 MIN .00 AC-FT 44000

WTR YR 1992 TOTAL 9013.50 MEAN 24.6 MAX 874 MIN .00 AC-FT 17880

ARKANSAS RIVER BASIN
07240000 LAKE HEFNER CANAL NEAR OKLAHOMA CITY, OK--Continued

381



ARKANSAS RIVER BASIN

07240500 LAKE OVERHOLSER NEAR OKLAHOMA CITY, OK

LOCATION.--Lat 35°29'11", long 97°39'58", on north line of SW 1/4 sec.30, T.12 N., R.4 W., Oklahoma County, Hydrologic Unit 11100301, at control tower at left end of dam on North Canadian River, 2.9 mi upstream from Mustang Creek, 9.0 mi west of State Capitol in Oklahoma City, 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 (discontinued).

GAGE.--Nonrecording gage. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Oklahoma City Water Department). Prior to Oct. 1, 1955, at same site at datum, 1,065.77 ft elevation. Oct. 1, 1955, to Sept. 30, 1962, water-stage recorder at same site and present datum.

REMARKS.--Reservoir is formed by Ambursen-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. Revised capacity table used since Oct. 1, 1950.

COOPERATION.--Elevations and capacity table provided by Oklahoma City Water Department.

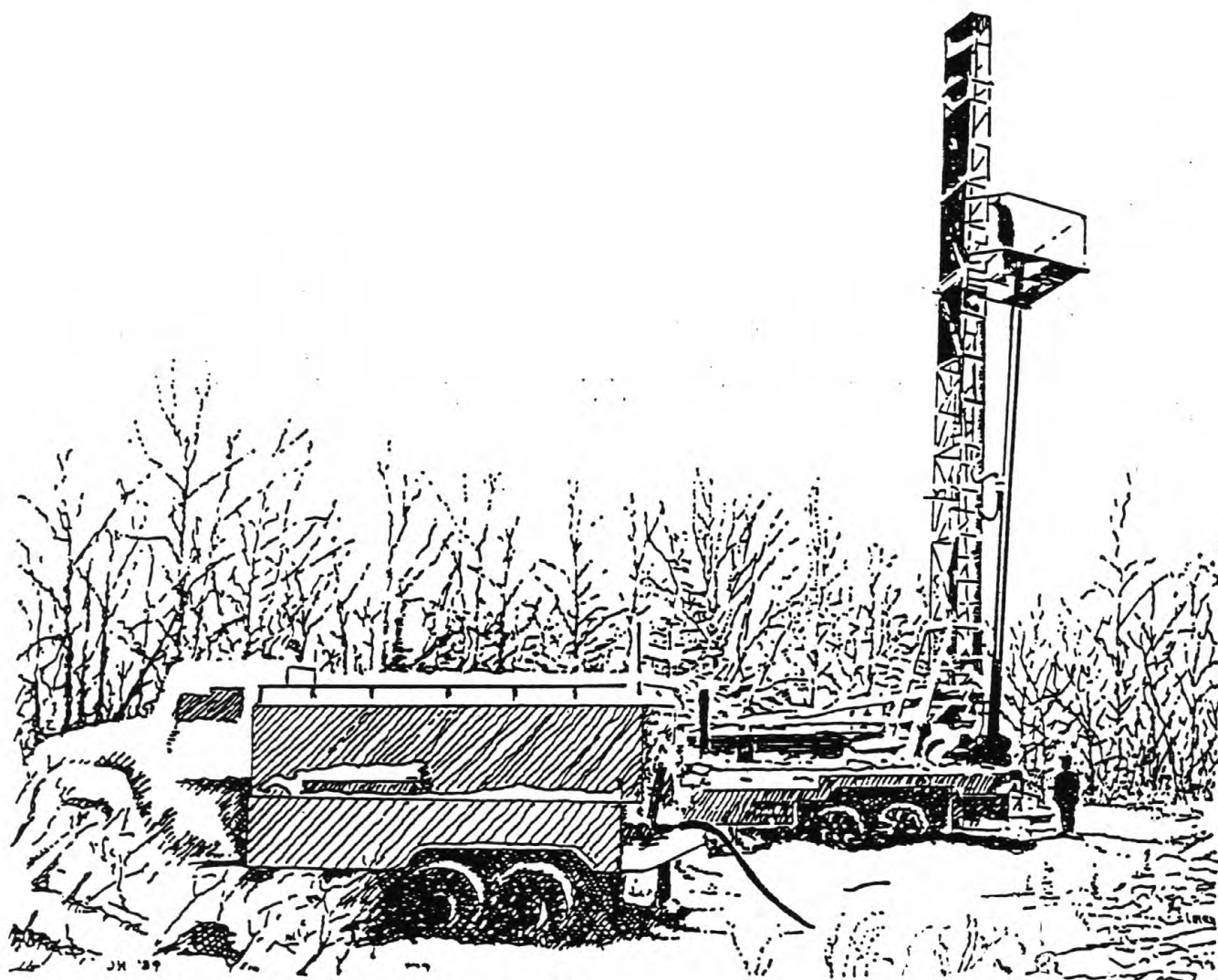
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 20,900 acre-ft, June 14, 1944, elevation, 1,242.67 ft, from capacity table then in use, maximum elevation 1,242.70, Apr. 18, 1990; minimum observed, 1,870 acre-ft, May 14, 1955, elevation, 1,230.62 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 17,310 acre-ft, June 8, elevation, 1,242.40 ft; minimum, 13,950 acre-ft, Aug. 24-25, Sept. 29, 30, elevation, 1,240.20 ft.

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

Date	Elevation (feet)*	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	1241.80	16,390	-
Oct. 31.....	1241.70	16,240	-150
Nov. 30.....	1241.90	16,550	+310
Dec. 31.....	1242.20	17,010	+460
CAL YR 91	-	-	+7,000
Jan. 31.....	1241.65	16,160	-850
Feb. 29.....	1241.20	15,480	-680
Mar. 31.....	1240.80	14,860	-620
Apr. 30.....	1240.95	15,090	+230
May 31.....	1241.00	15,170	+80
June 30.....	1241.10	15,320	+150
July 31.....	1241.00	15,170	-150
Aug. 31.....	1241.10	15,320	+150
Sept. 30.....	1240.20	13,950	-1,370
WTR YR 92	-	-	-2,440

*Elevation at 0800 on the following day.



Cleaning and plugging wells, winter 1984

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 National Geodetic Vertical Datum of 1929. 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 fair. 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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85	188	95	275	166	93	79	69	59	521	74	67
2	64	103	71	384	148	109	e90	69	1150	403	69	83
3	50	68	79	200	154	102	98	68	434	176	47	103
4	83	64	71	e170	355	768	98	67	93	98	51	116
5	52	64	71	e170	330	407	98	68	85	98	126	105
6	48	64	70	183	304	455	95	67	104	97	153	82
7	48	87	71	e175	288	376	117	61	214	96	126	96
8	48	63	71	196	285	174	130	56	758	95	107	101
9	49	62	71	e150	285	271	118	56	639	93	95	100
10	48	66	70	131	295	361	109	56	462	92	50	97
11	48	62	71	e135	319	226	108	56	377	89	82	66
12	48	62	210	e130	318	127	105	84	373	89	128	42
13	48	62	209	441	297	182	69	100	411	49	158	42
14	46	62	380	e180	302	175	51	78	453	22	107	42
15	45	63	287	353	292	156	51	59	420	52	51	42
16	44	150	280	339	237	135	76	53	339	114	58	42
17	44	98	320	e300	89	116	111	60	225	146	108	42
18	49	33	143	e280	179	115	109	84	182	127	93	41
19	44	273	168	e270	182	130	124	101	259	74	70	40
20	44	277	3760	e250	164	110	128	121	433	80	55	40
21	42	172	4560	e170	164	116	111	104	369	85	55	40
22	43	373	1790	220	172	167	109	102	161	78	55	37
23	42	271	1360	162	165	183	108	101	95	156	55	35
24	43	166	907	144	169	149	106	98	116	194	55	35
25	45	105	535	174	196	94	103	98	294	185	55	35
26	51	70	400	180	159	70	103	97	60	147	108	35
27	43	71	371	154	150	119	103	95	58	29	e30	33
28	85	71	272	144	107	135	82	111	95	23	e6.6	33
29	154	75	132	148	93	154	69	75	1120	23	e6.7	31
30	58	101	132	157	---	136	69	48	603	53	e6.7	31
31	48	---	215	174	---	100	---	55	---	74	e15	---
TOTAL	1689	3446	17242	6539	6364	6011	2927	2417	10441	3658	2256.0	1734
MEAN	54.5	115	556	211	219	194	97.6	78.0	348	118	72.8	57.8
MAX	154	373	4560	441	355	768	130	121	1150	521	158	116
MIN	42	33	70	130	89	70	51	48	58	22	6.6	31
AC-FT	3350	6840	34200	12970	12620	11920	5810	4790	20710	7260	4470	3440

e Estimated

ARKANSAS RIVER BASIN

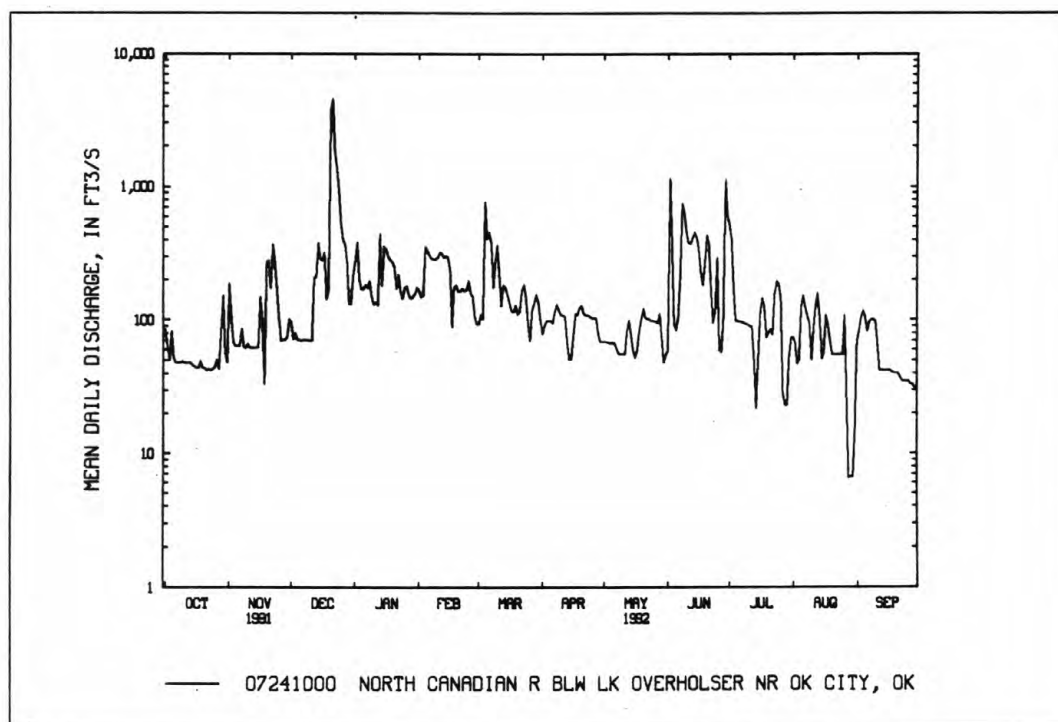
385

07241000 NORTH CANADIAN RIVER BELOW LAKE OVERHOLSER NEAR OKLAHOMA CITY, OK--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	179	107	65.7	62.1	95.3	137	95.6	240	352	151	81.4	98.5
MAX	2426	1489	556	515	668	1487	538	1294	2180	1749	884	826
(WY)	1987	1975	1992	1987	1987	1990	1987	1987	1957	1957	1957	1989
MIN	.000	.000	.016	.045	.061	.000	.027	.45	.013	.039	.000	.000
(WY)	1953	1955	1957	1955	1955	1954	1954	1956	1953	1954	1953	1954

SUMMARY STATISTICS	1991 CALENDAR YEAR		1992 WATER YEAR		WATER YEARS 1953-92	
ANNUAL TOTAL	34303.12		64724.0			
ANNUAL MEAN	94.0		177		139	
HIGHEST ANNUAL MEAN					749	
LOWEST ANNUAL MEAN					.42	
HIGHEST DAILY MEAN	4560	Dec 21	4560	Dec 21	11700	May 29 1987
LOWEST DAILY MEAN	.80	May 22	6.6	Aug 28	.00	^a Oct 1 1952
ANNUAL SEVEN-DAY MINIMUM	.99	Jun 16	31	Aug 27	.00	Oct 1 1952
INSTANTANEOUS PEAK FLOW			5810	Dec 20	18700	May 28 1987
INSTANTANEOUS PEAK STAGE			18.58	Dec 20	^b 29.85	May 28 1987
ANNUAL RUNOFF (AC-FT)	68040		128400		100500	
10 PERCENT EXCEEDS	175		339		360	
50 PERCENT EXCEEDS	35		101		7.1	
90 PERCENT EXCEEDS	1.5		44		.30	

^aNo flow at times in 1952-57.^bFrom high-water mark.

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, 108 microsiemens, Sept. 13, 1989.

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, 33.5°C, July 27, 1992; minimum, 0.0°C, several days during December 1990.

DISSOLVED OXYGEN: Maximum, 15.8 mg/l, June 13, 1989; minimum, 2.3 mg/l, Apr. 20, 1990.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	GAGE HEIGHT (FEET) (00065)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
JUL											
10...	1250	4.00	27.5	728	1028	1028	92	7.80	1340	8.0	8.4
10...	1300	8.00	27.5	728	1028	1028	92	7.80	1370	8.3	8.4
10...	1305	12.0	27.5	728	1028	1028	92	7.80	1370	8.2	8.4
10...	1310	16.0	27.5	728	1028	1028	92	7.80	1370	8.3	8.4
10...	1315	20.0	27.5	728	1028	1028	92	7.80	1370	8.2	8.4
10...	1320	24.0	27.5	728	1028	1028	92	7.80	1380	8.4	8.4
10...	1325	28.0	27.5	728	1028	1028	92	7.80	1380	8.2	8.4
10...	1330	32.0	27.5	728	1028	1028	92	7.80	1370	8.3	8.4
10...	1335	36.0	27.5	728	1028	1028	92	7.80	1370	8.2	8.4
10...	1340	40.0	27.5	728	1028	1028	92	7.80	1370	8.0	8.4
10...	1350	44.0	27.5	728	1028	1028	92	7.80	1370	8.0	8.4

ARKANSAS RIVER BASIN

387

07241000 NORTH CANADIAN RIVER BELOW LAKE OVERHOLSER NEAR OKLAHOMA CITY, OK --Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY	AGENCY	DIS-		PH				BARO-		OXYGEN,	
		COL- LECTING SAMPLE (CODE NUMBER) (00027)	ANA- LYZING SAMPLE (CODE NUMBER) (00028)	CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	SURE PRES- OF (MM HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	(PER- CENT SATUR- ATION) (00301)	
OCT													
09...	1045	1028	80020	48	1650	8.4	22.5	17.0	20	770	7.2	74	
NOV													
19...	1000	1028	80020	148	1300	8.4	9.0	10.0	45	760	10.5	94	
DEC													
10...	1050	1028	80020	69	1470	8.4	16.0	10.5	16	770	11.1	99	
JAN													
28...	1023	1028	80020	148	1560	8.3	7.0	7.5	13	775	12.1	100	
FEB													
13...	1100	1028	80020	296	1580	8.4	2.5	8.0	21	731	11.3	100	
MAR													
17...	0930	1028	80020	121	1540	8.2	18.0	14.0	17	730	9.5	97	
APR													
21...	1000	1028	80020	111	960	8.2	14.0	14.5	29	730	7.8	80	
MAY													
19...	0930	1028	80020	100	1420	8.2	21.0	22.5	12	740	7.8	93	
JUN													
23...	1200	1028	80020	95	790	8.1	28.0	24.0	31	735	8.0	99	
JUL													
22...	0900	1028	80020	78	1220	8.3	25.0	26.5	8.6	730	8.7	114	
AUG													
25...	0930	1028	80020	55	1210	8.5	22.5	24.5	7.4	740	6.3	78	
SEP													
09...	0830	1028	80020	100	1150	8.3	26.5	24.5	26	730	7.2	91	
DATE		NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOC- CI, FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	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)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	
OCT													
09...		3.3	0.2	270	410	--	--	--	--	--	--	--	
NOV													
19...		2.1	1.8	K1000	400	350	130	82	35	130	44	3	6.2
DEC													
10...		1.2	1.4	410	130	--	--	--	--	--	--	--	
JAN													
28...		1.7	1.3	120	150	--	--	--	--	--	--	--	
FEB													
13...		0.79	--	5300	700	470	260	110	47	170	44	3	6.1
MAR													
17...		1.0	0.3	590	92	--	--	--	--	--	--	--	
APR													
21...		1.3	0.9	1100	1500	--	--	--	--	--	--	--	
MAY													
19...		1.2	1.8	360	--	420	150	93	45	150	43	3	5.4
JUN													
23...		1.4	0.8	1200	300	--	--	--	--	--	--	--	
JUL													
22...		0.67	1.8	K690	120	--	--	--	--	--	--	--	
AUG													
25...		1.7	3.6	340	200	350	110	80	36	120	42	3	5.9
SEP													
09...		0.46	0.1	360	160	--	--	--	--	--	--	--	

07241000 NORTH CANADIAN RIVER BELOW LAKE OVERHOLSER NEAR OKLAHOMA CITY, OK --Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA- LINTY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SOLIDS, SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)
OCT											
09...	--	--	--	--	--	--	--	--	--	--	--
NOV											
19...	256	6	220	220	170	0.50	12	778	796	1.06	294
DEC											
10...	334	10	289	--	--	--	--	--	--	--	--
JAN											
28...	361	8	309	--	--	--	--	--	--	--	--
FEB											
13...	248	4	210	320	250	0.60	11	1050	1040	1.43	680
MAR											
17...	325	10	282	--	--	--	--	--	--	--	--
APR											
21...	224	0	184	--	--	--	--	--	--	--	--
MAY											
19...	331	0	271	250	160	0.70	6.8	922	878	1.25	254
JUN											
23...	177	0	145	--	--	--	--	--	--	--	--
JUL											
22...	--	--	--	--	--	--	--	--	--	--	--
AUG											
25...	266	12	238	200	130	0.50	6.9	728	730	0.99	112
SEP											
09...	314	0	257	--	--	--	--	--	--	--	--
DATE	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)
OCT											
09...	43	0.200	0.89	0.060	0.20	0.260	1.20	1.5	1.8	3.0	0.260
NOV											
19...	102	1.38	6.1	0.020	0.07	1.40	0.220	0.28	0.48	0.70	0.790
DEC											
10...	39	0.330	1.5	0.020	0.07	0.350	0.160	0.21	0.64	0.80	0.200
JAN											
28...	22	0.370	1.6	0.040	0.13	0.410	0.370	0.48	0.93	1.3	0.130
FEB											
13...	43	0.180	0.80	0.010	0.03	0.190	0.160	0.21	0.44	0.60	0.190
MAR											
17...	26	0.260	1.2	0.040	0.13	0.300	0.260	0.33	0.44	0.70	0.200
APR											
21...	79	0.360	1.6	0.050	0.16	0.410	0.410	0.53	0.49	0.90	0.220
MAY											
19...	9	0.170	0.75	0.070	0.23	0.240	0.600	0.77	0.40	1.0	0.400
JUN											
23...	62	0.270	1.2	0.040	0.13	0.310	0.220	0.28	0.88	1.1	0.330
JUL											
22...	34	0.063	0.28	0.010	0.03	0.073	0.110	0.14	0.49	0.60	0.370
AUG											
25...	19	0.940	4.2	0.040	0.13	0.980	0.030	0.04	0.67	0.70	0.730
SEP											
09...	43	0.150	0.66	0.010	0.03	0.160	0.040	0.05	0.26	0.30	0.220

389

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

ARKANSAS RIVER BASIN

391

07241000 NORTH CANADIAN RIVER BELOW LAKE OVERHOLSER NEAR OKLAHOMA CITY, OK --Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	1550	1520	1540	1520	1490	1510	1480	1440	1470	1360	1330	1340
2	1520	1480	1500	1510	1500	1510	1490	1470	1480	1410	1350	1380
3	1480	1470	1480	1520	1510	1510	1480	1450	1460	1450	1410	1430
4	1500	1290	1440	1440	541	970	1450	1420	1430	1490	1450	1470
5	1600	1500	1550	529	410	481	1460	1440	1450	1510	1460	1490
6	1610	1590	1610	900	510	761	1450	1430	1440	1520	1500	1510
7	1610	1590	1600	1080	881	995	1480	1450	1460	1530	1180	1500
8	1610	1600	1610	1160	1080	1120	1480	1470	1480	1530	1510	1520
9	1620	1600	1610	1190	1110	1140	1470	1460	1470	1530	1510	1520
10	1600	1580	1590	1400	1140	1250	1490	1460	1470	---	---	---
11	1600	1570	1580	1410	1240	1330	1520	1490	1500	---	---	---
12	1590	1540	1570	1330	1240	1290	1530	1510	1520	1520	1430	1460
13	1590	1580	1590	1520	1310	1420	1540	1470	1520	1500	1420	1460
14	1590	1560	1580	1530	1400	1510	1530	1510	1520	1470	1440	1460
15	1580	1550	1570	1520	1410	1500	1530	1510	1520	1490	1470	1480
16	1570	1510	1560	1520	1410	1450	1550	1460	1530	1500	1480	1490
17	1560	1390	1530	1560	1490	1540	1530	1400	1470	1490	1320	1430
18	1570	1440	1540	1560	1470	1530	1470	1470	1470	1530	1270	1420
19	1570	1560	1560	1540	1360	1470	1480	1230	1330	---	---	---
20	1580	1560	1570	1550	1500	1530	1320	1010	1150	---	---	---
21	1590	1540	1570	1560	1530	1550	1020	803	925	---	---	---
22	1590	1560	1580	1530	1330	1490	1060	810	956	1060	966	1010
23	1610	1590	1600	1550	1370	1480	1050	957	998	966	883	903
24	1600	1400	1480	1490	1410	1460	964	903	917	1110	935	1020
25	1520	1460	1490	1510	1260	1430	979	903	938	1230	1120	1180
26	1520	1410	1500	1520	1460	1500	1040	974	1000	1220	1200	1210
27	1410	1370	1390	1520	1470	1500	1200	1030	1090	1220	1220	1220
28	1460	1400	1430	1490	1470	1480	1210	1180	1190	1220	1070	1160
29	1510	1460	1490	1500	1350	1440	1230	1180	1200	---	---	---
30	---	---	---	1480	1420	1460	1380	1230	1340	---	---	---
31	---	---	---	1500	1480	1490	---	---	---	---	---	---
MONTH	1620	1290	1540	1560	410	1360	1550	803	1320	---	---	---

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

393

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

07241000 NORTH CANADIAN RIVER BELOW LAKE OVERHOLSER NEAR OKLAHOMA CITY, OK --Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	10.0	9.0	9.5	14.0	11.5	12.5	14.0	12.0	13.0	21.0	18.5	19.5
2	10.0	9.0	9.0	15.5	13.5	14.5	13.0	12.0	12.5	21.5	20.0	20.5
3	12.5	9.5	11.0	16.5	15.5	16.0	14.0	12.0	13.0	22.5	20.0	21.0
4	12.5	10.5	11.5	16.5	14.5	15.5	15.0	12.5	13.5	23.0	20.0	21.0
5	11.0	8.5	10.0	15.5	14.0	14.5	14.0	12.5	13.5	24.0	20.5	22.0
6	9.0	7.5	8.5	16.0	14.5	15.0	15.5	14.0	15.0	22.5	20.5	21.5
7	8.0	7.0	7.5	16.5	15.0	15.5	16.5	15.5	16.0	22.5	19.5	20.5
8	8.0	6.5	7.5	16.5	15.5	16.0	17.5	16.0	17.0	22.5	19.0	20.0
9	7.5	6.5	7.0	17.0	13.5	15.5	19.0	17.5	18.0	22.0	19.0	20.0
10	8.0	7.0	7.5	13.5	12.0	12.5	20.0	18.5	19.0	22.0	20.0	20.5
11	9.5	8.0	8.5	12.0	9.0	10.0	20.0	19.0	19.5	22.5	19.5	20.5
12	9.5	9.0	9.0	10.0	9.0	9.5	19.5	18.0	18.5	23.0	20.0	21.5
13	9.5	8.5	9.0	11.0	9.0	10.0	19.5	17.0	18.0	24.0	22.0	23.0
14	9.5	8.0	9.0	12.0	10.5	11.0	21.0	17.0	18.5	24.5	22.0	23.0
15	11.5	9.0	10.5	14.0	12.0	13.0	20.5	18.0	19.0	25.5	22.5	23.5
16	11.5	10.5	11.0	14.5	13.0	13.5	20.0	18.0	19.0	24.5	23.0	23.5
17	12.5	10.5	11.5	15.0	14.0	14.5	20.5	18.5	19.5	23.5	23.0	23.5
18	11.5	10.5	11.0	15.0	13.5	14.5	19.5	19.0	19.5	24.0	22.5	23.5
19	12.5	10.5	11.0	14.0	12.5	13.5	19.0	17.5	18.0	23.5	22.0	23.0
20	11.5	10.5	11.0	14.5	12.5	13.5	17.5	15.5	16.5	23.0	22.0	22.0
21	12.0	10.5	11.0	14.5	12.5	13.5	16.0	14.0	15.0	23.0	22.0	22.5
22	12.5	11.5	12.0	13.5	12.0	12.5	16.0	13.5	14.5	22.5	22.0	22.0
23	14.5	12.5	13.5	13.0	11.5	12.0	19.0	16.0	17.0	22.0	21.5	22.0
24	13.5	11.0	12.5	12.5	11.5	12.0	20.0	18.5	19.0	23.0	21.0	22.0
25	11.5	10.5	11.0	14.0	11.5	12.5	21.0	18.0	19.0	21.5	20.5	21.0
26	10.5	9.5	10.0	15.5	12.5	13.5	21.0	19.0	20.0	22.0	19.5	20.5
27	10.0	9.0	9.5	15.0	14.5	14.5	19.5	18.0	19.0	20.5	19.5	20.0
28	12.5	9.0	11.0	15.0	14.0	14.5	18.5	17.5	18.0	19.5	17.0	18.5
29	13.0	11.5	12.0	15.0	13.5	14.5	20.0	17.5	18.5	20.5	17.0	18.0
30	---	---	---	14.5	13.0	13.5	19.5	17.5	18.5	20.0	16.0	18.0
31	---	---	---	14.5	13.0	13.5	---	---	---	18.5	17.0	17.5
MONTH	14.5	6.5	10.1	17.0	9.0	13.5	21.0	12.0	17.2	25.5	16.0	21.1

ARKANSAS RIVER BASIN

395

07241000 NORTH CANADIAN RIVER BELOW LAKE OVERHOLSER NEAR OKLAHOMA CITY, OK --Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	19.5	17.5	18.0	28.0	26.0	26.5	28.5	27.5	28.0	23.0	22.0	22.5
2	19.5	18.0	18.5	29.5	27.5	28.5	28.5	26.5	27.5	24.0	22.5	23.0
3	23.0	19.0	20.5	29.5	27.0	28.0	28.0	25.5	26.5	24.0	22.5	23.0
4	23.5	18.5	20.5	28.0	26.5	27.5	28.0	26.0	26.5	24.0	21.5	23.5
5	22.0	19.5	20.5	28.5	27.0	27.5	27.5	25.5	26.5	25.5	24.0	24.5
6	21.5	20.0	20.5	28.0	27.0	27.5	27.5	26.5	27.0	---	---	---
7	21.5	20.5	21.0	28.5	26.5	27.5	27.5	26.0	26.5	---	---	---
8	23.0	21.5	22.5	28.5	27.0	27.5	27.5	26.0	26.5	---	---	---
9	23.5	22.0	23.0	28.5	27.0	27.5	27.5	26.5	27.0	---	---	---
10	25.0	23.5	24.0	28.5	27.0	27.5	29.0	26.5	27.5	---	---	---
11	26.5	24.5	25.0	27.5	27.0	27.5	27.0	23.0	25.5	---	---	---
12	26.5	24.0	25.0	28.0	26.5	27.0	27.5	25.5	26.5	---	---	---
13	25.5	24.0	25.0	29.5	25.0	27.5	26.0	23.0	24.0	---	---	---
14	26.5	25.0	25.5	31.5	22.5	26.5	26.0	24.0	24.5	---	---	---
15	25.0	24.0	24.5	27.5	25.0	26.5	25.5	23.5	24.0	---	---	---
16	26.0	24.0	25.0	27.5	25.5	26.5	25.5	23.0	24.0	25.5	23.5	24.0
17	26.5	25.5	26.0	27.5	25.5	26.5	23.5	22.5	23.0	25.5	23.0	24.0
18	27.5	26.5	27.0	26.0	24.5	25.0	23.0	22.0	22.5	25.0	23.0	24.0
19	29.0	27.0	28.0	26.0	24.5	25.0	25.0	21.5	23.0	24.0	22.5	23.0
20	28.5	25.5	26.5	27.5	25.5	26.5	24.5	22.0	22.5	24.5	22.5	23.0
21	27.0	25.5	26.0	28.5	26.5	27.0	24.5	22.0	23.0	25.0	22.5	23.5
22	25.5	24.0	24.5	28.0	26.5	27.0	24.5	22.5	23.5	24.5	22.5	23.0
23	25.5	23.5	24.0	27.5	26.5	27.0	25.5	23.0	24.0	24.0	18.5	21.5
24	26.0	24.0	25.0	29.0	27.5	28.0	26.5	24.0	25.0	24.0	20.5	21.5
25	28.0	25.5	27.0	29.5	28.0	29.0	27.0	24.5	25.5	22.5	20.0	20.5
26	27.5	25.5	26.0	30.5	28.0	29.5	25.0	19.5	22.0	22.5	20.0	21.0
27	26.5	24.5	25.0	33.5	27.5	29.5	25.5	19.5	22.0	22.5	19.0	20.5
28	26.5	23.0	24.5	33.0	26.0	28.5	27.5	20.0	23.0	22.5	19.0	20.5
29	25.0	24.0	24.5	32.0	25.5	28.0	28.0	20.0	23.5	22.5	19.0	20.0
30	25.5	24.0	24.5	30.0	25.5	28.0	25.0	20.5	22.5	19.0	18.5	18.5
31	---	---	---	30.0	27.5	28.5	23.0	21.0	22.0	---	---	---
MONTH	29.0	17.5	23.9	33.5	22.5	27.4	29.0	19.5	24.7	---	---	---

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

397

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]



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 11100303, on right downstream abutment of county road bridge, 3.8 mi downstream from Crutch 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 National Geodetic Vertical Datum of 1929.

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 telemeter located at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e97	374	117	e402	266	e219	e176	e191	e555	e500	e216	e93
2	95	234	134	e427	256	e221	e161	e184	e774	e469	e310	e117
3	e90	163	132	e498	251	e216	e163	e181	e1460	e338	e153	e128
4	86	131	110	e354	265	e914	e165	e174	e353	e218	1500	e128
5	e90	120	97	e337	392	e657	e160	e171	e263	e181	e730	e128
6	e84	115	96	e334	353	e349	e163	e165	e426	e179	e400	e2660
7	e80	110	93	e323	339	e416	e161	159	e313	e175	e300	e511
8	e81	126	90	e321	331	e325	e175	e158	e560	e165	e260	e297
9	e78	106	88	e336	330	e254	e181	e156	e956	154	e245	258
10	e76	101	88	e296	330	e328	e171	e129	e793	154	e225	e336
11	e78	101	86	e275	414	e346	e166	e190	e464	148	e330	e283
12	e76	99	1670	e268	460	e243	e248	e269	446	141	e530	e187
13	e77	96	306	e390	364	e229	e181	e195	e409	134	e270	e163
14	e79	97	291	e562	354	e249	e131	187	e736	808	e310	e143
15	e75	140	278	e362	349	e239	e112	e171	e1020	e500	e245	e132
16	72	770	253	405	339	e231	114	e149	e526	e390	e190	e120
17	e68	1210	258	e366	280	215	e514	167	e431	e708	e170	e110
18	64	241	256	e364	228	e210	e253	e260	e676	e249	160	e100
19	63	128	e750	e364	276	e212	e1120	247	e545	e206	e221	e236
20	64	322	7200	e356	271	209	e1130	e504	e433	e329	e145	e144
21	60	227	6540	326	253	e197	443	e466	e451	e1000	132	e127
22	58	189	3980	e296	277	e201	e307	215	e407	249	e114	162
23	59	268	1890	e356	270	234	e281	e240	296	e195	e112	e108
24	108	185	1440	e273	434	e244	e262	e204	e325	e226	e108	99
25	73	172	917	e248	339	e217	e251	e189	e1900	e235	115	e90
26	594	126	643	e264	300	e171	e242	e221	e448	e229	e672	e88
27	124	108	589	e289	e267	e192	e232	e171	e234	e710	e468	e85
28	1220	104	583	e292	e258	e214	e291	e501	e955	e201	e134	e84
29	342	97	399	e254	e227	e202	e335	e501	e671	e128	e108	e80
30	180	97	324	e249	---	e212	e206	e181	e943	e111	e97	e78
31	407	---	316	290	---	e196	---	e136	---	e328	e97	---
TOTAL	4798	6357	30014	10477	9073	8562	8495	7032	18769	9758	9067	7275
MEAN	155	212	968	338	313	276	283	227	626	315	292	242
MAX	1220	1210	7200	562	460	914	1130	504	1900	1000	1500	2660
MIN	58	96	86	248	227	171	112	129	234	111	97	78
AC-FT	9520	12610	59530	20780	18000	16980	16850	13950	37230	19350	17980	14430

e Estimated

ARKANSAS RIVER BASIN

401

07241520 NORTH CANADIAN RIVER AT BRITTON ROAD AT OKLAHOMA CITY, OK--Continued

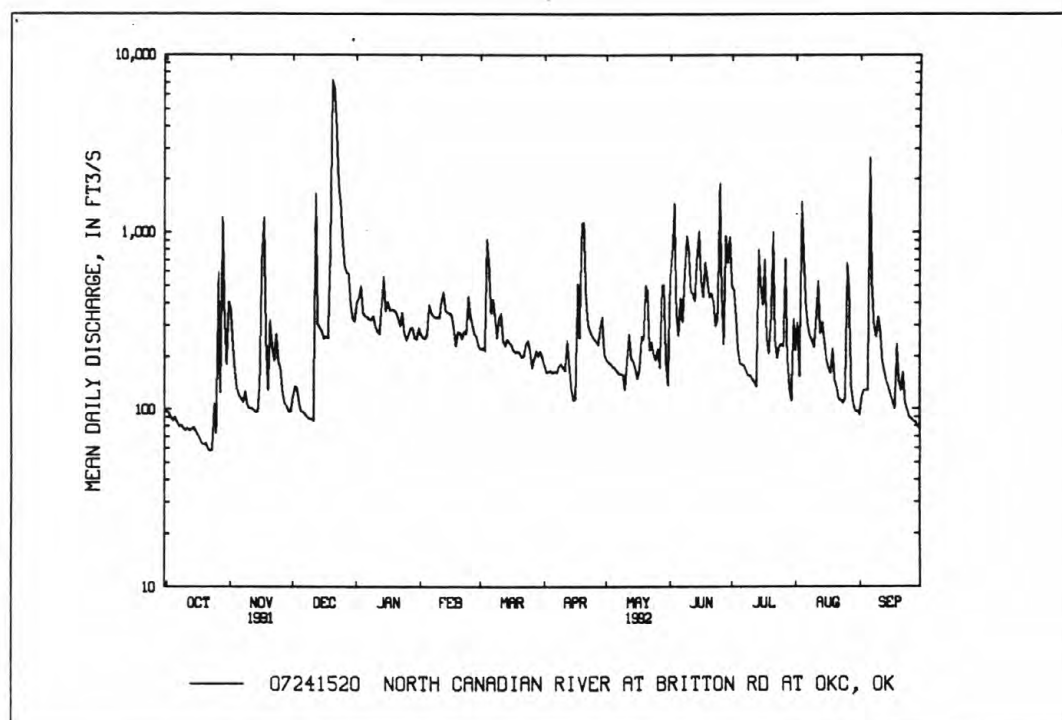
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	213	207	348	235	296	651	341	631	1226	393	398	651
MAX	410	273	968	362	485	1993	786	1784	3631	1044	966	1350
(WY)	1990	1989	1992	1990	1990	1990	1990	1990	1989	1989	1989	1989
MIN	137	123	109	108	95.5	116	121	227	198	95.8	151	242
(WY)	1989	1991	1989	1991	1991	1991	1991	1992	1991	1991	1990	1992

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1989-92

ANNUAL TOTAL	90475	129677	
ANNUAL MEAN	248	354	466
HIGHEST ANNUAL MEAN			710 1989
LOWEST ANNUAL MEAN			167 1991
HIGHEST DAILY MEAN	7200 Dec 20	7200 Dec 20	12100 Jun 13 1989
LOWEST DAILY MEAN	28 Jul 28	58 Oct 22	28 Jul 28 1991
ANNUAL SEVEN-DAY MINIMUM	32 Jul 22	62 Oct 17	32 Jul 22 1991
INSTANTANEOUS PEAK FLOW		10200 Dec 20	31300 Jun 13 1989
INSTANTANEOUS PEAK STAGE		19.09 Dec 20	^a 23.48 Jun 13 1989
ANNUAL RUNOFF (AC-FT)	179500	257200	337300
10 PERCENT EXCEEDS	493	590	943
50 PERCENT EXCEEDS	99	237	196
90 PERCENT EXCEEDS	55	96	73

^aFrom high-water mark.



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 (discontinued).

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, and dissolved oxygen were determined in the field.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum 2,630 microsiemens, July 18, 1990; minimum 117 microsiemens, Sept. 6, 1992.

pH: Maximum 9.1 units, June 27, 1991; minimum 6.3 units, Aug. 8, 1989.

WATER TEMPERATURE: Maximum 34.0°C, July 8, 1991; minimum recorded, 0.0°C, several days during winter period.

DISSOLVED OXYGEN: Maximum 19.3 mg/l, Sept. 5, 1992; minimum 1.2 mg/l, Aug. 8, 1991.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	GAGE HEIGHT (FEET) (00065)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)
JUL										
09...	1121	10.0	26.5	732	1028	1028	156	9.46	1340	11.0
09...	1127	20.0	26.5	732	1028	1028	156	9.46	1350	10.9
09...	1133	50.0	26.5	732	1028	1028	156	9.46	1340	10.6
09...	1139	60.0	26.5	732	1028	1028	156	9.46	1350	10.6
09...	1145	70.0	26.5	732	1028	1028	156	9.46	1350	10.9
09...	1151	80.0	26.5	732	1028	1028	156	9.46	1350	11.0
09...	1157	90.0	26.5	732	1028	1028	156	9.46	1350	10.8
09...	1202	100	27.0	732	1028	1028	156	9.46	1340	11.1

07241520 NORTH CANADIAN RIVER AT BRITTON ROAD AT OKLAHOMA CITY, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT												
02...	1050	1028	80020	95	1480	8.5	26.0	21.5	7.5	--	7.6	--
NOV												
21...	1100	1028	80020	224	1170	8.3	15.0	9.0	42	--	9.8	--
DEC												
17...	1155	1028	80020	202	889	8.3	11.0	8.0	63	--	11.1	--
JAN												
21...	1032	1028	80020	344	1670	8.1	9.5	5.0	21	--	10.3	--
FEB												
12...	1200	1028	80020	615	1420	8.0	5.5	9.5	160	735	8.1	74
MAR												
17...	0845	1028	80020	216	1480	8.5	17.0	15.0	12	727	--	--
APR												
21...	0900	1028	80020	434	617	8.3	9.0	12.0	83	728	8.1	79
MAY												
19...	0900	1028	80020	198	990	8.0	20.5	21.5	67	736	5.2	61
JUN												
23...	0930	1028	80020	272	958	8.2	22.5	23.5	25	728	6.7	83
JUL												
22...	0900	1028	80020	242	677	8.0	27.0	25.0	84	730	6.0	76
AUG												
25...	0930	1028	80020	105	1470	8.3	26.5	24.0	--	734	7.5	93
SEP												
09...	0830	1028	80020	250	1130	8.3	26.5	24.5	21	728	6.3	79
DATE		NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	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)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO PERCENT (00932)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00931)
OCT												
02...	1.8	2.8	K1200	230	--	--	--	--	--	--	--	--
NOV												
21...	2.4	2.1	2100	<4	330	120	78	32	120	44	3	6.6
DEC												
17...	2.4	2.4	2600	710	--	--	--	--	--	--	--	--
JAN												
21...	1.8	2.7	2500	270	--	--	--	--	--	--	--	--
FEB												
12...	1.5	--	4600	K12000	320	150	77	30	180	55	4	5.0
MAR												
17...	1.4	0.3	K680	120	--	--	--	--	--	--	--	--
APR												
21...	2.0	2.1	K10000	>10000	--	--	--	--	--	--	--	--
MAY												
19...	1.9	0.9	2200	--	270	61	66	26	93	42	2	5.5
JUN												
23...	2.3	1.0	3400	330	--	--	--	--	--	--	--	--
JUL												
22...	1.5	2.0	4700	2800	--	--	--	--	--	--	--	--
AUG												
25...	--	3.5	330	81	370	92	90	35	150	46	3	6.8
SEP												
09...	1.6	0.2	1100	1500	--	--	--	--	--	--	--	--

07241520 NORTH CANADIAN RIVER AT BRITTON ROAD AT OKLAHOMA CITY, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA- LINTY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)
OCT											
02...	266	15	242	--	--	--	--	--	--	--	--
NOV											
21...	245	5	210	150	140	0.40	11	681	672	0.93	41
DEC											
17...	207	0	170	--	--	--	--	--	--	--	--
JAN											
21...	267	2	223	--	--	--	--	--	--	--	--
FEB											
12...	208	0	170	130	310	0.40	6.8	842	847	1.15	1400
MAR											
17...	336	7	287	--	--	--	--	--	--	--	--
APR											
21...	180	2	148	--	--	--	--	--	--	--	--
MAY											
19...	258	0	212	99	130	0.50	9.3	566	564	0.77	303
JUN											
23...	257	0	211	--	--	--	--	--	--	--	--
JUL											
22...	201	0	165	--	--	--	--	--	--	--	--
AUG											
25...	339	0	278	80	--	0.60	11	860	--	1.17	244
SEP											
09...	308	0	252	--	--	--	--	--	--	--	--
DATE	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDED (MG/L) (00530)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)
OCT											
02...	24	0.770	3.4	0.030	0.10	0.800	0.060	0.08	0.94	1.0	0.490
NOV											
21...	88	1.31	5.8	0.090	0.30	1.40	0.190	0.24	0.81	1.0	0.380
DEC											
17...	144	0.950	4.2	0.050	0.16	1.00	0.590	0.76	0.81	1.4	0.250
JAN											
21...	43	0.620	2.7	0.030	0.10	0.650	0.310	0.40	0.89	1.2	0.250
FEB											
12...	555	0.840	3.7	0.030	0.10	0.870	0.160	0.21	0.44	0.60	0.140
MAR											
17...	30	0.840	3.7	0.040	0.13	0.880	0.100	0.13	0.40	0.50	0.50
APR											
21...	200	1.16	5.1	0.040	0.13	1.20	0.170	0.22	0.63	0.80	0.360
MAY											
19...	138	1.13	5.0	0.070	0.23	1.20	0.190	0.24	0.51	0.70	0.510
JUN											
23...	77	1.45	6.4	0.050	0.16	1.50	0.150	0.19	0.65	0.80	0.470
JUL											
22...	210	0.800	3.5	0.030	0.10	0.830	0.120	0.15	0.58	0.70	0.40
AUG											
25...	10	--	--	<0.010	--	<0.050	0.030	0.04	0.37	0.40	0.270
SEP											
09...	52	0.980	4.3	0.020	0.07	1.00	0.080	0.10	0.52	0.60	0.430

405

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

07241520 NORTH CANADIAN RIVER AT BRITTON ROAD AT OKLAHOMA CITY, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible][illegible]

407

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	ENDRIN		HEPTA-			METH-		METHYL			
	WATER		HEPTA-	CHLOR		MALA-	OXY-	PARA-		PARA-	PER-
	UNFLTRD	ETHION,	CHLOR,	EPOXIDE	LINDANE	THION,	CHLOR,	THION,	MIREX,	THION,	THANE
	REC	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL	TOTAL
	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)	(UG/L)
	(39390)	(39398)	(39410)	(39420)	(39340)	(39530)	(39480)	(39600)	(39755)	(39540)	(39034)

[illegible]

ARKANSAS RIVER BASIN

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

ARKANSAS RIVER BASIN

409

07241520 NORTH CANADIAN RIVER AT BRITTON ROAD AT OKLAHOMA CITY, OK--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER				NOVEMBER			DECEMBER			JANUARY		
1	1370	1250	1320	668	244	425	1430	1340	1390	---	---	---
2	1510	1360	1430	1130	715	1050	1650	1370	1450	---	---	---
3	1610	1510	1560	1200	1130	1160	1800	1450	1620	---	---	---
4	1620	1530	1580	1280	1210	1240	1450	1410	1430	---	---	---
5	1690	1460	1570	1230	1170	1200	1520	1430	1470	---	---	---
6	1560	1440	1490	1180	1160	1170	1540	1500	1510	---	---	---
7	1630	1520	1570	1200	1150	1170	1560	1510	1530	---	---	---
8	1650	1560	1610	1330	1150	1230	1560	1510	1530	---	---	---
9	1610	1520	1560	1350	1310	1330	1560	1510	1530	---	---	---
10	1630	1550	1590	1380	1320	1350	1550	1490	1530	---	---	---
11	1680	1590	1640	1380	1330	1360	1640	1420	1530	---	---	---
12	1720	1590	1660	1410	1340	1380	1400	283	495	---	---	---
13	1720	1650	1690	1440	1380	1410	705	310	474	---	---	---
14	1730	1660	1690	1450	1420	1440	1130	722	957	---	---	---
15	1740	1650	1690	1510	1330	1420	1140	1020	1090	---	---	---
16	1750	1660	1700	1420	291	800	1020	930	974	---	---	---
17	1780	1680	1730	425	255	320	944	839	879	---	---	---
18	1750	1670	1710	875	439	685	1030	861	980	---	---	---
19	1780	1650	1700	1090	892	983	1090	332	890	---	---	---
20	1730	1620	1660	1260	1090	1190	---	---	---	---	---	---
21	1730	1630	1670	1200	1040	1120	---	---	---	---	---	---
22	1740	1650	1690	1030	868	938	---	---	---	---	---	---
23	1730	1640	1680	1050	801	956	---	---	---	---	---	---
24	1730	1080	1380	1010	920	965	---	---	---	---	---	---
25	1570	1190	1380	1030	920	972	---	---	---	---	---	---
26	1090	288	484	1240	1020	1120	---	---	---	---	---	---
27	954	624	803	1300	1250	1280	---	---	---	---	---	---
28	960	170	451	1370	1300	1330	---	---	---	---	---	---
29	639	356	403	1400	1350	1370	---	---	---	---	---	---
30	1090	756	1020	1480	1390	1430	---	---	---	---	---	---
31	1150	273	817	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	1510	244	1130	---	---	---	---	---	---

410

ARKANSAS RIVER BASIN

07241520 NORTH CANADIAN RIVER AT BRITTON ROAD AT OKLAHOMA CITY, OK--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	1550	1430	1480	1490	1340	1400
2	---	---	---	---	---	---	1540	1430	1500	1510	1440	1480
3	---	---	---	---	---	---	1550	1500	1520	1500	1430	1460
4	---	---	---	---	---	---	1540	1470	1510	1580	1460	1520
5	---	---	---	1090	588	760	1490	1440	1470	1590	1500	1550
6	---	---	---	737	563	653	1470	1410	1430	1660	1540	1600
7	---	---	---	957	656	837	1500	1400	1450	1610	1540	1580
8	---	---	---	1160	969	1070	1490	1460	1480	1640	1500	1570
9	---	---	---	1300	1100	1200	1520	1470	1500	1660	1550	1610
10	---	---	---	1420	1220	1280	1660	1510	1590	1670	1580	1630
11	---	---	---	1440	1250	1340	1640	1560	1610	1570	292	978
12	---	---	---	1520	1410	1470	1570	1180	1400	1030	402	688
13	---	---	---	1560	1500	1520	1410	1190	1290	1340	1040	1220
14	---	---	---	1560	1510	1530	1580	1400	1470	1370	1310	1340
15	---	---	---	1570	1530	1540	1600	1560	1580	1360	1300	1330
16	---	---	---	1570	1500	1530	1580	1490	1560	1470	1310	1370
17	---	---	---	1590	1500	1550	1190	461	623	---	---	---
18	---	---	---	1570	1520	1550	1180	672	931	---	---	---
19	---	---	---	1570	1490	1530	1230	284	657	---	---	---
20	---	---	---	1550	1470	1520	611	248	430	1110	334	833
21	---	---	---	1620	1550	1580	878	382	665	793	429	552
22	---	---	---	1600	1540	1580	1080	889	993	1050	809	957
23	---	---	---	1550	1510	1530	1170	1020	1080	1090	649	969
24	---	---	---	1580	1450	1520	1200	1130	1160	974	754	917
25	---	---	---	1520	1430	1470	1200	1140	1180	1120	981	1040
26	---	---	---	1610	1490	1540	1180	1140	1160	1140	947	1030
27	---	---	---	1600	1070	1440	1230	1180	1200	1200	1050	1130
28	---	---	---	1500	1060	1340	1200	689	1130	1200	363	903
29	---	---	---	1520	1480	1490	1180	540	856	695	380	529
30	---	---	---	1520	1420	1480	1330	1190	1280	1020	715	871
31	---	---	---	1490	1440	1470	---	---	---	1190	1030	1130
MONTH	---	---	---	---	---	---	1670	248	1240	---	---	---

411

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

ARKANSAS RIVER BASIN

07241520 NORTH CANADIAN RIVER AT BRITTON ROAD AT OKLAHOMA CITY, OK--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	22.5	18.5	20.5	6.0	4.0	5.0	6.5	3.0	4.0	-----		
2	24.0	19.0	21.5	5.0	2.0	3.5	5.5	3.0	4.0	-----		
3	24.5	19.5	22.0	4.5	1.0	3.0	6.5	3.5	5.0	-----		
4	22.0	17.5	19.5	7.5	3.5	5.5	8.0	4.5	6.0	-----		
5	19.0	13.5	16.5	7.0	4.5	6.0	9.5	5.5	7.5	-----		
6	20.0	14.5	17.0	9.0	5.5	7.5	12.0	7.5	10.0	-----		
7	21.0	15.0	18.0	9.0	3.0	6.0	15.0	11.0	13.0	-----		
8	22.0	15.5	18.5	6.0	1.5	4.0	15.0	13.5	14.5	-----		
9	23.5	17.0	20.0	8.0	4.0	6.0	13.5	11.0	12.5	-----		
10	23.5	19.0	21.5	9.5	6.0	7.5	12.0	8.5	10.5	-----		
11	25.0	19.0	22.0	8.0	7.0	7.5	13.5	11.5	12.5	-----		
12	24.5	18.5	21.5	11.0	7.0	9.0	14.5	13.0	14.0	-----		
13	22.0	20.0	21.0	13.0	10.0	11.5	13.5	11.0	12.0	-----		
14	20.5	17.0	19.0	14.0	12.5	13.0	11.0	8.0	9.0	-----		
15	20.5	15.5	18.0	15.0	13.5	14.5	9.0	7.0	8.5	-----		
16	19.5	15.5	17.5	14.0	11.5	12.5	9.5	7.0	8.5	-----		
17	21.5	14.5	18.0	14.0	12.5	13.0	9.0	7.5	8.5	-----		
18	23.0	17.5	19.5	14.0	11.0	12.5	7.5	5.5	6.5	-----		
19	17.0	12.5	15.0	13.5	11.5	12.5	6.5	5.0	6.0	-----		
20	19.0	14.0	16.0	11.0	9.5	10.5	5.5	4.5	5.0	-----		
21	20.5	14.5	17.0	11.5	8.5	10.5	---	---	---	-----		
22	22.0	15.5	18.5	10.5	8.5	9.5	---	---	---	-----		
23	24.0	18.5	21.0	8.0	6.0	7.0	---	---	---	-----		
24	23.5	19.5	21.5	8.5	5.5	7.5	---	---	---	-----		
25	19.5	15.0	16.5	7.5	6.0	7.0	---	---	---	-----		
26	18.0	14.5	16.0	9.5	6.0	8.0	---	---	---	-----		
27	20.5	17.0	18.5	12.0	9.5	11.0	---	---	---	-----		
28	19.0	18.0	18.5	16.5	12.0	14.5	---	---	---	-----		
29	18.0	10.5	14.0	16.5	12.5	15.5	---	---	---	-----		
30	10.5	7.5	9.0	12.0	6.5	9.0	---	---	---	-----		
31	7.5	5.5	6.5	---	---	---	---	---	---	-----		
MONTH	---	---	---	16.5	1.0	9.0	---	---	---	-----		

ARKANSAS RIVER BASIN

413

07241520 NORTH CANADIAN RIVER AT BRITTON ROAD AT OKLAHOMA CITY, OK--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	18.5	13.5	16.0	15.5	10.5	13.0	---	---	---
2	---	---	---	20.5	15.0	18.0	13.5	9.5	12.0	---	---	---
3	---	---	---	20.5	18.0	19.0	17.0	9.5	13.0	---	---	---
4	---	---	---	19.0	16.5	18.0	21.5	12.5	17.0	---	---	---
5	---	---	---	18.5	15.5	17.5	20.5	16.0	18.5	---	---	---
6	---	---	---	19.5	15.0	17.5	18.5	15.5	17.0	---	---	---
7	---	---	---	20.5	16.5	18.5	20.5	13.5	17.0	22.5	16.0	20.0
8	---	---	---	20.0	17.5	19.0	23.5	16.5	20.0	23.5	16.0	20.0
9	---	---	---	19.5	13.0	17.5	24.0	19.0	21.5	23.5	16.5	20.0
10	---	---	---	13.0	7.0	11.0	25.0	19.0	22.0	23.0	17.0	20.0
11	---	---	---	14.5	9.5	12.0	23.0	19.0	21.0	19.5	17.0	18.0
12	---	---	---	13.5	11.0	12.5	21.0	14.5	16.5	27.0	16.0	20.5
13	---	---	---	16.0	10.5	13.5	22.0	14.5	17.5	26.5	20.5	23.5
14	---	---	---	18.5	13.5	16.0	26.5	19.0	22.5	26.5	20.5	23.5
15	---	---	---	18.5	13.5	16.0	23.5	20.0	22.0	27.5	20.5	24.5
16	---	---	---	19.5	13.0	16.5	25.5	19.5	22.5	24.5	21.0	22.5
17	---	---	---	18.0	16.0	17.0	23.5	22.0	22.5	22.0	20.5	21.0
18	---	---	---	17.0	13.0	15.5	22.5	21.0	22.0	22.0	20.5	21.0
19	---	---	---	14.0	9.5	12.0	21.0	17.0	19.0	23.0	21.5	22.0
20	---	---	---	15.0	9.5	12.5	18.5	12.0	16.0	21.5	20.0	21.0
21	---	---	---	16.0	11.0	14.0	20.0	13.0	16.0	24.5	19.0	21.5
22	16.0	14.0	15.0	14.0	9.0	11.0	22.0	16.0	19.5	23.0	20.0	22.0
23	17.5	13.0	15.0	14.0	7.5	10.5	26.5	19.0	22.0	21.0	19.0	20.0
24	16.5	11.0	14.0	15.0	10.5	12.5	24.0	19.0	21.5	22.0	17.5	20.0
25	11.0	8.5	9.5	16.0	11.0	13.5	23.5	18.5	21.0	21.0	17.5	19.5
26	13.0	7.5	10.0	18.5	11.5	15.0	23.5	18.0	20.5	21.0	16.0	18.5
27	15.5	11.5	13.5	16.0	12.5	14.5	24.5	17.5	21.0	18.5	15.0	16.5
28	17.0	11.5	14.5	15.0	12.5	14.0	21.0	13.5	17.0	16.5	12.5	14.5
29	18.0	13.0	15.5	14.5	11.5	13.5	20.5	12.5	15.0	---	---	---
30	---	---	---	15.0	9.5	12.0	---	---	---	---	---	---
31	---	---	---	15.5	11.5	14.0	---	---	---	---	---	---
MONTH	---	---	---	20.5	7.0	14.8	---	---	---	---	---	---

07241520 NORTH CANADIAN RIVER AT BRITTON ROAD AT OKLAHOMA CITY, OK--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	17.5	16.5	17.0	---	---	---	28.0	25.0	26.5	---	---	---
2	---	---	---	---	---	---	31.0	8.0	26.0	---	---	---
3	21.0	17.0	19.0	29.5	25.0	27.5	31.0	25.5	28.0	---	---	---
4	24.5	18.0	21.5	31.0	26.0	28.5	28.0	23.5	25.0	---	---	---
5	23.0	20.5	21.5	30.5	25.0	28.0	25.5	23.0	24.0	---	---	---
6	24.0	19.0	21.5	31.0	25.0	28.0	27.0	25.0	26.0	---	---	---
7	22.5	20.0	21.5	30.0	24.5	27.5	30.0	24.0	27.0	---	---	---
8	24.0	15.5	21.5	31.5	23.5	27.0	30.5	25.5	28.0	---	---	---
9	24.0	21.5	23.0	31.0	25.0	28.0	31.0	25.5	28.0	---	---	---
10	---	---	---	31.0	24.5	28.0	32.5	26.5	29.5	---	---	---
11	---	---	---	28.0	24.5	26.0	30.5	24.5	27.0	---	---	---
12	---	---	---	30.0	23.5	26.5	28.5	23.0	25.5	26.0	22.0	24.0
13	28.5	23.0	25.5	27.0	22.5	25.5	28.5	23.5	26.0	26.5	22.0	24.5
14	27.0	22.0	24.5	27.5	19.5	25.0	27.0	23.5	25.5	28.0	23.0	25.5
15	24.5	21.0	23.0	32.0	25.5	28.5	28.0	22.0	25.0	27.5	23.5	26.0
16	27.5	19.0	25.0	29.0	21.0	24.5	28.0	21.5	25.0	27.5	23.0	25.5
17	30.0	24.5	27.0	29.0	21.0	24.0	26.0	22.0	24.5	27.5	23.0	25.5
18	30.0	23.0	26.5	31.0	24.0	27.5	24.5	21.5	22.5	25.5	18.5	23.0
19	29.5	25.0	27.0	31.5	25.5	28.5	27.0	20.0	23.0	23.0	19.5	21.0
20	28.0	21.5	25.5	31.0	23.0	27.0	29.0	22.0	25.5	27.0	20.5	23.5
21	27.0	21.5	23.0	27.5	23.5	25.5	30.0	23.0	26.5	26.0	22.0	24.0
22	26.5	21.0	22.0	31.0	24.5	28.0	29.5	24.0	27.0	25.0	21.5	23.5
23	28.5	22.5	25.0	33.0	26.0	29.5	29.0	23.0	26.5	23.0	18.5	21.0
24	31.0	22.5	25.5	32.5	27.0	30.0	29.0	23.5	26.5	22.5	18.0	20.5
25	---	---	---	33.0	27.0	30.0	29.5	23.5	26.5	22.0	18.0	20.0
26	---	---	---	33.5	27.0	30.5	25.0	21.0	22.5	23.0	18.0	20.5
27	---	---	---	31.5	26.0	28.5	24.5	19.5	21.5	23.5	18.5	21.0
28	---	---	---	33.0	26.0	29.5	27.0	17.5	23.0	22.0	18.5	20.5
29	---	---	---	33.0	25.5	29.5	28.0	20.0	24.0	22.5	18.0	20.0
30	---	---	---	33.0	26.0	29.5	26.0	21.0	23.5	22.0	16.5	19.0
31	---	---	---	30.0	22.0	26.5	23.5	22.0	22.5	---	---	---
MONTH	---	---	---	---	---	---	32.5	8.0	25.4	---	---	---

415

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

ARKANSAS RIVER BASIN

07241520 NORTH CANADIAN RIVER AT BRITTON ROAD AT OKLAHOMA CITY, OK--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	13.2	7.2	10.1	13.3	5.8	9.1
2	---	---	---	---	---	---	12.9	7.4	9.9	15.2	5.5	9.2
3	---	---	---	---	---	---	14.5	7.4	10.4	15.3	5.9	10.0
4	---	---	---	---	---	---	16.6	6.2	10.1	15.0	5.5	9.6
5	---	---	---	---	---	---	15.2	4.9	9.2	15.5	4.9	9.6
6	---	---	---	---	---	---	12.0	4.9	8.0	14.8	5.3	9.5
7	---	---	---	---	---	---	11.9	5.5	8.1	13.1	5.3	9.2
8	---	---	---	---	---	---	10.6	4.2	6.9	11.3	5.0	7.7
9	---	---	---	---	---	---	8.8	3.2	5.6	11.1	4.9	7.5
10	---	---	---	---	---	---	9.2	3.0	5.7	11.1	4.9	7.5
11	---	---	---	---	---	---	9.3	3.2	5.7	5.4	3.0	4.4
12	---	---	---	---	---	---	4.9	1.9	3.4	7.9	4.0	5.4
13	---	---	---	---	---	---	8.4	3.6	3.4	12.1	4.0	7.1
14	---	---	---	---	---	---	8.8	4.0	6.0	14.7	4.2	8.2
15	---	---	---	---	---	---	10.3	3.5	6.3	15.8	4.1	8.6
16	---	---	---	---	---	---	10.9	4.4	6.8	13.5	3.7	7.6
17	---	---	---	---	---	---	5.3	2.1	4.1	---	---	---
18	---	---	---	---	---	---	6.9	5.3	6.1	---	---	---
19	---	---	---	---	---	---	6.6	3.4	5.9	---	---	---
20	---	---	---	---	---	---	7.5	6.1	6.9	6.0	3.1	4.4
21	---	---	---	10.9	7.4	8.8	8.0	7.1	7.7	5.7	3.7	4.9
22	---	---	---	11.9	7.2	9.4	8.0	6.5	7.4	7.7	5.5	6.6
23	---	---	---	13.2	8.6	10.5	8.8	6.4	7.4	7.6	6.2	6.7
24	---	---	---	11.8	7.9	9.6	10.0	6.1	7.8	8.0	6.4	7.2
25	---	---	---	12.2	7.5	9.5	11.1	7.0	8.9	8.4	6.6	7.4
26	---	---	---	12.0	7.0	9.1	11.2	7.0	8.9	8.4	6.5	7.4
27	---	---	---	11.3	6.5	8.3	14.6	6.9	10.2	10.3	6.8	8.4
28	---	---	---	14.5	6.1	9.5	11.1	6.4	8.4	8.9	6.8	7.6
29	---	---	---	12.8	6.5	9.5	9.7	6.9	7.8	7.9	7.3	7.6
30	---	---	---	14.3	8.0	10.6	14.6	6.1	9.6	8.4	7.0	7.7
31	---	---	---	15.0	7.3	10.5	---	---	---	8.4	6.6	7.4
MONTH	---	---	---	---	---	---	16.6	1.9	7.4	---	---	---

417

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

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 National Geodetic Vertical Datum of 1929. June 19, 1981 to May 31, 1987, gage 0.8 mi downstream at same datum.

REMARKS.--Records good. 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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	237	833	236	591	393	266	248	264	573	891	384	164
2	232	446	272	640	386	256	209	237	821	743	473	180
3	229	328	329	723	367	263	187	227	1880	688	353	234
4	201	263	285	670	367	479	207	215	831	517	411	232
5	189	229	252	557	447	1260	195	212	417	357	2120	241
6	211	217	234	536	550	656	201	207	383	322	1590	1370
7	183	212	235	531	501	532	211	199	510	318	686	e1910
8	180	224	230	508	488	570	200	189	341	290	503	e990
9	180	228	215	520	473	395	227	181	1190	290	391	650
10	180	186	213	508	467	324	221	169	1030	265	366	495
11	176	179	218	451	507	474	216	285	777	273	340	641
12	173	184	1280	435	634	444	209	760	580	250	828	443
13	168	167	1130	441	613	289	332	288	563	245	413	338
14	163	164	512	836	508	293	209	270	655	607	439	295
15	166	223	594	599	505	326	135	239	1670	861	465	292
16	164	509	501	622	475	306	137	220	835	500	297	275
17	161	1780	447	591	449	291	321	221	663	1160	231	273
18	156	753	472	575	326	276	618	365	1120	515	253	259
19	157	437	497	566	329	254	1180	346	904	399	457	289
20	155	377	5800	551	373	271	1490	424	636	327	314	369
21	154	591	7700	550	352	246	1120	837	654	1430	220	263
22	155	422	5120	480	332	237	501	424	610	719	211	281
23	165	414	2500	497	371	251	398	319	490	402	183	280
24	162	512	1880	492	380	310	339	335	508	356	185	229
25	217	369	1410	392	671	316	319	267	2510	417	179	220
26	695	332	1090	377	403	248	308	315	1350	409	410	207
27	491	275	934	412	385	208	274	307	629	565	1000	212
28	1000	261	894	482	356	285	307	338	747	789	426	197
29	1100	242	818	414	308	263	527	1000	1300	312	222	193
30	445	227	619	386	---	256	338	468	1250	255	173	182
31	306	---	560	375	---	265	---	270	---	354	163	---
TOTAL	8551	11584	37477	16308	12716	11110	11384	10398	26427	15826	14686	12204
MEAN	276	386	1209	526	438	358	379	335	881	511	474	407
MAX	1100	1780	7700	836	671	1260	1490	1000	2510	1430	2120	1910
MIN	154	164	213	375	308	208	135	169	341	245	163	164
AC-FT	16960	22980	74340	32350	25220	22040	22580	20620	52420	31390	29130	24210

e Estimated

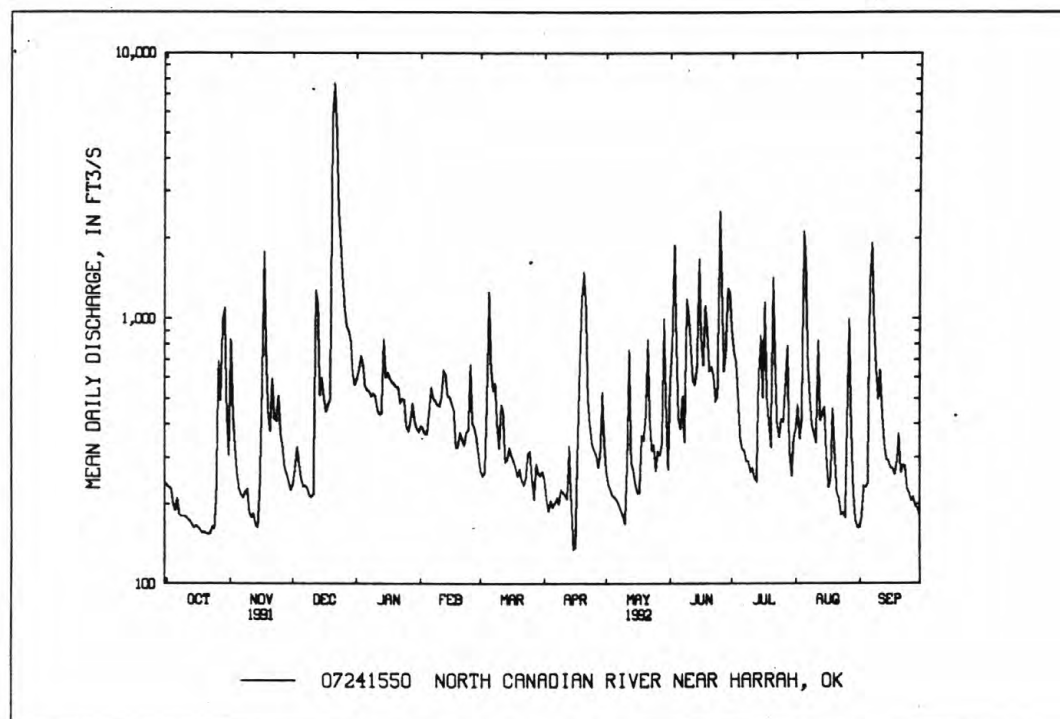
ARKANSAS RIVER BASIN
07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

419

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	437	349	264	262	319	523	475	822	814	329	220	306
MAX	3634	1627	1209	907	1293	2596	2312	2314	4041	1154	1228	1699
(WY)	1987	1975	1992	1988	1987	1990	1988	1982	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

SUMMARY STATISTICS	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1969-92
ANNUAL TOTAL	144865	188671	
ANNUAL MEAN	397	515	427
HIGHEST ANNUAL MEAN			1322 1987
LOWEST ANNUAL MEAN			93.0 1972
HIGHEST DAILY MEAN	7700 Dec 21	7700 Dec 21	20000 May 29 1987
LOWEST DAILY MEAN	101 Aug 16	135 Apr 15	28 Aug 8 1972
ANNUAL SEVEN-DAY MINIMUM	123 Jul 22	157 Oct 16	31 Jul 30 1972
INSTANTANEOUS PEAK FLOW		8620 Dec 20	27200 May 29 1987
INSTANTANEOUS PEAK STAGE		16.07 Dec 20	19.60 May 29 1987
ANNUAL RUNOFF (AC-FT)	287300	374200	309200
0 PERCENT EXCEEDS	745	897	969
50 PERCENT EXCEEDS	204	365	183
90 PERCENT EXCEEDS	145	188	67



07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969 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 malfunction 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. Biological samples analyzed by The University of Iowa Hygenic Laboratory.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily (observed), 4,700 microsiemens, Sept. 25, 1980; minimum recorded, 125 microsiemens, Apr. 21, 1990.

pH: Maximum, 9.4 units, May 3, 4, 5, 6, 7, 8, 15, July 7, 1992; minimum, 6.9 units, Apr. 27, 1990.

WATER TEMPERATURE: Maximum daily (observed), 36.0°C, July 11, 1982; minimum, 0.0°C on several days during winter periods.

DISSOLVED OXYGEN: Maximum, 20.1 mg/l, July 12, 1991; minimum, 1.0 mg/l, July 3, 1991.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	AGENCY COL- LECTING SAMPLE (CODE NUMBER). (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	GAGE HEIGHT (FEET) (00065)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)
JUL										
10...	1311	10.0	29.0	733	1028	1028	258	5.42	1170	16.8
10...	1316	20.0	29.0	733	1028	1028	258	5.42	1170	17.2
10...	1320	30.0	28.5	733	1028	1028	258	5.42	1170	16.8
10...	1325	140	28.5	733	1028	1028	258	5.42	1170	17.2
10...	1330	150	28.5	733	1028	1028	258	5.42	1170	17.2
10...	1335	160	28.5	733	1028	1028	258	5.42	1170	17.3
10...	1340	170	28.5	733	1028	1028	258	5.42	1170	17.4
10...	1342	180	28.5	733	1028	1028	258	5.42	1170	17.4
10...	1345	190	28.5	733	1028	1028	258	5.42	1170	17.1

ARKANSAS RIVER BASIN

421

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
OCT												
08...	1130	1028	80020	190	1290	8.4	22.5	17.0	6.2	--	8.1	--
NOV												
13...	1100	1028	80020	191	1170	8.1	17.0	12.5	10	--	8.4	--
DEC												
11...	1020	1028	80020	221	1240	8.0	14.0	13.0	21	--	7.4	--
17...	0850	1028	80020	490	1150	7.8	7.0	8.0	--	--	9.6	--
JAN												
29...	0957	1028	80020	441	1250	8.1	6.5	9.0	23	--	8.9	--
FEB												
05...	1210	1028	80020	441	1420	8.3	8.0	9.5	--	--	10.6	--
MAR												
17...	1130	1028	80020	307	1280	8.4	22.5	17.0	17	729	--	--
APR												
21...	1130	1028	80020	1160	404	8.0	13.0	13.5	180	730	8.1	81
MAY												
19...	1115	1028	80020	312	950	8.0	20.0	21.5	66	736	7.0	83
JUN												
23...	1200	1028	80020	453	1010	8.4	27.5	25.0	40	729	8.7	110
JUL												
22...	1130	1028	80020	762	449	7.9	28.0	26.0	300	732	5.7	73
AUG												
25...	1215	1028	80020	183	1190	8.7	29.5	26.0	12	736	15.3	197
SEP												
09...	1115	1028	80020	537	821	8.1	28.0	25.0	35	730	6.8	86

DATE	NITRO- GEN DIS- SOLVED (MG/L AS N) (00602)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L) (00310)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML) (31625)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML) (31673)	HARD- NESS TOTAL AS CACO3 (MG/L) (00900)	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)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
OCT											
08...	6.4	1.1	--	130	260	70	64	25	120	--	3
NOV											
13...	4.3	0.5	450	72	300	64	76	26	120	46	3
DEC											
11...	4.0	<1.0	K960	170	--	--	--	--	--	--	--
17...	--	--	--	--	260	95	63	24	100	--	3
JAN											
29...	2.7	3.3	K1400	220	--	--	--	--	--	--	--
FEB											
05...	2.8	--	K800	80	400	110	98	37	140	43	3
MAR											
17...	3.7	1.4	230	84	--	--	--	--	--	--	--
APR											
21...	1.5	2.7	>6000	>10000	--	--	--	--	--	--	--
MAY											
19...	2.5	1.4	1800	--	260	51	64	25	98	44	3
JUN											
23...	3.0	1.1	1400	230	300	89	77	27	95	--	2
JUL											
22...	1.6	1.4	>6000	6300	--	--	--	--	--	--	--
AUG											
25...	3.1	4.1	120	210	320	65	78	29	120	45	3
SEP											
09...	2.4	0.5	K1400	460	--	--	--	--	--	--	--

ARKANSAS RIVER BASIN

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued
WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDE (MG/L) (00530)
OCT												
08...	228	4	194	--	--	--	11	770	--	--	--	6
NOV												
13...	275	5	233	130	160	0.80	14	676	693	0.92	349	1
DEC												
11...	299	0	245	--	--	--	--	820	--	--	--	58
17...	198	0	162	--	--	--	8.6	--	--	--	--	--
JAN												
29...	289	6	247	--	--	--	--	691	--	--	--	41
FEB												
05...	355	0	291	180	170	0.70	12	860	834	1.17	1020	21
MAR												
17...	293	7	252	--	--	--	--	824	--	--	--	36
APR												
21...	115	0	94	--	--	--	--	236	--	--	--	568
MAY												
19...	259	0	212	110	120	0.60	7.6	557	571	0.76	469	167
JUN												
23...	242	10	214	--	--	--	11	620	--	--	--	115
JUL												
22...	137	0	112	--	--	--	--	250	--	--	--	676
AUG												
25...	234	35	249	120	170	0.80	9.7	--	701	0.95	346	30
SEP												
09...	237	0	194	--	--	--	--	--	--	--	--	89
DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N) (00607)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	
OCT												
08...	5.59	25	0.110	0.36	5.70	0.020	0.03	0.68	0.70	1.90	1.80	
NOV												
13...	2.45	11	0.150	0.49	2.60	0.970	1.2	0.73	1.7	1.30	1.20	
DEC												
11...	2.58	11	0.120	0.39	2.70	0.450	0.58	0.85	1.3	1.30	1.20	
17...	--	--	--	--	--	--	--	--	--	--	--	
JAN												
29...	2.03	9.0	0.070	0.23	2.10	0.190	0.24	0.41	0.60	0.880	0.890	
FEB												
05...	2.25	10	0.050	0.16	2.30	0.050	0.06	0.45	0.50	1.10	1.10	
MAR												
17...	3.08	14	0.020	0.07	3.10	<0.010	--	--	0.60	1.20	0.940	
APR												
21...	0.740	3.3	0.040	0.13	0.780	0.190	0.24	0.51	0.70	0.270	0.220	
MAY												
19...	1.97	8.7	0.030	0.10	2.00	0.030	0.04	0.47	0.50	0.900	0.860	
JUN												
23...	1.87	8.3	0.030	0.10	1.90	0.050	0.06	1.0	1.1	0.860	0.750	
JUL												
22...	0.970	4.3	0.030	0.10	1.00	0.090	0.12	0.51	0.60	0.460	0.380	
AUG												
25...	2.26	10	0.040	0.13	2.30	0.020	0.03	0.78	0.80	1.50	1.30	
SEP												
09...	1.78	7.9	0.020	0.07	1.80	0.030	0.04	0.57	0.60	0.770	0.790	

423

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

ARKANSAS RIVER BASIN

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible][illegible]

425

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible][illegible]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

427

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

429

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

ARKANSAS RIVER BASIN

431

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN	MAX	MIN	MEDIAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	---	---	---	8.5	8.1	8.3	9.3	8.5	8.8
2	---	---	---	---	---	---	---	---	---	9.2	8.8	9.0
3	---	---	---	---	---	---	---	---	---	9.4	8.8	9.0
4	---	---	---	---	---	---	---	---	---	9.4	8.9	9.2
5	---	---	---	---	---	---	---	---	---	9.4	8.9	9.2
6	8.3	8.1	8.2	---	---	---	---	---	---	9.4	9.0	9.2
7	8.2	8.1	8.2	---	---	---	---	---	---	9.4	8.9	9.1
8	8.2	8.1	8.1	---	---	---	---	---	---	9.4	8.9	9.1
9	8.1	7.6	8.0	---	---	---	---	---	---	9.2	8.7	9.0
10	7.9	7.5	7.6	---	---	---	---	---	---	9.2	8.7	8.9
11	7.8	7.5	7.5	---	---	---	---	---	---	9.0	8.4	8.7
12	8.0	7.9	7.9	---	---	---	---	---	---	8.2	7.7	8.1
13	---	---	---	---	---	---	---	---	---	9.0	8.0	8.2
14	---	---	---	8.4	8.0	8.3	---	---	---	9.2	8.6	8.8
15	---	---	---	8.4	8.2	8.2	---	---	---	9.4	8.8	9.0
16	---	---	---	8.3	8.1	8.2	---	---	---	9.3	8.8	9.1
17	---	---	---	---	---	---	---	---	---	9.1	8.5	8.9
18	---	---	---	---	---	---	---	---	---	8.6	8.3	8.3
19	---	---	---	---	---	---	---	---	---	8.3	8.1	8.3
20	---	---	---	---	---	---	---	---	---	8.2	8.0	8.1
21	---	---	---	8.1	8.0	8.0	---	---	---	8.1	7.8	7.8
22	---	---	---	8.1	7.9	8.0	---	---	---	7.9	7.9	7.9
23	---	---	---	8.1	7.9	8.0	---	---	---	7.9	7.8	7.9
24	---	---	---	8.2	8.0	8.1	---	---	---	7.8	7.7	7.8
25	---	---	---	---	---	---	8.7	8.3	8.5	7.7	7.6	7.7
26	---	---	---	---	---	---	8.9	8.4	8.6	7.9	7.7	7.8
27	---	---	---	---	---	---	9.0	8.5	8.7	8.2	7.9	8.0
28	---	---	---	---	---	---	8.9	8.6	8.7	8.3	8.0	8.1
29	---	---	---	---	---	---	8.6	8.1	8.4	8.1	7.7	7.8
30	---	---	---	---	---	---	8.8	8.1	8.3	8.1	7.9	8.0
31	---	---	---	---	---	---	---	---	---	8.2	8.0	8.1
MAX	---	---	---	---	---	---	---	---	---	9.4	9.0	9.2
MIN	---	---	---	---	---	---	---	---	---	7.7	7.6	7.7

[illegible]

433

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

ARKANSAS RIVER BASIN

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	---	---	---	15.0	13.0	14.0	16.5	12.5	14.5	24.5	19.0	21.5
2	---	---	---	16.0	14.0	15.0	14.5	12.0	13.5	22.5	20.0	21.0
3	---	---	---	16.5	15.5	16.0	17.0	11.0	14.0	23.5	18.5	21.0
4	---	---	---	---	---	---	20.0	14.0	17.0	24.5	19.0	22.0
5	---	---	---	---	---	---	19.5	16.0	18.0	24.0	20.5	22.0
6	10.0	7.5	8.5	---	---	---	18.0	16.0	17.0	22.5	18.0	20.5
7	10.5	8.0	9.0	---	---	---	19.0	14.5	16.5	22.5	17.5	20.0
8	9.5	7.5	8.5	---	---	---	21.5	16.5	19.0	23.5	18.0	20.5
9	9.0	7.0	8.5	---	---	---	22.5	19.0	20.5	23.0	19.0	21.0
10	10.0	8.0	9.0	---	---	---	23.0	18.5	20.5	23.0	19.5	21.0
11	10.5	9.5	10.0	---	---	---	22.0	19.0	20.5	22.0	19.0	20.5
12	10.5	9.5	10.0	---	---	---	20.5	16.0	18.0	24.0	19.0	21.5
13	9.5	9.0	9.5	---	---	---	20.0	15.5	17.5	26.5	22.0	24.0
14	12.5	9.0	10.5	---	---	---	23.5	18.5	20.5	26.5	22.5	24.5
15	13.0	11.0	12.0	---	---	---	21.5	19.0	20.0	27.0	22.5	25.0
16	12.5	11.0	11.5	---	---	---	22.5	18.5	20.0	25.0	22.5	24.0
17	12.5	11.0	11.5	---	---	---	20.5	19.0	19.5	22.5	21.0	21.5
18	12.0	11.0	11.5	---	---	---	20.0	19.0	19.5	21.0	20.5	20.5
19	12.5	10.5	11.5	---	---	---	19.0	16.0	17.0	23.0	21.0	21.5
20	12.5	11.0	12.0	---	---	---	16.0	14.5	15.5	23.5	21.5	22.0
21	13.5	11.5	12.5	17.0	13.0	15.0	16.5	13.5	15.0	23.5	21.0	22.5
22	13.5	13.0	13.0	15.5	12.0	13.5	20.5	15.5	17.5	23.5	21.5	22.5
23	14.5	13.0	13.5	15.0	10.5	13.0	22.5	17.5	20.0	22.5	21.0	21.5
24	14.0	12.5	13.5	15.5	12.5	14.0	22.5	18.0	21.0	22.0	19.5	20.5
25	12.0	10.0	10.5	16.5	13.0	14.5	21.0	18.0	19.5	21.5	19.0	20.5
26	11.0	9.0	10.0	18.0	13.5	15.5	21.0	17.0	19.0	22.5	18.5	20.5
27	12.5	10.5	11.5	16.5	14.0	15.0	21.5	17.0	19.0	20.5	18.5	19.5
28	14.0	12.0	13.0	15.5	14.0	15.0	20.0	16.0	17.5	18.5	15.5	16.5
29	14.5	13.0	14.0	15.5	13.5	15.0	18.5	15.5	17.0	17.0	14.5	16.0
30	---	---	---	16.5	12.5	14.5	23.0	17.5	20.0	20.5	16.5	18.0
31	---	---	---	15.5	13.0	14.5	---	---	---	20.0	19.0	19.5
MONTH	---	---	---	---	---	---	23.5	11.0	18.1	27.0	14.5	21.1

ARKANSAS RIVER BASIN

435

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

WATER TEMPERATURE, DEGREES CELSIUS, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	19.0	18.0	18.5	---	---	---	27.0	25.0	26.0	25.0	20.5	23.0
2	20.0	18.5	19.0	---	---	---	28.0	24.0	26.0	26.0	20.5	23.0
3	21.0	19.0	20.0	---	---	---	29.5	25.5	27.5	28.0	22.5	25.0
4	24.0	20.0	22.0	---	---	---	27.5	25.0	26.0	28.0	24.0	26.0
5	24.0	22.0	23.0	---	---	---	26.5	23.5	24.5	28.0	23.5	25.5
6	25.0	21.5	23.0	---	---	---	26.0	24.0	24.5	24.5	21.0	22.0
7	24.0	22.0	23.0	---	---	---	28.0	24.5	26.0	25.0	21.0	23.0
8	25.0	22.0	23.5	---	---	---	29.0	25.5	27.5	27.0	24.5	25.5
9	24.0	22.0	23.0	30.5	26.0	28.0	29.5	26.0	28.0	28.0	24.5	26.5
10	24.0	23.0	23.5	31.0	26.0	28.0	30.5	26.5	28.5	27.0	22.5	24.0
11	26.0	23.5	24.5	28.5	26.0	27.0	29.5	26.5	27.5	24.0	21.0	22.5
12	25.5	23.5	24.5	29.5	24.5	27.0	27.0	24.5	26.0	25.5	22.0	23.5
13	27.0	23.5	25.5	28.5	25.0	27.0	27.5	24.0	25.5	26.5	22.5	24.5
14	26.5	23.5	25.0	28.5	24.5	26.0	27.0	23.5	25.5	27.5	23.5	25.5
15	24.0	22.5	23.0	27.5	25.0	26.0	27.0	23.5	25.0	27.5	24.0	25.5
16	28.5	23.5	26.0	27.5	24.5	26.0	27.0	23.0	25.0	27.5	24.0	25.5
17	30.0	26.0	28.0	26.5	23.0	24.5	25.5	22.5	24.5	27.5	23.5	25.5
18	29.0	26.0	27.5	29.0	24.5	26.5	24.0	22.5	23.0	25.5	23.5	24.5
19	28.5	27.0	28.0	30.0	26.0	28.0	25.5	21.0	23.0	23.0	21.0	22.0
20	29.0	26.0	27.5	30.5	26.5	28.0	27.5	23.0	25.0	26.0	21.5	23.5
21	28.0	25.0	26.0	27.0	24.0	25.5	29.0	23.5	26.0	26.0	23.5	24.5
22	26.0	23.0	24.5	29.0	25.0	27.0	29.0	24.5	26.5	25.5	22.5	24.0
23	29.0	24.5	26.5	31.0	26.0	28.5	28.5	24.0	26.5	24.0	20.5	22.0
24	31.0	26.5	28.5	31.5	27.0	29.0	29.0	24.0	26.5	23.5	19.0	21.0
25	28.5	23.0	24.5	31.5	27.0	29.0	29.5	24.5	26.5	23.5	19.0	21.0
26	27.0	23.5	25.0	31.5	27.5	29.5	26.5	22.5	24.0	23.5	20.5	22.0
27	27.0	25.0	26.0	31.0	28.0	29.5	23.5	21.0	22.5	24.0	19.5	21.5
28	27.0	24.5	25.5	30.5	26.5	28.5	25.5	21.0	23.0	24.0	19.5	21.5
29	25.5	23.5	24.5	31.5	26.0	29.0	26.0	21.0	23.5	23.0	19.0	21.0
30	---	---	---	32.0	26.0	28.5	27.0	20.0	23.0	23.0	18.5	20.5
31	---	---	---	30.0	23.0	27.0	23.5	21.0	22.0	---	---	---
MONTH	---	---	---	---	---	---	30.5	20.0	25.3	28.0	18.5	23.5

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

437

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

[illegible]

ARKANSAS RIVER BASIN

439

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

PHYTOPLANKTON ANALYSES, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	OCT 8, 91	NOV 13, 91	DEC 11, 91	JAN 29, 92	FEB 5, 92
TIME	1130	1100	1020	0945	1210
TOTAL CELLS/ML	16000	4800	8400	4200	6200
	CELLS PER- /ML CENT	CELLS PER- /ML CENT	CELLS PER- /ML CENT	CELLS PER- /ML CENT	CELLS PER- /ML CENT
CHLOROPHYTA (GREEN ALGAE)					
.CHLOROPHYCEAE					
..CHLOROCOCCALES					
...HYDRODICTYACEAE					
....PEDIASTRUM	400 3	--	--	--	--
...OOCYSTACEAE					
....ANKISTRODESMUS	7000 44	600 13	2200 26	800 19	2000 32
....CHLORELLA	--	--	--	--	600 10
...SCENEDESMACEAE					
....SCENEDESMUS	2000 13	400 8	200 2	--	200 3
..VOLVOCALES					
...CHLAMYDOMONADACEAE					
....CHLAMYDOMONAS	400 3	--	--	200 5	1800 29
..ZYGNEATALES					
...DESMIDIACEAE					
....CLOSTERIUM	--	200 4	--	--	--
....STAURASTRUM	200 1	--	--	--	--
CHRYSTOPHYTA (YELLOW-GREEN ALGAE)					
.BACILLARIOPHYCEAE					
..PENNALES					
...FRAGILARIACEAE					
....SYNEDRA	--	--	600 7	--	--
...NAVICULACEAE					
....NAVICULA	2000 13	--	800 10	400 10	--
CYANOPHYTA (BLUE-GREEN ALGAE)					
.CYANOPHYCEAE					
..CHROOCOCCALES					
...CHROOCOCCACEAE					
....ANACYSTIS	2600 16	3200 67	4600 55	2600 62	1600 26
..OSCILLATORIALES					
...OSCILLATORIACEAE					
....OSCILLATORIA	800 5	400 8	--	--	--
EUGLENOPHYTA (EUGLENOIDS)					
.EUGLENOPHYCEAE					
..EUGLENALES					
...EUGLENACEAE					
....EUGLENA	800 5	--	--	200 5	--

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

PHYTOPLANKTON ANALYSES, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	MAR 17, 92		APR 21, 92		MAY 19, 92		JUN 23, 92		JUL 22, 92	
TIME	1130		1130		1115		1200		1130	
TOTAL CELLS/ML	20000		8800		70000		48000		20000	
	CELLS PER- /ML CENT		CELLS PER- /ML CENT		CELLS PER- /ML CENT		CELLS PER- /ML CENT		CELLS PER- /ML CENT	
CHLOROPHYTA (GREEN ALGAE)	7									
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...OOCYSTACEAE										
....ANKISTRODESMUS	13000	65	1800	20	12000	17	2700	6	1900	10
....CHLORELLA	--		--		8500	12	1900	4	--	
...SCENEDESMACEAE										
....SCENEDESMUS	800	4	--		5400	8	10000	21	--	
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	600	3	--		3500	5	7700	16	--	
..ZYGNEMATALES										
...DESMIDIACEAE										
....CLOSTERIUM	--		--		--		3100	6	--	
....STAURASTRUM	--		--		--		390	<1	--	
CHRYSOPHYTA (YELLOW-GREEN ALGAE)										
.BACILLARIOPHYCEAE										
..PENNALES										
...NAVICULACEAE										
....NAVICULA	800	4	2400	27	18000	26	3900	8	1900	10
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROOCOCCALES										
...CHROOCOCCACEAE										
....ANACYSTIS	4600	23	4000	45	16000	23	14000	29	15000	75
..OSCILLATORIALES										
...NOSTOCACEAE										
....ANABAENA	--		600	7	2700	4	--		--	
...OSCILLATORIACEAE										
....OSCILLATORIA	--		--		3100	4	3800	8	--	
EUGLENOPHYTA (EUGLENOIDS)										
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....EUGLENA	--		--		390	<1	770	2	770	4

ARKANSAS RIVER BASIN

441

07241550 NORTH CANADIAN RIVER NEAR HARRAH, OK--Continued

PHYTOPLANKTON ANALYSES, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	AUG 25, 92	SEP 9, 92		
TIME	1215	1115		
TOTAL CELLS/ML	59000	35000		
	CELLS PER- /ML	CENT	CELLS PER- /ML	CENT
CHLOROPHYTA (GREEN ALGAE)				
.CHLOROPHYCEAE				
..CHLOROCOCCALES				
...OOCYSTACEAE				
....ANKISTRODESMUS	19000	32	8900	25
....CHLORELLA	5400	9	1900	5
....OOCYSTIS	770	1	--	
...SCENEDESMACEAE				
....SCENEDESMUS	20000	34	7700	22
..VOLVOCALES				
...CHLAMYDOMONADACEAE				
....CHLAMYDOMONAS	6900	12	1200	3
...VOLVOCACEAE				
....PANDORINA	390	<1	--	
CHRYSTOPHYTA (YELLOW-GREEN ALGAE)				
.BACILLARIOPHYCEAE				
..PENNALES				
...FRAGILARIACEAE				
....ASTERIONELLA	--		390	1
...NAVICULACEAE				
....NAVICULA	3100	5	2700	8
...NITZSCHIACEAE				
....NITZSCHIA	770	1	--	
CYANOPHYTA (BLUE-GREEN ALGAE)				
.CYANOPHYCEAE				
..CHROOCOCCALES				
...CHROOCOCCACEAE				
....ANACYSTIS	1200	2	12000	34
..OSCILLATORIALES				
...OSCILLATORIACEAE				
....OSCILLATORIA	770	1	--	
EUGLENOPHYTA (EUGLENOIDS)				
.EUGLENOPHYCEAE				
..EUGLENALES				
...EUGLENACEAE				
....EUGLENA	390	<1	--	

ARKANSAS RIVER BASIN

07241750 TECUMSEH CREEK AT TECUMSEH, OK

LOCATION.--Lat 35°35'12", long 96°58'14", in SW 1/4 sec.3, T.9 N., R.3 E., Pottowatimie County, Hydrologic Unit 11100302, on left edge of water .9 mi upstream from Tecumseh Lake, 2 mi west of Hwy 177.

DRAINAGE AREA.--2.38 mi².

PERIOD OF RECORD.--July 1991 to September 1992 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 1,050 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor.

EXTREMES FOR CURRENT PERIODS.--Period July 16 to Sept. 30, 1991: Maximum discharge, 372 ft³/s, Sept. 16, gage height, 2.50 ft (HWM); no flow July 16 to Sept. 2. Water year 1992: Maximum discharge, 979 ft³/s, June 15, gage height, 2.67 ft; no flow Oct. 1-24

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	.00	.00
2	---	---	---	---	---	---	---	---	---	---	.00	.00
3	---	---	---	---	---	---	---	---	---	---	.00	.05
4	---	---	---	---	---	---	---	---	---	---	.00	e.05
5	---	---	---	---	---	---	---	---	---	---	.00	e.04
6	---	---	---	---	---	---	---	---	---	---	.00	e.04
7	---	---	---	---	---	---	---	---	---	---	.00	e1.0
8	---	---	---	---	---	---	---	---	---	---	.00	e4.1
9	---	---	---	---	---	---	---	---	---	---	.00	e.60
10	---	---	---	---	---	---	---	---	---	---	.00	e.40
11	---	---	---	---	---	---	---	---	---	---	.00	e.24
12	---	---	---	---	---	---	---	---	---	---	.00	e.18
13	---	---	---	---	---	---	---	---	---	---	.00	e.14
14	---	---	---	---	---	---	---	---	---	---	.00	e.12
15	---	---	---	---	---	---	---	---	---	---	.00	e.10
16	---	---	---	---	---	---	---	---	---	---	.00	64
17	---	---	---	---	---	---	---	---	---	.00	.00	e3.4
18	---	---	---	---	---	---	---	---	---	.00	.00	e2.4
19	---	---	---	---	---	---	---	---	---	.00	.00	e1.5
20	---	---	---	---	---	---	---	---	---	.00	.00	e.98
21	---	---	---	---	---	---	---	---	---	.00	.00	e.60
22	---	---	---	---	---	---	---	---	---	.00	.00	e.40
23	---	---	---	---	---	---	---	---	---	.00	.00	e.28
24	---	---	---	---	---	---	---	---	---	.00	.00	e.20
25	---	---	---	---	---	---	---	---	---	.00	.00	e.15
26	---	---	---	---	---	---	---	---	---	.00	.00	e.11
27	---	---	---	---	---	---	---	---	---	.00	.00	e.09
28	---	---	---	---	---	---	---	---	---	.00	.00	e.07
29	---	---	---	---	---	---	---	---	---	.00	.00	e.06
30	---	---	---	---	---	---	---	---	---	.00	.00	e.05
31	---	---	---	---	---	---	---	---	---	.00	.00	---
TOTAL	---	---	---	---	---	---	---	---	---	---	0.00	81.35
MEAN	---	---	---	---	---	---	---	---	---	---	.000	2.71
MAX	---	---	---	---	---	---	---	---	---	---	.00	64
MIN	---	---	---	---	---	---	---	---	---	---	.00	.00
AC-FT	---	---	---	---	---	---	---	---	---	---	.00	161

e Estimated

ARKANSAS RIVER BASIN

443

07241750 TECUMSEH CREEK AT TECUMSEH, OK--Continued

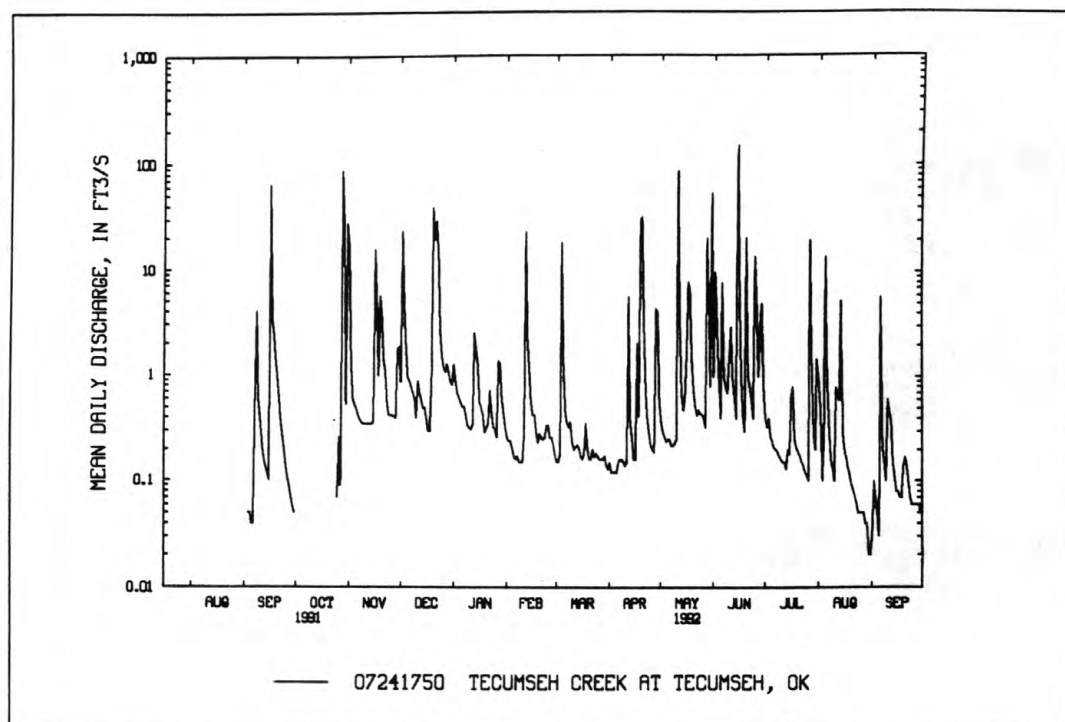
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

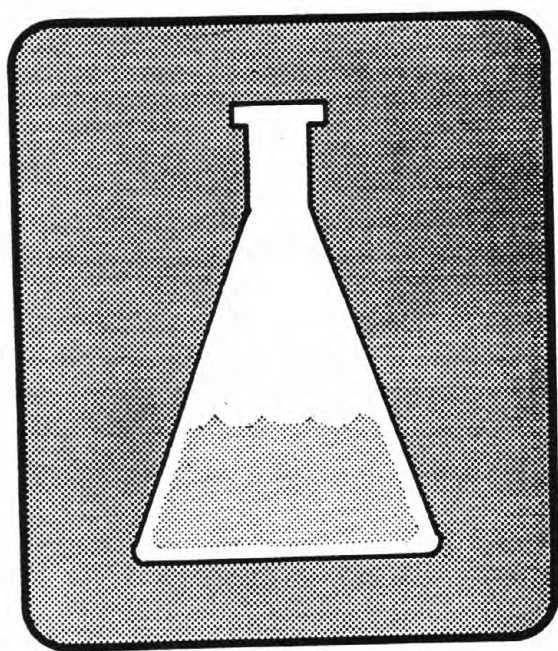
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	17	.88	1.3	.26	.15	.15	.38	e1.0	e.40	e1.0	.03
2	e.00	1.3	24	.89	.24	.15	.12	.30	e10	.33	e.50	.10
3	e.00	.60	e5.0	.69	.24	.18	.12	.27	e3.0	.40	e.10	.07
4	e.00	.53	e2.0	.62	.21	19	.12	.24	e.90	.27	.26	.05
5	e.00	.49	e1.0	.56	.17	1.3	.12	.25	e.40	.24	14	.03
6	e.00	.42	e.90	.51	.16	.48	.15	.25	e8.0	e.21	.97	5.8
7	.00	.39	e.80	.51	.17	.36	.16	.22	e1.0	e.20	.34	.21
8	.00	.36	e.70	.43	.15	.33	.16	.22	e.80	e.19	e.16	.15
9	.00	.35	.62	.34	.15	.37	.15	.23	e.70	e.17	e.13	.10
10	.00	.35	.40	.32	.15	.24	.14	.25	e1.5	e.16	e.10	.61
11	.00	.35	.90	.31	.27	.20	.15	89	e3.0	e.15	e.80	.45
12	.00	.35	e.70	.35	24	.21	5.8	3.4	e1.0	e.15	e.70	.39
13	.00	.35	e.60	2.6	2.3	.22	.39	.70	e.60	e.13	e.60	.15
14	.00	.35	e.50	1.8	1.2	.21	.26	.48	e.40	e.20	5.3	.11
15	.00	.37	e.50	1.3	.57	.17	.16	.64	e150	e.18	.28	.08
16	.00	16	e.40	.56	.43	.16	.16	1.7	e10	.67	e.19	.08
17	.00	e5.0	e.30	.50	.43	.18	2.1	8.1	e1.0	.81	e.16	.07
18	.00	e1.0	e.30	.42	.29	.36	.42	6.8	e.40	.25	e.13	.07
19	.00	5.8	e1.0	.29	.23	.21	31	1.5	e.30	e.21	e.11	.14
20	.00	3.6	40	.32	.28	.16	33	.78	e21	e.19	e.09	.17
21	.00	1.4	20	.35	.26	.16	3.2	.53	e1.0	e.17	.08	.14
22	.00	1.1	30	.73	.25	.20	.73	.43	e.80	e.15	.07	.10
23	.00	.54	15	.47	.26	.17	.40	.48	e.60	e.14	.06	.07
24	.00	.43	2.8	.33	.34	.18	.29	.45	e.40	e.12	.05	.06
25	.07	.42	1.6	.31	.34	.17	.22	.44	e14	e.11	.05	.06
26	.26	.42	1.2	.26	.26	.16	.20	.41	e5.0	e.10	.05	.06
27	.09	.41	1.1	1.4	.26	.16	.19	.33	e1.0	20	.05	.06
28	88	.40	1.3	1.3	.22	.16	4.4	21	e3.0	1.6	.04	.06
29	30	1.8	1.1	.61	.17	.17	4.2	5.5	e5.0	.28	.04	.05
30	.54	1.9	.87	.45	---	.14	.58	.81	e.80	e.20	.02	.05
31	28	---	.83	.33	---	.13	---	55	---	e1.5	.02	---
TOTAL	146.96	63.78	157.30	21.16	34.26	26.44	89.24	201.09	246.60	29.88	26.45	9.57
MEAN	4.74	2.13	5.07	.68	1.18	.85	2.97	6.49	8.22	.96	.85	.32
MAX	88	17	40	2.6	24	19	33	89	150	20	14	5.8
MIN	.00	.35	.30	.26	.15	.13	.12	.22	.30	.10	.02	.03
AC-FT	291	127	312	42	68	52	177	399	489	59	52	19

WTR YR 1992 TOTAL 1052.73 MEAN 2.88 MAX 150 MIN .00 AC-FT 2090

e Estimated

ARKANSAS RIVER BASIN
07241750 TECUMSEH CREEK AT TECUMSEH, OK--Continued





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.

WATER-DISCHARGE RECORDS

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 National Geodetic Vertical Datum of 1929. Prior to Jan. 19, 1939, nonrecording gage at site 500 ft upstream and at same datum. Jan. 20, 1939, to Feb. 23, 1985, gage 500 ft upstream at same datum. Prior to Aug. 8, 1991, at datum 5.00 ft higher.

REMARKS.--Records fair. 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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	463	3420	e772	1510	851	e700	513	e1730	1560	2390	2180	511
2	e430	2390	e1210	1370	785	613	481	e1320	2970	1880	1110	1450
3	e400	1740	1380	1240	761	e673	473	e1080	5840	1840	768	2090
4	e380	1630	1490	1160	741	1310	479	e873	e3350	1470	761	869
5	e350	1330	1110	1150	721	3240	468	e684	e2670	1290	8950	585
6	e335	1080	829	1160	700	e1790	449	e575	7660	1180	5680	2390
7	e310	952	713	1130	693	e1430	439	553	5120	1020	5180	2530
8	305	876	630	1040	696	e1520	437	533	2350	861	3020	3020
9	302	e855	575	976	779	e1790	436	512	1720	747	1870	2320
10	296	e825	520	932	807	e1180	428	475	1590	682	1380	1680
11	290	e766	490	898	e1000	e1150	423	2450	2140	633	1140	2420
12	275	e707	2460	879	e1700	939	539	7140	2550	586	941	1790
13	266	e651	3120	914	e2900	e898	600	3260	2080	554	797	1370
14	252	e673	e1740	1060	e1900	e880	892	1830	1600	533	710	1110
15	238	e690	e1490	1150	e1500	e867	714	1420	5600	518	819	887
16	227	1340	1220	1080	e1300	e849	556	1010	3550	537	852	715
17	217	3740	1160	1130	e1200	684	550	827	2770	780	756	607
18	208	e2910	1010	1090	e1100	e657	788	843	1950	1160	673	537
19	205	e2750	960	990	e900	e613	880	1420	1550	1210	621	4660
20	200	e2370	8400	977	e880	e607	2590	3110	6840	1280	545	3870
21	199	e1880	12800	944	e845	e596	2760	1620	5870	1380	500	2110
22	200	e1300	8870	1030	e820	e591	2680	1370	2760	829	497	1440
23	202	e1110	e7870	1060	e790	e971	2030	1050	1820	646	579	1230
24	335	e1070	e6540	988	e780	e607	1400	1110	1510	1230	487	1020
25	453	e984	4620	923	e740	546	1010	997	2960	1000	423	899
26	2170	e873	3040	854	e760	526	815	802	5210	713	396	859
27	861	e837	e2300	874	e840	536	689	718	3980	1190	369	808
28	1830	e778	e2100	959	e910	552	785	794	2880	1270	349	745
29	4440	e731	e1880	939	e760	538	e3980	1890	3440	1040	342	710
30	e2660	e702	1750	949	---	497	e2860	2100	2970	1210	673	672
31	2420	---	1620	911	---	474	---	1510	---	4230	755	---
TOTAL	21719	41960	84669	32267	29159	28824	32144	45606	98860	35889	44123	45904
MEAN	701	1399	2731	1041	1005	930	1071	1471	3295	1158	1423	1530
MAX	4440	3740	12800	1510	2900	3240	3980	7140	7660	4230	8950	4660
MIN	199	651	490	854	693	474	423	475	1510	518	342	511
AC-FT	43080	83230	167900	64000	57840	57170	63760	90460	196100	71190	87520	91050

e Estimated

ARKANSAS RIVER BASIN
07242000 NORTH CANADIAN RIVER NEAR WETUMKA, OK--Continued

447

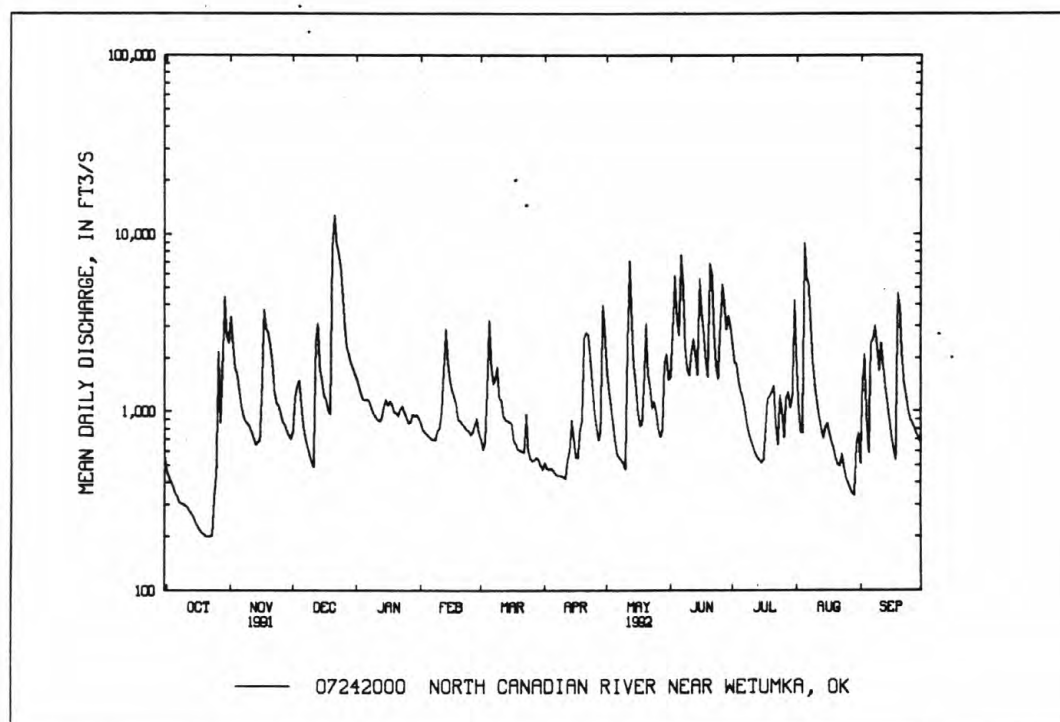
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	708	572	417	387	531	788	1083	1626	1542	658	355	464
MAX	4914	4580	2731	2075	3037	5684	6643	6301	6081	3230	2667	3894
(WY)	1987	1942	1992	1985	1985	1990	1945	1957	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	.000
(WY)	1957	1955	1955	1940	1957	1940	1955	1940	1953	1954	1956	1954

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1938-92

ANNUAL TOTAL	348456	541124	
ANNUAL MEAN	955	1478	761
HIGHEST ANNUAL MEAN			2082 1987
LOWEST ANNUAL MEAN			156 1956
HIGHEST DAILY MEAN	12800 Dec 21	12800 Dec 21	55800 Apr 15 1945
LOWEST DAILY MEAN	171 Aug 21	199 Oct 21	.00 ^a Aug 27 1954
ANNUAL SEVEN-DAY MINIMUM	197 Aug 3	204 Oct 17	.00 Aug 27 1954
INSTANTANEOUS PEAK FLOW		16600 Aug 5	66000 Apr 15 1945
INSTANTANEOUS PEAK STAGE		17.22 Aug 5	26.40 Apr 15 1945
ANNUAL RUNOFF (AC-FT)	691200	1073000	551200
10 PERCENT EXCEEDS	2090	2970	1740
50 PERCENT EXCEEDS	466	955a	266
90 PERCENT EXCEEDS	234	466	66

^aNo flow Aug. 27 to Oct. 11, 1954, Aug. 25 to Oct. 22, 1956.



ARKANSAS RIVER BASIN

07242000 NORTH CANADIAN RIVER NEAR WETUMKA, OK--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952, 1954 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1953 to May 1989.

WATER TEMPERATURE: October 1953 to May 1989.

REMARKS.--Samples were collected bimonthly. Specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAMPLE LOC- TION, CROSS SECTION (FT FM L BANK) (00009)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	GAGE HEIGHT (FEET) (00065)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
JUL											
14...	1032	5.00	27.0	740	1028	1028	537	6.13	1000	7.5	8.5
14...	1038	20.0	26.5	740	1028	1028	537	6.13	1000	7.5	8.5
14...	1044	35.0	26.5	740	1028	1028	537	6.13	1000	7.5	8.5
14...	1050	50.0	26.5	740	1028	1028	537	6.13	1000	7.5	8.5
14...	1056	65.0	26.5	740	1028	1028	537	6.13	1000	7.4	8.5
14...	1102	70.0	26.5	740	1028	1028	537	6.13	1000	7.4	8.5
14...	1108	105	26.5	740	1028	1028	537	6.13	999	7.2	8.5
14...	1114	120	26.5	740	1028	1028	537	6.13	1000	7.4	8.5
14...	1120	135	26.5	740	1028	1028	537	6.13	998	7.4	8.5
14...	1126	150	26.5	740	1028	1028	537	6.13	998	7.3	8.5
14...	1133	160	26.5	740	1028	1028	537	6.13	998	7.3	8.5
OCT											
08...	1100	1028	80020	296	944	9.1	21.0	16.5	16	748	9.9 104
DEC											
16...	1315	1028	80020	1490	501	8.1	15.0	9.0	40	753	10.8 95
MAR											
02...	1215	1028	80020	691	1020	8.6	23.5	16.0	5.7	748	12.6 130
JUN											
15...	1030	1028	80020	6430	301	8.0	24.0	22.0	420	739	6.2 73
AUG											
18...	1030	1028	80020	673	644	8.1	20.0	24.5	170	749	7.6 93

ARKANSAS RIVER BASIN

449

07242000 NORTH CANADIAN RIVER NEAR WETUMKA, OK--Continued

WATER-QUALITY RECORDS

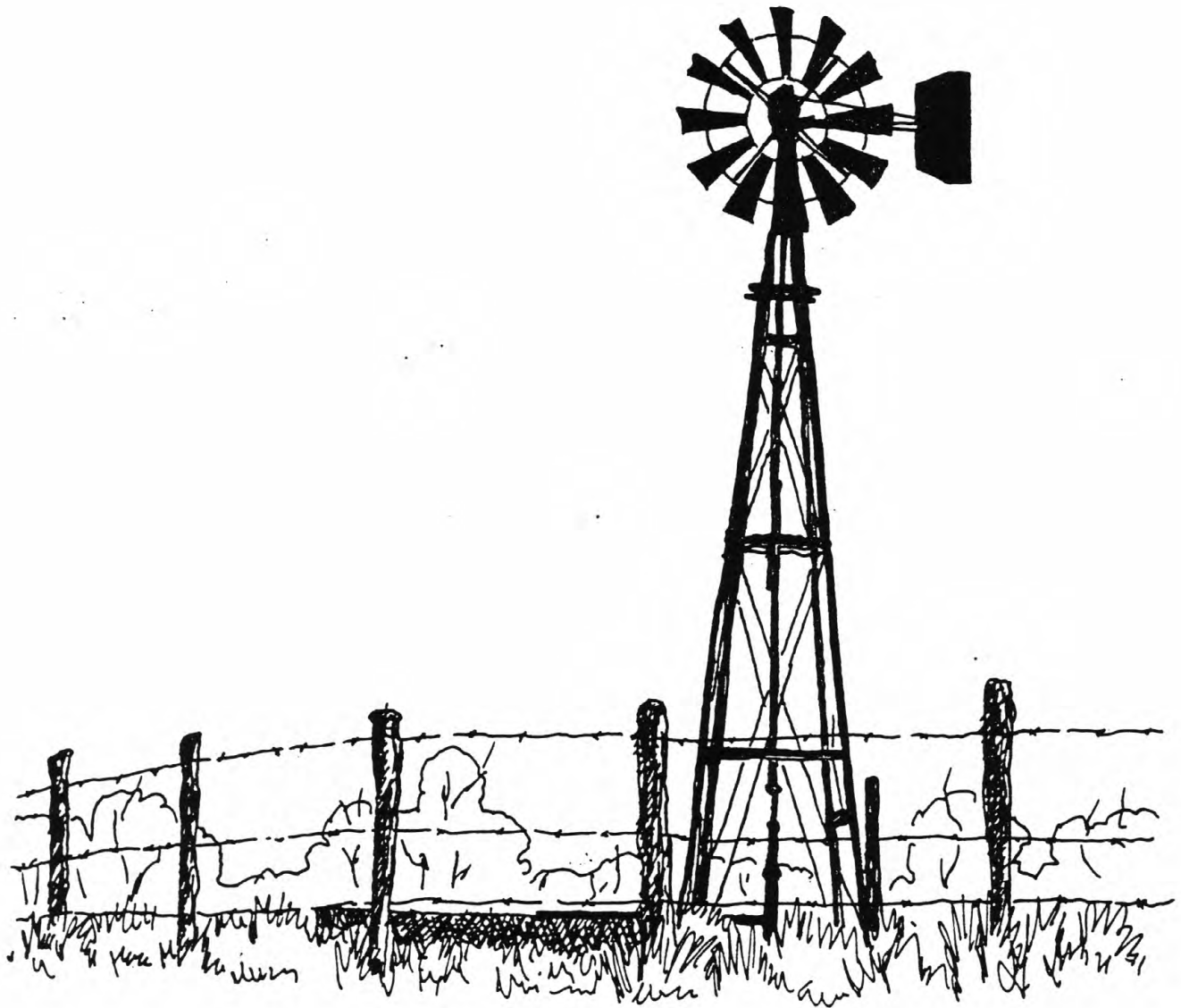
DATE	COLI-FORM, 0.7 UM-MF (COLS./	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER	HARD-NESS TOTAL (MG/L AS	HARD-NESS NONCARB DISSOLV FLD. AS CACO3	CALCIUM DIS-SOLVED (MG/L	MAGNE-SIUM, DIS-SOLVED (MG/L	SODIUM, DIS-SOLVED (MG/L	SODIUM AD-SORPTION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L	BICAR-BONATE WATER DIS IT FIELD (MG/L AS	CAR-BONATE WATER DIS IT FIELD (MG/L	
	100 ML) (31625)	100 ML) (31673)	CACO3) (00900)	(MG/L) (00904)	AS CA) (00915)	AS MG) (00925)	AS NA) (00930)	PERCENT (00932)	(00931)	AS K) (00935)	HCO3) (00453)	CO3) (00452)
OCT 08...	K24	47	240	48	53	25	100	47	3	6.8	172	28
DEC 16...	600	K2500	140	21	36	11	46	42	2	4.5	139	0
MAR 02...	40	K15	310	83	80	26	100	41	2	4.9	262	6
JUN 15...	K6000	K21000	100	20	29	7.2	22	31	0.9	3.8	101	0
AUG 18...	240	190	210	28	57	17	55	35	2	4.7	226	0
DATE	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00620)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS NO3) (71851)
OCT 08...	187	110	150	0.60	3.1	557	562	0.76	445	--	--	--
DEC 16...	114	42	63	0.40	9.0	294	285	0.40	1180	0.930	0.920	4.1
MAR 02...	225	100	140	0.50	10	618	602	0.84	1150	0.800	--	--
JUN 15...	83	25	31	0.30	7.7	189	178	0.26	3280	--	--	--
AUG 18...	185	36	73	0.40	12	375	373	0.51	681	1.19	1.19	5.3
DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2) (71856)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4) (71846)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N) (00605)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)
OCT 08...	0.010	<0.010	--	<0.050	<0.050	0.020	<0.010	0.03	--	1.8	1.8	--
DEC 16...	0.070	0.070	0.23	1.00	0.990	0.070	0.060	0.09	0.08	1.4	1.5	2.5
MAR 02...	0.020	<0.010	--	0.820	0.800	0.020	<0.010	0.03	--	1.1	1.1	1.9
JUN 15...	<0.010	<0.010	--	0.310	0.300	--	0.050	--	0.06	--	1.2	1.5
AUG 18...	0.010	0.010	0.03	1.20	1.20	0.020	0.030	0.03	0.04	0.48	0.50	1.7

ARKANSAS RIVER BASIN

07242000 NORTH CANADIAN RIVER NEAR WETUMKA, OK--Continued

WATER-QUALITY RECORDS

DATE	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHATE, TOTAL (MG/L AS PO4) (00650)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS TOTAL (MG/L AS P) (70507)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
OCT 08...	--	0.620	0.61	0.170	0.200	0.130	0.40	<10	150	<3	5
DEC 16...	11	0.670	0.67	0.230	0.220	0.200	0.61	--	--	--	--
MAR 02...	8.5	0.520	--	0.300	--	0.270	0.83	<10	210	<3	<3
JUN 15...	6.7	0.310	0.28	0.080	0.090	0.090	0.28	50	88	30	67
AUG 18...	7.5	0.410	1.01	0.410	0.330	0.310	0.95	30	180	<3	9
DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	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)	SEDI- MENT, DIS- SUS- PENDED (MG/L AS V) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT 08...	23	3	<10	4	<1	<1.0	740	13	72	58	19
DEC 16...	--	--	--	--	--	--	--	--	1700	6860	50
MAR 02...	24	4	<10	2	<1	<1.0	840	<6	1020	1900	25
JUN 15...	5	3	<10	2	<1	<1.0	220	<6	--	--	--
AUG 18...	8	2	<10	2	<1	<1.0	540	9	431	783	93



RED RIVER BASIN
07242340 ARCADIA LAKE NEAR ARCADIA, OK

LOCATION.--Lat 35°38'54", long 97°21'47", in NW 1/4 SE 1/4 sec.36, T.14 N., R.2 W., Oklahoma County, Hydrologic Unit 11100303, 2.0 mi southwest of Arcadia and at mile 213.8.

DRAINAGE AREA.--105 mi².

PERIOD OF RECORD.--November 1986 to current year.

REVISED RECORDS.--WDR OK-88-1: 1987 (M).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by rolled earth dam. An uncontrolled saddle spillway is located on the left end of the dam. Outlet works consist of a 7- by 10-foot conduit and an 18-inch water-supply pipe. Impoundment began Nov. 9, 1986; conservation pool first filled May 29, 1987. Capacity 92,100 acre-ft at elevation 1,029.5 ft, top of flood-control pool and spillway crest; 27,580 acre-ft at elevation 1,006.0 ft, top of conservation pool. Dead storage 190 acre-ft below elevation 970.0 ft. Figures given herein represent total contents. Reservoir is used for flood control, water-quality control, recreation, fish and wildlife, and future water supply. U.S. Army Corps of Engineers' satellite telemeter located at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 45,980 acre-ft, May 12, 1990, elevation, 1014.63 ft; minimum since conservation pool first filled, 15,010 acre-ft, July 29, 1987, November 23, 1987, elevation, 997.91 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents 37,350 acre-ft, July 2, elevation 1,010.90 ft; minimum, 27,170 acre-ft, Oct. 23-25, elevation, 1,005.77 ft.

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

990	6,990	1,005	25,790
995	11,590	1,010	35,430
1,000	17,840	1,015	46,880

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY OBSERVATION AT 24:00 VALUES

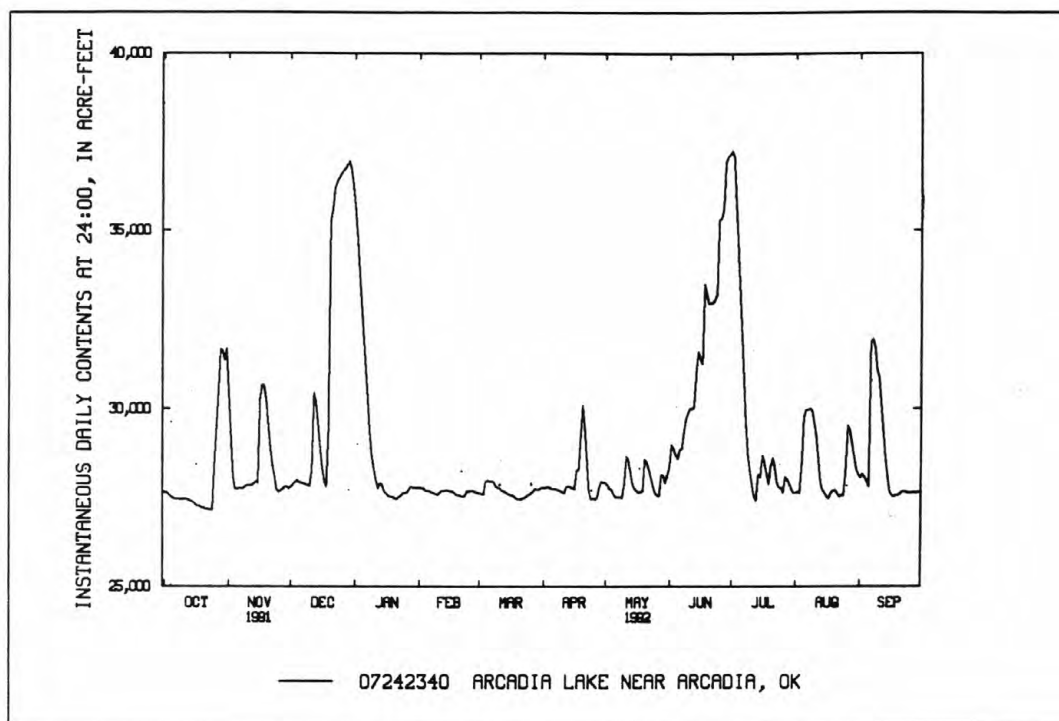
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27650	30430	27820	35660	27790	27630	27800	27930	28380	37220	27640	28090
2	27650	29250	27890	34830	27780	27620	27800	27860	28990	37070	27670	28170
3	27600	28110	27950	33880	27780	27620	27820	27760	28910	35920	27640	28090
4	27540	27760	28000	33000	27710	27970	27800	27730	28730	34770	28480	27980
5	27490	27750	27930	32090	27710	28000	27760	27600	28630	33440	29760	27820
6	27470	27780	27930	31190	27690	27970	27760	27530	28860	32170	29970	31860
7	27470	27780	27910	30310	27650	27970	27750	27530	28890	30880	29970	31920
8	27470	27780	27890	29380	27640	27950	27730	27530	29340	29610	29990	31720
9	27450	27840	27860	28710	27610	27840	27710	27510	29700	28710	29950	31070
10	27470	27860	27840	28330	27600	27800	27670	27870	29890	28260	29610	30860
11	27470	27870	28300	28020	27670	27780	27640	28670	30010	27870	29230	30160
12	27450	27870	30450	27780	27710	27710	27820	28590	29990	27530	28590	29400
13	27420	27910	30180	27910	27700	27690	27840	28240	30070	27440	27930	28670
14	27400	27970	29570	27890	27730	27650	27820	27910	30990	28170	27730	28150
15	27360	27930	28970	27690	27710	27620	27780	27760	31600	28110	27640	27710
16	27310	30260	28370	27620	27690	27580	27760	27710	31380	28710	27530	27580
17	27270	30660	27970	27560	27690	27580	28280	27650	31250	28520	27490	27540
18	27270	30640	27820	27540	27640	27540	28280	27670	33500	28210	27650	27580
19	27220	30220	29420	27530	27590	27490	29230	27710	33240	27890	27710	27580
20	27220	29590	35280	27490	27580	27470	30090	28590	32940	28390	27730	27620
21	27180	28930	35600	27470	27560	27470	29490	28520	32940	28630	27620	27670
22	27180	28440	36190	27530	27540	27490	28550	28330	32980	28390	27540	27690
23	27170	28110	36360	27560	27560	27510	27690	28090	33060	27950	27580	27670
24	27170	27750	36470	27630	27700	27560	27470	27860	33220	27800	27580	27650
25	28360	27670	36580	27640	27690	27600	27490	27650	35280	27800	28320	27650
26	29420	27710	36660	27650	27710	27640	27470	27580	35350	27650	29510	27650
27	30440	27750	36730	27750	27710	27690	27530	27560	35610	28090	29420	27670
28	31640	27820	36840	27820	27670	27770	27820	28160	36900	28020	29060	27650
29	31620	27820	36920	27800	27650	27730	27970	28140	37070	27910	28710	27670
30	31340	27780	36730	27800	---	27750	27950	27950	37120	27750	28330	27660
31	31670	---	36260	27800	---	27800	---	28150	---	27640	28160	---

ARKANSAS RIVER BASIN
07242340 ARCADIA LAKE NEAR ARCADIA, OK--Continued

453

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MAX	31670	30660	36920	35660	27790	28000	30090	28670	37120	37220	29990	31920
MIN	27170	27670	27820	27470	27540	27470	27470	27510	28380	27440	27490	27540
+	8.15	6.11	10.39	6.12	6.04	6.12	6.20	6.31	10.79	6.03	6.31	6.04
++	+3,970	-3,890	+8,480	-8,460	-150	+150	+150	+200	+8,970	-9,480	+520	-500
CAL YR 1991	MAX 36920		MIN 27170		+ +8,560							
WTR YR 1992	MAX 37220		MIN 27170		++ -40							

+ ELEVATION, LESS 1,000 FEET AT END OF MONTH.
++ CHANGE IN CONTENTS, IN ACRE-FEET



ARKANSAS RIVER BASIN
07242350 DEEP FORK NEAR ARCADIA, OK

LOCATION.--Lat 35°38'50", long 97°21'35", in NE 1/4 SW 1/4 sec.36, T.14 N., R.2 W., Oklahoma County, Hydrologic Unit 11100303, on right bank 400 ft downstream from Arcadia Dam, 2.0 mi southwest of Arcadia, 2.6 mi upstream from Coffee Creek, and at mile 213.7.

DRAINAGE AREA.--105 mi².

PERIOD OF RECORD.--October 1969 to current year.

REVISED RECORDS.--WDR OK-77-1: 1975 (M) (gage height only), WDR OK-84-1: 1983 (m).

GAGE.--Water-stage recorder. Datum of gage is 900.00 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 1, 1974, at site 0.9 mi downstream at datum 41.65 ft higher. May 2, 1978 to May 14, 1979, the gage was temporarily moved 1.9 mi downstream to county road bridge at datum 36.65 ft higher. May 15, 1979 to March 10, 1987, at site 0.6 mi downstream at datum 41.65 ft higher.

REMARKS.--No estimated daily discharges. Records good. Regulation since November 1986 by Arcadia Lake (station 07242340), 400 ft upstream. U.S. Army Corps of Engineers' satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	681	.26	359	21	24	.20	36	107	.24	.22	52
2	.49	678	.26	474	21	24	.20	37	107	24	.22	52
3	.45	671	.26	534	21	24	15	37	107	513	.22	52
4	.45	231	17	532	21	24	23	37	106	690	.24	52
5	.45	.43	27	529	21	24	23	40	68	686	.30	52
6	.47	.41	27	525	21	24	23	14	.16	682	.22	54
7	.52	.39	26	521	21	24	23	.21	.15	677	.22	52
8	.51	.39	26	517	22	24	23	.24	.17	671	.22	132
9	.51	.38	26	391	22	23	23	.22	.17	423	.22	338
10	.51	.34	26	210	22	23	23	.26	.18	189	178	404
11	.51	.30	27	151	21	24	23	.30	.30	148	331	406
12	.51	.30	28	151	21	23	23	74	.18	149	333	406
13	.48	15	201	53	22	23	23	165	.18	44	332	403
14	.48	28	340	66	22	23	23	164	.86	.30	212	279
15	.47	28	340	101	22	23	23	75	.18	41	38	209
16	.44	29	339	55	22	23	23	32	104	60	37	77
17	.41	28	216	31	22	23	24	32	228	120	13	.20
18	.41	28	72	31	22	22	24	33	249	154	.20	.19
19	.41	227	32	30	22	23	24	33	528	154	1.2	.19
20	.41	379	15	30	22	16	24	33	293	101	.23	.18
21	.39	379	.33	30	23	.20	317	83	.22	100	44	.19
22	.39	249	.36	11	23	.21	540	107	.22	156	.18	.19
23	.39	183	.29	.23	23	.20	461	107	.22	156	.18	.18
24	.38	183	.28	.22	23	.32	130	107	.22	78	.18	.18
25	2.6	64	.28	.22	23	.18	.25	106	1.3	31	1.1	.18
26	.60	.44	.28	.22	23	.18	.25	37	.24	30	106	.18
27	.41	.41	.28	.23	24	.18	.23	.18	.24	30	164	.17
28	1.8	.37	.28	14	24	.19	.19	.21	.49	50	164	.17
29	.36	.30	.28	21	24	.19	.19	71	.25	59	164	.17
30	144	.26	115	21	---	.19	23	107	.24	59	164	.17
31	436	---	298	21	---	.19	---	106	---	38	90	---
TOTAL	616.21	4085.72	2201.44	5410.12	641	463.23	1882.51	1674.62	1903.17	6313.54	2375.35	3022.54
MEAN	19.9	136	71.0	175	22.1	14.9	62.8	54.0	63.4	204	76.6	101
MAX	436	681	340	534	24	24	540	165	528	690	333	406
MIN	.36	.26	.26	.22	21	.18	.19	.18	.15	.24	.18	.17
AC-FT	1220	8100	4370	10730	1270	919	3730	3320	3770	12520	4710	6000

ARKANSAS RIVER BASIN
07242350 DEEP FORK NEAR ARCADIA, OK--Continued

455

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1992, BY WATER YEAR (WY)

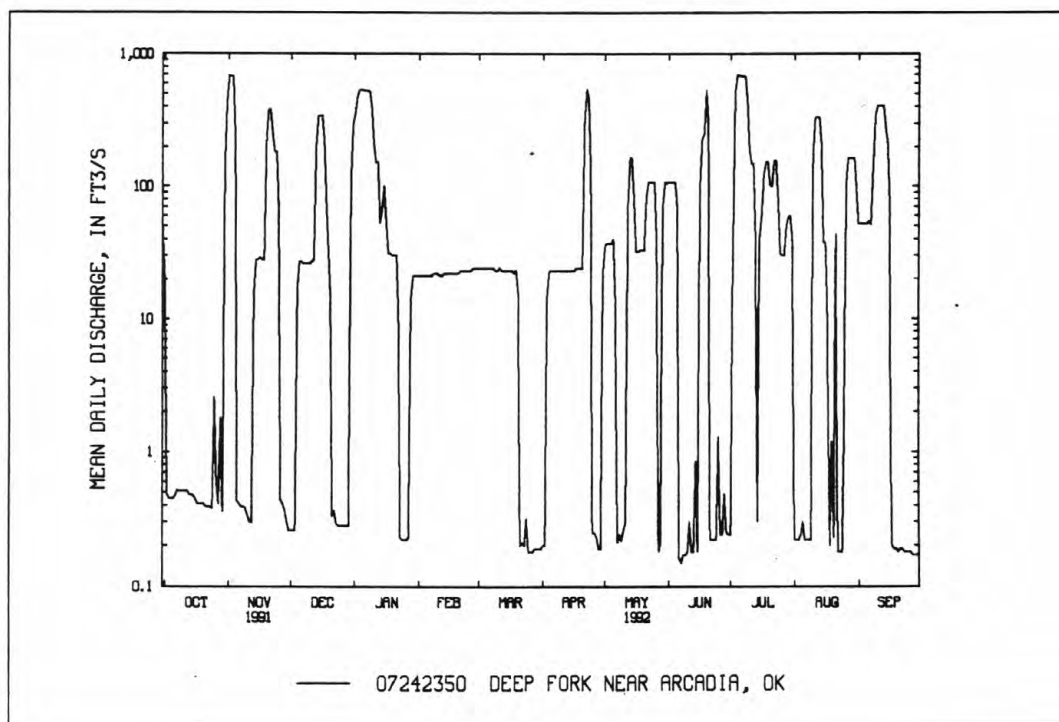
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	32.8	58.6	26.5	47.8	23.4	53.8	92.9	137	126	69.6	67.2	138
MAX	63.9	136	71.0	175	66.7	121	171	462	398	204	244	374
(WY)	1989	1992	1992	1992	1990	1990	1990	1990	1989	1992	1989	1989
MIN	19.9	17.9	.13	.14	.15	2.80	21.7	13.9	3.53	.78	.089	42.5
(WY)	1988	1991	1989	1989	1989	1989	1989	1988	1988	1990	1988	1988

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1988-92

ANNUAL TOTAL	18083.32	30589.45	
ANNUAL MEAN	49.5	83.6	^a 72.8
HIGHEST ANNUAL MEAN			110 1989
LOWEST ANNUAL MEAN			35.6 1991
HIGHEST DAILY MEAN	681	Nov 1	690 Jul 4 1460 Jun 29 1989
LOWEST DAILY MEAN	.21	Jun 20	.15 Jun 7 .03 Jul 10 1988
ANNUAL SEVEN-DAY MINIMUM	.22	Jun 20	.17 Sep 24 .07 Oct 3 1987
INSTANTANEOUS PEAK FLOW			700 Jul 3 ^b 1470 Jun 28 1989
INSTANTANEOUS PEAK STAGE			55.58 Jul 3 ^b 57.78 Jun 28 1989
ANNUAL RUNOFF (AC-FT)	35870	60670	52750
10 PERCENT EXCEEDS	133	321	183
50 PERCENT EXCEEDS	5.3	23	.89
90 PERCENT EXCEEDS	.25	.20	.13

^aPrior to regulation water years 1970-86 66.3 ft³/s.

^bMaximum discharge for period of record, 14,300 ft³/s Nov. 2, 1974, gage height 26.9 ft from floodmark at former site and datum.



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 National Geodetic Vertical Datum of 1929.

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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	665	59	490	116	101	77	151	453	262	43	77
2	37	575	72	506	114	98	76	147	1010	347	31	519
3	25	553	77	572	112	96	75	138	770	775	29	240
4	23	419	63	557	110	581	92	132	459	800	223	112
5	23	79	78	565	106	245	93	129	333	802	788	e90
6	23	57	78	558	108	157	93	129	858	816	306	e80
7	24	49	78	553	106	135	96	111	321	805	128	e70
8	24	47	77	544	103	127	92	105	218	361	77	205
9	25	45	72	482	103	123	91	106	200	236	56	322
10	25	43	71	338	103	115	90	103	196	218	73	872
11	24	40	75	231	124	112	88	364	843	241	370	601
12	24	39	1220	234	143	112	100	200	430	228	361	499
13	23	39	365	e150	133	110	104	262	302	191	349	484
14	20	60	466	e200	132	109	102	249	1670	105	385	441
15	20	72	421	e150	125	107	97	206	1620	67	105	300
16	21	1030	397	e140	115	107	96	139	670	691	65	263
17	20	791	341	e130	111	107	162	150	586	414	57	84
18	22	230	209	e115	104	110	152	152	826	286	36	72
19	19	197	559	e100	99	107	1430	284	1030	237	35	74
20	18	466	4780	e96	99	105	527	538	3890	382	30	73
21	21	457	1900	e91	97	97	237	274	764	652	43	69
22	20	382	1190	e87	95	95	551	237	334	340	44	66
23	21	232	766	e84	97	97	588	216	223	252	24	64
24	24	229	527	e83	114	93	441	206	880	200	22	60
25	587	206	410	e86	130	92	175	197	2840	73	21	59
26	1200	80	339	e94	111	84	126	183	687	61	346	60
27	136	67	284	e190	107	79	120	125	391	62	446	58
28	1750	66	255	e130	104	78	146	249	650	58	261	56
29	233	62	229	e125	100	79	302	266	342	73	203	53
30	92	56	234	e120	---	77	171	246	301	71	184	51
31	585	---	400	117	---	73	---	238	---	67	162	---
TOTAL	5175	7333	16092	7918	3221	3808	6590	6232	24097	10173	5303	6074
MEAN	167	244	519	255	111	123	220	201	803	328	171	202
MAX	1750	1030	4780	572	143	581	1430	538	3890	816	788	872
MIN	18	39	59	83	95	73	75	103	196	58	21	51
AC-FT	10260	14550	31920	15710	6390	7550	13070	12360	47800	20180	10520	12050

e Estimated

ARKANSAS RIVER BASIN
07242380 DEEP FORK NEAR WARWICK, OK--Continued

457

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	123	147	183	140	157	434	556	529	537	160	181	437
MAX	169	244	519	255	441	1219	1435	1576	1370	328	630	1527
(WY)	1990	1992	1992	1992	1990	1990	1990	1990	1989	1992	1989	1989
MIN	75.2	68.3	60.7	71.8	47.0	59.3	101	115	70.5	31.2	24.6	142
(WY)	1991	1991	1989	1991	1988	1991	1989	1988	1988	1990	1991	1988

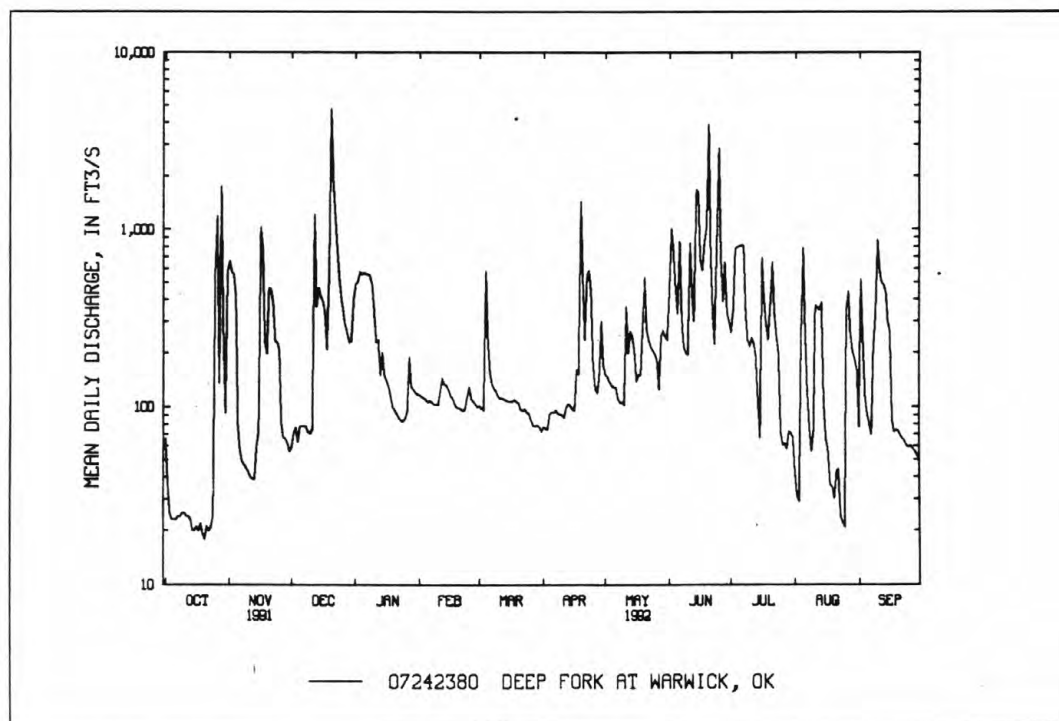
SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1988-92

ANNUAL TOTAL	65395	102016	
ANNUAL MEAN	179	279	298
HIGHEST ANNUAL MEAN			483 1990
LOWEST ANNUAL MEAN			119 1991
HIGHEST DAILY MEAN	4780 Dec 20	4780 Dec 20	16500 Sep 13 1989
LOWEST DAILY MEAN	15 Aug 7	18 Oct 20	^a 3.9 Dec 13 1987
ANNUAL SEVEN-DAY MINIMUM	19 Aug 2	20 Oct 14	11 Sep 9 1990
INSTANTANEOUS PEAK FLOW		7520 Jun 20	^b 20400 Sep 13 1989
INSTANTANEOUS PEAK STAGE		15.74 Jun 20	^c 20.97 Sep 13 1989
ANNUAL RUNOFF (AC-FT)	129700	202300	216200
10 PERCENT EXCEEDS	404	592	672
50 PERCENT EXCEEDS	67	126	98
90 PERCENT EXCEEDS	24	43	28

^aMinimum daily discharge for period of record, .05 ft³/s Aug. 23, 1987.

^bMaximum discharge for period of record, 28,700 ft³/s, Oct. 21, 1983.

^cMaximum gage height for period of record, 22.05 ft, Oct. 21, 1983.



ARKANSAS RIVER BASIN
07243000 DRY CREEK NEAR KENDRICK, OK

LOCATION.--Lat 35°46'55", long 96°51'14", in NW 1/4 NW 1/4 sec.14, T.15 N., R.4 E., Lincoln County, Hydrologic Unit 11100303, near left bank on downstream side of county road bridge, 1.0 mi downstream from Beaver Creek and 4.5 mi west of Kendrick.

DRAINAGE AREA.--69.0 mi².

PERIOD OF RECORD.--October 1955 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 820 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 1, 1981, gage at same site and datum 5.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. U.S. Army Corps of Engineers' 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)
Dec. 20	0830	6,390	20.41	June 6	0530	2,180	14.42
June 2	1345	2,410	15.03	June 20	0345	4,060	18.73

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	36	6.7	21	10	8.5	7.1	23	32	14	3.9	3.7
2	.03	8.8	9.3	18	10	8.5	7.0	18	704	12	4.0	54
3	.00	5.9	11	16	10	8.5	6.9	15	133	10	3.9	9.7
4	.00	4.5	8.4	15	9.7	28	7.1	14	41	9.8	127	6.4
5	.00	3.7	7.6	14	9.4	14	6.9	13	28	9.1	571	5.3
6	.03	4.1	7.2	14	9.6	10	6.7	12	538	8.4	58	16
7	.10	3.7	7.2	14	9.5	9.1	6.9	12	62	7.6	26	6.9
8	.14	3.5	7.1	13	9.3	8.6	6.9	11	38	6.9	12	5.2
9	.11	3.5	6.2	12	9.3	8.2	7.0	11	31	6.6	8.6	4.7
10	.07	3.4	5.9	12	9.5	7.4	6.8	10	33	6.4	7.3	11
11	.13	3.4	6.6	12	10	7.4	6.6	21	25	6.3	25	6.3
12	.17	3.3	372	12	11	7.6	258	14	22	6.1	8.9	4.7
13	.14	3.3	46	14	10	7.5	28	11	19	5.7	6.5	4.4
14	.07	3.5	27	14	11	7.5	18	10	34	8.3	5.8	4.1
15	.07	3.4	20	13	11	7.4	15	10	30	6.2	5.2	3.9
16	.00	414	17	12	9.8	7.5	15	10	19	26	5.0	3.8
17	.08	195	15	12	9.7	7.7	26	21	15	17	4.8	3.7
18	.16	36	14	12	9.2	7.9	18	15	13	7.2	4.9	3.7
19	.27	22	193	11	8.9	7.3	421	24	66	6.2	5.1	3.7
20	.32	16	3390	11	9.0	7.2	54	107	1310	6.7	4.6	4.2
21	.47	13	177	11	9.1	7.2	27	30	81	10	4.4	3.9
22	.50	12	123	13	9.2	8.9	20	16	41	6.1	4.2	3.7
23	.47	9.2	73	12	9.3	8.3	17	14	30	5.4	4.0	3.5
24	.93	8.4	35	11	9.2	8.0	15	12	25	5.0	3.8	3.4
25	56	8.1	27	10	9.2	7.8	13	12	232	4.7	3.6	3.4
26	232	7.9	23	10	8.9	7.6	12	11	37	4.5	4.1	3.5
27	8.9	7.6	21	11	8.9	7.4	12	9.9	21	4.6	4.2	3.4
28	427	7.5	21	11	8.8	7.3	131	45	22	4.4	3.6	3.3
29	31	7.4	19	11	8.7	7.2	242	31	18	4.2	3.4	3.3
30	13	6.4	18	11	---	7.0	35	15	17	4.1	3.2	3.3
31	94	---	17	10	---	7.0	---	14	---	3.9	3.5	---
TOTAL	866.17	864.5	4731.2	393	277.2	269.5	1452.9	591.9	3717	243.4	939.5	200.1
MEAN	27.9	28.8	153	12.7	9.56	8.69	48.4	19.1	124	7.85	30.3	6.67
MAX	427	414	3390	21	11	28	421	107	1310	26	571	54
MIN	.00	3.3	5.9	10	8.7	7.0	6.6	9.9	13	3.9	3.2	3.3
AC-FT	1720	1710	9380	780	550	535	2880	1170	7370	483	1860	397

ARKANSAS RIVER BASIN
07243000 DRY CREEK NEAR KENDRICK, OK--Continued

459

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	15.9	19.8	16.5	11.3	21.7	34.8	40.6	60.5	48.5	11.1	3.84	16.6
MAX	132	247	153	60.7	235	215	297	301	225	80.9	30.3	104
(WY)	1960	1975	1992	1987	1985	1990	1990	1982	1974	1959	1992	1974
MIN	.000	.000	.000	.000	.000	.000	.83	.57	.54	.000	.000	.000
(WY)	1957	1956	1956	1956	1956	1956	1981	1981	1964	1956	1956	1956

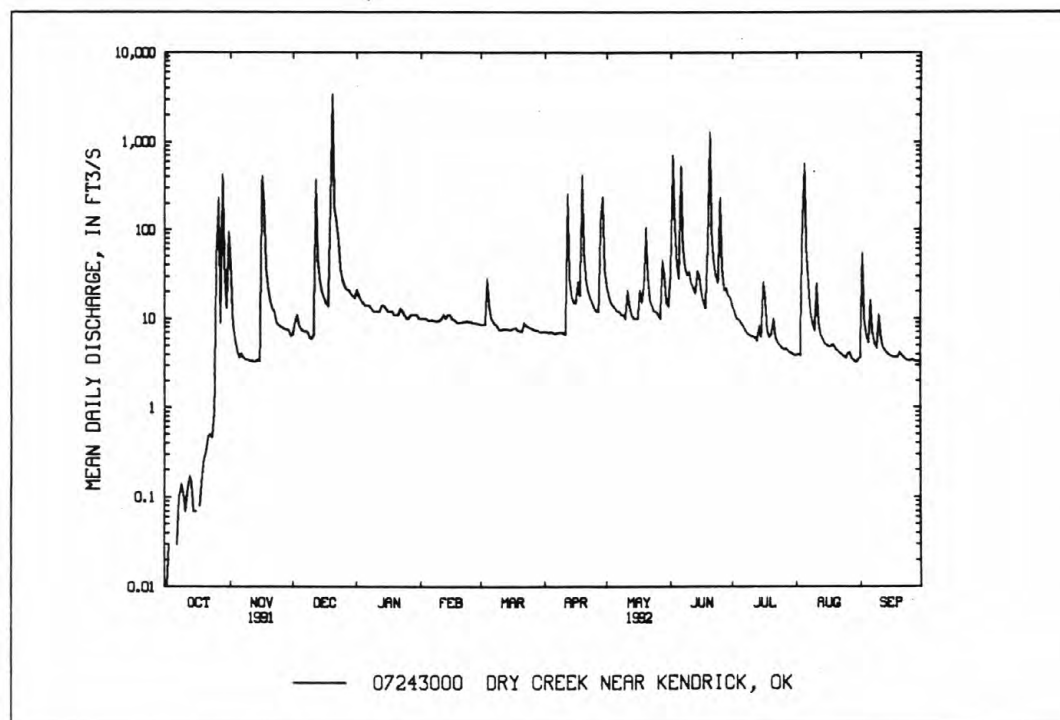
SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1956-92

ANNUAL TOTAL	8239.79	14546.37	
ANNUAL MEAN	22.6	39.7	25.0
HIGHEST ANNUAL MEAN			88.0 1975
LOWEST ANNUAL MEAN			2.02 1981
HIGHEST DAILY MEAN	3390 Dec 20	3390 Dec 20	5590 May 12 1982
LOWEST DAILY MEAN	.00 at times	^a .00 Oct 3	^b .00 Oct 1 1955
ANNUAL SEVEN-DAY MINIMUM	.00 Jul 31	.02 Oct 1	.00 Oct 7 1955
INSTANTANEOUS PEAK FLOW		6390 Dec 20	18000 Nov 2 1974
INSTANTANEOUS PEAK STAGE		20.41 Dec 20	^c 24.20 Nov 2 1974
ANNUAL RUNOFF (AC-FT)	16340	28850	18140
10 PERCENT EXCEEDS	17	36	25
50 PERCENT EXCEEDS	3.2	9.3	2.5
90 PERCENT EXCEEDS	.01	3.4	.00

^aNo flow also Oct. 4-5, 16.

^bNo flow at times most years.

^cAt present datum.



ARKANSAS RIVER BASIN
07243500 DEEP FORK NEAR BEGGS, OK

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 (Checker-board) Creek, and at mile 85.0.

DRAINAGE AREA.--2,018 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1938 to current year.

REVISED RECORDS.--WSP 957: 1941. WSP 1117: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 632.55 ft above National Geodetic Vertical Datum of 1929. 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.

REMARKS.--No estimated daily discharges. Records good. Some regulation by Arcadia Lake (station 07242340) since November 1986. 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:

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov 1	2000	3,090	12.84	June 8	1200	8,420	21.31
Nov. 17	2300	3,350	13.43	June 25	0100	9,430	22.28
Dec. 25	1500	12,500	24.39	July 2	1000	7,110	19.85
Apr. 20	2100	3,420	13.60	Aug. 7	0300	11,300	23.75
May 4	1300	3,100	12.87	Sept. 8	0500	3,580	13.95
May 14	1700	4,010	14.80				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	116	2990	281	1450	430	308	252	2590	1840	6440	1370	385
2	106	2980	357	1280	416	292	239	2670	2840	7040	763	957
3	100	2560	863	1200	397	282	230	2930	4140	6470	1210	3120
4	96	1990	868	1160	377	337	223	3060	4390	5490	775	2800
5	92	1450	744	1110	364	1400	221	2150	4720	3700	5210	2070
6	88	1050	650	1090	348	1320	218	867	6100	1760	9970	2070
7	71	795	529	1070	335	1300	214	567	7060	1320	10900	3390
8	53	508	441	1030	320	1040	217	438	8300	1150	9030	3520
9	43	352	393	990	308	764	222	371	7610	1050	7330	3050
10	37	271	348	941	298	668	223	324	6800	980	6210	2790
11	33	224	310	892	296	532	222	1470	6510	926	5520	3020
12	32	195	1180	844	506	481	964	3400	6100	829	4440	2480
13	31	176	2590	758	711	443	1230	3760	5140	656	2240	1810
14	31	164	1960	730	628	393	884	3960	3420	506	1360	1460
15	30	158	1880	790	571	360	642	3980	2780	446	1160	1100
16	29	264	1610	737	549	331	522	3730	2310	430	1020	875
17	28	2710	1100	622	486	310	468	2510	2000	465	902	734
18	27	3160	877	585	440	304	841	1580	2280	576	740	595
19	25	2710	789	547	399	327	1810	1850	3040	874	594	511
20	25	2590	3560	494	368	345	3260	2070	5110	842	521	935
21	21	2500	5490	456	339	315	3240	1760	5960	2150	461	861
22	21	1630	6710	475	315	391	3000	1650	8110	1820	410	521
23	21	962	7660	591	297	689	2920	1600	8550	1030	374	521
24	23	784	9920	556	289	623	2970	1490	9140	887	312	418
25	24	654	12100	486	288	455	2760	1020	9280	695	286	317
26	336	527	11100	441	295	396	1710	772	8560	549	260	256
27	761	451	9100	408	301	351	988	648	7570	1330	222	222
28	1200	407	7500	427	312	318	660	638	6350	1140	200	200
29	2890	348	6130	504	316	299	2050	1780	5280	561	240	185
30	2580	289	4600	459	---	279	2840	1920	5200	373	452	172
31	2380	---	2410	433	---	264	---	1660	---	731	427	---

ARKANSAS RIVER BASIN
07243500 DEEP FORK NEAR BEGGS, OK--Continued

461

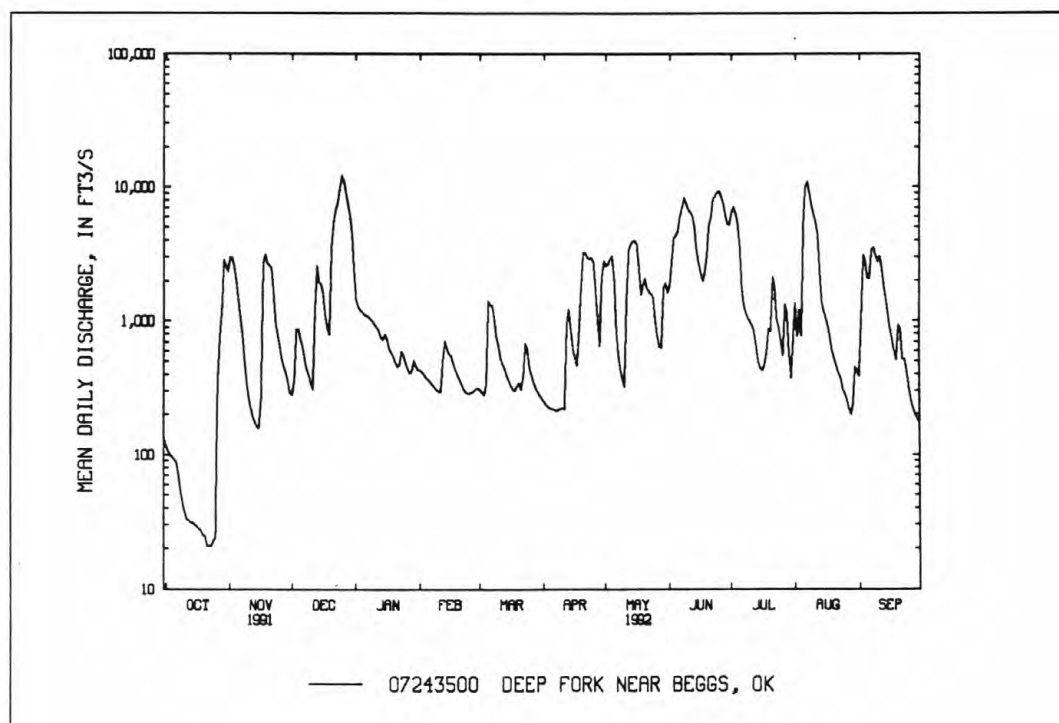
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
TOTAL	11350	35849	104050	23556	11299	15917	36240	59215	166490	53216	74909	41345
MEAN	366	1195	3356	760	390	513	1208	1910	5550	1717	2416	1378
MAX	2890	3160	12100	1450	711	1400	3260	3980	9280	7040	10900	3520
MIN	21	158	281	408	288	264	214	324	1840	373	200	172
AC-FT	22510	71110	206400	46720	22410	31570	71880	117500	330200	105600	148600	82010

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	737	683	470	380	599	1100	1519	2179	1948	598	254	375
MAX	5464	8391	3356	3749	4388	8895	9519	12470	8994	3950	2416	1947
(WY)	1942	1975	1992	1985	1985	1990	1945	1943	1974	1950	1992	1989
MIN	.000	.000	.51	7.74	20.3	9.65	37.0	133	59.0	5.67	3.31	.000
(WY)	1955	1955	1955	1940	1957	1940	1955	1971	1953	1954	1954	1956

SUMMARY STATISTICS	1991 CALENDAR YEAR		1992 WATER YEAR		WATER YEARS 1939-92	
ANNUAL TOTAL	294969		633436			
ANNUAL MEAN	808		1731		903	
HIGHEST ANNUAL MEAN					2454	
LOWEST ANNUAL MEAN					114	
HIGHEST DAILY MEAN	12100	Dec 25	12100	Dec 25	55600	May 11 1943
LOWEST DAILY MEAN	18	Aug 11	21	Oct 21, 23	^a .00	at times
ANNUAL SEVEN-DAY MINIMUM	22	Aug 9	23	Oct 19	.00	Sep 29 1939
INSTANTANEOUS PEAK FLOW			12500	Dec 25	66800	May 11 1943
INSTANTANEOUS PEAK STAGE			24.39	Dec 25	34.55	May 11 1943
ANNUAL RUNOFF (AC-FT)	585100		1256000		654400	
10 PERCENT EXCEEDS	2570		5200		2520	
50 PERCENT EXCEEDS	210		762		158	
90 PERCENT EXCEEDS	32		220		18	

^aIn 1939, 1954, 1956.



ARKANSAS RIVER BASIN

07243500 DEEP FORK NEAR BEGGS, OK--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1951 to May 1989.

WATER TEMPERATURE: November 1951 to May 1989.

REMARKS.--Samples were collected bimonthly and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 10,500 microsiemens, Jan. 12, 1955; minimum daily, 74 microsiemens, Oct. 21, 1983.

WATER TEMPERATURE: (1951-85) Maximum daily, 38.5°C, Aug. 8, 1970; minimum daily, 0.0°C on many days during winter periods.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	GAGE HEIGHT (FEET) (00065)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	SEDI- MENT, SUS- PENDED (MG/L) (80154)
APR												
01...	1745	5.00	11.5	755	1028	1028	258	3.56	990	11.3	8.2	224
01...	1746	10.0	11.5	755	1028	1028	258	3.56	989	11.3	8.2	216
01...	1748	15.0	11.5	755	1028	1028	258	3.56	988	11.3	8.2	240
01...	1749	20.0	11.5	755	1028	1028	258	3.56	987	11.3	8.3	199
01...	1750	25.0	11.5	755	1028	1028	258	3.56	986	11.3	8.2	8
01...	1751	30.0	11.5	755	1028	1028	258	3.56	986	11.3	8.3	8
01...	1752	35.0	11.5	755	1028	1028	258	3.56	989	11.3	8.3	15
01...	1753	40.0	11.5	755	1028	1028	258	3.56	990	11.2	8.3	55
01...	1754	45.0	11.5	755	1028	1028	258	3.56	999	11.2	8.3	162

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	TUR- BID- ITY (NTU) (00076)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
NOV												
12...	1445	1028	80020	190	440	8.1	12.5	6.5	95	750	13.4	111
APR												
01...	1730	1028	80020	258	988	8.3	11.5	14.5	14	755	11.3	112
JUN												
09...	1730	1028	80020	7480	228	7.6	26.0	22.0	82	745	5.0	59
AUG												
04...	1600	1028	80020	660	439	7.8	27.0	26.0	160	750	6.4	80

ARKANSAS RIVER BASIN

463

07243500 DEEP FORK NEAR BEGGS, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

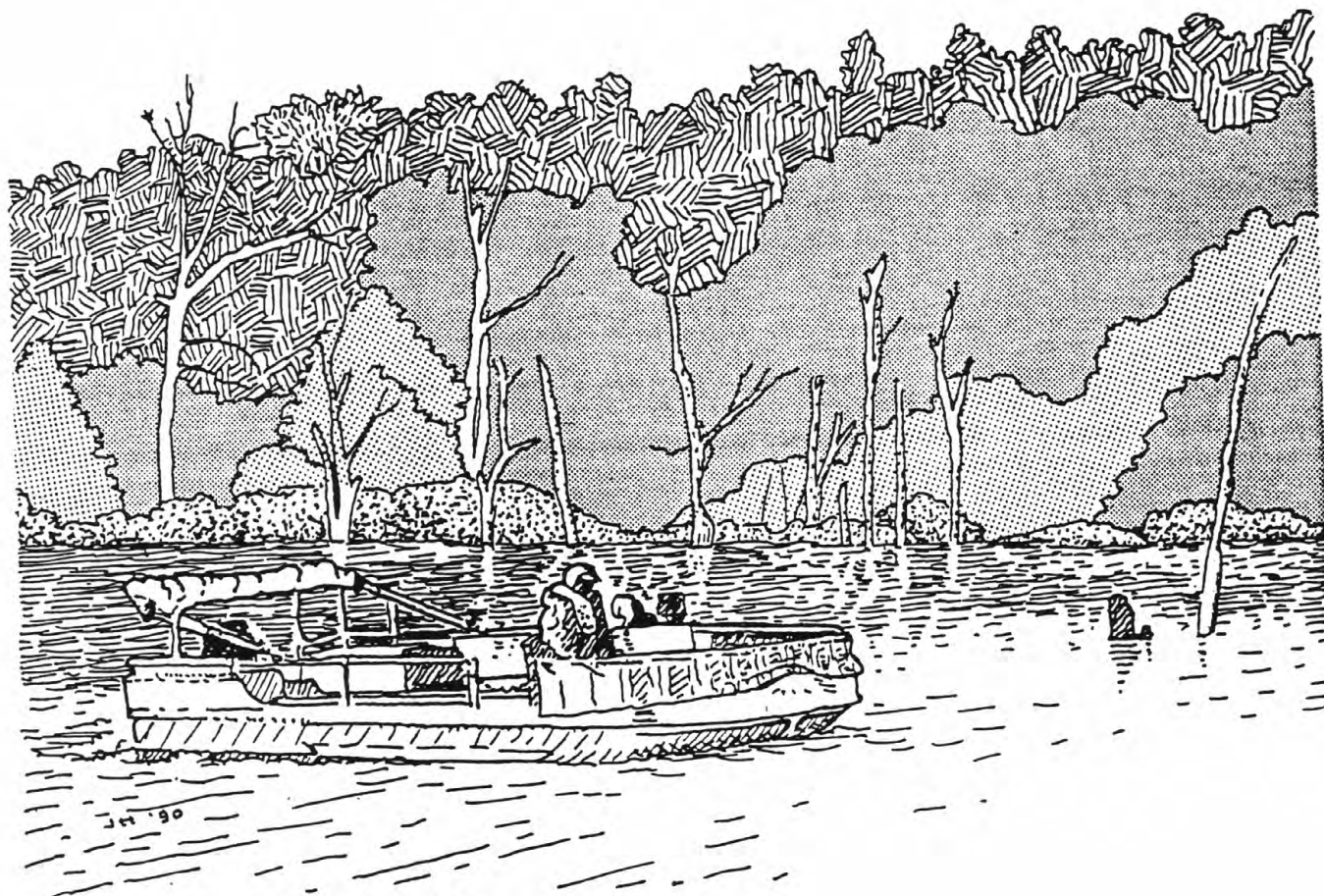
DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./AS)	STREP-TOCOCCI, FECAL, KF AGAR (COLS. PER)	HARD-NESS, NONCARB, CALCIUM DIS-SOLVED (MG/L AS CACO3)	HARD-NESS, NONCARB, CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM, AD-SORPTION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE, WATER DIS IT FIELD (MG/L AS HCO3)	CAR-BONATE, WATER DIS IT FIELD (MG/L AS CO3)		
NOV 12...	560	440	130	14	29	15	30	32	1	3.8	147	0
APR 01...	42	41	280	41	57	33	81	39	2	2.6	290	0
JUN 09...	150	840	80	17	19	7.8	13	25	0.6	3.7	77	0
AUG 04...	2600	1800	120	21	28	13	38	39	1	3.3	125	0
DATE	ALKA-LINITY, WAT DIS TOT IT FIELD (MG/L AS CACO3)	SULFATE, DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	
NOV 12...	121	18	49	0.20	6.6	222	226	0.30	114	0.220	--	--
APR 01...	238	33	150	0.20	6.1	510	507	0.69	355	--	--	--
JUN 09...	63	7.5	24	<0.10	8.0	138	122	0.19	2790	0.110	0.110	0.49
AUG 04...	103	18	67	0.20	7.3	261	238	0.35	465	0.190	--	--
DATE	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	
NOV 12...	0.040	<0.010	--	0.260	0.270	0.060	0.060	0.08	0.08	0.84	0.90	1.2
APR 01...	<0.010	<0.010	--	0.086	0.088	0.030	0.020	0.04	0.03	0.37	0.40	0.49
JUN 09...	0.020	0.020	0.07	0.130	0.130	0.050	0.050	0.06	0.06	0.55	0.60	0.73
AUG 04...	0.010	<0.010	--	0.200	0.190	0.050	0.050	0.06	0.06	0.35	0.40	0.60

, ARKANSAS RIVER BASIN

07243500 DEEP FORK NEAR BEGGS, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHATE, TOTAL (MG/L AS PO4) (00650)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS TOTAL (MG/L AS P) (70507)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
NOV 12...	5.1	0.180	0.25	0.060	0.080	0.040	0.12	50	110	<3	82
APR 01...	2.2	0.040	0.12	0.030	0.040	0.020	0.06	<10	170	<3	6
JUN 09...	3.2	0.110	0.12	0.050	0.040	0.030	0.09	40	84	<3	110
AUG 04...	2.7	0.070	0.06	0.010	0.020	0.020	0.06	40	98	<3	73
DATE	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	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)	SEDI- MENT, DIS- SUS- PENDED (MG/L (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. & FINER THAN .062 MM (70331)
NOV 12...	<4	23	<10	1	<1	<1.0	280	<6	102	52	98
APR 01...	7	71	<10	1	<1	<1.0	570	<6	132	92	90
JUN 09...	<4	11	<10	2	<1	<1.0	140	<6	103	2080	98
AUG 04...	4	2	<10	3	<1	<1.0	280	<6	474	845	98



Sampling on Eufaula Lake

ARKANSAS RIVER BASIN
07244800 EUFAULA LAKE NEAR BROOKEN, OK

LOCATION.--Lat 35°18'25", long 95°21'45", in SW 1/4 sec.25, T.10 N., R.18 E., McIntosh County, Hydrologic Unit 11090204, in intake structure near left end of dam on Canadian River, 4.0 mi northeast of Brooken, and at mile 27.0.

DRAINAGE AREA.--47,522 mi², of which 9,700 mi² is probably noncontributing.

PERIOD OF RECORD.--February 1964 to current year. Prior to October 1970, published as Eufaula Reservoir near Brooken.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by an earthen dam having a gated, concrete, ogee-type spillway weir controlled by eleven 40-foot taintor gates. Closure for diversion was made Feb. 1, 1963, and regulated storage began Feb. 10, 1964; minimum power pool was first filled June 17, 1964. Capacity, 3,825,400 acre-ft at elevation 597.0 ft, top of flood-control pool; 2,314,600 acre-ft at elevation 585.0 ft, top of power pool, and 851,600 acre-ft at elevation 565.0 ft, bottom of power pool. Dead storage is negligible. Figures given herein represent total contents. Reservoir is used for flood control, sediment control, power development, and other water uses. Revised capacity table, based on survey 1977, used since Oct. 1, 1983. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 4,237,000 acre-ft, May 4, 1990, elevation, 599.72 ft; minimum since power pool first filled, 1,182,000 acre-ft, Nov. 4, 1964, elevation, 570.23 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 3,039,000 acre-ft, Dec. 24, elevation, 591.26 ft; minimum, 2,164,000 acre-ft, Oct. 23, elevation, 583.54 ft.

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

583	2,111,000	589	2,764,000
585	2,315,000	591	3,006,000
587	2,533,000	593	3,263,000

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY OBSERVATION AT 24:00 VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2218000	2688000	2384000	2777000	2315000	2258000	2287000	2416000	2411000	2584000	2601000	2383000
2	2216000	2696000	2435000	2729000	2322000	2257000	2285000	2409000	2486000	2591000	2594000	2421000
3	2211000	2664000	2466000	2685000	2323000	2262000	2289000	2395000	2565000	2583000	2584000	2425000
4	2207000	2639000	2474000	2645000	2318000	2265000	2288000	2379000	2595000	2584000	2570000	2414000
5	2207000	2607000	2466000	2606000	2316000	2288000	2289000	2354000	2592000	2577000	2708000	2400000
6	2205000	2571000	2456000	2561000	2272000	2309000	2296000	2343000	2671000	2566000	2860000	2384000
7	2206000	2534000	2438000	2518000	2272000	2315000	2294000	2332000	2728000	2550000	2916000	2373000
8	2204000	2499000	2422000	2485000	2271000	2325000	2293000	2323000	2738000	2528000	2903000	2362000
9	2205000	2471000	2401000	2448000	2271000	2365000	2294000	2314000	2731000	2507000	2869000	2355000
10	2203000	2445000	2381000	2426000	2305000	2367000	2293000	2315000	2734000	2486000	2828000	2407000
11	2197000	2424000	2357000	2435000	2310000	2361000	2293000	2382000	2727000	2475000	2794000	2423000
12	2197000	2402000	2369000	2435000	2308000	2338000	2308000	2469000	2701000	2466000	2769000	2422000
13	2194000	2382000	2410000	2435000	2305000	2326000	2309000	2491000	2660000	2453000	2741000	2412000
14	2194000	2362000	2426000	2435000	2313000	2318000	2301000	2481000	2652000	2454000	2705000	2397000
15	2189000	2355000	2428000	2435000	2304000	2314000	2287000	2468000	2637000	2449000	2663000	2382000
16	2179000	2456000	2424000	2435000	2292000	2306000	2281000	2452000	2619000	2463000	2619000	2369000
17	2177000	2554000	2410000	2406000	2286000	2303000	2277000	2434000	2591000	2485000	2577000	2357000
18	2173000	2592000	2413000	2400000	2280000	2320000	2274000	2431000	2561000	2503000	2550000	2341000
19	2169000	2588000	2409000	2401000	2270000	2316000	2311000	2465000	2553000	2503000	2536000	2424000
20	2168000	2567000	2596000	2389000	2272000	2301000	2386000	2496000	2607000	2504000	2525000	2496000
21	2168000	2544000	2743000	2379000	2271000	2293000	2412000	2489000	2647000	2501000	2518000	2518000
22	2168000	2535000	2993000	2374000	2274000	2290000	2421000	2466000	2650000	2505000	2507000	2506000
23	2166000	2505000	3036000	2362000	2280000	2292000	2419000	2450000	2630000	2510000	2503000	2476000
24	2225000	2473000	3029000	2366000	2278000	2287000	2408000	2427000	2598000	2506000	2490000	2439000
25	2282000	2449000	3000000	2357000	2276000	2290000	2398000	2402000	2580000	2506000	2481000	2412000
26	2375000	2428000	2958000	2359000	2265000	2286000	2383000	2380000	2579000	2516000	2468000	2409000
27	2401000	2411000	2930000	2353000	2261000	2278000	2365000	2350000	2570000	2549000	2450000	2399000
28	2532000	2397000	2909000	2341000	2257000	2282000	2359000	2371000	2553000	2592000	2432000	2379000
29	2588000	2387000	2879000	2329000	2253000	2290000	2392000	2402000	2571000	2607000	2421000	2357000
30	2604000	2382000	2849000	2324000	---	2283000	2418000	2413000	2587000	2600000	2409000	2337000
31	2658000	---	2811000	2316000	---	2289000	---	2410000	---	2598000	2394000	---

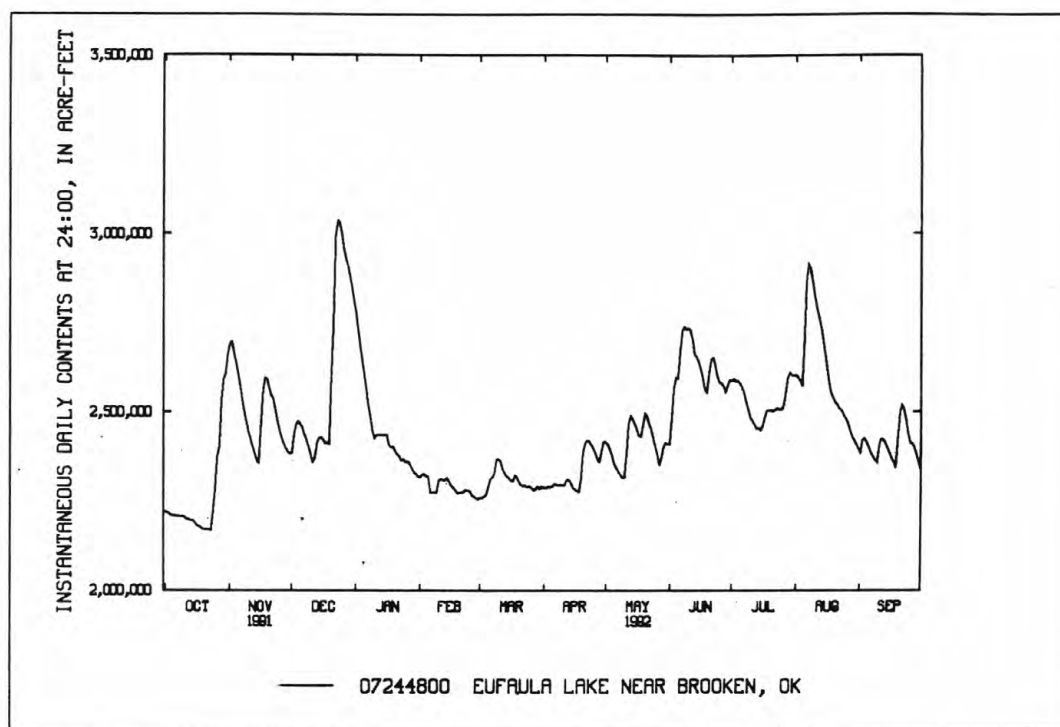
ARKANSAS RIVER BASIN
07244800 EUFAULA LAKE NEAR BROOKEN, OK--Continued

467

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MAX	2658000	2696000	3036000	2777000	2323000	2367000	2421000	2496000	2738000	2607000	2916000	2518000
MIN	2166000	2355000	2357000	2316000	2253000	2257000	2274000	2314000	2411000	2449000	2394000	2337000
(+)	588.09	585.63	589.39	585.01	584.41	584.76	585.96	585.89	587.48	587.57	585.74	585.21
(++)	+440,000	-276,000	+429,000	-495,000	-63,000	+36,000	+129,000	-8,000	+177,000	+11,000	-204,000	-57,000
CAL YR 1991	MAX 3036000		MIN 2047000		(++) +517,000							
WTR YR 1992	MAX 3036000		MIN 2166000		(++) +119,000							

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

(++) CHANGE IN CONTENTS, IN ACRE FEET



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 left 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 National Geodetic Vertical Datum of 1929. 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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1720	22500	10500	36700	5380	470	1340	13500	15100	26100	14000	9200
2	1690	22400	7850	36500	315	3110	2130	13500	21100	20700	14400	12600
3	2110	22400	10300	33000	3580	2090	954	13500	24600	15200	14400	11100
4	1800	22300	13900	29600	5420	2060	241	13500	24900	14700	16500	14600
5	200	21900	13800	29600	4430	4800	23	13500	22900	15000	22200	15000
6	e100	21800	13800	29400	5920	5010	1420	13600	18000	14900	20600	15000
7	190	21900	13800	29300	2720	6080	1760	7650	16700	14800	34900	14900
8	304	18900	13800	25800	4210	4900	1410	7270	21500	14800	39800	14700
9	427	15900	13700	22300	2790	5560	1260	5000	32000	14700	39800	14700
10	1550	15900	13900	20400	4130	7150	1420	2100	32200	14600	40400	17300
11	2540	14300	13900	15100	3320	12000	1830	3480	30000	7920	38800	14500
12	480	11900	14000	15000	5940	13500	168	14900	37200	7210	31400	13700
13	e95	10900	14000	13700	9250	12200	3550	25400	38600	7490	27600	13700
14	400	13800	11300	3640	9580	6710	9690	28000	38600	5510	27600	13600
15	3250	11100	10200	6040	10600	4740	9020	26000	39000	2650	27900	13600
16	1250	4260	13700	4140	8440	6090	9770	23300	34600	5810	27900	9150
17	2520	9720	14000	9350	10300	6050	6470	23100	30500	4020	28000	8980
18	1890	17000	3270	9180	8530	5900	5860	23200	28500	3910	22700	9880
19	300	23400	12600	7690	6900	6130	6990	24600	19600	4020	15300	11500
20	e100	23400	18000	10200	2440	7530	10000	26500	9320	4320	9470	13300
21	e80	23400	7020	11300	2270	9940	13600	29300	15300	4640	9270	18200
22	180	21100	18700	10700	2340	5200	13600	27500	18100	4970	9560	22300
23	1000	18400	34800	9220	472	4520	13600	23100	27600	4660	8820	22300
24	1870	18300	43000	9260	1970	2950	13600	22700	29900	5890	8810	21700
25	1260	16800	43200	4260	4680	4620	13600	22500	29700	4330	9450	19500
26	1570	14200	43200	3620	7160	3170	13600	19600	29700	3890	10500	8340
27	5940	14100	40800	8370	5220	4500	13600	15700	29700	5460	10900	8990
28	13200	11800	37300	9030	4420	1780	13600	16400	29700	5230	9770	10000
29	16800	12000	37300	11600	4020	1240	13700	15800	29700	8700	9560	13500
30	21300	8500	37000	7730	---	2130	13500	15200	29700	14400	10100	11400
31	22900	---	36700	7490	---	647	---	15000	---	14400	11100	---
TOTAL	109016	504280	629340	479220	146747	162777	211306	544400	804020	294930	621510	417240
MEAN	3517	16810	20300	15460	5060	5251	7044	17560	26800	9514	20050	13910
MAX	22900	23400	43200	36700	10600	13500	13700	29300	39000	26100	40400	22300
MIN	80	4260	3270	3620	315	470	23	2100	9320	2650	8810	8340
AC-FT	216200	1000000	1248000	950500	291100	322900	419100	1080000	1595000	585000	1233000	827600
e Estimated												

ARKANSAS RIVER BASIN
07245000 CANADIAN RIVER NEAR WHITEFIELD, OK--Continued

469

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2885	5599	6025	5790	5662	8489	8649	12590	11330	4653	3674	2379
MAX	13100	21930	21850	20270	14830	30340	37980	64970	35550	10420	20050	13910
(WY)	1987	1975	1974	1988	1989	1985	1990	1990	1982	1982	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

SUMMARY STATISTICS 1991 CALENDAR YEAR 1992 WATER YEAR WATER YEARS 1968 - 92

ANNUAL TOTAL	2405509	4924786	
ANNUAL MEAN	6590	13460	^a 6477
HIGHEST ANNUAL MEAN			14120 1990
LOWEST ANNUAL MEAN			1012 1981
HIGHEST DAILY MEAN	43200	Dec 25 43200	Dec 25 226000 May 5 1990
LOWEST DAILY MEAN	80	Oct 21 23	Apr 5 ^b 17 Dec 1 1980
ANNUAL SEVEN-DAY MINIMUM	432	Sep 17 653	Oct 4 39 Oct 7 1985
INSTANTANEOUS PEAK FLOW		^c 44000	Dec 24 ^d 241000 May 3 1990
INSTANTANEOUS PEAK STAGE		^c 13.53	Dec 24 ^e 25.32 May 3 1990
ANNUAL RUNOFF (AC-FT)	4771000	9768000	4693000
10 PERCENT EXCEEDS	15700	29500	15700
50 PERCENT EXCEEDS	3710	11900	3550
90 PERCENT EXCEEDS	416	1820	121

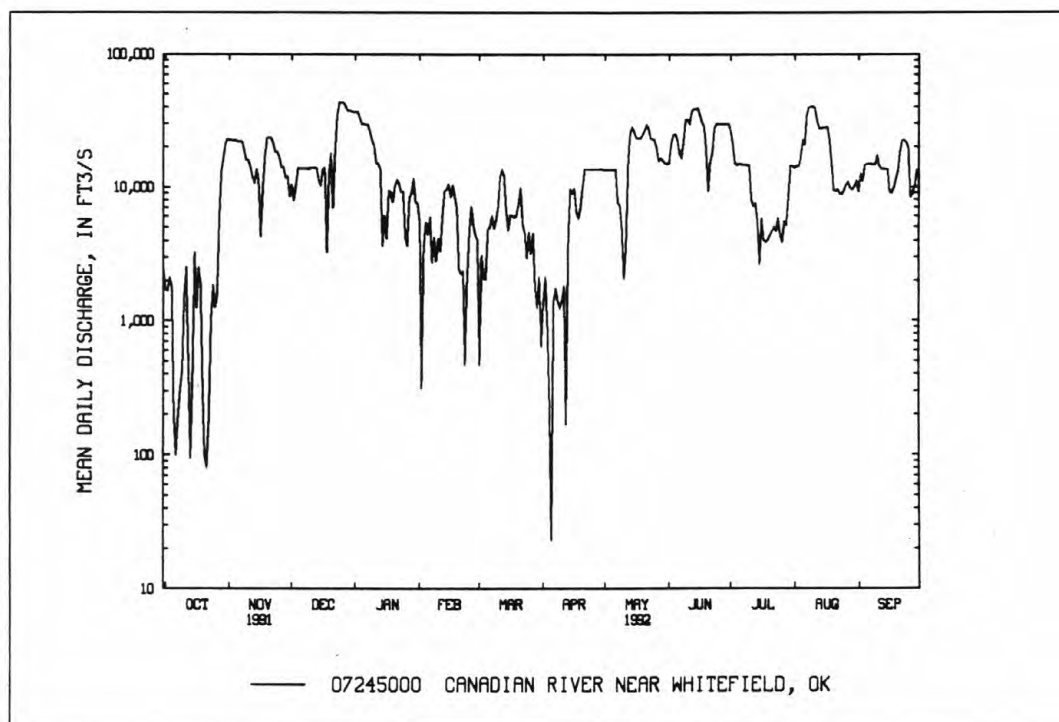
^aPrior to regulation water years 1939-63, 6,005 ft³/s.

^bMinimum daily discharge for period of record was 0.4, Oct. 8, 1956.

^cAlso occurred on Dec. 26.

^dMaximum discharge for period of record 281,000 ft³/s, May 10, 1943.

^eMaximum gage height for period of record 25.5 ft, May 10, 1943.



ARKANSAS RIVER BASIN
07247000 POTEAU RIVER AT CAUTHRON, AR

LOCATION.--Lat 34°55'08", long 94°17'55", NW 1/4 SW 1/4 sec.16, T.3 N., R.31 W., Scott County, Hydro-logic Unit 11110105, on right bank at downstream side of highway bridge at Cauthron, 2.9 mi downstream from Cross Creek, 7.8 mi downstream from Jones Creek, and at mile 109.0.

DRAINAGE AREA.--203 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1939 to current year.

REVISED RECORDS.--WSP 1037: 1939(M). WSP Ark. 1970: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 569.53 ft above National Geodetic Vertical Datum of 1929. Prior to May 2, 1939, nonrecording gage at present site and datum. Satellite data collection platform installed Sept. 13, 1991.

REMARKS.--Records good, except for estimated daily discharge, which are fair. 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.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1935 reached a stage of 27.4 ft, from information by local resident.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	2190	3160	257	96	129	57	96	46	25	4.6	3.3
2	1.8	897	3460	324	88	104	50	61	406	18	3.8	12
3	1.2	623	1750	249	77	91	48	46	606	444	1.8	96
4	1.4	471	1060	197	77	86	40	42	235	128	1.0	33
5	1.1	379	818	189	72	152	36	28	156	46	.97	13
6	.97	312	717	169	59	149	37	24	695	25	.98	9.4
7	.98	251	652	158	49	109	65	21	504	21	1.4	8.9
8	1.3	200	483	203	48	86	71	19	224	16	1.1	15
9	1.5	170	1790	232	40	115	46	14	324	9.9	1.2	10
10	1.5	140	1030	156	38	180	68	9.3	397	5.2	1.1	11
11	1.7	117	763	146	37	108	40	8.9	462	3.9	1.9	43
12	1.5	90	1140	139	98	86	36	6.3	531	2.9	1.1	41
13	.88	90	1210	445	123	78	25	7.7	388	1.7	.90	17
14	.64	80	748	1200	129	66	27	12	562	1.3	.81	9.4
15	.68	80	570	500	214	70	19	68	2300	1.4	.73	5.7
16	.97	120	489	450	135	52	16	38	1010	.92	.75	5.8
17	1.9	1100	420	400	95	50	17	29	627	74	.72	5.6
18	1.9	800	343	380	96	648	14	58	409	26	.71	4.7
19	1.7	1800	306	360	77	359	16	35	439	6.1	.82	32
20	.97	2190	577	320	53	239	71	49	1740	2.8	.84	353
21	.93	967	1350	280	42	180	107	28	753	5.0	.92	291
22	1.6	727	1020	250	39	180	61	17	372	2.9	.94	1150
23	2.5	570	1170	269	586	190	45	45	225	3.2	1.0	459
24	4.0	449	772	180	376	170	27	41	142	2.8	.95	283
25	272	380	602	171	238	130	24	24	95	1.9	1.5	218
26	739	298	505	134	320	110	20	16	62	1.5	2.1	200
27	331	254	433	150	234	100	13	13	42	1.5	2.1	146
28	348	218	334	210	195	90	9.6	17	27	1.6	6.2	117
29	4550	193	289	147	157	80	133	336	23	3.2	5.4	77
30	1380	693	240	118	---	70	187	146	31	2.5	3.0	60
31	1250	---	208	121	---	60	---	74	---	2.9	2.9	---
TOTAL	8904.921684928409	8504	3888	4317	1425.6	1429.2	13833	888.12	54.24	3729.8		
MEAN	287	562	916	274	134	139	47.5	46.1	461	28.6	1.75	124
MAX	4550	2190	3460	1200	586	648	187	336	2300	444	6.2	1150
MIN	.64	80	208	118	37	50	9.6	6.3	23	.92	.71	3.3
AC-FT	17660	33420	56350	16870	7710	8560	2830	2830	27440	1760	108	7400

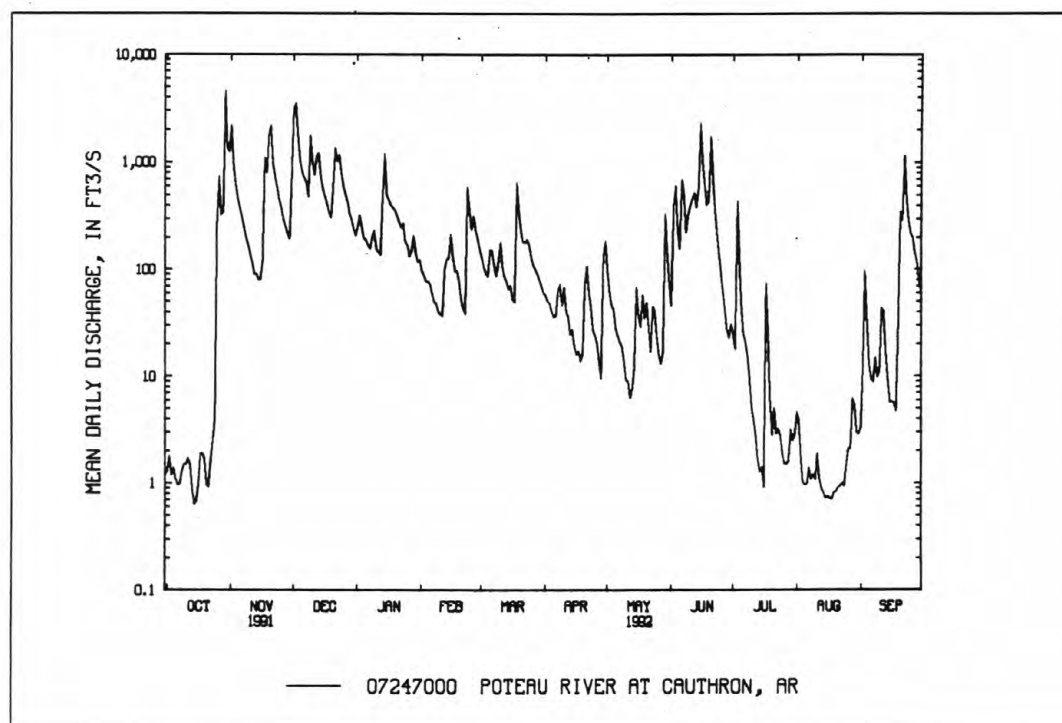
ARKANSAS RIVER BASIN
07247000 POTEAU RIVER AT CAUTHRON, AR--Continued

471

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	83.8	171	272	262	366	415	377	450	182	63.4	27.3	37.1
MAX	1423	849	1262	1650	1514	2212	1629	2080	1238	686	283	300
(WY)	1985	1975	1972	1949	1945	1945	1957	1990	1974	1969	1957	1950
MIN	.000	.000	.000	.000	12.4	18.0	25.4	13.6	1.24	.003	.000	.000
(WY)	1953	1956	1956	1956	1964	1954	1956	1977	1972	1964	1954	1943

SUMMARY STATISTICS	1991 CALENDAR YEAR	1992 WATER YEAR	WATER YEARS 1940-92
ANNUAL TOTAL	135668.92	92231.88	
ANNUAL MEAN	372	252	225
HIGHEST ANNUAL MEAN			538 1945
LOWEST ANNUAL MEAN			43.7 1956
HIGHEST DAILY MEAN	6510	Apr 14 4550	Oct 29 19300 May 20 1960
LOWEST DAILY MEAN	.64	Oct 14 .64	Oct 14 .00 at times
ANNUAL SEVEN-DAY MINIMUM	1.1	Oct 10 .77	Aug 14 .00 Oct 1 1939
INSTANTANEOUS PEAK FLOW		7740	Oct 29 32200 May 20 1960
INSTANTANEOUS PEAK STAGE		14.87	Oct 29 23.76 May 20 1960
INSTANTANEOUS LOW FLOW		.50	Oct 14, 15
ANNUAL RUNOFF (AC-FT)	269100	182900	162900
10 PERCENT EXCEEDS	1040	664	470
50 PERCENT EXCEEDS	76	77	35
90 PERCENT EXCEEDS	2.0	1.5	.60



ARKANSAS RIVER BASIN

07247000 POTEAU RIVER AT CAUTHRON, AR--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1945-61, 1975-79, December 1991-July 1992 (discontinued).

REMARKS.--Samples were collected on a six-week schedule and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G) (01148)
DEC				
11...	0815	785	18	<1

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	GAGE HEIGHT (FEET) (00065)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
JUL											
20...	1235	1.00	27.5	750	1028	1028	3.0	3.65	106	8.0	7.1
20...	1240	3.00	27.5	750	1028	1028	3.0	3.65	106	8.1	7.1
20...	1242	5.00	27.5	750	1028	1028	3.0	3.65	107	8.0	7.1
20...	1245	7.00	27.5	750	1028	1028	3.0	3.65	106	8.1	7.1
20...	1247	9.00	28.0	750	1028	1028	3.0	3.65	106	8.0	7.1
20...	1250	11.0	28.0	750	1028	1028	3.0	3.65	106	8.0	7.1

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)
DEC										
11...	0815	1028	80020	785	48	6.8	8.5	11.0	--	10.2
JAN										
22...	0830	1028	80020	250	57	7.2	7.0	4.5	745	12.5
MAR										
10...	1555	1028	80020	158	88	7.1	6.0	14.5	760	10.8
APR										
13...	1440	1028	80020	29	93	*7.2	19.5	21.5	750	11.4
MAY										
27...	0800	1028	80020	12	108	6.7	12.5	19.0	748	5.4
JUN										
24...	1245	1028	80020	136	60	6.8	27.0	25.0	742	6.5

* LAB PH (STANDARD UNITS)

ARKANSAS RIVER BASIN

473

07247000 POTEAU RIVER AT CAUTHRON, AR--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)
DEC 11...	--	9	0	7	--	0.280	1.2	0.010	0.010	0.03
JAN 22...	99	13	0	11	0.180	--	--	0.010	<0.010	--
MAR 10...	106	19	0	16	--	--	--	<0.010	<0.010	--
APR 13...	131	26	0	21	0.650	--	--	0.010	<0.010	--
MAY 27...	59	22	0	18	0.460	--	--	0.010	<0.010	--
JUN 24...	81	21	0	17	0.140	--	--	0.020	<0.010	--
DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)
DEC 11...	--	0.290	0.040	0.020	0.05	0.03	0.36	0.40	--	--
JAN 22...	0.190	0.190	0.020	0.020	0.03	0.03	0.28	0.30	0.49	2.2
MAR 10...	0.610	0.620	0.030	0.040	0.04	0.05	0.37	0.40	1.0	4.5
APR 13...	0.660	0.650	0.020	0.010	0.03	0.01	0.28	0.30	0.96	4.2
MAY 27...	0.470	0.460	0.080	0.080	0.10	0.10	0.42	0.50	0.97	4.3
JUN 24...	0.160	0.180	0.050	0.040	0.06	0.05	0.35	0.40	0.56	2.5
DATE	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHATE, TOTAL (MG/L AS PO4) (00650)	PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS- ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	PHOS- PHATE, SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	
DEC 11...	0.080	0.15	0.050	0.050	0.040	0.12	14	30	--	
JAN 22...	0.100	0.25	0.100	0.080	0.060	0.18	6	4.1	--	
MAR 10...	0.120	0.34	0.100	0.110	0.100	0.31	20	8.5	98	
APR 13...	0.190	0.46	0.160	0.150	0.120	0.37	18	1.4	86	
MAY 27...	--	--	0.260	0.220	0.190	0.58	25	0.81	--	
JUN 24...	0.110	0.31	0.090	0.100	0.070	0.21	30	11	--	

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.

GAGE.--Water-stage recorder. Datum of gage is 507.76 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Some regulation by small flood-retarding structures. U.S. Geological Survey's satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, during period April to September, 3,850 ft³/s, June 15, gage height, 18.40 ft. Minimum daily discharge, 2.5 ft³/s, Aug. 28-29.

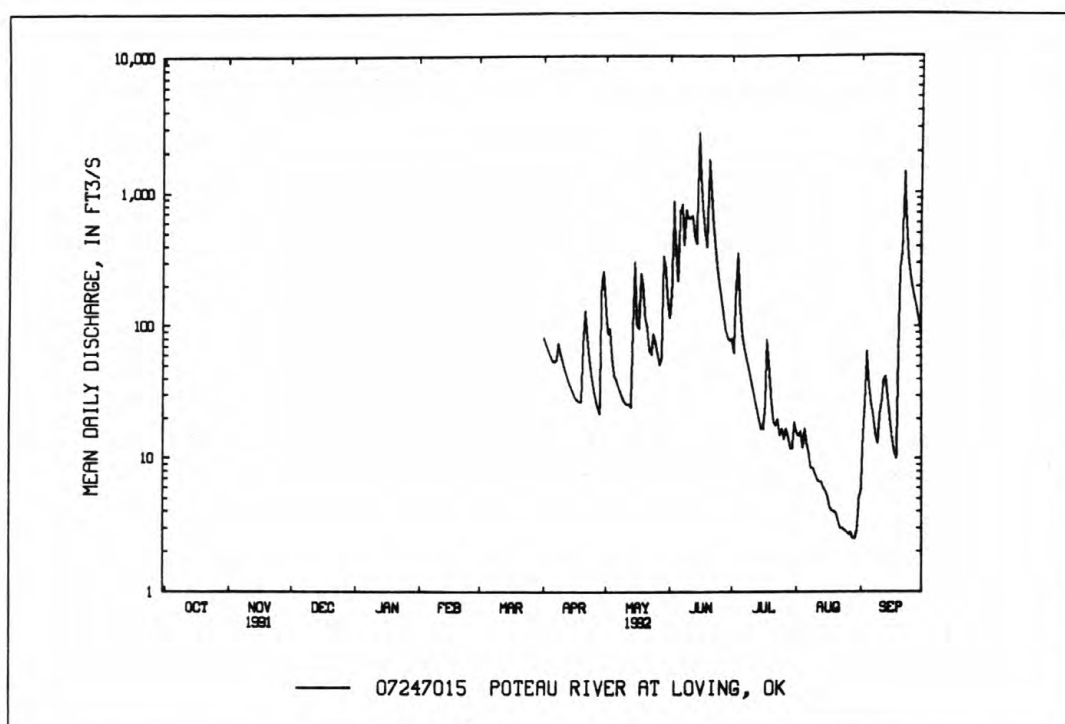
DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	83	143	117	82	16	5.9
2	---	---	---	---	---	---	74	89	183	64	15	15
3	---	---	---	---	---	---	68	97	869	196	16	28
4	---	---	---	---	---	---	61	58	387	364	12	66
5	---	---	---	---	---	---	56	43	223	146	17	36
6	---	---	---	---	---	---	54	40	743	91	13	26
7	---	---	---	---	---	---	56	35	834	71	11	21
8	---	---	---	---	---	---	76	32	413	60	8.5	15
9	---	---	---	---	---	---	64	29	751	51	8.5	13
10	---	---	---	---	---	---	55	27	649	42	7.7	22
11	---	---	---	---	---	---	48	26	656	35	7.0	27
12	---	---	---	---	---	---	43	26	676	29	6.7	40
13	---	---	---	---	---	---	38	25	485	24	6.7	42
14	---	---	---	---	---	---	35	92	423	20	6.0	28
15	---	---	---	---	---	---	32	311	2790	17	e5.7	19
16	---	---	---	---	---	---	29	105	1270	17	5.1	14
17	---	---	---	---	---	---	28	97	735	25	4.3	11
18	---	---	---	---	---	---	27	254	515	81	4.1	10
19	---	---	---	---	---	---	27	203	398	51	4.0	54
20	---	---	---	---	---	---	77	119	1790	28	3.9	275
21	---	---	---	---	---	---	132	99	1050	19	3.4	362
22	---	---	---	---	---	---	86	67	588	18	3.0	1420
23	---	---	---	---	---	---	58	63	415	20	3.0	616
24	---	---	---	---	---	---	43	90	281	15	2.9	331
25	---	---	---	---	---	---	34	78	210	17	2.8	240
26	---	---	---	---	---	---	28	63	161	14	2.7	193
27	---	---	---	---	---	---	24	52	125	17	2.8	161
28	---	---	---	---	---	---	22	59	97	15	2.5	135
29	---	---	---	---	---	---	212	344	85	12	2.5	111
30	---	---	---	---	---	---	263	288	80	12	2.9	90
31	---	---	---	---	---	---	---	158	---	19	5.0	---
TOTAL	---	---	---	---	---	---	1933	3212	17999	1672	211.7	4426.9
MEAN	---	---	---	---	---	---	64.4	104	600	53.9	6.83	148
MAX	---	---	---	---	---	---	263	344	2790	364	17	1420
MIN	---	---	---	---	---	---	22	25	80	12	2.5	5.9
AC-FT	---	---	---	---	---	---	3830	6370	35700	3320	420	8780

e Estimated

ARKANSAS RIVER BASIN
07247015 POTEAU RIVER NEAR LOVING, OK--Continued

475



ARKANSAS RIVER BASIN

07247015 POTEAU RIVER AT LOVING, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 1991 to September 1992.

REMARKS.--Samples were collected on a six-week schedule and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G) (01148)
DEC 11...	1015	838	11	<1

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	TEMPER- ATURE (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	GAGE HEIGHT (FEET) (00065)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
JUL											
20...	1415	5.00	29.5	752	1028	1028	26	9.17	80	6.0	6.9
20...	1418	12.0	29.5	752	1028	1028	26	9.17	80	6.0	7.0
20...	1422	19.0	29.5	752	1028	1028	26	9.17	80	6.2	7.0
20...	1425	26.0	29.5	752	1028	1028	26	9.17	81	6.2	7.0
20...	1428	33.0	29.5	752	1028	1028	26	9.17	81	6.2	7.0
20...	1430	40.0	29.5	752	1028	1028	26	9.17	81	6.4	7.0
20...	1433	47.0	29.5	752	1028	1028	26	9.17	81	6.4	7.0
20...	1437	54.0	29.5	752	1028	1028	26	9.17	81	6.4	7.0
20...	1440	61.0	29.5	752	1028	1028	26	9.17	81	6.6	7.0
20...	1443	68.0	29.5	752	1028	1028	26	9.17	81	6.6	7.0
20...	1446	75.0	29.5	752	1028	1028	26	9.17	81	6.6	7.0
20...	1450	82.0	29.5	752	1028	1028	26	9.17	81	6.6	7.0
20...	1453	89.0	29.5	752	1028	1028	26	9.17	81	6.4	7.0

ARKANSAS RIVER BASIN

477

07247015 POTEAU RIVER AT LOVING, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY	AGENCY	DIS-	SPE-	PH	TEMPER-	TEMPER-	BARO-	OXYGEN,
		COL- LECTING SAMPLE (CODE NUMBER) (00027)	ANA- LYZING SAMPLE (CODE NUMBER) (00028)	CHARGE, INST. CUBIC FEET PER SECOND (00061)		CIFIC CON- DUCT- ANCE (US/CM) (00095)			WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	
DEC 11...	1015	1028	80020	838	48	6.9	14.0	11.5	754	9.4
JAN 22...	1045	1028	80020	285	59	7.1	9.0	5.5	746	12.6
MAR 11...	0745	1028	80020	206	86	7.3	-2.0	9.0	760	10.0
APR 14...	0735	1028	80020	36	93	7.0	15.5	19.5	750	7.4
MAY 27...	1000	1028	80020	50	115	7.0	15.0	18.5	750	6.0
JUN 24...	1445	1028	80020	260	65	6.8	30.0	28.0	742	6.5
JUL 20...	1340	1028	80020	26	81	7.0	31.0	29.5	752	6.6
AUG 25...	0755	1028	80020	2.9	114	7.0	22.0	24.5	754	4.8
DATE		OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)
DEC 11...	88	12	0	10	0.230	--	--	0.010	<0.010	--
JAN 22...	102	19	0	16	0.150	--	--	0.010	<0.010	--
MAR 11...	87	20	0	17	0.250	--	--	0.010	<0.010	--
APR 14...	82	21	0	17	0.560	--	--	0.020	<0.010	--
MAY 27...	65	27	0	22	0.980	--	--	0.020	<0.010	--
JUN 24...	86	17	0	14	--	--	--	<0.010	<0.010	--
JUL 20...	88	--	--	--	--	0.055	0.24	--	0.010	0.03
AUG 25...	58	29	0	24	--	--	--	<0.010	<0.010	--

ARKANSAS RIVER BASIN

07247015 POTEAU RIVER AT LOVING, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)
DEC 11...	0.240	0.250	0.020	0.030	0.03	0.04	0.38	0.40	0.64	2.8
JAN 22...	0.160	0.160	--	0.020	--	0.03	--	0.30	0.46	2.0
MAR 11...	--	0.280	0.040	0.030	0.05	0.04	0.46	0.50	0.76	3.4
APR 14...	0.580	0.560	0.040	0.040	0.05	0.05	0.36	0.40	0.98	4.3
MAY 27...	1.00	0.990	0.060	0.050	0.08	0.06	0.24	0.30	1.3	5.8
JUN 24...	0.140	0.140	0.030	0.040	0.04	0.05	0.27	0.30	0.44	1.9
JUL 20...	--	0.065	0.040	0.040	0.05	0.05	0.46	0.50	--	--
AUG 25...	0.082	0.086	0.060	0.050	0.08	0.06	0.54	0.60	0.68	3.0
DATE	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHATE, TOTAL (MG/L AS PO4) (00650)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, TOTAL (MG/L AS P) (70507)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	
DEC 11...	0.070	0.12	0.050	0.040	0.040	0.12	21	48	--	
JAN 22...	0.070	0.12	0.050	0.040	0.020	0.06	6	4.6	--	
MAR 11...	--	0.18	0.070	0.060	0.030	0.09	12	6.7	94	
APR 14...	0.070	0.15	0.080	0.050	0.030	0.09	17	1.7	85	
MAY 27...	0.090	0.25	0.080	0.080	0.050	0.15	29	3.9	--	
JUN 24...	--	0.12	0.090	0.040	0.040	0.12	31	22	--	
JUL 20...	0.060	0.12	0.070	0.040	0.030	0.09	14	0.98	--	
AUG 25...	0.050	0.15	0.020	0.050	0.030	0.09	8	0.06	--	



Old gage, Council Creek at Stillwater, Oklahoma

ARKANSAS RIVER BASIN

07247025 POTEAU RIVER AT HONTUBBY, OK

LOCATION.--Lat 34°51'29", long 94°33'56", in SW 1/4 SE 1/4, sec. 33, T.5 N., 26 R. E., LeFlore County, Hydrologic Unit 11110105, at county road bridge, .6 mi north of Hontubby.

DRAINAGE AREA.--301 mi².

PERIOD OF RECORD.--May 1992 (discontinued).

REMARKS.--Specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM HG) (00025)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00300)	BICAR-BONATE DIS IT FIELD HCO3 (00453)
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MAY

27...	1315	1028	80020	60	101	6.8	18.0	19.5	750	5.7	63	27
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DATE	MG/L CO3	CAR-BONATE WATER DIS IT FIELD (00452)	ALKA-LINITY WAT DIS IT FIELD (39086)	NITRO-GEN, NITRATE (MG/L AS N) (00620)	NITRO-GEN, NITRITE (MG/L AS N) (00615)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 (MG/L AS N) (00630)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA (MG/L AS N) (00610)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4) (00608)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4) (71845)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4) (71846)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N) (00605)
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MAY

27...	0	22	0.610	0.010	<0.010	0.620	0.620	0.060	0.060	0.08	0.08	0.34
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MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, TOTAL (MG/L AS N) (00600)	NITRO-GEN, TOTAL (MG/L AS NO3) (71887)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHATE, TOTAL (MG/L AS PO4) (00650)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHATE, ORTHO, DIS-SOLVED (MG/L AS PO4) (00660)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)
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MAY

27...	0.40	1.0	4.5	0.080	0.12	0.080	0.040	0.020	0.06	29	4.7
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ARKANSAS RIVER BASIN

481

07247250 BLACK FORK BELOW BIG CREEK NEAR PAGE, OK

LOCATION.--Lat 34°52'46", long 94°30'40", 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.

GAGE.--Water-stage recorder. Datum of gage is 684.00 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,480 ft³/s Sept. 21, 1992, gage height, 13.19 ft. Minimum daily discharge, 1.7 ft³/s, Aug. 19-20, 1993.

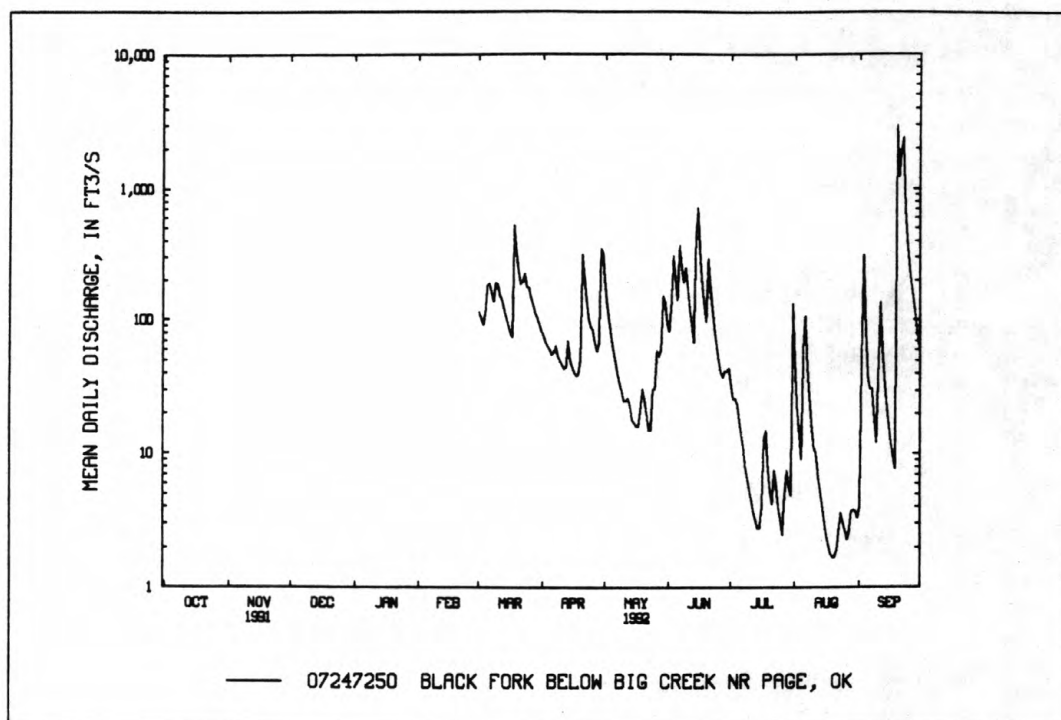
EXTREMES FOR CURRENT PERIOD.--Maximum discharge during period March to September, 6,480 ft³/s, Sept. 21, gage height, 13.19 ft. Minimum daily discharge 1.7 ft³/s, Aug. 19-20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	116	78	191	83	33	48	4.0
2	---	---	---	---	---	102	70	130	137	26	22	55
3	---	---	---	---	---	94	65	99	310	26	14	312
4	---	---	---	---	---	115	61	75	208	24	9.1	88
5	---	---	---	---	---	188	56	60	144	18	66	38
6	---	---	---	---	---	192	58	49	370	14	108	31
7	---	---	---	---	---	164	64	40	252	11	46	31
8	---	---	---	---	---	140	55	34	196	8	26	18
9	---	---	---	---	---	194	50	30	251	6.6	16	12
10	---	---	---	---	---	189	47	25	175	5.4	11	44
11	---	---	---	---	---	158	44	25	120	4.5	10.2	137
12	---	---	---	---	---	143	45	26	91	3.7	7.1	62
13	---	---	---	---	---	122	71	23	69	3.2	5.5	36
14	---	---	---	---	---	106	51	18	432	2.8	4.2	23
15	---	---	---	---	---	93	45	17	724	2.8	3.2	16
16	---	---	---	---	---	81	41	16	318	4	2.5	12
17	---	---	---	---	---	75	39	16	189	13	2.1	9.3
18	---	---	---	---	---	537	40	22	129	15	1.8	7.7
19	---	---	---	---	---	346	52	31	98	7.9	1.7	2990
20	---	---	---	---	---	241	318	26	294	5.3	1.7	1220
21	---	---	---	---	---	192	215	20	174	4.2	1.9	1940
22	---	---	---	---	---	198	146	15	122	7.6	2.6	2410
23	---	---	---	---	---	229	105	15	86	6	3.6	676
24	---	---	---	---	---	182	90	31	66	4	3.1	382
25	---	---	---	---	---	179	85	31	50	3.2	2.7	249
26	---	---	---	---	---	151	68	59	41	2.5	2.3	181
27	---	---	---	---	---	132	59	55	38	4.8	2.6	139
28	---	---	---	---	---	114	68	61	42	7.6	3.7	99
29	---	---	---	---	---	105	351	155	42	5.9	3.8	74
30	---	---	---	---	---	95	325	138	44	4.9	3.7	58
31	---	---	---	---	---	84	---	95	---	136	3.3	---
TOTAL	---	---	---	---	---	5057	2862	1628	5295	420.9	439.4	11354.0
MEAN	---	---	---	---	---	163	95.4	52.5	176	13.6	14.2	378
MAX	---	---	---	---	---	537	351	191	724	136	108	2990
MIN	---	---	---	---	---	75	39	15	38	2.5	1.7	4.0
AC-FT	---	---	---	---	---	10030	5680	3230	10500	835	872	22520

ARKANSAS RIVER BASIN

07247250 BLACK FORK BELOW BIG CREEK NEAR PAGE, OK--Continued



07247250 BLACK FORK BELOW BIG CREEK NEAR PAGE, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 1991 to September 1992.

REMARKS.--Samples were collected on a six-week schedule and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G) (01148)
DEC 16...	1430	282	9	<1

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	TEMPER- ATURE (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	GAGE HEIGHT (FEET) (00065)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
JUL											
22...	0845	40.0	26.0	747	1028	1028	7.4	4.26	42	6.4	6.3
22...	0850	36.0	26.0	747	1028	1028	7.4	4.26	42	6.2	6.3
22...	0854	32.0	26.0	747	1028	1028	7.4	4.26	42	6.2	6.3
22...	0858	28.0	26.0	747	1028	1028	7.4	4.26	42	6.2	6.3
22...	0902	24.0	26.0	747	1028	1028	7.4	4.26	42	6.2	6.3
22...	0906	20.0	26.0	747	1028	1028	7.4	4.26	42	6.4	6.3
22...	0910	16.0	26.0	747	1028	1028	7.4	4.26	42	6.0	6.3
22...	0912	12.0	26.0	747	1028	1028	7.4	4.26	42	6.0	6.3
22...	0916	8.00	26.0	747	1028	1028	7.4	4.26	42	6.1	6.3
22...	0920	4.00	26.0	747	1028	1028	7.4	4.26	42	6.0	6.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE OF WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	BICAR- BONATE WATER DIS IT FIELD HCO3 (00453)
DEC											
16...	1430	1028	80020	282	103	7.0	9.5	10.0	755	11.0	10
JAN											
22...	1415	1028	80020	160	27	6.9	10.0	7.5	739	11.4	--
MAR											
11...	1445	1028	80020	153	28	7.0	8.0	10.0	760	11.6	3
APR											
14...	1015	1028	80020	50	35	6.8	20.5	19.5	750	7.8	10
MAY											
28...	0815	1028	80020	53	21	6.5	11.0	15.0	744	7.8	9
JUN											
25...	0850	1028	80020	53	30	6.7	22.5	24.5	740	6.4	9
JUL											
22...	0820	1028	80020	7.4	42	6.3	24.5	26.0	747	6.2	16
AUG											
25...	0945	1028	80020	2.6	40	--	29.5	25.5	751	4.8	--

07247250 BLACK FORK BELOW BIG CREEK NEAR PAGE, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	CAR- BONATE DIS IT FIELD MG/L CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD ASMG/L CACO3 (39086)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)
DEC 16...	0	8	0.130	0.010	<0.010	0.140	0.140	0.030	0.020	0.04	0.03	--
JAN 22...	--	--	--	<0.010	<0.010	0.100	0.100	0.010	0.010	0.01	0.01	--
MAR 11...	0	3	--	<0.010	<0.010	<0.050	<0.050	0.020	0.030	0.03	0.04	--
APR 14...	0	8	0.058	0.010	<0.010	0.068	0.075	0.050	0.040	0.06	0.05	0.35
MAY 28...	0	7	--	<0.010	<0.010	0.069	0.070	0.030	0.030	0.04	0.04	--
JUN 25...	0	7	--	<0.010	<0.010	<0.050	<0.050	0.030	0.040	0.04	0.05	0.17
JUL 22...	0	13	--	<0.010	<0.010	<0.050	<0.050	0.060	0.040	0.08	0.05	0.24
AUG 25...	--	--	--	<0.010	<0.010	<0.050	<0.050	--	0.060	--	0.08	--

DATE	NITRO- GEN, AM- MONIA + NITRO- ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHATE, TOTAL (MG/L AS PO4) (00650)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS TOTAL (MG/L AS P) (70507)	PHOS- PHORUS ORTH, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTH, DIS- SOLVED (MG/L AS PO4) (00660)	SEDI- MENT, DIS- SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
DEC 16...	<0.20	--	--	--	0.03	0.020	0.010	0.020	0.06	<1	--	--
JAN 22...	<0.20	--	--	0.020	0.03	0.020	0.010	<0.010	--	<1	--	--
MAR 11...	<0.20	--	--	<0.010	--	<0.010	<0.010	<0.010	--	2	0.83	87
APR 14...	0.40	0.47	2.1	0.010	0.09	0.020	0.030	<0.010	--	24	3.2	63
MAY 28...	<0.20	--	--	0.020	--	0.030	<0.010	<0.010	--	4	0.58	--
JUN 25...	0.20	--	--	0.020	--	0.020	<0.010	0.010	0.03	5	0.72	--
JUL 22...	0.30	--	--	--	--	0.260	<0.010	<0.010	--	3	0.06	--
AUG 25...	0.40	--	--	<0.010	0.06	<0.010	0.020	<0.010	--	5	0.03	--

ARKANSAS RIVER BASIN

485

07247345 BLACK FORK AT HODGEN, OK

LOCATION.--Lat 34°50'35", long 94°37'28", in SE 1/4 SE 1/4, sec. 01 T.4 N., R.25E., LeFlore County, Hydrologic Unit 11110105, at county road bridge .4 mi east of Hodgen, OK.

DRAINAGE AREA.--179 mi².

PERIOD OF RECORD.--December 1991 to September 1992.

REMARKS.--Samples were collected periodically, and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, (INST. CUBIC FEET PER SECOND) (00061)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G) (01148)
DEC 17...	0945	373	6	<1

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, (INST. CUBIC FEET PER SECOND) (00061)	GAGE HEIGHT (FEET) (00065)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
JUL											
21...	1515	2.00	29.0	752	1028	1028	18	9.67	47	5.4	7.0
21...	1520	6.00	29.0	752	1028	1028	18	9.67	36	5.6	7.0
21...	1525	10.0	29.0	752	1028	1028	18	9.67	36	5.6	7.0
21...	1530	14.0	29.0	752	1028	1028	18	9.67	36	5.7	7.0
21...	1535	18.0	29.0	752	1028	1028	18	9.67	39	5.6	7.0
21...	1540	22.0	29.0	752	1028	1028	18	9.67	36	5.7	7.0
21...	1545	26.0	29.0	752	1028	1028	18	9.67	36	5.7	7.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)
DEC 17...	0945	1028	80020	373	32	7.0	8.5	9.0	760	11.2	12
MAR 11...	1210	1028	80020	199	37	6.9	7.0	12.0	760	9.8	10
MAY 27...	1510	1028	80020	88	37	6.7	17.5	19.0	749	6.5	12
JUN 25...	1045	1028	80020	100	41	7.0	27.0	26.0	745	7.4	12
JUL 21...	1435	1028	80020	18	36	7.0	31.0	28.5	752	5.6	20
AUG 24...	1415	1028	80020	7.2	42	6.3	27.5	28.5	--	6.6	22

ARKANSAS RIVER BASIN

07247345 BLACK FORK AT HODGEN, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	CAR- BONATE WATER DIS FIELD MG/L CO3 (00452)	ALKA- LINTY WAT DIS TOT IT FIELD ASMG/L AS CACO3 (39086)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NITRITE SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO- GEN, AMMONIA SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)
DEC 17...	0	10	0.082	0.010	<0.010	0.092	0.087	0.030	0.010	0.04	0.01	--
MAR 11...	0	8	--	<0.010	<0.010	<0.050	<0.050	0.030	0.040	0.04	0.05	0.17
MAY 27...	0	10	0.078	0.010	<0.010	0.088	0.086	0.040	0.050	0.05	0.06	0.36
JUN 25...	0	10	--	<0.010	<0.010	0.067	0.068	0.030	0.040	0.04	0.05	0.37
JUL 21...	0	17	--	<0.010	<0.010	<0.050	<0.050	0.070	0.080	0.09	0.10	0.43
AUG 24...	0	18	--	<0.010	<0.010	<0.050	<0.050	--	0.060	--	0.08	--
DATE	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHATE, TOTAL (MG/L AS PO4) (00650)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTH TOTAL (MG/L AS P) (70507)	PHOS- PHORUS ORTH SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTH SOLVED (MG/L AS PO4) (00660)	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)
DEC 17...	<0.20	--	--	--	--	0.100	<0.010	<0.010	--	3	3.0	--
MAR 11...	0.20	--	--	--	--	0.020	<0.010	<0.010	--	4	2.1	82
MAY 27...	0.40	0.49	2.2	--	--	0.070	<0.010	<0.010	--	10	2.4	--
JUN 25...	0.40	0.47	2.1	--	0.03	0.100	0.010	<0.010	--	8	2.2	--
JUL 21...	0.50	--	--	0.020	0.03	0.030	0.010	0.010	0.03	6	0.29	--
AUG 24...	0.30	--	--	<0.010	0.06	<0.010	0.020	<0.010	--	11	0.21	--



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.

WATER-DISCHARGE RECORDS

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 National Geodetic Vertical Datum of 1929. Prior to April 25, 1939, nonrecording gage at same site and datum.

REMARKS.--Records poor. 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 flood-marks.

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, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DAY	DAILY MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.52	1570	370	117	62	30	43	240	334	228	335	5.8
2	.52	871	e1280	135	54	28	40	167	1510	128	116	25
3	.51	585	1370	117	47	27	33	120	2180	97	152	515
4	.87	298	773	93	42	177	29	88	1010	75	95	236
5	.81	221	574	86	40	430	25	66	761	58	618	82
6	.51	183	361	75	37	329	23	51	908	47	940	68
7	.32	141	230	66	34	208	31	41	868	39	687	72
8	.20	114	190	57	32	160	39	34	575	36	463	50
9	.21	100	164	50	30	515	37	29	451	32	294	40
10	.34	85	134	46	28	422	30	24	372	28	177	616
11	.37	72	106	42	43	225	25	40	492	25	113	879
12	.21	63	234	41	163	180	21	302	354	22	73	397
13	.21	56	367	174	153	144	19	183	373	19	e60	154
14	.25	46	233	444	113	119	21	100	512	17	e45	82
15	.26	40	169	332	86	100	22	67	1340	17	e34	55
16	.30	44	123	225	67	86	19	178	725	24	e28	44
17	.31	427	94	194	56	75	232	109	478	325	26	47
18	.39	e526	73	186	47	168	267	267	325	177	25	47
19	.35	423	102	194	39	248	643	1500	154	85	25	786
20	.31	350	1010	197	35	198	1310	1340	514	40	23	1760
21	.40	249	1950	189	33	150	740	936	361	29	19	1280
22	.62	206	1140	220	31	121	519	607	190	e20	14	1950
23	.81	175	1070	228	32	112	286	423	132	e18	11	1110
24	.98	135	750	182	33	105	196	503	282	e15	8.3	766
25	e20	110	551	142	33	93	145	341	171	e13	8.7	649
26	e960	97	374	113	38	87	105	236	108	e100	8.6	533
27	e500	83	222	98	41	80	81	146	82	1190	8.7	347
28	800	75	193	100	39	71	69	270	67	1480	16	141
29	1400	95	178	97	34	62	615	844	407	834	13	82
30	772	250	147	82	---	54	461	562	490	648	8.6	66
31	948	---	120	72	---	46	---	303	---	550	6.6	---
TOTAL	5410.58	7690	14652	4394	1522	4850	6126	10117	16526	6416	4451.5	12884.8
MEAN	175	256	473	142	52.5	156	204	326	551	207	144	429
MAX	1400	1570	1950	444	163	515	1310	1500	2180	1480	940	1950
MIN	.20	40	73	41	28	27	19	24	67	13	6.6	5.8
AC-FT	10730	15250	29060	8720	3020	9620	12150	20070	32780	12730	8830	25560

e Estimated

ARKANSAS RIVER BASIN
07247500 FOURCHE MALINE NEAR RED OAK, OK--Continued

489

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	72.5	113	120	92.4	183	226	267	275	120	59.1	18.6	46.7
MAX	675	811	726	314	715	1100	1224	1377	695	847	189	547
(WY)	1971	1986	1972	1950	1945	1945	1957	1960	1945	1950	1964	1950
MIN	.000	.000	.000	.000	1.75	2.42	18.6	8.85	.91	.042	.000	.000
(WY)	1939	1957	1964	1964	1967	1967	1950	1988	1963	1955	1943	1939

SUMMARY STATISTICS

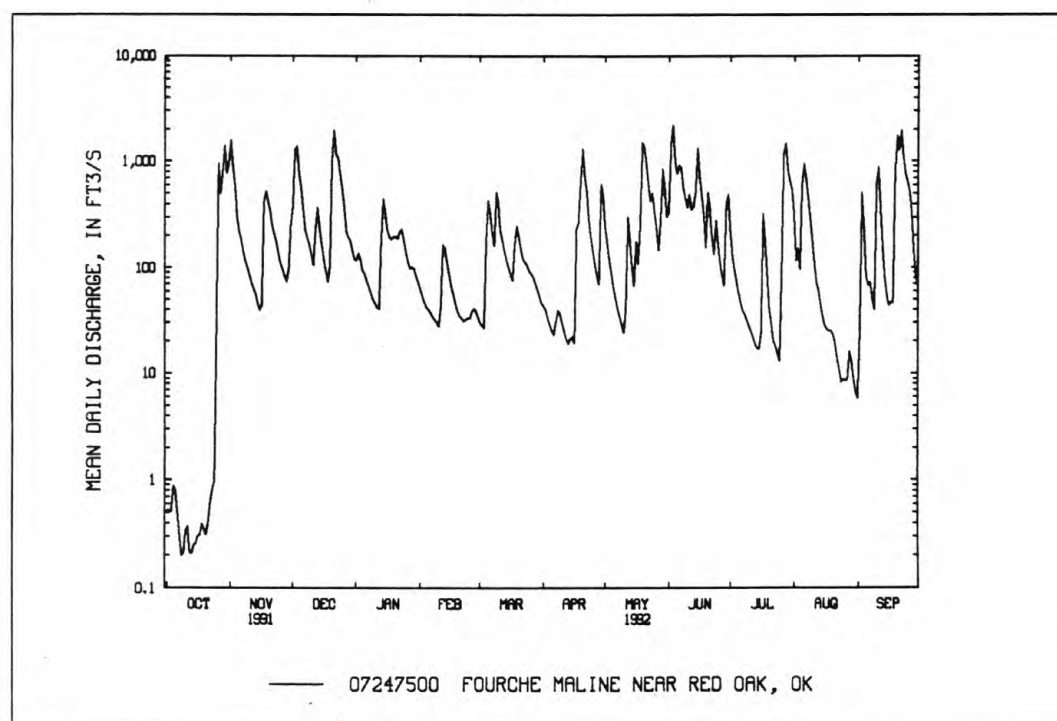
1992 WATER YEAR

WATER YEARS 1939-92

ANNUAL TOTAL	95039.88		
ANNUAL MEAN	260		133
HIGHEST ANNUAL MEAN			317
LOWEST ANNUAL MEAN			18.3
HIGHEST DAILY MEAN	2180	Jun 3	18900
LOWEST DAILY MEAN	.20	Oct 8	.00
ANNUAL SEVEN-DAY MINIMUM	.26	Oct 8	.00
INSTANTANEOUS PEAK FLOW	2710	Jun 3	^a 41500
INSTANTANEOUS PEAK STAGE	15.11	Jun 3	^b 24.79
ANNUAL RUNOFF (AC-FT)	188500		96100
10 PERCENT EXCEEDS	762		295
50 PERCENT EXCEEDS	107		16
90 PERCENT EXCEEDS	16		.20

^aFrom rating curve extended above 25,000 ft³/s.

^bFrom floodmark.



ARKANSAS RIVER BASIN

07247500 FOURCHE MALINE NEAR RED OAK, OK--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952, 1954, 1956-60, 1978, 1979, December 1991 to September 1992.
 REMARKS.--Samples were collected on a six-week schedule and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

MIXCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G) (01148)
DEC 10...	1100	133	5	<1

MIXCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	TEMPER- ATURE (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	AGENCY COL- LECTING (CODE NUMBER) (00027)	AGENCY ANA- LYZING (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	GAGE HEIGHT (FEET) (00065)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
JUL											
21...	0917	3.00	26.0	751	1028	1028	28	2.71	99	4.6	6.6
21...	0922	6.00	26.0	751	1028	1028	28	2.71	100	4.6	6.6
21...	0926	9.00	26.0	751	1028	1028	28	2.71	100	4.2	6.6
21...	0929	12.0	26.0	751	1028	1028	28	2.71	102	4.4	6.7
21...	0932	15.0	26.0	751	1028	1028	28	2.71	104	4.4	6.7
21...	0936	18.0	26.0	751	1028	1028	28	2.71	104	4.4	6.7
21...	0940	21.0	26.0	751	1028	1028	28	2.71	106	4.5	6.7
21...	0943	21.0	26.0	751	1028	1028	28	2.71	105	4.5	6.7
21...	0946	27.0	26.0	751	1028	1028	28	2.71	103	4.4	6.7
21...	0950	30.0	26.0	751	1028	1028	28	2.71	102	4.3	6.7

ARKANSAS RIVER BASIN

491

07247500 FOURCHE MALINE NEAR RED OAK, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)
DEC 10...	1100	1028	80020	133	86	7.3	5.0	12.0	754	11.0
JAN 21...	1230	1028	80020	184	100	7.3	16.0	4.5	753	12.6
MAR 10...	1130	1028	80020	435	72	6.9	4.0	11.5	760	10.2
APR 13...	1045	1028	80020	19	149	7.5	14.0	13.5	750	4.6
MAY 26...	1150	1028	80020	242	69	*7.6	21.5	19.0	750	7.1
JUN 24...	1800	1028	80020	278	82	7.0	31.0	25.0	740	5.4
JUL 21...	0845	1028	80020	28	120	6.7	27.5	25.5	751	4.2
AUG 24...	1730	1028	80020	7.8	131	6.8	29.0	25.5	750	4.8

DATE	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	BICAR- BONATE (WATER DIS IT FIELD MG/L AS HCO3) (00453)	CAR- BONATE (WATER DIS IT FIELD MG/L AS CO3) (00452)	ALKA- LINITY (WAT DIS TOT IT FIELD MG/L AS CACO3) (39086)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)
DEC 10...	103	22	0	18	0.082	0.087	0.39	0.010	0.010	0.03
JAN 21...	98	39	0	32	0.058	--	--	0.020	<0.010	--
MAR 10...	94	18	0	15	--	--	--	0.040	<0.010	--
APR 13...	45	--	--	--	0.056	--	--	0.010	<0.010	--
MAY 26...	78	--	--	--	0.063	--	--	0.020	<0.010	--
JUN 24...	67	30	0	25	0.120	--	--	0.010	<0.010	--
JUL 21...	52	32	0	26	0.210	0.230	1.0	0.030	0.010	0.03
AUG 24...	60	50	0	41	0.150	--	--	0.010	<0.010	--

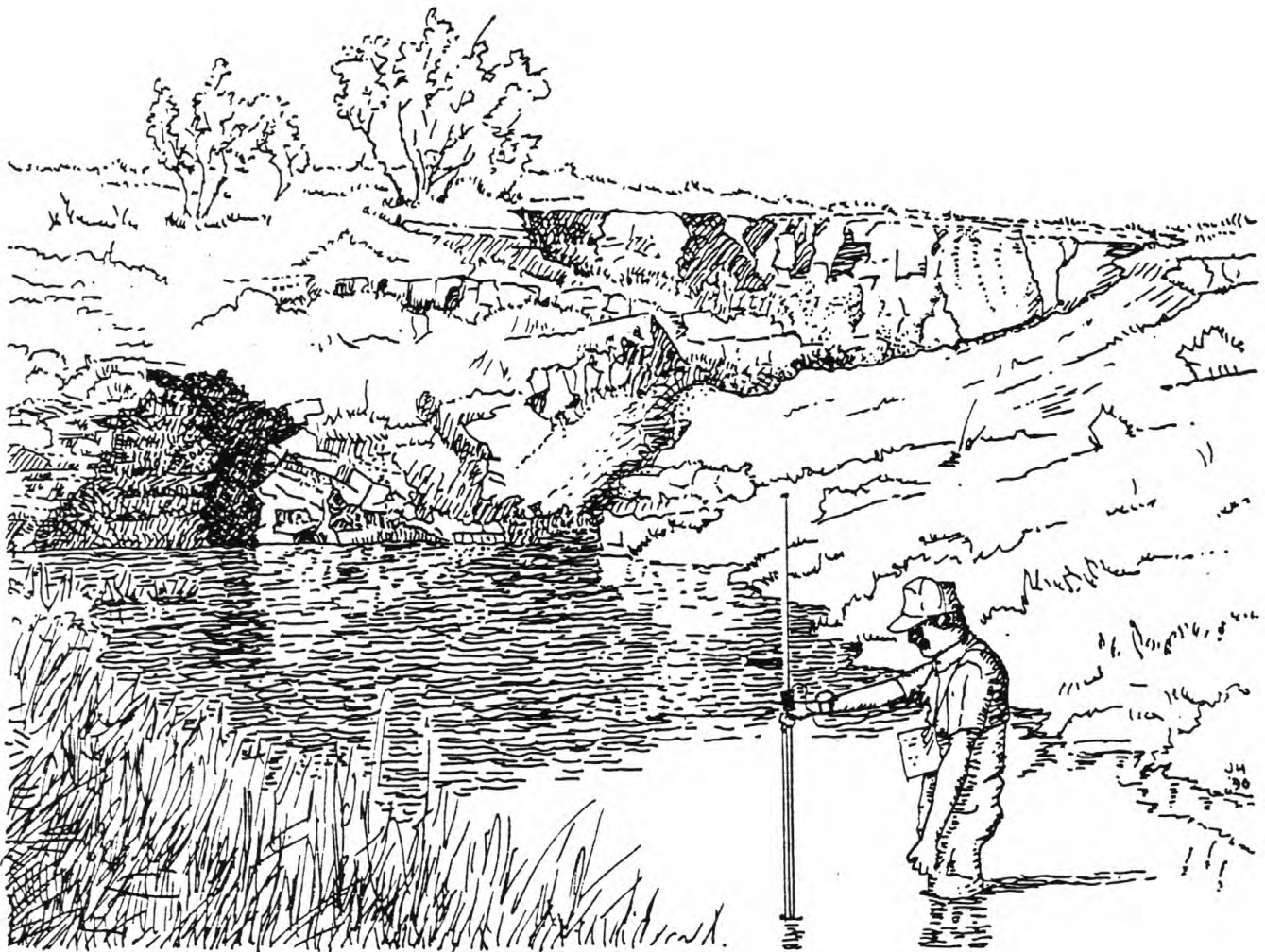
*LAB PH (STANDARD UNITS)

ARKANSAS RIVER BASIN

07247500 FOURCHE MALINE NEAR RED OAK, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)
DEC 10...	0.092	0.097	0.050	0.040	0.06	0.05	0.45	0.50	0.59	2.6
JAN 21...	0.078	0.085	0.040	0.050	0.05	0.06	0.36	0.40	0.48	2.1
MAR 10...	--	0.050	0.040	0.040	0.05	0.05	0.56	0.60	--	--
APR 13...	0.066	0.050	0.060	0.060	0.08	0.08	0.34	0.40	0.47	2.1
MAY 26...	0.083	0.086	0.080	0.070	0.10	0.09	0.32	0.40	0.48	2.1
JUN 24...	0.130	0.140	--	0.060	--	0.08	--	0.50	0.63	2.8
JUL 21...	0.240	0.240	0.090	0.090	0.12	0.12	0.31	0.40	0.64	2.8
AUG 24...	0.160	0.150	0.050	0.040	0.06	0.05	0.35	0.40	0.56	2.5
DATE	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHATE, TOTAL (MG/L AS PO4) (00650)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	
DEC 10...	0.050	0.09	0.030	0.030	0.030	0.09	14	5.0	--	
JAN 21...	0.050	0.09	0.040	0.030	0.020	0.06	10	5.0	--	
MAR 10...	0.050	0.18	0.030	--	<0.010	--	230	270	42	
APR 13...	0.030	0.09	0.020	0.030	<0.010	--	31	1.6	92	
MAY 26...	0.120	0.12	0.070	0.040	0.020	0.06	71	46	--	
JUN 24...	0.080	0.03	0.030	0.010	0.020	0.06	94	71	--	
JUL 21...	--	0.15	0.160	0.050	0.020	0.06	33	2.5	--	
AUG 24...	0.040	0.09	0.030	0.030	<0.010	--	16	0.34	--	



Measuring runoff into a sinkhole in the Blaine aquifer

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 September 1992.

REMARKS.--Samples were collected periodically, and specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, (INST. CUBIC FEET PER SECOND) (00061)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G) (01148)
DEC 10...	1400	287	13	<1

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	TEMPER- ATURE (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, (INST. CUBIC FEET PER SECOND) (00061)	GAGE HEIGHT (FEET) (00065)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
JUL											
21...	1130	3.00	26.5	752	1028	1028	61	9.59	100	5.4	6.7
21...	1133	7.00	26.5	752	1028	1028	61	9.59	100	5.2	6.7
21...	1137	11.0	26.5	752	1028	1028	61	9.59	100	5.6	6.7
21...	1140	24.0	26.5	752	1028	1028	61	9.59	100	5.5	6.7
21...	1144	28.0	27.0	752	1028	1028	61	9.59	100	5.6	6.7
21...	1147	31.0	26.5	752	1028	1028	61	9.59	100	5.6	6.7
21...	1152	34.0	26.5	752	1028	1028	61	9.59	100	5.4	6.7
21...	1155	48.0	26.5	752	1028	1028	61	9.59	100	5.6	6.7
21...	1159	52.0	26.5	752	1028	1028	61	9.59	100	5.6	6.7
21...	1203	56.0	27.0	752	1028	1028	61	9.59	100	5.0	6.7
21...	1207	69.0	26.5	752	1028	1028	61	9.59	100	5.6	6.7
21...	1210	74.0	27.0	752	1028	1028	61	9.59	100	5.4	6.7
21...	1214	78.0	26.5	752	1028	1028	61	9.59	100	5.2	6.7
21...	1218	82.0	26.5	752	1028	1028	61	9.59	100	5.4	6.7

ARKANSAS RIVER BASIN

495

07247650 FOURCHE MALINE NEAR LEFLORE, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY	AGENCY	DIS-	SPE-	PH	TEMPER-	TEMPER-	BARO-	OXYGEN,
		COL- LECTING SAMPLE (CODE NUMBER) (00027)	ANA- LYZING SAMPLE (CODE NUMBER) (00028)	(CHARGE, INST. CUBIC FEET PER SECOND) (00061)		CIFIC CON- DUCT- ANCE (US/CM) (00095)		WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	ATURE AIR (DEG C) (00020)	
DEC 10...	1400	1028	80020	287	75	6.7	10.0	14.0	754	9.0
MAR 12...	0850	1028	80020	331	74	7.1	6.5	11.5	760	10.0
MAY 26...	1430	1028	80020	465	68	6.9	16.5	20.5	751	7.2
JUN 01...	2335	1028	80020	3540	60	6.9	19.0	18.5	751	7.9
02...	0105	1028	80020	4990	48	7.1	19.5	19.0	747	8.0
02...	0400	1028	80020	5020	46	7.1	18.0	18.5	747	7.9
02...	1045	1028	80020	3840	50	6.8	19.5	18.5	746	7.8
03...	0805	1028	80020	5620	47	6.9	16.0	18.0	744	7.1
03...	1530	1028	80020	4660	51	6.8	19.0	20.5	741	7.2
26...	0900	1028	80020	282	80	7.1	26.0	25.0	748	5.8
JUL 21...	1045	1028	80020	61	100	6.7	28.0	26.5	752	5.2
AUG 25...	1145	1028	80020	7.3	100	7.1	30.0	27.5	752	4.6
DATE		OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	BICAR- BONATE (WATER DIS IT FIELD MG/L AS HCO3) (00453)	CAR- BONATE (WATER DIS IT FIELD MG/L AS CO3) (00452)	ALKA- LINITY (WAT DIS TOT IT FIELD MG/L AS CACO3) (39086)	NITRO- GEN, NITRATE TOTAL (MG/L AS N) (00620)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N) (00618)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3) (71851)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00615)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2) (71856)
DEC 10...	88	18	0	15	0.110	--	--	0.010	<0.010	--
MAR 12...	92	16	0	13	0.026	--	--	0.030	<0.010	--
MAY 26...	81	26	0	22	0.100	--	--	0.020	<0.010	--
JUN 01...	86	21	0	17	0.090	--	--	0.020	<0.010	--
02...	88	16	0	13	0.084	--	--	0.010	<0.010	--
02...	86	17	0	14	0.055	--	--	0.010	<0.010	--
02...	85	18	0	15	0.013	--	--	0.050	<0.010	--
03...	77	13	0	11	0.047	--	--	0.020	<0.010	--
03...	82	17	0	14	0.018	--	--	0.040	<0.010	--
26...	72	27	0	22	0.140	--	--	0.030	<0.010	--
JUL 21...	65	30	0	25	0.230	0.250	1.1	0.020	0.010	0.03
AUG 25...	59	--	--	--	0.110	--	--	0.010	--	--

ARKANSAS RIVER BASIN

07247650 FOURCHE MALINE NEAR LEFLORE, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N) (00630)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, TOTAL (MG/L AS N) (00600)	NITRO- GEN, TOTAL (MG/L AS NO3) (71887)
DEC										
10...	0.120	0.130	0.030	0.020	0.04	0.03	0.37	0.40	0.52	2.3
MAR										
12...	0.056	0.056	0.050	0.040	0.06	0.05	0.45	0.50	0.56	2.5
MAY										
26...	0.120	0.110	0.080	0.070	0.10	0.09	0.32	0.40	0.52	2.3
JUN										
01...	0.110	0.093	0.040	0.040	0.05	0.05	0.56	0.60	0.71	3.1
02...	0.094	0.075	0.040	0.040	0.05	0.05	0.56	0.60	0.69	3.1
02...	0.065	0.050	0.040	0.040	0.05	0.05	0.56	0.60	0.66	2.9
02...	0.063	0.055	0.080	0.060	0.10	0.08	0.52	0.60	0.66	2.9
03...	0.067	<0.050	0.030	0.020	0.04	0.03	0.47	0.50	0.57	2.5
03...	0.058	0.050	0.070	0.060	0.09	0.08	0.53	0.60	0.66	2.9
26...	0.170	0.170	0.050	0.040	0.06	0.05	0.35	0.40	0.57	2.5
JUL										
21...	0.250	0.260	0.090	0.090	0.12	0.12	0.51	0.60	0.85	3.8
AUG										
25...	0.120	--	0.080	--	0.10	--	0.32	0.40	0.52	2.3
DATE	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHATE, TOTAL (MG/L AS PO4) (00650)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO TOTAL (MG/L AS P) (70507)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	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)	
DEC										
10...	0.060	0.06	0.020	0.020	0.020	0.06	17	13	--	
MAR										
12...	--	0.31	0.100	0.100	0.050	0.15	49	44	98	
MAY										
26...	0.050	0.12	0.070	0.040	0.010	0.03	78	98	--	
JUN										
01...	0.110	0.12	0.070	0.040	0.040	0.12	262	2500	--	
02...	0.120	0.21	0.110	0.070	0.060	0.18	333	4490	--	
02...	0.090	0.09	0.060	0.030	0.030	0.09	182	2470	--	
02...	0.100	0.28	0.060	0.090	0.020	0.06	94	975	--	
03...	0.100	0.09	0.100	0.030	0.020	0.06	66	1000	--	
03...	0.070	0.21	0.060	0.070	0.020	0.06	75	944	--	
26...	--	0.18	0.140	0.060	0.020	0.06	45	34	--	
JUL										
21...	0.070	0.15	0.070	0.050	0.020	0.06	15	2.5	--	
AUG										
25...	0.040	0.12	--	0.040	--	--	13	0.26	--	

ARKANSAS RIVER BASIN

497

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 September 1992.

REMARKS.--Samples were collected periodically. Specific conductance, pH, water temperature, alkalinity, and dissolved oxygen were determined in the field.

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	DIS- CHARGE, (INST. CUBIC FEET PER SECOND) (00061)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS) (01003)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G) (01148)
DEC 11...	1410	77	27	<1

MISCELLANEOUS WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
JUL										
22...	1115	26.0	27.0	750	1028	1028	5.6	51	5.8	6.7
22...	1120	22.0	27.0	750	1028	1028	5.6	51	6.2	6.7
22...	1124	18.0	27.0	750	1028	1028	5.6	51	6.4	6.7
22...	1128	14.0	27.0	750	1028	1028	5.6	51	6.4	6.8
22...	1133	10.0	27.0	750	1028	1028	5.6	51	6.4	6.7
22...	1136	6.00	27.0	750	1028	1028	5.6	51	6.5	6.7
22...	1140	2.00	27.0	750	1028	1028	5.6	51	6.4	6.7

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)
DEC											
11...	1410	1028	80020	77	36	6.8	14.5	13.0	750	10.2	98
MAR											
10...	1330	1028	80020	64	48	7.2	7.5	12.5	760	11.0	104
MAY											
26...	1715	1028	80020	42	43	6.9	25.0	19.0	748	8.4	92
JUN											
25...	1230	1028	80020	32	41	6.9	21.5	24.5	746	7.0	86
JUL											
22...	1045	1028	80020	5.6	51	6.7	26.0	27.0	750	6.6	84
AUG											
24...	1115	1028	80020	4.4	51	*7.1	26.5	25.5	--	7.3	--

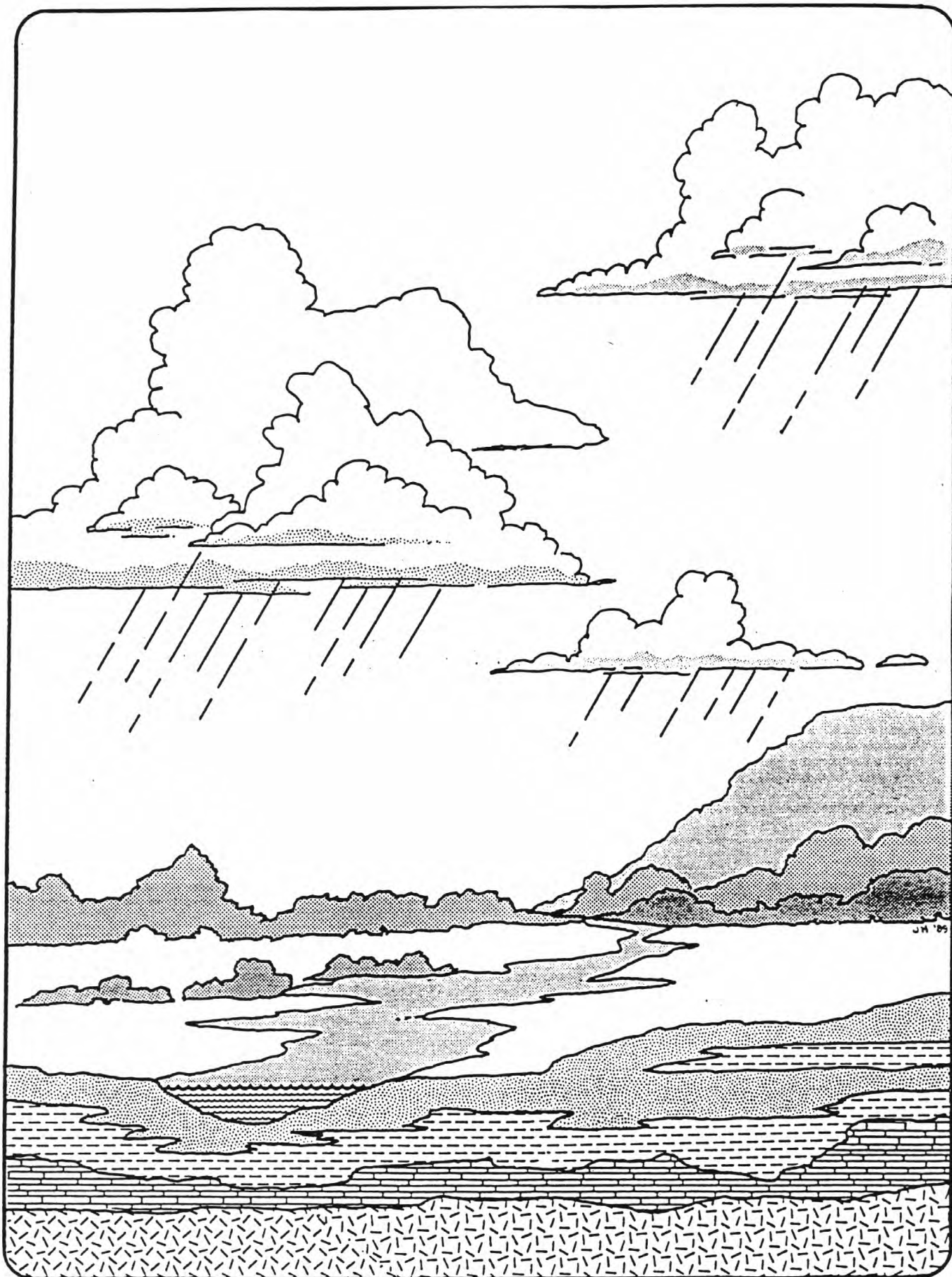
* LAB PH (STANDARD UNITS)

ARKANSAS RIVER BASIN

07247800 HOLSON CREEK AT SUMMERFIELD, OK--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992

DATE	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LIVITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	NITRO- GEN, NITRITE TOTAL (MG/L AS N) (00615)	NITRO- GEN, DIS- NO2+NO3 SOLVED (MG/L AS N) (00613)	NITRO- GEN, DIS- NO2+NO3 SOLVED (MG/L AS N) (00630)	NITRO- GEN, DIS- NO2+NO3 SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N) (00610)	NITRO- GEN, DIS- AMMONIA SOLVED (MG/L AS N) (00608)	NITRO- GEN, DIS- AMMONIA TOTAL (MG/L AS NH4) (71845)	NITRO- GEN, DIS- AMMONIA SOLVED (MG/L AS NH4) (71846)
DEC 11...	11	0	9	<0.010	<0.010	<0.050	<0.050	0.020	<0.010	0.03	--
MAR 10...	10	0	8	0.010	<0.010	<0.050	<0.050	0.010	0.010	0.01	0.01
MAY 26...	13	0	10	<0.010	<0.010	<0.050	<0.050	0.030	0.040	0.04	0.05
JUN 25...	13	0	11	0.010	<0.010	<0.050	<0.050	0.020	0.020	0.03	0.03
JUL 22...	--	--	--	<0.010	<0.010	<0.050	<0.050	0.080	0.090	0.10	0.12
AUG 24...	--	--	--	<0.010	<0.010	<0.050	<0.050	0.030	0.040	0.04	0.05
DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N) (00605)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHATE, TOTAL (MG/L AS PO4) (00650)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTH TOTAL (MG/L AS P) (70507)	PHOS- PHORUS ORTH SOLVED (MG/L AS P) (00671)	PHOS- PHATE, ORTH SOLVED (MG/L AS PO4) (00660)	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)
DEC 11...	0.38	0.40	0.020	--	0.010	<0.010	0.010	0.03	3	0.63	--
MAR 10...	--	<0.20	<0.010	--	<0.010	<0.010	<0.010	--	5	0.86	100
MAY 26...	0.27	0.30	0.040	0.03	0.050	0.010	0.010	0.03	12	1.4	--
JUN 25...	--	<0.20	--	--	0.040	<0.010	<0.010	--	5	0.43	--
JUL 22...	0.52	0.60	--	0.03	0.030	0.010	<0.010	--	6	0.09	--
AUG 24...	0.27	0.30	<0.010	0.06	<0.010	0.020	0.020	0.06	10	0.12	--



ARKANSAS RIVER BASIN
07248000 WISTER LAKE NEAR WISTER, OK

LOCATION.--Lat 34°56'12", long 94°43'10", in SE 1/4 NE 1/4 sec.1, T.5 N., R.24 E., Le Flore County, Hydrologic Unit 11110105, in control tower near right end of Wister Dam on Poteau River, 2.0 mi south of Wister, 2.7 mi upstream from Caston Creek, and at mile 60.9.

DRAINAGE AREA.--993 mi².

PERIOD OF RECORD.--October 1949 to current year. Prior to October 1970, published as Wister Reservoir near Wister.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by an earth dam with outlets of an uncontrolled, concrete, chute-type spillway and six 7- by 12-foot vertical liftgates. Regulated storage began Oct. 4, 1949, conservation pool was first filled Dec. 19, 1949. Capacity, 427,400 acre-ft at elevation 502.5 ft crest of spillway and 23,910 acre-ft at elevation 471.6 ft conservation pool. Figures given herein represent total contents. Reservoir is used for flood control and recreation. Revised capacity table, based on survey in 1985, used since Oct. 1, 1989. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 574,500 acre-ft, May 4, 1990, elevation, 508.23 ft; minimum since conservation pool was first filled, 4,020 acre-ft, Oct. 16, 1961, elevation, 456.97 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 243,300 acre-ft, Nov. 3, elevation, 493.36 ft; minimum, 37,790 acre-ft, Feb. 18, elevation, 474.38 ft.

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

474	35,660	492	220,800
478	61,430	500	371,200
485	126,200	509	596,000

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY OBSERVATION AT 24:00 VALUES

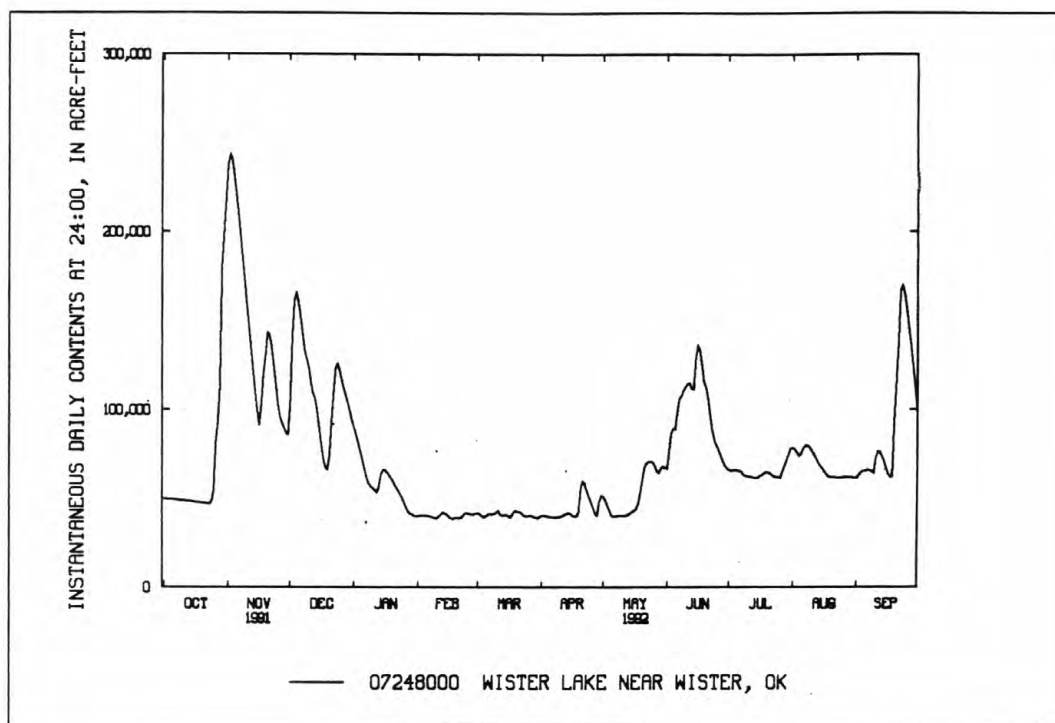
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49550	237900	105000	89580	39740	41500	39920	50870	66830	65970	78280	61500
2	49420	243200	140100	85690	39860	40970	40090	48690	76750	65350	77590	63160
3	49290	239800	161400	81210	39980	39690	39860	45930	86680	65580	75660	64440
4	49350	230900	166000	76580	39980	39100	39630	42770	89390	65890	73730	65190
5	49160	220300	160800	71770	39860	39630	39160	39920	89300	65660	74820	65040
6	49020	209000	152500	66750	39690	40790	39160	39630	98880	65270	77850	65820
7	48890	196900	142900	61810	39450	41140	39050	39690	106200	64890	79400	65580
8	48690	184600	132900	58300	39160	40790	39160	39860	107700	63310	79750	64890
9	48630	172100	128100	56740	38580	41200	39280	39920	110800	62560	78970	63990
10	48560	159700	123800	55540	38580	41920	39450	39860	112900	62330	77080	72660
11	48360	147200	115800	54350	39450	42650	39740	40040	114500	62110	75240	76160
12	48230	134800	109300	53120	40790	40620	40500	40150	115000	61810	72980	75990
13	48100	122200	106300	55890	41620	39980	41080	40790	111800	61500	70630	73560
14	47970	110100	99360	62930	41500	40380	41620	41370	111600	61500	68470	70550
15	47770	99650	90390	65820	40500	40500	41200	42340	129000	61360	66910	67140
16	47570	91130	80870	65660	39340	39570	40090	42950	136300	62560	65350	63610
17	47450	102500	72330	64290	38300	39050	39510	44220	133200	63010	63760	61730
18	47380	120300	66830	62780	38130	41140	39570	47450	125700	63840	62330	62180
19	47000	129700	66130	61140	38760	42710	42400	53610	115800	64440	61580	95520
20	47000	143100	74150	58960	38760	42400	55610	61280	112600	64440	61580	116900
21	46880	142200	93650	56810	38700	42220	59610	67610	106300	63690	61580	137500
22	46750	135100	109800	54840	39050	41800	57720	69830	97060	62930	61500	167200
23	46620	125000	123800	52840	40210	40560	54210	70550	88760	62110	61500	169900
24	48300	114300	125700	50800	41680	39630	50610	70720	82880	61730	61430	164900
25	54140	103600	121700	48040	41370	39570	47710	70310	79830	61650	61430	156000
26	81990	96100	116100	45170	41140	40040	44340	68470	77250	61500	61880	146200
27	92810	92620	111400	42530	40680	39860	40970	65190	74070	65040	61730	135700
28	114400	89580	107600	41260	40730	39450	40090	64140	71120	68160	61650	124500
29	181300	86680	103300	40730	41260	38870	48040	66830	68470	71610	61580	112900
30	200000	85870	98600	40050	---	38580	51210	67850	66830	74650	61500	101400
31	218400	---	93740	39510	---	39280	---	67140	---	78110	61360	---

ARKANSAS RIVER BASIN
07248000 WISTER LAKE NEAR WISTER, OK--Continued

501

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MAX	218400	243200	166000	89580	41680	42710	59610	70720	136300	78110	79750	169900
MIN	46620	85870	66130	39510	38130	38580	39050	39630	66830	61360	61360	61500
(+)	491.85	480.98	481.84	474.68	474.98	474.64	476.55	478.75	478.71	480.09	477.99	482.64
(++)	+168,700	-132,500	+7,870	-54,230	+1,750	-1,980	+11,930	+15,930	-310	+11,280	-16,750	+40,040
CAL YR 1991	MAX 243200		MIN 38240		(++) +28,390							
WTR YR 1992	MAX 243200		MIN 38130		(++) +51,720							

(+) ELEVATION, IN FEET, AT END OF MONTH
(++) CHANGE IN CONTENTS, IN ACRE-FEET



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 387.961 ft above National Geodetic Vertical Datum of 1929. Prior to December 1990, at site .4 mi upstream at datum 5.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow partially regulated by Wister Reservoir 34.5 mi upstream. U.S. Army Corps of Engineers' satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 74,600 ft³/s, May 3, 1990, gage height, 41.59 ft (from HWM) at datum then in use; minimum daily discharge, 6.8 ft³/s, Dec. 4, 5, 1990.

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.

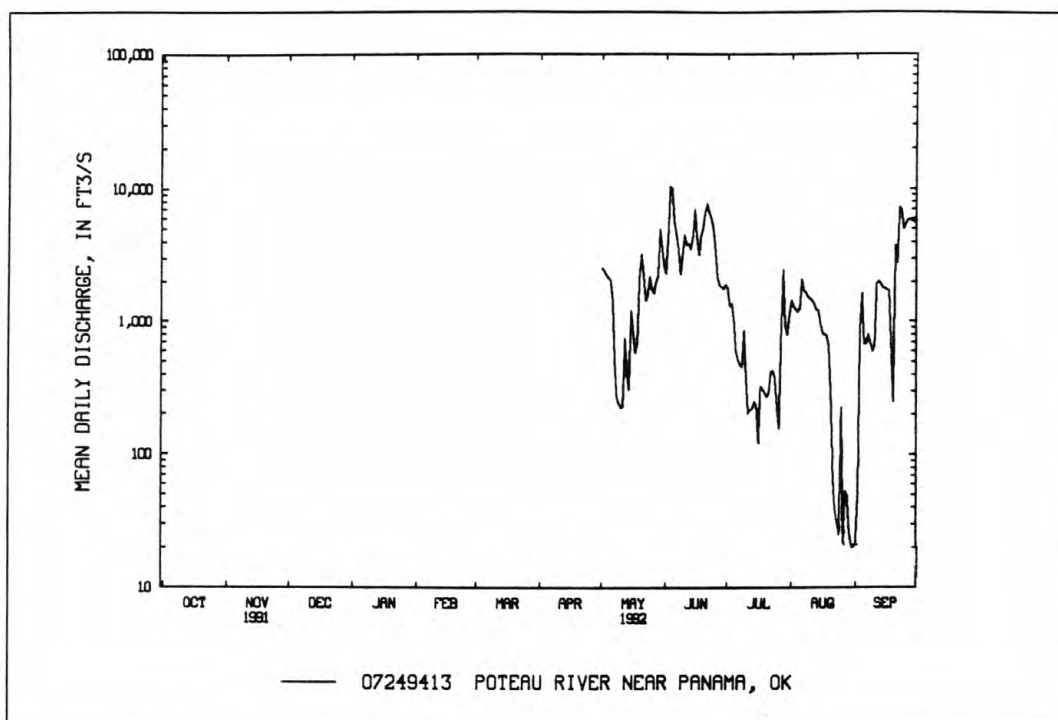
EXTREMES FOR CURRENT PERIOD.--Maximum discharge, during period May to September, 11,900 ft³/s, June 3, gage height, 30.18 ft; minimum daily discharge, 20 ft³/s, Aug. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1992
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	2550	2320	1820	1470	21
2	---	---	---	---	---	---	---	2440	4400	1340	1330	48
3	---	---	---	---	---	---	---	2270	10400	1380	1250	908
4	---	---	---	---	---	---	---	2170	10100	1060	1200	1650
5	---	---	---	---	---	---	---	2080	5750	610	1280	682
6	---	---	---	---	---	---	---	1500	4570	521	2120	679
7	---	---	---	---	---	---	---	527	3590	479	1740	806
8	---	---	---	---	---	---	---	274	2300	463	1680	687
9	---	---	---	---	---	---	---	245	3190	869	1560	605
10	---	---	---	---	---	---	---	227	4540	388	1510	663
11	---	---	---	---	---	---	---	232	3840	207	1460	1940
12	---	---	---	---	---	---	---	758	3910	218	1390	2020
13	---	---	---	---	---	---	---	418	3590	222	1240	1940
14	---	---	---	---	---	---	---	309	4390	251	1220	1820
15	---	---	---	---	---	---	---	1220	7080	234	976	1780
16	---	---	---	---	---	---	---	847	4370	122	826	1750
17	---	---	---	---	---	---	---	587	3210	331	803	1710
18	---	---	---	---	---	---	---	710	4460	315	784	646
19	---	---	---	---	---	---	---	2190	5130	295	657	246
20	---	---	---	---	---	---	---	3270	6780	276	272	3780
21	---	---	---	---	---	---	---	2290	7680	293	70	2780
22	---	---	---	---	---	---	---	1460	6680	423	40	7260
23	---	---	---	---	---	---	---	1620	6040	435	31	6920
24	---	---	---	---	---	---	---	2210	5060	387	25	4970
25	---	---	---	---	---	---	---	1780	3570	224	227	5450
26	---	---	---	---	---	---	---	1660	2190	157	21	5810
27	---	---	---	---	---	---	---	2000	1910	815	53	5880
28	---	---	---	---	---	---	---	2260	1840	2500	49	5770
29	---	---	---	---	---	---	---	5040	1790	956	26	5620
30	---	---	---	---	---	---	---	3790	1920	807	20	5500
31	---	---	---	---	---	---	---	2660	---	1130	21	---
TOTAL	---	---	---	---	---	---	---	51594	136600	19528	25351	80341
MEAN	---	---	---	---	---	---	---	1664	4553	630	818	2678
MAX	---	---	---	---	---	---	---	5040	10400	2500	2120	7260
MIN	---	---	---	---	---	---	---	227	1790	122	20	21
AC-FT	---	---	---	---	---	---	---	102300	270900	38730	50280	159400

ARKANSAS RIVER BASIN
07249413 POTEAU RIVER NEAR PANAMA, OK--Continued

503



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.

Miscellaneous Sites

Discharge measurements in the following table were made at special study and miscellaneous sites throughout the state.

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
ARKANSAS RIVER BASIN						
07157000	Cimarron River near Mocane, OK.	Lat 36°58'33", long 100°18'50", in NW 1/4, sec.24, T.6 N., R.25 E., Beaver County, Hydrologic Unit 11040006, at county road bridge 6.5 mi north-east of Mocane.	8,670	^a 1943-65 1989	03/13/89	48.0
07157580	Cimarron River near Englewood, OK.	Lat 36°58'38", long 99°58'32", in SE 1/4, sec.23, T.29 N, R.26 W, Harper County, Hydrologic Unit 11040008, at bridge on U.S. Highway 283, 4.0 mi south of Englewood.	10,096	^a 1982-87 1989	03/13/89	1.7
07157610	Redoubt Creek near Willard, OK.	Lat 37°00'03", long 99°46'27", in NE 1/4, NE 1/4, sec.15 T.29 N., R.24 W., Harper County, Hydrologic Unit 110400008, at county road bridge 3.4 mi north-west of Willard.	69.8	1989	03/13/89	0.79
07157670	Snake Creek near Willard, OK.	Lat 36°59'13", long 99°40'59", in SW 1/4, SW 1/4, sec.15, T.29 N., R.23 W., Haper County, Hydrologic Unit 110400008, at county road bridge, 2.7 mi north-east of Willard.	18.1	1989	03/13/89	.09
07157740	Cimarron River near Buttermilk, KS.	Lat 37°01'36", long 99°28'45", in NW 1/4, sec. 3, T.35 S., R.20 W., Comanche County, Kansas, Hydrologic Unit 11040008, 2 mi north of Okla.-Ks. state line and 11.5 mi south of Buttermilk.	11,120	^a 1973-79 1989	03/13/89	15
07157940	Bluff Creek near Buttermilk, KS.	Lat 37°01'55", long 99°28'45", in NW 1/4, sec.3, T.35 S., R.20 W., Comanche County, Kansas, Hydrologic Unit 11040008, 2.2 mi north of Okla.-Ks. state line, 11.3 mi south-west of Buttermilk.	657	^a 1973-79 1989	03/13/89	16

^aContinuous streamflow records for this period.

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
ARKANSAS RIVER BASIN						
07157952	Buffalo Creek at Doby Springs, OK.	Lat 36°49'35", long 99°45'48", in NE 1/4, NE 1/4, sec.15, T.27 N., R.24 W., Harper County, Hydrologic Unit 11050001, at county road bridge 0.5 mi east of Doby Springs.	13.3	1989	03/14/89	.57
07157955	Buffalo Creek at Buffalo, OK.	Lat 36°50'56", long 99°37'20", in SE 1/4, SE 1/4, sec.1, T.27 N., R.23 W., Harper County, Hydrologic Unit 11050001, at bridge on State Highway 183, 0.5 mi north of Buffalo.	128	1989	03/13/89	3.9
07161000	Cimarron River at Perkins, OK.	Lat 35°57'27", long 97°01'54", in SW 1/4, SW 1/4, sec.7, T.17 N., R.3 E., Payne County, Hydrologic Unit 11050003, at bridge on U.S. Highway 177, 1.0 mi south of Perkins.	10,852	*1939-89 1990-92	10-24-91 01-06-92 02-19-92 06-10-92 08-17-92 09-01-92	94.4 551 516 5,300 923 885
07228200	Canadian River near Roll, OK.	Lat 35°52'12", long 99°43'42", in NW 1/4 NW 1/4 NW 1/4 sec.14, T.16 N., R.24 W., Roger Mills County, Hydrologic Unit 11090201, at U.S. Highway 283 bridge about 5.5 mi north of Roll.	23,615	1989, 91	03-13-89 02-10-91	106 83
07228230	Canadian River near Camargo, OK.	Lat 36°00'13", long 99°17'26", in NW 1/4 NW 1/4 NW 1/4 sec.36, T.18 N., R.20 W., Dewey County, Hydrologic Unit 11090201, at State Highway 34 bridge 1 mi south of Camargo.	24,110	1989, 91	03-13-89 02-10-91	108 91
07228250	Canadian River near Taloga, OK.	Lat 36°03'16", long 98°58'09", in NW 1/4 NW 1/4 NW 1/4 sec.12, T.18 N., R.17 W., Dewey County, Hydrologic Unit 11090201, at U.S. Highway 183 bridge 1 mi north of Taloga.	24,391	1989, 91	03-13-89 02-10-91	112 83
07228283	Canadian River near Oakwood, OK.	Lat 35°57'24", long 98°49'33", in SW 1/4 SE 1/4 SE 1/4 sec.8, T.17 N., R.15 W., Dewey County, Hydrologic unit 11090201, at low-water bridge 3 mi west, 1 mi north and 3.5 mi west of the north side of Oakwood.	24,443	1989, 91	03-14-89 02-10-91	116 88
07228285	Trail Creek near Taloga, OK.	Lat 35°57'27", long 98°50'54", in SW 1/4 SW 1/4 SW 1/4 sec.7, T.17 N., R.15 W., Dewey County, Hydrologic Unit 11090201, about 1.4 mi west of station 07228283 on blacktop county road.	44.3	1989, 91	03-14-89 02-10-91	4.2 3.8

^aPartial streamflow records for this period.

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
ARKANSAS RIVER BASIN						
07228290	Rough Creek near Thomas, OK.	Lat 35°48'08", long 098°47'15", in SW 1/4 NW 1/4 NE 1/4 sec.3, T.15 N., R.15 W., Custer County, Hydrologic Unit 11090201, 2 mi west of Thomas on State Highway 47, then 3.3 mi north on blacktop county road.	10.4	^b 1964-85 1989, 91	03-14-89 02-10-91	1.2 1.0
07228300	Canadian River near Thomas, OK.	Lat 35°46'17", long 098°40'24", in SE 1/4 SW 1/4 NW 1/4 sec.15, T. 15 N., R. 14 W., Custer County, Hydrologic Unit 11090201, at State Highway 33 bridge about 4 mi east of Thomas.	24,671	1989, 91	03-14-89 02-10-91	131 112
07228375	Deer Creek near Custer City, OK.	Lat 35°39'18", long 098°46'26", in NE 1/4 NE 1/4 NE 1/4 sec.27, T.14 N., R.15 W., Custer County, Hydrologic Unit 11090201, 1 mi northeast of Custer City on State Highway 33, then 4.5 mi east and 1.2 mi south to county road bridge.	110	1989, 91	03-13-89 02-10-91	10 8.5
07228390	Little Deep Creek near Weatherford, OK.	Lat 35°31'42", long 098°39'29", in SE 1/4 NE 1/4 NE 1/4 sec.10, T.12 n., R.14 W., Custer County, Hydrologic Unit 11090201. 0.5 mi south of Interstate 40 Highway, 2.0 mi east of Weatherford.	29.8	1991	02-10-91	6.8
07228400	Deer Creek at Hydro, OK.	Lat 35°32'28", long 098°34'40", in SE 1/4 NW 1/4 SE 1/4 sec.4, T.12 N., R.13 W., Caddo County, Hydrologic Unit 11090201, about 1 mi north of Interstate Highway 40 exit to Hydro, at south edge of Hydro.	274	^a 1961-63 ^a 1978-80 1989, 91	03-13-89 02-10-91	37 35
07228730	Buggy Creek near Cogar, OK.	Lat 35°22'35", long 098°09'52", in NW 1/4 NW 1/4 NW 1/4 sec.4, T.10 N., R.9 W., Caddo County, Hydrologic Unit 11090202, at county road bridge 2 mi west of Cogar on State Highway 152, then 2.9 mi north.	24.0	1989, 91	03-13-89 02-10-91	1.6 5.0
07228770	Buggy Creek east of Cogar, OK.	Lat 35°20'05", long 098°03'55", in SE 1/4 SW 1/4 SE 1/4 sec.17, T.10 N., R.8 W., Grady County, Hydrologic Unit 11090202, at State Highway 152 bridge about 3.5 mi east of Cogar.	57.1	1989, 91	03-14-89 02-10-91	2.2 4.8
07231955	Gaines Creek near Higgins, OK.	Lat 34°48'57", long 95°28'46", in NE 1/4, SE 1/4, sec.14, T.5 N., R.17 E., Latimer County, Hydrologic Unit 11090204, 1.0 mi downstream Beaver Creek, 3.0 mi west of Higgins.	152	1978-80 1990-92	11-06-91 01-21-92 04-07-92 05-27-92 07-15-92 09-15-92	68.5 192 30 48 11 23

^aContinuous streamflow records for this period.^bPartial streamflow records for this period.

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
ARKANSAS RIVER BASIN						
07231959	Pit Creek near Hartshorne, OK.	Lat 34°50'51", long 95°30'12" in SW 1/4, NE 1/4, sec.3, T.4 N., R.17 E., Latimer County, Hydrologic Unit 11090204, 3.0 mi east of Hartshorne.	8.95	1992	11-05-91	4.4
					12-04-91	18
					01-22-92	14
					03-10-92	16
					04-07-92	2.8
					05-27-92	4.1
					07-14-92	1.9
					09-15-92	2.2
07231960	Gaines Creek near Gowen, OK.	Lat 34°53'43", long 95°26'13", in NE 1/4, NE 1/4, sec.19, T.5 N., R.18 E., Latimer County, Hydrologic Unit 11090204, 1.1 mi upstream from Beaver Creek, 2.4 mi northeast of Gowen.	182	1990-92	11-06-91	92
					12-05-91	403
					01-22-92	373
					03-11-92	265
					04-08-92	28
					05-27-92	82
					07-15-92	10
					09-16-92	30
07234260	Beaver River near Laverne, OK.	Lat 36°45'01", long 99°53'27", in NE 1/4, SE 1/4, sec.9, T.26 N., R.25 W., Harper County, Hydrologic Unit 11100201, at U.S. Highway 283, 2.8 mi north of Laverne.	9,263	1989	03/13/89	20.3
07237580	Indian Creek near Sharon, OK.	Lat 36°21'35", long 99°21'13", in NE 1/4, SE 1/4, sec.29, T.22 N., R.20 W., Woodward County Hydrologic Unit 11100301, at bridge on State Highway 34, 5.6 mi north of Sharon.	46.1	1989	03/03/89	5.1
07237655	North Persimmon Creek at Sharon, OK.	Lat 36°16'07", long 99°20'08", in NE 1/4, NE 1/4, sec.28 T.21 N., R.20 W., Woodward County, Hydrologic Unit 11100301, at bridge on State Highway-34, .5 mi south of Sharon.	66.2	1989	03/14/89	.56
07237670	South Persimmon Creek near Sharon, OK.	Lat 36°13'47", long 99°19'41", in NE 1/4, SE 1/4, sec.9 T.20 N., R.20 W., Woodward County, Hydrologic Unit 11100301, at bridge on State Highway 34, 3.2 mi south of Sharon.	35.7	1989	03/14/89	.35
07237685	Hackberry Creek near Vici, OK.	Lat 36°12'29", long 99°16'29", in NE 1/4, SE 1/4, sec.13, T.20 N., R.19 W., Woodward County, Hydrologic Unit 1100301, at county road bridge 4.2 mi north-east of Vici.	16.4	1989	03/14/89	.13
07237700	Persimmon Creek near Mutual, OK.	Lat 36°15'41", long 99°10'23", in NW 1/4, sec.31, T.21 N., R.18 W., Woodward County, Hydrologic Unit 11100301, at bridge on U.S. Highway 183 and 270, 2.2 mi north of Mutual.	164	^b 1958-61 1965-73 1989	03/14/89	1.2

^bPartial streamflow records for this period.

Station number	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
ARKANSAS RIVER BASIN						
07237745	Bent Creek near Mutual, OK.	Lat 36°10'37", long 99°09'13", in NE 1/4, SW 1/4, sec.30 T.20 N., R.18 W., Woodward County, Hydrologic Unit 11100301, .1 mi upstream from Cottonwood Creek and 4 mi south of Mutual.	31.2	1989	03/13/89	.18
07237770	Kizer Creek near Cestos, OK.	Lat 36°08'39", long 99°08'18", in SW 1/4, SE 1/4, sec.5, T.19 N., R.18 W., Dewey County Hydrologic Unit 11100301, at bridge on State Highway 5, 2 mi west of Cestos.	36.6	1989	03/13/89	0.20
07237790	Camp Creek near Seiling, OK.	Lat 36°10'24", long 99°02'25", in SW 1/4, SE 1/4, sec.29, T.20 N., R.17 W., Woodward County, Hydrologic Unit 11100301, at county road bridge 7 mi north-west of Seiling.	33.6	1989	03/13/89	.04
07237800	Bent Creek near Seiling, OK.	Lat 36°11'26", long 99°00'36", in NW 1/4, SE 1/4, sec.21 T.20 N., R.17 W., Woodward County, Hydrologic Unit 11100301, at bridge on U.S. Highway 183 and 270, 6 mi northwest of Seiling.	139	^a 1967-70 ^b 1971-75 1989	03/13/89	.58
07247025	Poteau River at Hontubby, OK.	Lat 34°51'29", long 98°33'56", in SW 1/4, SE 1/4, sec.33, T.5 N., R.26 E., LeFlore County, Hydrologic Unit 11110105, at county road bridge .6 mi north of Hontubby.	301	1992	05-27-92	60
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	12-17-91 03-11-92 05-27-92 06-25-92 07-21-92 08-24-92	373 199 88 100 18 7.2
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	12-10-91 03-12-92 05-26-92 06-01-92 06-02-92 06-02-92 06-02-92 06-03-92 06-03-92 06-26-92 07-21-92 08-25-92	287 331 465 3,540 4,990 5,020 3,840 5,620 4,660 282 61 7.3
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	12-11-91 03-10-92 05-26-92 06-25-92 07-22-92 08-24-92	77 64 42 32 5.6 4.4

^aContinuous streamflow records for this period.

^bPartial streamflow records for this period.

Flood hydrograph stations

The following tables contain rainfall and discharge for indicated times at a flood hydrograph station. Records of discharge above the base discharge are obtained from a water-stage recorder. A stage-discharge relation for each gage is developed from indirect methods. Records of rainfall are obtained from a water-stage recorder collecting rain in a holding pipe.

ARKANSAS RIVER BASIN

07165515 Fred Creek at Evanston Ave., at Tulsa, OK

LOCATION.--Lat 36°03'08", long 95°56'48", in NW 1/4, SE 1/4, sec.8, (revised) T.18 N., R.13 E., Tulsa County, Hydrologic Unit 11110101, at left downstream wingwall of culvert, near intersection of Evanston Ave. and 76th Place, and at mile 1.2.

DRAINAGE AREA.--1.87 mi²

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

DISCHARGE, IN CUBIC FEET PER SECOND, AND RAINFALL, IN INCHES, AT INDICATED TIME,
WATER YEAR ENDING SEPT. 30, 1992

DATE	HOUR	DISCHARGE**	RAINFALL*
May 11	0005	N/A	.05
	0010	N/A	.02
	0015	N/A	.02
	0020	N/A	.03
	0025	N/A	.02
	0030	N/A	.03
	0035	N/A	.04
	0040	N/A	.01
	0100	N/A	.04
	0105	N/A	.11
	0110	N/A	.09
	0115	N/A	.06
	0120	N/A	.08
	0125	N/A	.09
	0130	N/A	.07
	0135	N/A	.07
	0140	N/A	.05
	0145	N/A	.07
	0150	N/A	.06
	0155	N/A	.06
	0200	N/A	.05
	0205	N/A	.04
	0210	N/A	.02
	0215	N/A	.07
	0220	N/A	.12
	0225	N/A	.12
	0230	N/A	.08
	0235	N/A	.25
	0240	N/A	.19
	0245	N/A	.09
	0250	N/A	.03
	0255	N/A	.03
	0300	N/A	.02
	0305	N/A	.02
	0310	N/A	.03
	0315	N/A	.02
	0320	N/A	.01

* 3.4 inches of rainfall this date.

** No discharge peaks high enough to be recorded this year.

June 14	1120	N/A	0
	1125	N/A	.18
	1130	N/A	.15
	1135	N/A	.11
	1140	N/A	.08
	1150	N/A	.12
	1155	N/A	.09
	1200	N/A	.09
	1205	N/A	.09

DATE	HOUR	DISCHARGE**	RAINFALL*
June 14	1210	N/A	.09
	1215	N/A	.10
	1220	N/A	.11
	1225	N/A	.09
	1230	N/A	.07
	1235	N/A	.10
	1240	N/A	.09
	1245	N/A	.06
	1250	N/A	0

* 2.16 inches of rainfall this date.

** No peaks high enough to be recorded this year.

Aug. 5	0035	N/A	0
	0040	N/A	.31
	0045	N/A	.19
	0050	N/A	.03
	0055	N/A	.03
	0100	N/A	.02
	0115	N/A	.01
	0130	N/A	0
	0135	N/A	.02
	0140	N/A	.05
	0145	N/A	.16
	0150	N/A	.02
	0155	N/A	.02
	0215	N/A	0
	0220	N/A	.04
	0225	N/A	.04
	0230	N/A	.21
	0240	N/A	.11
	0245	N/A	.06
	0250	N/A	.15
	0255	N/A	.14
	0300	N/A	.15
	0305	N/A	.06
	0310	N/A	.06
	0315	N/A	.02
	0320	N/A	.04
	0325	N/A	.01
	0330	N/A	0

* 2.88 inches of rainfall this date.

** No discharge peaks high enough to be recorded this year.

DISCHARGE AT PARTIAL-RECORD STATIONS--Continued

07165560 Little Haikey Tributary at Tulsa, OK

LOCATION.--Lat 36°02'10", long 95°53'09", in NW 1/4, SW 1/4, (revised) sec.13, T.18 N., R.13 E.,
Tulsa County, Hydrologic Unit 11110101, at downstream wingwall of culvert, on south Memorial,
0.5 mile south of 81st on east side of road, and at mile 0.3.

DRAINAGE AREA.--.50 mi²

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

DISCHARGE, IN CUBIC FEET PER SECOND, AND RAINFALL, IN INCHES, AT INDICATED TIME,
WATER YEAR ENDING SEPT. 30, 1992

DATE	HOUR	DISCHARGE	RAINFALL	DATE	HOUR	DISCHARGE	RAINFALL
Oct. 24	0710		.01	Aug. 5	0155		.00
	0715	47	.08		0200		.02
	0720	100	.15		0205		.06
	0725	124	.18		0210		.08
	0730	124	.02		0215	44	.02
	0735	99	.00		0220	47	.00
	0740	74			0225	55	.06
	0745	54			0230	60	.08
					0235	69	.04
					0240	93	.16
					0245	101	.10
					0250	102	.04
					0255	101	.02
					0300	120	.08
					0305	166	.24
					0310	250	.24
					0315	299	.14
					0320	296	.06
					0325	268	.04
					0330	242	.02
					0335	259	.14
					0340	290	.16
					0345	335	.08
					0350	339	.08
					0355	331	.10
					0400	298	.08
					0405	268	.02
					0410	225	.02
					0415	198	.02
					0420	176	.00
July 20	1700		.00				
	1705		.02				
	1710		.10				
	1715		.12				
	1720		.04				
	1725	45	.02				
	1730	78	.04				
	1735	95	.28				
	1740	124	.58				
	1745	233	.24				
	1750	351	.10				
	1755	406	.02				
	1800	368	.06				
	1805	311	.02				
	1810	263	.00				
	1815	220	.02				
	1820	195	.02				
	1825	175	.02				
	1830	161	.02				
	1835	147	.00				
	1840	127	.02				
	1845	124	.00				
	1850	119	.00				
	1855	100	.00				
	1900	95	.00				
	1905	78	.00				
	1910	73	.00				

DISCHARGE AT PARTIAL-RECORD STATIONS--Continued

511

07178010 Brook Hollow at S 136th St at Tulsa, OK

LOCATION.--Lat 36°07'19", long 95°49'32" SE 1/4, SW 1/4, sec.16, T.19 N., R.14 E., Tulsa County,
Hydrologic Unit 110701077, at right downstream wingwall of culvert, near intersection of S
136th E Ave. and E 28th Place, and at mile 2.7

DRAINAGE AREA.--2.17 mi²

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

DISCHARGE, IN CUBIC FEET PER SECOND, AND RAINFALL, IN INCHES, AT INDICATED TIME,
WATER YEAR ENDING SEPT. 30, 1992

DATE	HOUR	DISCHARGE**	RAINFALL*	DATE	HOUR	DISCHARGE**	RAINFALL*
Oct. 28	0615	N/A	0	June 14	1055	N/A	0
	0620	N/A	.01		1100	N/A	.02
	0625	N/A	0		1105	N/A	.05
	0630	N/A	.03		1110	N/A	.14
	0635	N/A	.04		1115	N/A	.10
	0640	N/A	.12		1120	N/A	.06
	0645	N/A	.25		1125	N/A	.10
	0650	N/A	.02		1130	N/A	.26
	0655	N/A	.02		1135	N/A	.25
	0700	N/A	.01		1140	N/A	.11
	0705	N/A	.01		1145	N/A	.11
	0710	N/A	0		1150	N/A	.04
	0715	N/A	.01		1155	N/A	.02
	0720	N/A	.01		1200	N/A	.01
	0725	N/A	0		1205	N/A	.01

* 1.58 inches of rainfall this date.

** No discharge peaks high enough to be recorded this year.

* 1.66 inches of rainfall this date.

** No discharge peaks high enough to be recorded this year.

June 2	0810	N/A	0
	0815	N/A	.02
	0820	N/A	.10
	0825	N/A	.16
	0830	N/A	.13
	0835	N/A	.10
	0840	N/A	.08
	0845	N/A	.06
	0850	N/A	.02
	0855	N/A	.02
	0900	N/A	.01
	0905	N/A	.01

* 1.52 inches of rainfall this date.

** No discharge peaks high enough to be recorded this year.

Aug. 5	0050	N/A	0
	0055	N/A	.16
	0100	N/A	.35
	0105	N/A	.05
	0110	N/A	.02
	0115	N/A	.02
	0120	N/A	.01
	0125	N/A	0
	0130	N/A	.01
	0135	N/A	0
	0140	N/A	.05
	0145	N/A	.10
	0150	N/A	.03

* 1.65 inches of rainfall this date.

** No discharge peaks high enough to be recorded this year.

LOCATION.--Lat 36°09'04", long 95°51'39", in SE 1/4, SW 1/4, sec.6, T.19 N., R.14 E., Tulsa County, Hydrologic Unit 11070107, at left downstream wingwall of culvert, on US 169 south between Admiral and 11 St exit, and at mile 0.6.

DRAINAGE AREA.--3.53 mi²

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

DISCHARGE, IN CUBIC FEET PER SECOND, AND RAINFALL, IN INCHES, AT INDICATED TIME,
WATER YEAR ENDING SEPT. 30, 1992

* 1.20 inches of rainfall this date.
** No discharge peaks due to channel lining construction.

* 2.68 inches of rainfall this date.
** No discharge peaks due to channel lining construction.

* 1.70 inches of rainfall this date.
** No discharge peaks due to channel lining construction.

* 1.15 inches of rainfall this date.
** No discharge peaks due to channel lining construction.

DISCHARGE AT PARTIAL-RECORD STATIONS--Continued

513

07229030 Merkle Creek at Norman, OK

LOCATION.--Lat 35°12'24", long 97°28'51", in SW 1/4, SE 1/4, sec.35, T.9 N., R.3 W., Cleveland County, Hydrologic Unit 11090202, at the Lindsey Street south bound off ramp of I-35 in Norman, at mile 1.1 mi.

DRAINAGE AREA.--3.76 mi²

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

DISCHARGE IN CUBIC FEET PER SECOND, RAINFALL IN INCHES, AT INDICATED TIME
WATER YEAR ENDING SEPT. 30, 1992

DATE	HOUR	DISCHARGE	RAINFALL	DATE	HOUR	DISCHARGE	RAINFALL
Oct. 27	2200-2400		.17	July 16	0600		.00
28	0015		.01		0615		.21
	0030		.02		0630	<334	.50
	0045		.03		0645	349	.19
	0100		.03		0655	492	
	0115		.04		0700	469	.01
	0130		.06		0715	393	.01
	0145		.04		0730	<334	.01
	0200		.06		0745		.04
	0215		.24		0800		.02
	0230		.08		0815		.00
	0245		.04		0830-1045		.11
	0300	<341	.01	July 26	1745-2400		.32
	0315	349	.01	27	0015		.00
	0330	345	.39		0030	<334	.65
	0345	489	.17		0045	383	.13
	0350	492			0055	457	
	0400	480	.04		0100	424	.02
	0415	399	.02		0115	<334	.01
	0430	345	.01		0130		.00
	0445	<341	.03		0145		.00
	0500		.04		0200		.02
	0515		.02		0215		.01
	0530		.01		0230		.12
	0545		.02				
	0245		.29				
	0300	<334	.02				
Dec. 19	0015-2400		1.49		0305	341	
Dec. 20	0015	<334	.07		0315	<334	.01
	0030	349	.06		0330		.00
	0045	363	.05		0345		.00
	0100	369	.03				
	0115	366	.03				
	0130	356	.03				
	0145	352	.03				
	0200	349	.04				
	0215	369	.04				
	0230	383	.06				
	0245	369	.04				
	0300	373	.01				
	0315	349	.00				
	0330	<334	.02				
	0345		.02				
	0400		.03				
	0415		.04				
	0430		.03				
	0445	<334	.03				
	0500	359	.07				
	0510	363					
	0515	352	.05				
	0530	345	.01				
	0545	<334	.01				
	0600		.00				
	0615-1245		.35				

DISCHARGE AT PARTIAL-RECORD STATIONS--Continued

07229055 Bishop Creek at Norman, OK

LOCATION.--Lat 35°12'13", long 97°25'52", in NW 1/4, NE 1/4, sec.5, T.8 N., R.2 W., Cleveland County, Hydrologic Unit 11090202, at the intersection of Classen and Lindsey Street in Norman, and at mile 3.2.

DRAINAGE AREA.--2.1 mi²

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

DISCHARGE IN CUBIC FEET PER SECOND, RAINFALL IN INCHES, AT INDICATED TIME
WATER YEAR ENDING SEPT. 30, 1992

DATE	HOUR	DISCHARGE	RAINFALL	DATE	HOUR	DISCHARGE	RAINFALL
Oct. 27	2145		.01	July 16	0615		.49
	2200		.02		0630	<135	.27
	2215		.04		0645	395	.25
	2230		.03		0700	628	.03
	2245		.01		0715	704	.00
	2300		.01		0730	494	.00
	2330		.01		0745	335	.01
	2345		.03		0800	254	.04
Oct. 28	0015		.04		0815	204	.00
	0030		.02		0830	175	.00
	0045		.01		0845	136	.00
	0100		.03		0900	<135	.00
	0115		.06		0915-0945		.05
	0130		.02				
	0145		.06				
	0200		.21	Aug. 1	1400		.15
	0215	<135	.14		1415	<136	.46
	0230	204	.05		1430	410	.26
	0245	273	.08		1435	413	
	0300	237	.01		1445	345	.00
	0315	193	.15		1500	193	.06
	0330	190	.36		1515	<136	.01
	0345	399	.12		1530		.00
	0400	623	.03				
	0405	640					
	0415		.02				
	0430	591	.03				
	0445	337	.04				
	0500	276	.01				
	0515	228	.02				
	0530	196	.01				
	0545	163	.01				
	0600	141	.00				
	0615	<135	.00				
June 2	0600		.01				
	0615		.03				
	0630		.04				
	0645		.04				
	0700	<134	.24				
	0715	167	.14				
	0730	359	.03				
	0745	594	.01				
	0750	606					
	0800	533	.01				
	0815	381	.01				
	0830	286	.00				
	0845	224	.01				
	0900	182	.02				
	0915	154	.04				
	0930	141	.04				
	0945	140	.02				
	1000	137	.01				
	1015	<136	.02				
	1030		.03				
	1045-1230		.06				

ARKANSAS RIVER BASIN
Water-Quality at Miscellaneous Stations

515

DATE	TIME	AGENCY COL- LECTING SAMPLE (CODE NUMBER)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER)	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH WATER FIELD (STAND- ARD UNITS)	TEMPER- ATURE AIR (DEG C)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL DISSOLV (MG/L FLD. AS CACO3)	HARD- NESS NONCARB CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)

07157952 BUFFALO CREEK AT DOBY SPRINGS, OK (LAT 36 49 35N LONG 099 45 48W)

MAR 1989

14...	0900	--	80020	--	985	8.1	--	10.5	310	--	81	26
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07228400 DEER CREEK AT HYDRO, OK (LAT 35 32 28N LONG 098 34 40W)

MAR 1989

13...	1053	--	80020	--	1650	8.3	--	14.0	840	--	250	53
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07237500 NORTH CANADIAN RIVER AT WOODWARD, OK (LAT 36 26 12N LONG 099 16 41W)

MAR 1989

13...	1200	1028	80020	101	1810	8.2	10.5	13.0	490	260	140	35
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07237670 SOUTH PERSIMMON CREEK NEAR SHARON, OK (LAT 36 13 47N LONG 099 19 41W)

MAR 1989

14...	0915	--	80020	--	811	8.2	--	11.0	350	--	100	21
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07237700 PERSIMMON CREEK NEAR MUTUAL, OK (LAT 36 15 41N LONG 099 10 23W)

MAR 1989

14...	1200	--	80020	--	956	8.5	--	15.5	370	--	100	27
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07237770 KIZER CREEK NEAR CESTOS, OK (LAT 36 08 39N LONG 099 08 18W)

MAR 1989

13...	1600	--	80020	--	2790	8.3	--	15.5	1800	--	490	140
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07237800 BENT CREEK NEAR SEILING, OK (LAT 36 11 26N LONG 099 00 36W)

MAR 1989

13...	1200	1028	80020	--	2280	8.3	--	15.0	1400	--	380	100
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DATE	TIME	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM RATIO (00932)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3)	BICAR- BONATE WATER WH IT FIELD (MG/L AS HCO3)	CAR- BONATE WATER WH IT FIELD (MG/L AS CO3)	ALKA- LINITY WAT WH TOT IT FIELD (MG/L AS CACO3)	CHLO- SULFATE DIS- SOLVED (MG/L AS SO4)	RIDE, DIS- SOLVED (MG/L AS CL)

07157952 BUFFALO CREEK AT DOBY SPRINGS, OK (LAT 36 49 35N LONG 099 45 48W)

MAR 1989

14...	74	34	2	3.0	--	--	--	363	0	298	120	57
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ARKANSAS RIVER BASIN

Water-Quality at Miscellaneous Stations--Continued

DATE	(MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT (MG/L AS HCO3) (00453)	CAR- BONATE WATER DIS IT (MG/L AS CO3) (00452)	ALKA- LINITY WAT DIS TOT IT (MG/L AS CACO3) (39086)	BICAR- BONATE WATER WH IT (MG/L AS HCO3) (00450)	CAR- BONATE WATER WH IT (MG/L AS CO3) (00447)	ALKA- LINITY WAT WH TOT IT (MG/L AS CACO3) (00419)	CHLO- SULFATE RIDE, DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)

07228400 DEER CREEK AT HYDRO, OK (LAT 35 32 28N LONG 098 34 40W)

MAR 1989

13...	44	10	0.7	1.4	--	--	--	248	--	207	850	28
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07237500 NORTH CANADIAN RIVER AT WOODWARD, OK (LAT 36 26 12N LONG 099 16 41W)

MAR 1989

13...	170	43	3	3.8	271	0	222	--	--	--	220	250
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07237670 SOUTH PERSIMMON CREEK NEAR SHARON, OK (LAT 36 13 47N LONG 099 19 41W)

MAR 1989

14...	43	21	1	1.9	--	--	--	324	0	270	150	23
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07237700 PERSIMMON CREEK NEAR MUTUAL, OK (LAT 36 15 41N LONG 099 10 23W)

MAR 1989

14...	59	25	1	2.6	--	--	--	312	10	273	220	52
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07237770 KIZER CREEK NEAR CESTOS, OK (LAT 36 08 39N LONG 099 08 18W)

MAR 1989

13...	54	6	0.6	2.9	--	--	--	214	2	183	2000	53
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07237800 BENT CREEK NEAR SEILING, OK (LAT 36 11 26N LONG 099 00 36W)

MAR 1989

13...	53	8	0.6	2.8	--	--	--	254	--	212	1500	41
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DATE	(MG/L AS F) (00950)	(MG/L AS BR) (71870)	(MG/L AS I) (71865)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L AS SIO2) (70301)	SOLIDS, SOLVED (TONS PER AC-FT) (70303)	SOLIDS, SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L AS N) (00500)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)

07157952 BUFFALO CREEK AT DOBY SPRINGS, OK (LAT 36 49 35N LONG 099 45 48W)

MAR 1989

14...	0.57	<0.010	<0.001	18	599	0.81	--	580	0.700	<0.100	--	0.125
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07228400 DEER CREEK AT HYDRO, OK (LAT 35 32 28N LONG 098 34 40W)

MAR 1989

13...	0.38	<0.010	<0.001	19	1420	1.94	--	1310	1.40	0.110	0.14	0.213
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ARKANSAS RIVER BASIN

517

Water-Quality at Miscellaneous Stations--Continued

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	IODIDE, DIS- SOLVED (MG/L AS I) (71865)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	SOLIDS, RESIDUE AT 105 DEG. C, TOTAL (MG/L) (00500)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4) (71846)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
					TUENTS, DIS- SOLVED (MG/L AS SIO2) (00955)	(TONS PER AC-FT) (70303)	(TONS PER DAY) (70302)	(MG/L AS N) (00631)	(MG/L AS N) (00608)	(MG/L AS NH4) (71846)	(MG/L AS P) (00671)	

07237500 NORTH CANADIAN RIVER AT WOODWARD, OK (LAT 36 26 12N LONG 099 16 41W)

MAR 1989

13...	0.73	<0.010	<0.001	18	968	1.32	264	994	0.600	0.360	0.46	0.071
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07237670 SOUTH PERSIMMON CREEK NEAR SHARON, OK (LAT 36 13 47N LONG 099 19 41W)

MAR 1989

14...	0.66	<0.010	<0.001	24	565	0.77	--	553	<0.500	<0.100	--	0.073
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07237700 PERSIMMON CREEK NEAR MUTUAL, OK (LAT 36 15 41N LONG 099 10 23W)

MAR 1989

14...	0.64	<0.010	<0.001	21	696	0.95	--	663	0.500	<0.100	--	0.071
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07237770 KIZER CREEK NEAR CESTOS, OK (LAT 36 08 39N LONG 099 08 18W)

MAR 1989

13...	0.60	<0.010	<0.001	18	2940	3.99	--	2830	<0.500	<0.100	--	0.035
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07237800 BENT CREEK NEAR SEILING, OK (LAT 36 11 26N LONG 099 00 36W)

MAR 1989

13...	0.53	<0.010	<0.001	13	2310	3.14	--	2210	<0.500	0.100	0.13	0.054
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DATE	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4) (00660)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ANTI- MONY, DIS- SOLVED (UG/L AS SB) (01095)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
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07157952 BUFFALO CREEK AT DOBY SPRINGS, OK (LAT 36 49 35N LONG 099 45 48W)

MAR 1989

14...	0.38	<300	<350	<10	170	<10	230	<5.0	<10	<100	<10	55
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07228400 DEER CREEK AT HYDRO, OK (LAT 35 32 28N LONG 098 34 40W)

MAR 1989

13...	0.65	<300	<350	<10	120	<10	240	<5.0	<10	<100	<10	42
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07237500 NORTH CANADIAN RIVER AT WOODWARD, OK (LAT 36 26 12N LONG 099 16 41W)

MAR 1989

13...	0.22	<300	<350	<10	160	<10	190	<5.0	<10	<100	<10	130
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Water-Quality at Miscellaneous Stations--Continued

DATE	PHOS- ORTHOPHOSPHATE, DIS-SOLVED (MG/L AS PO4) (00660)	ALUM- INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI- MONY, DIS-SOLVED (UG/L AS SB) (01095)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)
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07237670 SOUTH PERSIMMON CREEK NEAR SHARON, OK (LAT 36 13 47N LONG 099 19 41W)

MAR 1989

14...	0.22	<300	<350	<10	180	<10	130	<5.0	<10	<100	<10	39
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07237700 PERSIMMON CREEK NEAR MUTUAL, OK (LAT 36 15 41N LONG 099 10 23W)

MAR 1989

14...	0.22	<300	<350	<10	150	<10	190	<5.0	<10	<100	<10	56
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07237770 KIZER CREEK NEAR CESTOS, OK (LAT 36 08 39N LONG 099 08 18W)

MAR 1989

13...	0.11	<300	<350	<10	41	<10	410	<5.0	<10	<100	<10	42
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07237800 BENT CREEK NEAR SEILING, OK (LAT 36 11 26N LONG 099 00 36W)

MAR 1989

13...	0.17	<300	<350	<10	51	<10	330	<5.0	<10	<100	<10	20
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DATE	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	MANGA- NESE, DIS-SOLVED (UG/L AS MN) (01056)	MERCURY DIS-SOLVED (UG/L AS HG) (71890)	MOLYB- DENUM, DIS-SOLVED (UG/L AS MO) (01060)	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)	THAL- LIUM, DIS-SOLVED (UG/L AS TL) (01057)	VANA- DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CYANIDE DIS-SOLVED (MG/L AS CN) (00723)
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07157952 BUFFALO CREEK AT DOBY SPRINGS, OK (LAT 36 49 35N LONG 099 45 48W)

MAR 1989

14...	<45	170	<0.5	<100	<25	<5	<7.0	670	<200	<100	14	<0.01
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07228400 DEER CREEK AT HYDRO, OK (LAT 35 32 28N LONG 098 34 40W)

MAR 1989

13...	<45	81	<0.5	<100	<25	<5	<7.0	2100	<200	<100	11	<0.01
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07237500 NORTH CANADIAN RIVER AT WOODWARD, OK (LAT 36 26 12N LONG 099 16 41W)

MAR 1989

13...	<45	30	<0.5	<100	<25	<5	<7.0	1200	<200	<100	420	<0.01
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07237670 SOUTH PERSIMMON CREEK NEAR SHARON, OK (LAT 36 13 47N LONG 099 19 41W)

MAR 1989

14...	<45	110	<0.5	<100	<25	<5	<7.0	790	<200	<100	<5	<0.01
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ARKANSAS RIVER BASIN

519

Water-Quality at Miscellaneous Stations--Continued

	MANGA-		MOLYB-		SELE-		STRON-		THAL-		VANA-		
	LEAD,	NESE,	MERCURY	DENUM,	NICKEL,	NIUM,	SILVER,	TIUM,	LIUM,	DIUM,	ZINC,	CYANIDE	
	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	DIS-	
	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	SOLVED	
DATE	(UG/L	(UG/L	(UG/L	(UG/L	(UG/L	(UG/L	(UG/L	(UG/L	(UG/L	(UG/L	(UG/L	(MG/L	
	AS PB)	AS MN)	AS HG)	AS MO)	AS NI)	AS SE)	AS AG)	AS SR)	AS TL)	AS V)	AS ZN)	AS CN)	
	(01049)	(01056)	(71890)	(01060)	(01065)	(01145)	(01075)	(01080)	(01057)	(01085)	(01090)	(00723)	

07237700 PERSIMMON CREEK NEAR MUTUAL, OK (LAT 36 15 41N LONG 099 10 23W)

MAR 1989

14... <45 11 <0.5 <100 <25 <5 <7.0 750 <200 <100 14 <0.01

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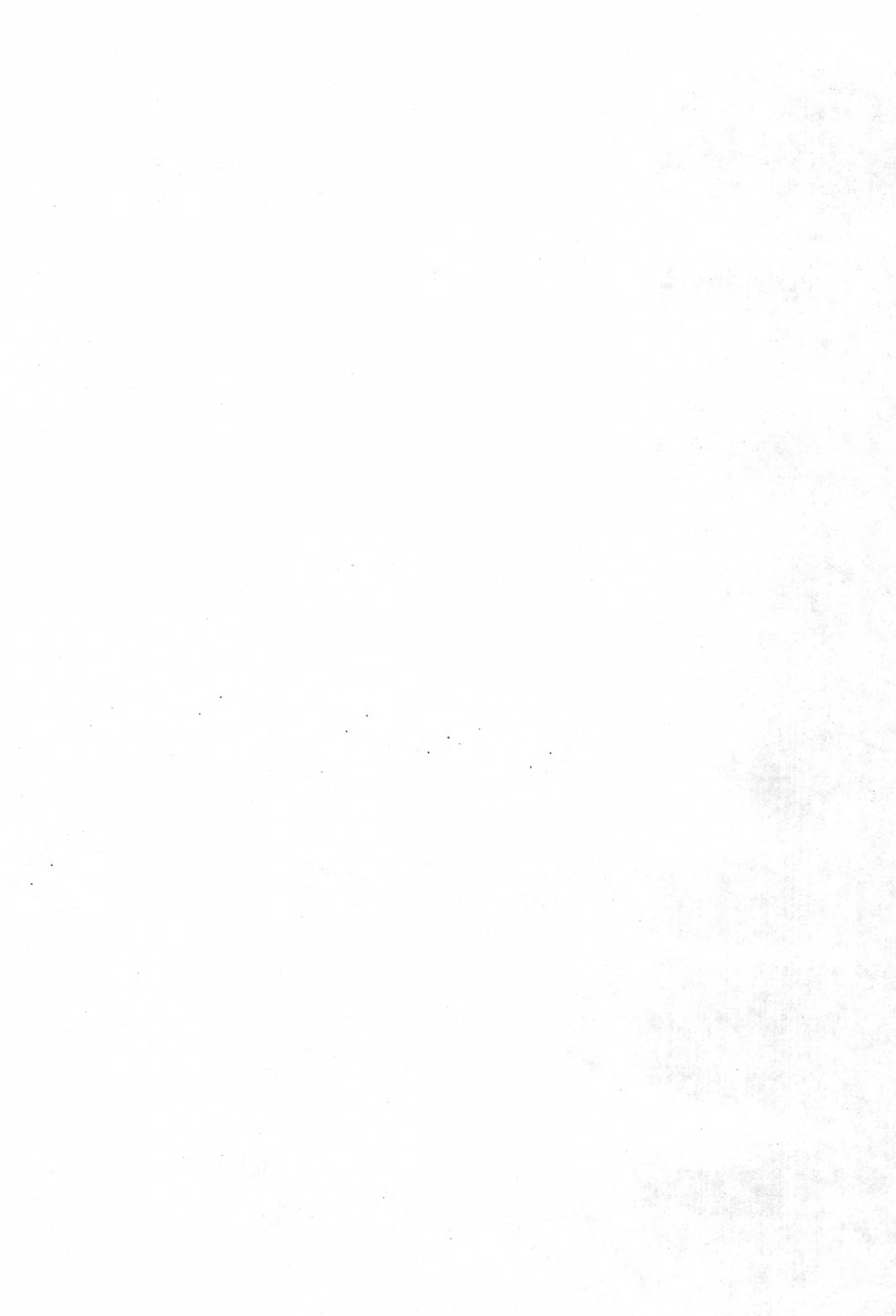
MAR 1989

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MAR 1989

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- Accuracy of the records 27
 Acre-foot, definition of 32
 Algae, definition of 32
 Alva, Salt Fork Arkansas River near 52
 Aquifer, definition of 32
 Arcadia, Arcadia Lake near 452
 Deep Fork near 454
 Arcadia Lake near Arcadia 452
 Arkansas River at Ralston 62
 at Tulsa 102
 near Haskell 122
 near Ponca City 48
 Salt Fork, at Tonkawa 58
 near Alva 52
 near Jet 56
 near Winchester 50
 Aroclor, definition of 32
 Arrangement of records 28
 Artesian, definition of 32
 Artificial substrate, definition of 38
 Ash mass, definition of 33
 Avant, Bird Creek near 152

 Bacteria, definition of 32
 Barnsdall, Birch Creek below
 Birch Lake near 150
 Birch Lake near 148
 Baron Fork at Eldon 266
 Bartlesville, Caney River above
 Coon Creek at 136
 Beaver, Beaver River at 326
 Beaver River, at Beaver 326
 near Felt 316
 near Guymon 318
 near Laverne 507
 Bed load, definition of 37
 Bed load discharge, definition of 37
 Bed material, definition of 33
 Beggs, Deep Fork near 460
 Bent Creek near Mutual 508
 near Seiling 508
 Big Cabin, Big Cabin Creek near 234
 Big Cabin Creek, near Big Cabin 234
 Biochemical oxygen demand, definition of 33
 Biomass, definition of 33
 Birch Creek below Birch Lake near
 Barnsdall 150
 Birch Lake near Barnsdall 148
 Bird Creek at State Highway 266
 near Catoosa 204
 near Avant 152
 near Owasso 176
 near Sperry 158
 Bishop Creek at Norman 514
 Black Bear Creek, at Pawnee 68
 Black Fork, at Hodgen 485
 below Big Creek near Page 481
 Blackwell, Chikaskia River near 60
 Blue-green algae, definition of 36
 Bluff Creek near Buttermilk, Ks 504
 Bottom material, definition of 33
 Bridgeport, Canadian River at 280
 Brook Hollow at South 136 Street at Tulsa 511
 Brooken, Eufaula Lake near 466

 Buffalo, Cimarron River near 74
 Buffalo Creek, at Buffalo 505
 at Doby Springs 505, 515
 near Lovedale 80
 Buggy Creek, East of Cogar 506
 near Cogar 506

 Calumet, North Canadian River near 350
 Calvin, Canadian River at 298
 Camp Creek near Seiling 508
 Canadian River, at Bridgeport 280
 at Calvin 298
 at Purcell 284
 near Camargo 505
 near Oakwood 505
 near Roll 505
 near Taloga 505
 near Thomas 506
 near Whitefield 468
 Caney River, above Coon Creek
 at Bartlesville 136
 near Hulah 132
 near Ramona 140
 Canton, Canton Lake near 344
 North Canadian River at 346
 Canton Lake near Canton 344
 Catoosa, Bird Creek at
 State Highway 266 204
 Cauthron, Ar, Poteau River at 470
 Cells/volume, definition of 33
 Chemical Quality of Streamflow 13
 Chemical oxygen demand, definition of 33
 Chikaskia River near Blackwell 60
 Chlorophyll, definition of 33
 Chouteau, Neosho River near 242
 Cimarron River, at Perkins 92
 near Buffalo 74
 near Buttermilk, Ks 504
 near Dover 84
 near Englewood 504
 near Forgan 72
 near Guthrie 88
 near Kenton 70
 near Mocane 504
 near Ripley 96
 near Waynoka 82
 Claremore, Verdigris River near 146
 Classification of records 27
 Clear Creek near Elmwood 330
 Coal Creek at Tulsa 174
 Coldwater Creek near Guymon 320
 Color unit, definition of 33
 Commerce, Neosho River near 218
 Contents, definition of 33
 Control, definition of 33
 Control structure, definition of 33
 Cooperation 1
 Copan Lake near Copan 134
 Copan, Copan Lake near 134
 Cottonwood Creek, near Seward 86
 Council Creek near Stillwater 98
 Cubic foot per second, definition of 33
 Cubic feet per second per square mile,
 definition of 33

- Data collection and computation 22,30
 Data presentation 23,29,31
 Deep Fork, near Arcadia 454
 near Beggs 460
 near Warwick 456
 Deer Creek near Custer City 506
 Deer Creek near Hydro 506,515
 Definition of terms 32
 Diatoms, definition of 36
 Discharge at partial-record stations 504
 Discharge, definition of 34
 Dissolved, definition of 34
 Dissolved-solids concentration,
 definition of 34
 Dover, Cimarron River near 84
 Downstream order system 21
 Drainage area, definition of 34
 Drainage basin, definition of 34
 Dry Creek near Kendrick 458
 Dry mass, definition of 33
- El Reno, North Canadian River near 372
 Eldon, Baron Fork at 266
 Elk River near Tiff City, MO 228
 Elmwood, Clear Creek near 330
 Eufaula Lake near Brooken 466
 Explanation of records 21
- Fecal coliform bacteria, definition of ... 33
 Fecal streptococcal bacteria,
 definition of 33
 Felt, Beaver River near 316
 Flat Rock Creek, at Cincinnati
 Avenue at Tulsa 172
 Flint Creek near Kansas 256
 Forgan, Cimarron River near 72
 Fort Gibson, Fort Gibson Lake near 244
 Neosho River below Fort
 Gibson Lake, near 246
 Fort Gibson Lake near Fort Gibson 244
 Fort Supply, Fort Supply Lake near 332
 Wolf Creek near 334
 Fort Supply Lake near Fort Supply 332
 Fourche Maline, near Leflore 494
 near Red Oak 488
 Fred Creek at Evanston Avenue at Tulsa .. 509
- Gage height, definition of 34
 Gaging station, definition of 34
 Gaines Creek, near Gowen 312
 near Higgins 304
 Gore, Illinois River near 274
 Tenkiller Ferry Lake near 272
 Gowen, Gaines Creek near 312
 Great Salt Plains Lake near Jet 54
 Green algae, definition of 36
 Ground-water records:See Volume 2
 Guthrie, Cimarron River near 88
 Guymon, Beaver River near 318
 Coldwater Creek near 320
- Hackberry Creek near Vici 507
 Haikey Creek at 101st Street South
 at Tulsa 118
- Hardesty, Optima Lake near 332
 Hardness, definition of 34
 Harrah, North Canadian River near 418
 Hartshorne, Pit Creek near 308
 Haskell, Arkansas River near 122
 Heyburn, Heyburn Lake near 116
 Heyburn Lake near Heyburn 116
 Higgins, Gaines Creek near 304
 High-water mark 34
 Hodgen, Black Fork at 485
 Holson Creek at Summerfield 497,500
 Hominy Creek below Skiatook Lake near
 Skiatook 156
 Hontubby, Poteau River at 480
 Hudson, Lake near Locust Grove 240
 Hulah, Caney River near 132
 Hulah Lake near 130
 Hulah Lake near Hulah 130
 Hydrologic Bench-Mark Network,
 definition of 21,34
 Hydrologic unit, definition of 34
- Illinois River, near Gore 274
 near Tahlequah 260
 near Watts 250
 Indian Creek near Sharon 507
 Instantaneous discharge, definition of ... 34
 Introduction 1
- Jet, Great Salt Plains Lake near 54
 Salt Fork Arkansas River near 56
 Joe Creek at 61st Street at Tulsa 114
- Kansas, Flint Creek near 256
 Kaw Lake near Ponca City 46
 Kendrick, Dry Creek near 458
 Kenton, Cimarron River near 70
 Keystone Lake near Sand Springs 100
 Kizer Creek near Cestos 508,515
- Laboratory measurements 29
 Lake Hefner Canal near Oklahoma City 380
 Lakes and reservoirs:
 Arcadia Lake near Arcadia 452
 Birch Lake near Barnsdall 148
 Canton Lake near Canton 344
 Copan Lake near Copan 134
 Eufaula Lake near Brooken 466
 Fort Gibson Lake near Fort Gibson 244
 Fort Supply Lake near Fort Supply 332
 Great Salt Plains Lake near Jet 54
 Heyburn Lake near Heyburn 116
 Hudson, Lake, near Locust Grove 240
 Hulah Lake near Hulah 130
 Kaw Lake near Ponca City 46
 Keystone Lake near Sand Springs 100
 O' The Cherokees, Lake, at Langley ... 230
 Oologah Lake near Oologah 126
 Optima Lake near Hardesty 322
 Overholser, Lake, near Oklahoma City. 382
 Skiatook Lake near Skiatook 154
 Spavinaw Lake at Spavinaw 238
 Tenkiller Ferry Lake near Gore 272
 Thunderbird, Lake, near Norman 288

Lakes and reservoirs:

- Wister Lake near Wister..... 500
- Land-surface datum, definition of 34
- Langley, Lake O' The Cherokees near 230
 - Neosho River near..... 232
- Latitude-longitude system 22
- Leflore, Fourche Maline 494
- Lenapah, Verdigris River near 124
- Little Deep Creek near Weatherford 506
- Little Haikey Creek at 101st Street
 - South at Tulsa 120
- Little Haikey Tributary at Tulsa 510
- Little River,
 - below Lake Thunderbird near Norman... 290
 - near Sasakwa 294
 - near Tecumseh 292
- Locust Grove, Lake Hudson near 240
- Lovedale, Buffalo Creek near 80
- Lovell, Skeleton Creek near 90
- Loving, Poteau River at 474

- Mean concentration, definition of 37
- Mean discharge, definition of 34
- Measuring point, definition of 34
- Merkle Creek at Norman 513
- Miami, Tar Creek at 22nd Street
 - Bridge at 220
- Micrograms per grams, definition of 34
- per liter, definition of 34
- Milligrams of carbon per area or volume per unit time, definition of 36
- Milligrams of oxygen per area or volume per unit time, definition of 36
- Milligrams per liter, definition of 34
- Mingo Creek at 46th Street North
 - at Tulsa 190

- National Geodetic Vertical Datum of 1929,
 - definition of 34
- National Stream-Quality Accounting Network,
 - definition of 21,35
- National Trends Network, definition of 21,35
- Natural substrate, definition of 38
- Neosho River, below Fort Gibson Lake
 - near Fort Gibson 246
 - near Chouteau 242
 - near Commerce 218
 - near Langley 232
- Norman, Lake Thunderbird near 288
 - Little River below Lake Thunderbird near 290
- North Canadian River at Britton Road at
 - Oklahoma City 400
 - at Canton 346
 - at Woodward 336
 - below Lake Overholser near
 - Oklahoma City 384
 - below Weavers Creek near Watonga .. 348
 - near Calumet 350
 - near El Reno 372
 - near Harrah 418
 - near Seiling 342
 - near Wetumka 446
- North Persimmon Creek at Sharon 507

- O' The Cherokees, Lake, near Langley 230
 - Okesa, Sand Creek at 138
- Oklahoma City,
 - North Canadian River
 - at Britton Road at 400
 - North Canadian River below
 - Lake Overholser near 384
 - Lake Hefner Canal near 380
 - Lake Overholser near 382
- On-site measurements and sample collection 28
- Oologah, Oologah Lake near 126
- Oologah, Verdigris River near 128
- Oologah Lake near Oologah 126
- Optima Lake near Hardesty 322
- Organic mass, definition of 33
- Organism, definition of 35
 - Count/area, definition of 35
 - Count/volume, definition of 35
- Other records available 27
- Overholser, Lake, near Oklahoma City 382
- Owasso, Bird Creek near 176

- Page, Black Fork below Big Creek near ... 481
- Palo Duro Creek at Range 324
- Panama, Poteau River 502
- Parameter Code, definition of 35
- Partial-record stations 504
- Partial-record stations, definition of ... 35
- Particle size, definition of 35
- Particle-size classification,
 - definition of 35
- Pawnee, Black Bear Creek at 68
- Percent composition, definition of 35
- Periphyton, definition of 36
- Perkins, Cimarron River at 92
- Persimmon Creek near Mutual 507,515
- Pesticides, definition of 36
- Phytoplankton, definition of 36
- Picocurie, definition of 36
- Pit Creek near Hortshorne 308
- Plankton, definition of 36
- Ponca City, Arkansas River near 48
 - Kaw Lake near 46
- Poteau River, at Cauthron, Ar 470
 - at Hontubby 480
 - at Loving 474
 - near Panama 502
- Primary productivity, definition of 36
- Publications on techniques of water
 - resources investigations 39
- Purcell, Canadian River at 284
 - Walnut Creek at 286

- Quapaw, Spring River near 226

- Ralston, Arkansas River at 62
- Ramona, Caney River near 140
- Range, Palo Duro Creek at 324
- Redoubt Creek near Willard 504
- Records of ground-water levels 30
- Records of stage and water discharge 22
- Records of surface-water quality 27
- Recoverable from bottom material,
 - definition of 36

- Red Oak, Fourche Maline near 488
 Remark codes 30
 Reservoirs: See Lakes and reservoirs
 Return period, definition of 37
 Ripley, Cimarron River near 96
 Rough Creek near Thomas 506
 Runoff in inches, definition of 37

 Salt Fork Arkansas River, at Tonkawa 58
 near Alva 52
 near Jet 56
 near Winchester 50
 Sand Creek at Okesa 138
 Sand Springs, Keystone Lake near 100
 Sasakwa, Little River near 294
 Sediment 28
 Sediment, definition of 37
 Seiling, North Canadian River near 342
 Seward, Cottonwood Creek near 86
 Skeleton Creek near Lovell 90
 Skiatook, Hominy Creek below
 Skiatook Lake near 156
 Skiatook Lake near 154
 Skiatook Lake near Skiatook 154
 Snake Creek near Willard 504
 Sodium-adsorption-ratio, definition of .. 37
 Solute, definition of 37
 South Persimmon Creek near Sharon ... 507, 515
 Spavinaw, Spavinaw Lake near 238
 Spavinaw Creek near Sycamore 236
 Spavinaw Lake at Spavinaw 238
 Special Networks and Programs 21
 Specific conductance, definition of 37
 Sperry, Bird Creek near 158
 Spring River near Quapaw 226
 Stage discharge relation, definition of . 37
 Station identification numbers 21
 Station records 46
 Stillwater, Council Creek near 98
 Streamflow 2
 Streamflow, definition of 37
 Substrate, definition of 37
 Summary of Hydrologic Conditions 2
 Summerfield, Holson Creek near 497
 Surface area, definition of 38
 Surficial bed material, definition of ... 38
 Suspended, definition of 38
 Suspended, recoverable, definition of ... 38
 Suspended sediment, definition of 37
 Suspended, total, definition of 38
 Suspended-sediment concentration,
 definition of 37
 discharge, definition of 37
 load, definition of 37
 Sycamore, Spavinaw Creek near 236

 Tahlequah, Illinois River near 260
 Tar Creek at 22nd Street
 Bridge at Miami 220

 Taxonomy, definition of 38
 Tecumseh, Little River near 292
 Tecumseh Creek at 442
 Tecumseh Creek at Tecumseh 442
 Tenkiller Ferry Lake near Gore 272
 Terms, definition of 32
 Thunderbird, Lake, near Norman 288
 Tiff City, MO, Elk River near 228
 Time-weighted average definition of 38
 Tonkawa, Salt Fork Arkansas River at 58
 Tons per acre-foot, definition of 39
 Tons per day, definition of 39
 Total, definition of 39
 Total coliform bacteria, definition of .. 32
 Total discharge, definition of 39
 Total organism count, definition of 35
 Total recoverable, definition of 39
 Total sediment discharge,
 definition of 37
 Total-sediment load, definition 37
 Trail Creek near Taloga 505
 Tulsa, Arkansas River at 102
 Coal Creek at 174
 Flat Rock Creek at Cincinnati Avenue
 at 172
 Joe Creek at 61st Street at 114
 Haikey Creek at 101st Street South at 118
 Little Haikey Creek at 101st Street
 South at 120
 Mingo Creek at 46th Street North at.. 190
 Tupelo Creek at US Highway 169 at Tulsa 512

 Verdigris River, near Claremore 146
 near Lenapah 124
 near Oologah 128

 Walnut Creek at Purcell 286
 Warwick, Deep Fork near 456
 Water temperature 28
 Water year, definition of 39
 Watonga, North Canadian River below
 Weavers Creek near 348
 Watts, Illinois River near 250
 Waynoka, Cimarron River near 82
 WDR, definition of 39
 Weighted average, definition of 39
 Wet mass, definition of 33
 Wetumka, North Canadian near 446
 Whitefield, Canadian River near 468
 Winchester, Salt Fork Arkansas River near 50
 Wister, Wister Lake near 500
 Wister Lake near Wister 500
 Wolf Creek near Fort Supply 334
 Woodward, North Canadian River at 336
 WSP, definition of 39

 Zooplankton, definition of 36

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI).

Multiply inch-pound units	By	To obtain SI units
<i>Length</i>		
inches (in)	2.54×10^1	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^0	kilometers (km)
<i>Area</i>		
acres	4.047×10^3	square meters (m ²)
	4.047×10^{-1}	square hectometers (hm ²)
	4.047×10^{-3}	square kilometers (km ²)
square miles (mi ²)	2.590×10^0	square kilometers (km ²)
<i>Volume</i>		
gallons (gal)	3.785×10^0	liters (L)
	3.785×10^0	cubic decimeters (dm ³)
	3.785×10^{-3}	cubic meters (m ³)
million gallons	3.785×10^3	cubic meters (m ³)
	3.785×10^{-3}	cubic hectometers (hm ³)
cubic feet (ft ³)	2.832×10^1	cubic decimeters (dm ³)
	2.832×10^{-2}	cubic meters (m ³)
cfs-days	2.447×10^3	cubic meters (m ³)
	2.447×10^{-3}	cubic hectometers (hm ³)
acre-feet (acre-ft)	1.233×10^3	cubic meters (m ³)
	1.233×10^{-3}	cubic hectometers (hm ³)
	1.233×10^{-6}	cubic kilometers (km ³)
<i>Flow</i>		
cubic feet per second (ft ³ /s)	2.832×10^1	liters per second (L/s)
	2.832×10^1	cubic decimeters per second (dm ³ /s)
	2.832×10^{-2}	cubic meters per second (m ³ /s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm ³ /s)
	6.309×10^{-5}	cubic meters per second (m ³ /s)
million gallons per day	4.381×10^1	cubic decimeters per second (dm ³ /s)
	4.381×10^{-2}	cubic meters per second (m ³ /s)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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